Multidimensional storytelling
an analytical framework for digital, interactive and transmedia narratives

Spinelli, Simona

Awarding institution:
King's College London

Multidimensional Storytelling: An Analytical Framework for Digital, Interactive and Transmedia Narratives

Simona Spinelli

Thesis submitted in partial fulfilment of the degree of Doctor of Philosophy, King's College London, University of London

Faculty of Arts & Humanities

King's College London

UK

November, 2019

Abstract

This thesis provides a unified framework – i.e., Multidimensional Storytelling (MDS) framework – that can be used to investigate, in a unified analytical environment, hybrid new media narratives, which combine elements of digital, interactive and transmedia storytelling. The research questions of this study are: What are the common features and patterns shared by digital, interactive and transmedia narrative artefacts? Is it possible to unify digital, interactive and transmedia storytelling within a common conceptual framework? Is there any significant change in the different narrative dimensions of new media storytelling projects from 2000 to 2015? The ultimate goal of the thesis is to develop a framework that researchers interested in new media narratives can use to examine hybrid new media narratives in a standardised way.

To address the research questions, I have used a mixed research methodology that combines the study of academic literature, expert interviews, and the analysis of 61 case studies. I initially identified the shared narrative and technological patterns found in digital, interactive and transmedia narratives. I leveraged these insights to design and implement the MDS framework. The MDS framework comprises both qualitative and quantitative analytical devices that researchers can use to perform detailed examinations of hybrid new media narratives. I tested the MDS framework performing quantitative and qualitative analyses, respectively, on 36 and three new media stories published between 2000 and 2015. Beyond testing the framework, the goal of this empirical analyses was to identify changes in the narrative and technological components of the projects over time.

The thesis provides multiple contributions. The MDS framework can be used to perform reproducible and comparable analyses which measure the level of hybridisation of new media narratives at scale. The framework also provides

concepts and a terminology that researchers, professionals and the audience can use to discuss new media stories accurately and productively. From an empirical perspective, the analyses of the case studies has revealed that there has been an increase in the level of hybridisation of new media narratives from 2000 to 2015.

Table of content

List of Tables

List of Figures

Acknowledgements

This thesis is the result of a long journey of personal and academic growth. I would like to give thanks to the people that have contributed to this four-year path with their advice and support.

Firstly, I would like to thank my supervisors Professor Sarah Atkinson and Dr Rob Gallagher, for their support throughout my doctoral research. Their guidance, constructive critiques and suggestions have been fundamental to develop my ideas.

I would also like to thank Dr Stephanie Janes, Dr Valerio Velardo, Dr Mauro Vallati and Dr Alessia Grassi for their feedback and comments on the thesis, which have helped me improve this research.

In addition, I would like to thank the people who helped me to gain insights into the fields of digital, interactive and transmedia storytelling: Dr Elizabeth Evans, Kim Baumann Larsen, Guy Gadney, Dr Colin Harvey, Robert Pratten, Professor Kate Pullinger and Linsey Raymaekers.

Finally, I would like to express my gratitude to my family and friends for their warm encouragement.

List of abbreviations

AR   Augmented Reality

LBD The Lizzie Bennet Diaries

PC   Personal Computer

TINAG This Is Not a Game

UGC User Generated Content

ANOVA The Analysis of Variance test

ARG Alternate Reality Game

CDS Center for Digital Storytelling

DS   Digital Storytelling

GSC Genetic Storytelling Code

IDN Interactive Digital Narrative

IS   Interactive Storytelling

MDS Multidimensional Storytelling

RPG Role-Playing Game

SPSS Statistical Package for Social Science

TS   Transmedia Storytelling

VR   Virtual Reality

WWW World Wide Web

Chapter 1

Introduction

1.1 Context

This doctoral work starts from the question: How are stories told in digital, interactive and online environments?[1]

To answer this question, I analysed 61 complex diegetic experiences such as hypertext fiction, webcomics, interactive articles, and social media narratives. In the process, I have devised a model, the Multidimensional Storytelling (MDS) framework, that attempts to systematise the analysis of narrative products delivered through new media platforms and devices. The MDS framework is the result of interdisciplinary research, encompassing a multitude of academic areas and methods drawn from the social sciences such as narratology, multimodal theory, new media studies, interactive theory, Internet studies, social media studies, statistics. The MDS framework is the centre of this thesis, which has a methodological focus. The ultimate goal of this study is to provide an analytical tool researchers can use to examine new media narratives in detail.

New media storytelling projects are multifaceted. They merge diegetic components along with sophisticated technologies, which are also used for their production and distribution. In order to understand how these hybrid narrative artefacts emerged and developed, and how they differ from narratives delivered through traditional media, it is essential to look at their evolution over the last

---

[1] In this thesis, 'new media' is used as a catch-all term to refer comprehensively to digital, interactive and online media. By extension, the shortcut expressions 'new media narratives', or, 'new media storytelling', are used to refer to digital, interactive and online narratives.

thirty years.

Technological innovations from the 1980s onwards, comprising new media and tools, revolutionised storytelling and changed narrative conventions. The advent and proliferation of the personal computer (PC), authoring tools, and online technologies have had a substantial impact on the way stories are designed, delivered and received by the audiences. These changes mark a difference between the way narratives are created and shared in traditional and new media technologies. Core differences can be observed, for instance, by focusing on the modes of expression available to the creators, and on the definition and role of the spectatorship.

Traditional forms of media, such as the printed book, radio and movies, are characterised by a specific and circumscribed set of modes of expression, e.g., text, images, audio, animations. The specific modes depend on the delivery device. By contrast, in the digital, interactive and online landscapes, the link between the technology that supports the diegetic experience and the communication style is less formulaic. In the case of printed books, for example, a writer can select the modes of expression that support the narrative discourse inside a limited range of possibilities, i.e., textual elements and images. The developer of a narrative app on a smartphone can rely on a broader creative toolkit. Mobile devices can support text, images, hyperlinks, effects, animations, videos and audio elements. The creator can, therefore, decide to use a custom selection of modes of expression.

An example is *The Fantastic Flying Books of Mr. Morris Lessmore* (Joyce, 2011-2012) (Figure 1.1), a story delivered through four standalone products: an animated short movie[2], a mobile app[3], a picture book[4], and an Augmented Reality (AR) app[5] which users can experience in conjunction with the printed

---

[2]The film was created in 2011 by William Joyce and won an Academy Award for Best Short Film, Animated in 2012 `http://williamjoyce.com/` [Accessed 28-06-2019].

[3]The app was developed by the *Moonbot Studios* for the iPad and released in 2012 `https://moonbotstudios.com/work/the-fantastic-flying-books-of-mr-morris-lessmore/` [Accessed 28-06-2019].

[4]The picture book is the original content created by writer William Joyce and illustrator Joe Bluhm, which served as the initial reference for the movie and app adaptations.

[5]Readers can augment their experience of the picture book through an AR app (*Imag•N•O•Tron*) installed on an e-reader. By pointing the camera of the e-reader towards the picture book, the users can experience additional effects and animations in the app. A trailer of the app can be watched at `https://vimeo.com/44982605` [Accessed 28-06-2019].

book. The creators employ a multimodal narrative strategy for both the mobile app and the book. However, the media spectrum offered to the mobile app users is broader than that provided to the readers. The app integrates audio and animated effects on top of the textual and visual elements, which are the two main modes found in the illustrated book.

Figure 1.1: Cover of the original picture book of *The Fantastic Flying Books of Mr. Morris Lessmore.*

By no means, am I claiming that the rich multimedia environment of a smartphone app offers more sophisticated narrative capabilities than a picture book. Nor, on a more general level, am I suggesting that the stories that leverage new media platforms are inherently more exciting, or qualitatively superior, than those delivered through traditional media. Instead, I am arguing that with the advent of new media technology, creators have had access to an increased number of tools and compositional options. Compared with traditional media, they can combine a greater number of media and platforms to deliver their stories. I believe that the value of a storytelling product – which is not the focus of this thesis – is entirely independent of the number of modes of expression utilised to convey the story.

The different compositional approach is not the only point of divergence between traditional and new media narratives. In new media stories, the audi-

ence often has agency in the diegetic experience. The users can, for example, modify the plotline with mouse clicks or by tapping on a touch screen. Despite being a central facet of new media narratives, the active role of the audience is not entirely incompatible with traditional media. In the *Choose–Your–Own Adventure* gamebook series[6], for example, readers are the actual protagonists of the story. By choosing a path at pre-determined decision points, they actively shape the sequence of the story events. However, the (inter)active role that readers play in gamebooks is not a widespread trait of narratives delivered through traditional media. By contrast, in the majority of digital, interactive and online stories, the audience partakes in the co-creation of the storyline.

The mobile app of *The Fantastic Flying Books of Mr. Morris Lessmore* is only one example among an array of new media narratives, such as video games and interactive documentaries, in which the story is integrated with interface elements, that generate different narrative outcomes based on users' feedback. In the mobile app, the experiencers do not play the role of readers, or viewers, as is the case for the Mr. Morris Lessmore's picture book. Rather, they are active users who become part of the fictional world. The technological advancements which have characterised the media domain over the last three decades have facilitated the re-definition of the role of the spectator as an active *player*.

However, as much as the new design opportunities and user's centrality are defining aspects of new media narratives, they do not exhaustively capture the whole range of features displayed in new media storytelling projects. Understanding what these features are is a central aspect of this research. Digital and online platforms open up an array of opportunities for content creation. It is in this scenario that projects like hypertext fiction, online comics and social media narratives have emerged. By leveraging new media tools, creators have invented new story forms and experimented with innovative narrative strategies.

---

[6]*Choose–Your–Own Adventure* was a children's book series published by *Bantam Books* during the 1980s and 1990s. The series sold more than 250 million books.

1.2   Background

The development of digital, interactive and online technologies has not only attracted the attention of practitioners who leveraged these tools to push the boundaries of storytelling. It also drew the interest of scholars, who have formed theories to explain these new types of narratives. Three major keywords often recur in the academic literature to categorise the narrative artefacts that populate the new media landscape, namely, *digital storytelling* (DS), *interactive storytelling* (IS) and *transmedia storytelling* (TS). Arguably, these labels come from the industry. Most DS, IS, and TS projects are mainly industry-driven. Despite this, over time, a solid theoretical corpus of academic studies has emerged, which can be employed to infer similarities and differences between these three narrative domains, or, as I term them, *storytelling types*.

From the literature, it emerges that the roots of DS, IS and TS can be traced back to when new media communication technologies such as computers and the World Wide Web emerged. It is between the 1980s and the early 2000s that influential works in the three fields emerged. Brenda Laurel's dissertation (1986) provided an important contribution to the definition of IS. This interdisciplinary work foregrounded the analysis of interactive stories with traditional concepts in narratology, such as that of tripartite plot borrowed from Aristotle. Four years later, in 1990, the DS label started to be associated with the use of digital video editing for telling short first-person stories. At that time, Dana Atchley – one of the pioneers of the creative movement acknowledged as DS – introduced two important fora for the nascent field of DS, namely, the *Center for Digital Storytelling* (CDS) and the *Digital Storytelling Festival*[7]. CDS provided a common platform for academics and practitioners active in digital media to discuss their work. The initial goal of CDS was to encourage the use of DS as a training method for helping ordinary people express themselves through the creation of digital stories. The successful outcome of the *Digital Storytelling Festival* showed that experts from different disciplines (e.g., video

---

[7]Information about Atchley's work can be found at `https://www.whileiremember.it/a-story-about-dana-atchley-2` [Accessed 20-05-2019].

makers, video games producers, and online and interactive content creators) recognised DS as a central field in the production of creative content. Finally, in 2006, the media theorist Henry Jenkins (2006) popularised the notion of TS for describing narratives which are supported by the integrated use of different media and platforms. In the following sections, I provide operational definitions of DS, IS and TS, which I adopted to foreground my research, and which are at the basis of the MDS framework.

1.2.1   Definition: Digital storytelling

A story encompasses characters and settings presented through a series of fictional or non-fictional events. The dramatic events follow narrative arcs that usually move from introduction to resolution. The structured format in which the events are organised (plot) is often based on challenge and conflict and is presented to readers/viewers/users through a particular point of view.

The story is an essential component of DS, IS and TS. In addition to the traditional elements of a story, DS uses digital media to convey narrative elements. The operational definition of DS has changed over time, along with the development of new media technologies. In the 1990s, CDS proposed DS as a tool of self-expression to convey personal experiences through "short narrated films" (Hartley and McWilliam 2009). This use of DS emerges clearly in the two-minute autobiographical video *Home movies* shot by Dana Atchley. The project consists of micro-video units pieced together, which present Atchley's family members using voice over. In line with the practice of DS introduced by CDS, *Home movies* is a piece composed of multimodal elements created using video making equipment. Its goal is to tell a personal story (Robin 2006, Lambert 2003).

For this thesis, the definition of DS extends beyond the early focus of CDS on video making, to encompass other digital means of expression. In DS, stories are created and delivered through an array of digital, electronic and online media and platforms (Alexander 2011, Miller Handler 2008). Stories are told through multiple modes of expression such as video, text, audio and animations. Among the projects that I consider under the DS label, there are

online comics, web-series, online long-form articles, and interactive narratives.

1.2.2 Definition: Interactive storytelling

IS is a story-driven process that enables the two-way conversation between the narrative and the users, who become (inter)actors through some form of physical feedback. Depending on the degree of influence the users have on the story, they can be observers who explore the diegetic events, participants or co-creators. In IS, plots can be structured in non-linear or multi-linear ways, and the events can have different/multiple entry points. The experience that users have of the same IS project can vary based on the narrative path they have chosen. The core characteristic of IS is interaction. Physical interaction is enabled by the interface elements used in the story-system, such as mouse click, keyboard, joypad or screen touch. IS encompasses varied literary traditions that span from graphical text adventures, like interactive fiction and hyperfiction, to video games with a strong focus on narrative (narrative games), to interactive cinema.

1.2.3 Definition: Transmedia storytelling

Adopting Jenkins' definition (2006), I consider TS as a process where elements of a story are disseminated across multiple delivery platforms and media. The media units contribute to creating a coordinated and coherent narrative experience and participate in a single narrative world or, storyworld. As an example of TS, Jenkins famously referred to *The Matrix* (Wachowski and Wachowski, 1999-2003) – a large fictional storyworld whose narrative content is coherently scattered across different media formats such as films, video games, and graphic novels.

In this thesis, I consider two kinds of TS projects. In the first type, all the media units tell parts of the same story. When following this type of projects, the spectators can obtain a full understanding of the storyline only if they consume all the narrative parts dispersed across the different media. In the second type of TS projects, the different media units offer self-contained, often independent plots. These stories are loosely connected, but they still refer

back to the same storyworld. In this case, it is not necessary to follow all the narrative pieces to form an understanding of a plotline.

TS products are the result of multiple media formats packaged together. They mix both traditional and new media narratives, relying on both the digital and physical spaces. Among other narrative forms, TS projects often consist of a selection of books, movies, webisodes, online video games and Alternate Reality Games (ARG)[8].

1.2.4 Overlaps in digital, interactive and transmedia storytelling

By studying the academic literature on new media narratives, it emerges that the boundaries between DS, IS and TS are not entirely defined. They partially overlap. The three *storytelling types* often draw from a shared set of narrative, compositional and delivery strategies. For example, producers have experimented with participatory strategies for creating and consuming stories both in DS and TS. Some of the projects developed by CDS show an early attempt at involving communities in the creation of digital stories (Hartley and McWilliam 2009) (e.g., *Capture Wales*[9], see Appendix C). Participatory culture is also a hallmark of TS (Jenkins 2006b). The TS project *Why So Serious* (42 Entertainment, 2007) (Appendix C), for instance, engages the experiencers in a series of physical and online activities.

The overlaps in the narrative devices and design patterns employed in different new media stories, make it difficult to label a project as belonging exclusively to a *storytelling type*. When analysing a new media narrative, an analyst can sometimes be in doubt whether to classify a project as DS, IS or TS, because its narrative traits may be equally well represented by more than one category. It is also worth noting that these labels are used somewhat

---

[8]ARG is a game genre that extends both in the digital platforms and in the physical space. In ARGs, narrative mechanisms and interactive/game components are intertwined with elements of the real world (A. Martin, B. Thompson, and Chatfield 2006, p. 6). Everyday events are augmented, or distorted, through layered narratives that add meaning to the real world. ARGs vary considerably in terms of game mechanics. Players can be directed to solve enigmas and riddles with clues they found in real-life, or from websites. They can also interact with other players in a non-competitive way, and explore alternative realities.

[9]*Capture Wales* is a collection of short videos. The BBC's award-winning Digital Storytelling project was created in 2001 as a result of the partnership between BBC Wales and Cardiff University.

inconsistently, both in academia and industry.

We can clarify this point by examining *The Fantastic Flying Books of Mr. Morris Lessmore*, as the project borrows narrative strategies from multiple *storytelling types*. All the products which tell the story of Mr. Morris Lessmore combine, in different permutations, textual, audio, tactile, and visual components. The diegetic experience is multimodal and interactive. The audience cannot be viewed only as a reader, viewer or listener; because the use of all the senses is necessary for engaging with the multimedia narrative. Experiencers are invited to interact with the products for advancing and exploring the story events.

Since its appearance, critics and scholars have described the multimedia and multiplatform structure of the project with the keywords digital, interactive, and transmedia. Due to the multimedia and digital features of *The Fantastic Flying Books of Mr. Morris Lessmore* mobile app, the creators marketed the project as a digital story: "in this reinvention of digital storytelling you can repair books, tumble through a storm, learn the piano and even get 'lost in a book' flying through a magical world of words, giving you a dynamic journey through the story"[10]. The hybrid facet of the mobile app, which merges digital and interactive features, has been understood as an example of electronic literature[11]. Moreover, some scholars have claimed the project is an example of TS. Both Ture Schwebs (2014) and Justyna Deszcz-Tryhubczak (2015) employ the notion of transmedia formulated by Jenkins (2006) for pointing out that *The Fantastic Flying Books of Mr. Morris Lessmore* moves its narrative across multiple delivery channels.

The Fantastic Flying Books of Mr. Morris Lessmore well exemplifies the theoretical premise of this thesis. This project is a complex piece of narrative that merges elements of DS, IS and TS, making it difficult to categorise in a single *storytelling type. The Fantastic Flying Books of Mr. Morris Lessmore*

---

[10]The full description is accessible on the website of the "Ottawa International Animation Festival" at `https://www.animationfestival.ca/index.php?option=com_oiaf&task=showevent&i=759` [Accessed 28-06-2019].

[11]*The Fantastic Flying Books of Mr. Morris Lessmore* is listed on the ELMCIP database. The *Electronic Literature as a Model of Creativity* is the project founded by *Humanities in the European Research Area* (HERA), that hosts a database of electronic literature projects. The website can be viewed at `https://elmcip.net/` [Accessed 28-03-2018].

is not an isolated case. After 2000, hybrid narrative structures have become widespread in contemporary storytelling products, which leverage new media platforms. The hybridisation of *storytelling types* is the result of technological advancements in media communication and the new technical abilities acquired by authors in terms of content creation.

I argue that the analysis of new media storytelling projects should focus both on the narrative and technological aspects at once. Stories are multifactorial. They have always been characterised by both the narrative content and the technology used to produce, distribute and deliver them. In one of the interviews I conducted with theorists and practitioners as part of my research, writer and scholar Kate Pullinger stated "I think that the fundamentals of storytelling always remain the same, but the modes of delivering and the modes of enabling people to interact with stories will evolve" (2018) (Appendix A.6). The technological revolution which transformed media communication over the last thirty years has opened up an array of new possibilities for the production of diegetic experiences. I contend that for describing the multiple facets of new media narratives, it is crucial to employ analytical tools specifically designed to face the theoretical challenges that digital, interactive and online storytelling projects raise together.

Analysing storytelling projects with hybrid narrative strategies poses a challenge to researchers. Over the years, scholars have progressively adjusted their analytical tools for responding to the complexity of new media narratives. Examples of interdisciplinary analyses which look at circumscribed hybrid narratives, such as digital and interactive comics, have been proposed by Jacob Dittmar (2012) and Josip Batinic (2016). Despite being limited in scope, these studies show that new media storytelling projects often elude strict narrative classifications and warrant an interdisciplinary analytical treatment. Other studies have a wider scope, providing tools for mapping a more inclusive narrative space, that may consider multiple *storytelling types* in conjunction. This is the case of the *Interactive Digital Narrative* (IDN) model proposed by Hartmut Koenitz (2010). With IDN, Koenitz attempts to unify the common traits of DS and IS under a single framework. As part of the model, he identifies a

few categories that define digital and interactive hybrid narratives.

The rationale behind my research is similar to that of Koenitz. I believe that new media storytelling projects produced after the year 2000 can be conceptualised within a unified narrative dimension that encompasses digital, interactive and transmedia projects. Differently from IDN, my research not only focuses on DS and IS, but also includes TS, which plays a central role in the new media narrative landscape. I am not aware of any theoretical framework which may be used as a basis to categorise and analyse new media narratives across the three *storytelling types* I have identified. Such a framework, which should be general and act as a unified taxonomy, is needed to capture, articulate, and account for the hybrid nature of new narratives, which, as we have seen, often cross the boundaries of DS, IS and TS.

1.3 Defining Multidimensional Storytelling

A central purpose of the thesis is offering a taxonomy of what constitutes digital, interactive, and transmedia storytelling in the current domain of new media narratives.

I introduce MDS as a narrative category and taxonomy able to contain the vast landscape of story-based projects that belong to the digital, interactive, and online environments. In this thesis, I have used MDS to study anglophone new media narratives published after the year 2000. The storytelling artefacts that populate this space have a complex structure, that can be broken down into two lines of study: the narrative content, and the new media technologies which deliver the narrative. MDS is a superset of DS, IS, and TS, in that it harmonises the three different *storytelling types* within a unified new media narrative space. In MDS, DS, IS and TS are recognised as independent *storytelling types*, with specific narrative and technological components, which, however, exhibit some overlapping facets.

It has not been possible to apply existing models to the study of the shared dimensions of DS, IS and TS, because, to my knowledge, there are no comprehensive theoretical models which aim to unify all three *storytelling types*. For this reason, I have developed the MDS framework. This model is built on top

of the notion of MDS and serves for analysing the narrative and technological components of new media narratives.

In developing a method for analysing new media narratives, I intend to bring in the domain of new media narratives the approach that David Bordwell and Kristin Thompson applied to the analysis of films. In the textbook *Film Art*, the authors aim to guide their audience across the "principles and techniques that give films its power to tell stories, express emotion and convey ideas" (2017, p. 2). In doing so, Bordwell and Thompson first described the different elements that are common to films independently from the genre or tradition they belong to, and then they provided sample analyses of films using their analytical framework. Both the rationale of my research and the chapters' organisation mirror and extend the Bordwell and Thompson approach to the domain of new media narratives. On one hand, with my research, I aim to provide a list of the characteristics of digital, interactive and transmedia narratives which researchers can use to set up and conduct their analysis. On the other hand, this thesis provides a reproducible method analysts can use to understand the textual, compositional, and delivery strategies of new media narratives.

The MDS framework is made up of *categories* and *principles*, which represent the significant narrative components which recur in DS, IS and TS (Chapter 4). In order to capture the multiple elements which participate in a single storytelling artefact, the MDS framework uses a modular architectural approach. Analysts can use the different parts (or modules) of the analytical framework independently, and, if needed, can add new components to account for the unique narrative properties of a project under examination. The MDS framework offers two analytical tools, one for performing qualitative analyses, the other for quantitative studies. The model is specifically designed to examine complex storytelling projects published after the year 2000, like *The Fantastic Flying Books of Mr. Morris Lessmore*, where diverse narrative strategies derived from multiple *storytelling types* often contribute to the experience. Throughout the thesis, I will refer to these complex new media

narratives as MDS objects[12].

1.4   Research aims and questions

The core theoretical research aims are:

- to understand and identify the common theoretical structures, patterns, principles and implications of DS, IS and TS;

- to develop a comprehensive framework (taxonomy) expressive enough to account for DS, IS and TS;

- to devise an analytical methodology that can be used to arrive at a qualitative and quantitative evaluation of DS, IS and TS projects in a structured way;

In addressing these aims, I will attempt to answer the following questions:

- *What are the common features and patterns shared by digital, interactive and transmedia narrative artefacts?* – This question will initially be addressed in Chapter 2, where I summarise the interdisciplinary studies on DS, IS and TS. The literature review will be complemented by interviews that I conducted with academic and industry experts in DS, IS and TS, and by the empirical analysis of 61 new media narratives published after 2000.

- *Is it possible to unify DS, IS and TS within a common conceptual framework?* – This question is addressed by the theoretical and applied methodologies I developed in the MDS framework, which are presented in Chapters 3, 4 and 5. I also tackle this question with the analyses of 36 case studies conducted by using the qualitative and quantitative analytical tools provided by the MDS framework.

For the thesis, I have also included an example research aim and question. These serve two purposes. First, they enabled me to test and demonstrate the

---

[12]Throughout the thesis, I will use the expressions 'MDS object', 'MDS artefact, 'MDS story', 'MDS project', and 'MDS narrative' interchangeably.

MDS framework, and specifically its quantitative analytical methodology, in practice. Second, they show the reader a possible type of study that researchers can conduct using the MDS framework.

The example research aim is:

- to analyse a sample of new media storytelling projects, in order to test the devised analytical model.

The aim is addressed by answering the following sample question:

- *Is there any significant change in the different narrative dimensions of new media storytelling projects from 2000 to 2015?* – This research question is investigated in Chapters 6 and 7, where I document the in-depth qualitative and quantitative analyses of 36 case studies obtained using the MDS framework.

For designing the MDS framework, I employed a mixed research methodology. The next section provides an account of the different methodological approaches I used to address the research aims.

1.5 Research methodology

This investigation has been conducted by using a combination of research methods. I addressed the research questions (Section 1.4) using academic literature, case studies – their related secondary sources – and interviews with scholars and practitioners in the fields of DS, IS and TS. To build the MDS framework, I employed an iterative approach that went back and forth between model design and testing.

Specifically, the thesis followed three main methodological trajectories:

1. the study of DS, IS and TS in isolation with the identification of the main attributes and narrative components of the different *storytelling types* in the academic literature;

2. the design of the analytical model, i.e., the MDS framework, for studying digital, online and interactive narratives;

3. the qualitative and quantitative analyses of 36 DS, IS and TS projects to test the MDS framework.

The first methodological strand has involved the general outline of the theories, techniques, and empirical studies that engage in the critical, practical and theoretical debates surrounding DS, IS and, TS. I used these three labels as keywords for identifying relevant academic material which discusses the different *storytelling types*. These studies, which often employ an interdisciplinary approach, come from the fields of narratology, multimodal theory, new media studies, interactive theory, Internet studies, literary studies, and transmedia studies. The multidisciplinary source of these academic works offered varied, sometimes contrasting, theoretical perspectives on the *storytelling types*. This review provided an initial understanding of the shared features of DS, IS and TS.

After isolating central concepts in DS, IS and TS, I translated the main emergent themes into operational and analytical terms, which informed the *categories* and *principles* of the MDS framework (Chapter 4). Beyond the academic literature, interviews with experts in DS, IS and TS played a fundamental role in building the MDS framework and in refining the understanding of the shared traits that characterise the different *storytelling types*. I conducted the interviews with a pool of seven experts – academics and practitioners – who work with digital, interactive, and transmedia narratives. A short bio of the experts and the relative interview transcripts can be found in Appendix A. The interviews were semi-structured and aimed at obtaining a better understanding of IS, DS, and TS. Through a specific set of questions, I asked interviewees how they used new media technologies to build diegetic experiences[13]. I also encouraged experts to freely discuss themes they felt were central to new media narratives. The main topics covered in the interviews were the narrative and technical implications of new media storytelling, the relationship between narrative and interaction in diegetic experiences, and the role that advanced technologies like Virtual Reality (VR) can play in stories. I subsequently analysed the interviews, coding the answers to group together

---

[13]The interview template I used can be found in Appendix B.

topics of interest. The findings emerged from the interviews contributed to refining the *categories* and *principles* of the MDS framework.

Beyond the study of academic literature and expert interviews, the analysis of digital, interactive, and transmedia projects has been a methodological cornerstone of this research. The empirical analysis of DS, IS, and TS case studies helped address multiple research questions. In particular, it allowed me (1) to shed light on specific characteristics of DS, IS and TS; (2) to gain broad insights on the narrative components and technological features of new media storytelling artefacts; and (3) to explore whether the hybrid facets of new media storytelling are made up of allied characteristics of DS, IS and TS. Examples of these diegetic experiences were first identified by reading the academic literature. Articles and books on the subject often mentioned projects to exemplify typical narrative features, of DS, IS or TS. Through the academic studies and upon further research, I collected 61 case studies (Appendix C), published between 2000 and 2018, sampled from the three different *storytelling types*. The case studies were all anglophone. Among the projects, there were both fictional and non-fictional narratives. A detailed account of the selection criteria for the case studies is provided in Chapter 5.

A first empirical analysis of these projects has been of particular significance to pinpoint the narrative and technological components which define a *storytelling type*, as well as to infer the traits shared by DS, IS and TS. I used the insights from the analyses in conjunction with the findings from the expert interviews and academic literature to further refine the design and the components of the MDS framework.

Once the MDS framework had been developed, out of the original 61 projects, I isolated 36 case studies. Information about the 61 projects and a brief summary of the 36 case studies are provided in Appendix C. I divided the 36 projects into three five-year periods ranging from 2000 to 2015. Then, I used the 36 case studies as a testbed for the quantitative analytical model of the MDS framework, that provides numerical insights for the different narrative and technological components of a project. This numerical data can be leveraged to identify overall trends in narrative features across projects

and time periods (Chapter 6). Out of the 36 case studies, I then isolated three projects which I analysed in-depth, following the qualitative analytical method promoted by the MDS framework.

The insights gained from scholarly material, the expert interviews, and the case studies have been used in combination as part of an iterative process. All these methods concurred to define and refine the structure and the analytical tools of the MDS framework. After gathering new knowledge through any of the methods mentioned above, I would periodically tweak the MDS framework to account for the new findings. This iterative approach allowed me to integrate insights coming from separate sources, which have offered different, often complementary, information.

The research methodology employed in this study is mixed, spanning both qualitative and quantitative methods. This methodological approach also characterises the analytical tools found in the MDS framework.

1.6 Why a mixed approach is needed for the MDS framework

I designed the MDS framework to assist researchers and practitioners to perform in-depth analyses of new media narratives. It is worth pointing out that the MDS framework is still experimental. Although I tested it on 36 case studies, the model is not established. It is my ambition that other scholars would use, adapt and build on the framework to further refine it.

The MDS framework addresses a series of analytical purposes. The analytical tools of the framework can be used to carry out:

- comparative analysis between two to potentially hundreds of MDS objects;

- in-depth descriptive analysis of individual narrative projects;

- analysis of compositional trends across different narrative features over time.

These analytical capabilities address the two research questions: is it possible to unify DS, IS and TS within a common conceptual framework? Is there any significant change in the different narrative dimensions of new media storytelling projects from 2000 to 2015?

The analyses produced through the framework should be systematised and comparable. However, guaranteeing this and achieving the intended analytical purposes is challenging due to the study objects. MDS artefacts comprise two layers – narrative structure and technological component – that, when merged, support the overarching diegetic experience. The technological and narrative levels can themselves be divided into several variables. Depending on how these variables are re-combined, new media narratives can show different arrangements of media formats and story types. The complexity of these narratives is the product of the high number of the features and their variability. The MDS framework captures a number of these variables (e.g., interaction, platform) in *principles* and *categories*, to make the analytical process more manageable.

In order to build an analytical tool that can be used to perform comparative, descriptive and trends analyses, it was necessary to employ both qualitative and quantitative analysis. This mixed approach is even more important in light of the desired outcomes of systematisation and comparability that I intend to achieve through the analyses carried out with the proposed model. The qualitative and quantitative approaches can tackle different issues, and, for the economy of the MDS framework, are complementary.

It is important to clarify that when performing an analysis with the MDS framework, it is possible to use both the quantitative and qualitative analytical tools in conjunction, or, to focus only on one analytical approach, depending on the research goals.

To build a framework that can account for DS, IS and TS, it was necessary to create a taxonomy of new media narratives first. Quantitative approaches provided the most systematic and efficient way to create the taxonomy. I used quantitative techniques to analyse and compare a large set of case studies across different narrative and technological components in isolation. It

would not have been possible to arrive at similar analytical results using only qualitative methods.

Qualitative analytical approaches are widespread in the humanities. The qualitative analytical tool proposed in this research consists of a questionnaire with structured questions that address the different narrative and technological dimensions of an MDS object, or, as I have defined them, *categories* and *principles*. A similar approach is proposed by Renira Gambarato (2018), who introduced a theoretical model for the analysis of fictional and non-fictional transmedia projects. After identifying ten dimensions which define a transmedia project[14], Gambarato provides a list of questions that serve for investigating each domain. By responding to the questions, the analyst can cover the different narrative dimensions of a TS product (2018, p. 405). This method is not only applicable to TS projects but can also be re-purposed for studying DS and IS narratives. Following this example, the qualitative analytical method proposed in the MDS framework attempts to produce structured, in-depth descriptive analyses of individual projects.

Gambarato (2018, p. 405) also suggests that questionnaires can be augmented with quantitative tools. In particular, she claims that merging qualitative and quantitative methods may be useful for developing more in-depth empirical analyses of transmedia projects. Agreeing with this point, I developed a score-based system which stems from the MDS's questionnaire (Section 5.2). When analysing a new media narrative, the analyst can assign a score between 0 and 7 to the different narrative and technological dimensions identified in the MDS framework. The score indicates the strength of a specific variable in the project under examination.

The quantitative approach has been especially significant to address two research aims of this study: (1) to identify patterns and common characteristics among DS, IS and TS; and (2) to analyse whether the narrative dimensions of DS, IS and TS projects have changed over time. More generally, the MDS quantitative approach satisfies the two analytical needs I set out to achieve. It

---

[14]The dimensions of transmedia projects that are identified by Gambarato are: premise and purpose of the project, narrative, world-building, characters, extensions, media platforms, and genres, audience and market, engagement, structure and aesthetic (Gambarato 2018, p. 405)

provides a robust method for comparative analysis, and it facilitates the examination of compositional trends over time. A quantitative approach is valid for these analytical purposes, because it expedites comparative observations across large datasets of MDS objects, by relying on statistical methods and statistical software.

Unlike qualitative methods, quantitative tools for data analysis are rarely employed in media and communication studies. A recurrent objection against the use of quantitative methods in the humanities is that cultural phenomena are difficult to capture numerically and statistically. The argument is that cultural objects are so nuanced and comprise so many complex variables, that the effort to try to quantify them may be ineffective. Even though this appears to be a valid objection on a surface level, it has significant flaws. It is indeed sensible to claim that, when considered as a whole, most cultural objects are too complex to be quantified. However, this is not only true of cultural phenomena. Even in the hard sciences, complex systems are often impossible to quantify when considered in their entirety. To overcome this issue, it is common for scientists and computer scientists to use the *divide and conquer* approach (Leiserson et al. 2001). They separate the system into manageable parts, with a reduced level of complexity. These parts can be described with numerical values, independently of each other. The *divide and conquer* technique, I suggest, can effectively be used also in the humanities, in order to deconstruct a cultural object into manageable components that can then be measured quantitatively.

Indeed, Willie Van Peer et al. (2012) claims that when it is possible to identify differences between distinct traits of cultural objects, it is feasible to quantify the objects using numerical values. This position applies to the study of new media stories. Different MDS objects present differences in their narrative and technological components.

There are a few notable examples of scholars who used quantitative analytical tools in new media. In the article *Towards a Ludonarrative Toolbox* (Koenitz, Ferri, Haahr, Digdem Sezen, et al. 2015), a group of academics active in IS explores the possibility of applying a numerical scale to the evaluation of

the ludic and narrative elements in video games. In *The Digital Animation of Literary Journalism*, Jacobson et al. (2015) try to identify whether a new era in the literary journalism is occurring by relying on quantitative methods. They perform descriptive statistics of multimedia and animated elements present in 50 online multimedia articles published between 2012 and 2013. This quantitative method enabled the researchers to confirm their original hypothesis that online articles represent a new wave of literary journalism.

A quantitative approach in the definition of cultural objects in the humanities can bring an array of advantageous analytical properties, such as scalability and comparability. With numerical tools, the results of analyses run on massive datasets can be compared against each other.

By no means, I am advocating to replace the qualitative methods of analysis, traditionally used in the humanities, with quantitative methods. Instead, I am recommending that these two approaches may be combined. A mixed methodological approach would ensure that the strengths of the two methods can emerge, while the weaknesses can be limited, due to the complementary nature of the qualitative and quantitative approaches. Following this philosophical standpoint, I have developed a framework that captures the narrative and technological nuances of DS, IS and TS projects, using a mixed analytical methodology. As it stands, the MDS framework combines the analytical detail provided by the qualitative approach, with the scalability and flexibility offered by its quantitative methodology.

In the next section, I introduce the three most important quantitative tools I have used in this study.

1.7   Quantitative methodological tools

In this research, I have foregrounded the design of the MDS framework and the numerical analysis of the case studies with tools and concepts derived from computer science, machine learning and statistics. Specifically, I used the notions of 'encapsulation', 'feature vector', and the ANOVA statistical test. In this section, I provide a brief introduction to each of these concepts and articulate how they have contributed to addressing the research questions.

The explanations aim to familiarise readers with non-quantitative backgrounds with these methodologies, which demonstrate the interdisciplinary breadth of the study.

1.7.1 Encapsulation

Encapsulation is a computer programming principle followed by developers to manage the complexity of their code and to make the code flexible and re-usable. To actualise the encapsulation principle, programmers bundle code that performs similar tasks together in a module (Scott 2000, p. 481). A software application contains numerous modules. Each module is a self-contained unit that performs a coherent series of tasks, and that should be independent of all other modules. Encapsulation allows programmers to plug and unplug modules from a software application easily, and to reuse a module in different programmes.

To better understand encapsulation, it is possible to apply this concept to the description of objects of common usage. For instance, encapsulation can be employed to describe a tablet computer as a self-contained object made up of a number of independent components, such as *model, weight, size, processor,* and *software* (Figure 1.2).
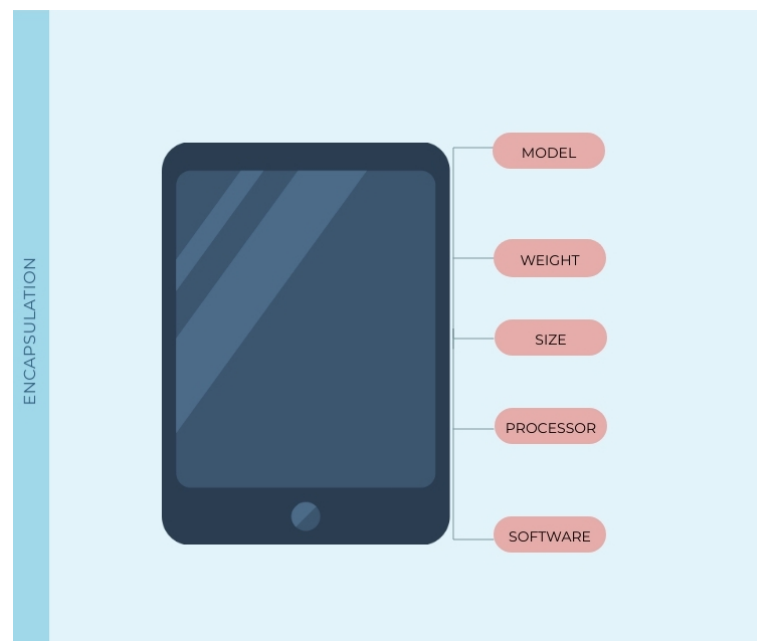
Figure 1.2: Description of the properties of a tablet through the encapsulation principle.

The principle of encapsulation has sometimes been re-purposed in media and communication studies. Randy Duncan (2000), for instance, applied the concept of encapsulation to the analysis of comic books and visual storytelling. The scholar observes that a diegetic experience is made up of encapsulated narrative units. Each unit is separate from the others and can be transmitted through different media channels. When reading a comic book, the reader re-combines the separate narrative elements and expands them into a coherent story.

In this study, I upheld the principle of encapsulation to design the MDS framework in a modular way. I implemented the different components of the framework (*principles* and *categories*) as standalone modules, that concentrate on different narrative and technological dimensions of a diegetic experience. In doing so, I reduced the complexity of the analysis of new media narratives. The role of encapsulation in the MDS framework and its implications will be detailed in Chapter 3.

1.7.2 Feature vector

The notion of a feature vector comes from engineering and is widely adopted in machine learning applications. A feature vector consists of a collection of values which offer an overall numerical description of a phenomenon. Each feature provides information about a specific property of an object being examined (Bishop 2006).

To clarify the concept of a feature vector, let us consider a wardrobe. It is possible to describe a wardrobe by taking into account a specific set of features. For the sake of simplicity, we will focus only on four: width, height, depth and number of doors. In this case, the feature vector, which describes a particular instance of a wardrobe, will consist of a list of four numerical values, one for each of the chosen features. Two different wardrobes will likely be represented by two different feature vectors, because, for example, they could have different height or number of doors.

The numerical summary provided by a feature vector is a simplification of the real world. In the example, relevant features necessary to describe a

wardrobe, such as the number of drawers or colour, are omitted. A feature vector is an imperfect model of the original phenomenon. It is a map of the territory. However, the reduction of complexity occurring when modelling a real-world phenomenon with numerical values brings an advantage. A feature vector can be manipulated and used for comparative analyses. For example, it is possible to examine how similar two wardrobes are, by comparing their feature vectors. In the comparison process, the closer the numerical values of the two feature vectors are, the more similar the two wardrobes will be.

In the economy of the MDS framework, I used feature vectors to produce quantitative descriptions of new media narratives. Similarly to the case of a wardrobe, as part of this research, I identified a set of features (i.e., *principles*), which provide information regarding different narrative and technical dimensions of DS, IS, and TS stories. During the quantitative analyses of the case studies, I assigned numerical scores to each of the identified features (Section 3.4.3). When considered altogether in a feature vector – which in the MDS framework I termed *Genetic Storytelling Code* (Section 3.4.3) – the features provide a numerical summary of a story. I used these numerical descriptions to compare the projects against each other and to understand the diachronic evolution of the individual narrative dimensions I have identified in DS, IS and TS.

Feature vectors have been used in a few notable instances in the humanities. The music tech company *Pandora* has developed a feature vector with more than 400 parameters that provide numerical descriptions of songs (Castelluccio 2006). The feature vector is the analytical backbone of the *Music Genome Project*, which attempts to create a data-driven taxonomy of music. The 400 features represent different musical dimensions, such as the bass presence or harmonic complexity. Music analysts at *Pandora* assign a value in the interval [0, 5] to each feature. I used a similar scoring process to determine the feature vector for all the case studies I analysed (Section 3.4.3, Section 6.3). Researchers have also used feature vectors in game studies. For example, David Pinelle et al. (2008) analysed usability problems in games, considering 12 game dimensions, such as *controls*, *game status* and *artificial intelligence*.

They assigned numerical values to each feature, depending on how problematic it resulted in usability. After the data collection process, the researchers analysed the feature vectors with the statistical method ANOVA, to understand whether different game genres have different usability problems. Similarly to Pinelle et al. (2008), in this research, I used ANOVA to analyse the quantitative data I extracted from the case studies.

1.7.3   ANOVA

In order to support the qualitative analysis of the 36 case studies selected for this thesis, a quantitative approach has been employed. In doing so, I collected a dataset of feature vectors and analysed it with ANOVA statistical tests, carried out in the software program SPSS by IBM. The Analysis of Variance test (ANOVA) is an efficient methodology, for making comparisons among data by testing for significant differences among the means of three (or more) groups (Van Peer, Hakemulder, and Zyngier 2012). If there are only two groups, a *t-test* is used instead of ANOVA (Arkkelin 2014). I chose the Statistical Package for Social Science (SPSS) because of its user-friendly features that facilitate statistical analysis and data management, and for its reliability, which is proved by its popularity within both academic and business areas. The ANOVA method and the SPSS software are not only used in psychology and social science, but they are also adopted in marketing (Babin and Zikmund 2015) and education (Keselman et al. 1998). ANOVA is particularly useful in comparative analyses. This is the main reason why I decided to use ANOVA in this study. An ANOVA test estimates the relative size of variance among group means compared to the mean variance of the groups. Variance provides information about how much a group of numbers is centered around their mean value. High variance indicates that the values are highly spread. Low variance means that the numbers are close to the mean value. Intuitively, for the means of three or more groups to be significantly distant with an ANOVA analysis, the variance within groups must be low, and the variance among group means must be high.

For this study, a One-Way Analysis of Variance (one-way ANOVA) has been

deployed. A one-way ANOVA provides information about whether there is a significant difference of the means of two or more groups, where the numerical values collected can be grouped in terms of a single *factor* comprising of three or more *levels*. A factor is a categorical variable. *Factors* can have multiple *levels*. For example, game genre is a *factor* with *horror*, *fantasy*, and *adventure* being possible *levels*. In order to use ANOVA, each sample can be assigned only to one level. In short, a one-way ANOVA determines whether there are significant differences in the mean values of the *levels* (groups).

ANOVA investigates the significance of the differences observed in the dataset collected. A generalisation of the results from a population sample is possible only if the sample is representative of the general population.

A statistical tool like ANOVA tests the *null hypothesis*. The *null hypothesis* assumes that there is no statistically significant difference between groups in the sample. The cause of a (non-significant) observed difference between groups is traceable only to experimental and sampling errors. In the case of one-way ANOVA, the *null hypothesis* is that there is a non-significant difference between the mean values of the *levels*. If one-way ANOVA returns a significant result, we reject the *null hypothesis* and accept that there is a significant difference at least between the means of two groups.

To clarify the notion of the *null hypothesis*, let us consider a real-world scenario in which we may want to test whether the game genre has an effect on players' engagement. In this case, the *null hypothesis* would be: there is no statistically significant difference between the levels of engagement of players playing games in different genres. To test the hypothesis, the first step would be to set up an experiment and cluster players into three groups, those who play *horror*, *fantasy*, or *adventure* games. Then, we should ask the players to report their perceived level of engagement while playing. After having collected the data, we would perform an ANOVA test. ANOVA will return a result that suggests whether we should retain the *null hypothesis* or reject it. In simple terms, retaining the *null hypothesis* in our example means that there is no substantial difference between the level of engagement perceived by the three groups of players. The opposite case, in which the *null hypothesis* should

be rejected, implies that at least two of the three groups of players display a statistically different level of engagement while playing games in different genres.

How is it possible to decide whether to reject the *null hypothesis*? A one-way ANOVA test determines a value of significance. This value is compared with a threshold probability value (p-value). The p-value indicates the probability that a significant outcome would occur if the null hypothesis were true. In other words, the higher the p-value, the higher the probability of having false positives and therefore wrongly rejecting the null hypothesis when it is true (type I error). If the significance level is small enough, usually less than 0.05 and 0.01, the null hypothesis is refused (Figueiredo Filho et al. 2013). In particular, in psychology, the humanities and social science the most used p-value threshold is 0.05.

While the use of statistical methods is not widespread in cultural and media studies, there is research which successfully applies the ANOVA test to investigate new media narratives. In the article *The Role of Gender and Age on User Preferences in Narrative Experiences*, for example, Michael Garber-Barron and Mei Si (2013) examined the role that gender and age play in the appreciation of digital stories with an experiment. The researchers performed an ANOVA test to understand if there is a significant difference in how participants of different group ages and gender receive an interactive story. In another experimental study, Edward F. Schneider et al. (2004) used ANOVA to investigate how the presence of a story impacts game playing in first-person shooters. They performed ANOVA tests to measure the difference in perceived presence, emotional experiences and player's motivation in two experimental conditions: when the game included a story, and when it did not.

In this research, ANOVA has been a key tool to address the research question: is there any significant change in the different narrative dimensions of new media storytelling projects from 2000 to 2015? Specifically, I used ANOVA to examine how the different narrative and technological dimensions of new media stories have changed diachronically in DS, IS and TS projects. A detailed report of how I have conducted ANOVA tests and of the results can be found

in Chapter 6.

The mixed analytical approach of the MDS framework can be traced throughout the organisation of the thesis' chapters. The next section offers a brief summary of those chapters.

1.8 Chapters' summary

A summary of the chapters of the thesis which can be used by the reader to navigate the study is provided below:

Ch.1: Introduction to the thesis, its direction, aims, research questions and methods. The chapter provides foundational content about MDS as a theoretical framework and its mixed analytical methodology.

Ch.2: Review of previous work which aimed to offer critical and philosophical perspectives on digital, interactive, and online narratives. The main research areas covered are multimodal theory, narratology, new media studies, transmedia studies, interactive theory, convergence and participatory culture, and Internet studies.

Ch.3: Presentation of a unified model (the MDS framework) for analysing and classifying new media narratives. The MDS objects are defined. The hierarchical structure of MDS is discussed, and its components are presented.

Ch.4: Identification and in-depth description of key components of the MDS framework, i.e., *categories* and *principles*. These components collectively describe digital, interactive, and online narratives and contribute to their quantitative and qualitative analyses.

Ch.5: Shift from a theoretical towards a practical perspective. The guidelines and a step-by-step methodology for using the MDS framework to arrive at a detailed and informed analysis of digital and interactive projects are provided, both in the case of quantitative and qualitative investigations.

Ch.6: Applying the quantitative side of the analytical framework to a selection of 36 practitioner-based MDS objects to offer insights on the evolution of digital and interactive storytelling over 15 years, and to test the analytical potential of MDS.

Ch.7: Applying the MDS framework to a selection of 3 practitioner-based projects in the field of DS. The chapter shows in practice the qualitative research instruments provided by the MDS model.

Ch.8: Summary of the MDS framework and conclusions about the contributions to knowledge made in this thesis, with suggestions for future methodology developments and adoption of the presented framework by the research community.

1.9 Summary

The thesis addresses two key research questions:

- What are the common features and patterns shared by digital, interactive, and transmedia narrative artefacts?

- Is it possible to unify DS, IS and TS within a common conceptual framework?

Given the methodological focus of the thesis, I show how the MDS framework can be used by analysts through the following sample question:

- Is there any significant change in the different narrative dimensions of new media storytelling projects from 2000 to 2015?

To address these questions, the study proposes a theoretical model, the MDS framework, that provides a general model for studying new media narrative projects. From the 1980s onwards, technological transformations, such as the proliferation of the computer and the World Wide Web, have radically changed the narrative landscape. This change was facilitated by the low barriers to entry that creatives faced for acquiring and using the new digital technologies (Section 1.1).

As a result, innovative, creative paradigms – DS, IS and TS – emerged (Section 1.2), which introduced new narrative forms to tell both fictional and non-fictional stories, such as hypertext, web articles, digital comics and online video games. Scholars have proposed frameworks to study and analyse DS, IS and TS products. However, it should be considered that the boundaries between projects ascribable to different *storytelling types* are often blurred. A general analytical framework that unifies DS, IS and TS is still missing. The ultimate goal of this study is to provide such an analytical device.

The fundamental premise of this study is that new media narratives are significantly hybrid, in that they show traits from multiple *storytelling types*. Such storytelling projects often mix digital, interactive, and online elements. I identify this layered storytelling environment as MDS, which is an operational superset of DS, IS, and TS (Section 1.3). For analysing this narrative domain, I developed the MDS framework, an analytical device that presents a hierarchical structure made up of *categories* and *principles*. Through this system, I analyse real instances of DS, IS, and TS projects, which, in the context of this new framework, I generally refer to as MDS objects.

In order to build the MDS framework, I relied on a mixed research methodology (Section 1.5). As a first step, I reviewed relevant academic literature to extract the defining features of DS, IS, and TS and to understand shared narrative and technological patterns. At the same time, I performed empirical analyses of 61 projects belonging to the three *storytelling types*. I also conducted interviews with experts in new media storytelling to gather feedback from both scholars and key industry players. All the information collected through literature review, analyses, and interviews has been instrumental in building and refining the MDS framework, and in understanding the features shared by DS, IS and TS.

A mixed approach, which relies on both qualitative and quantitative methods and disciplines, has been adopted throughout the research and in the MDS framework (Section 1.6). This strategy was necessary because of the twofold nature of the study objects of this thesis, i.e., new media narratives. These projects rely as much on the narrative component, as on the underlying

technologies. The MDS framework provides two analytical devices, one quantitative, the other qualitative; which complement each other. These analytical tools have the goal to provide a robust analytical view of a new media storytelling project, from different angles. The MDS framework attempts to unify DS, IS and TS under a single conceptual model.

The chapter ends with a chapter's summary, that orientates the reader to the different parts of the thesis (Section 1.8). In the next chapter, I review the cross-field literature, which engages in the central notions and critical debates surrounding DS, IS and TS. The goal of the chapter is to foreground the research and present the theoretical perspectives that I have used as a starting point to design the MDS framework.

Chapter 2

Theoretical perspectives

2.1 Overview

This thesis focuses on anglophone new media narratives, as they have emerged after 2000 in the industry-based fields of DS, IS and TS. To develop a framework capable of analysing these works, I ran an in-depth search that accounts for the varied theoretical and critical perspectives on DS, IS, and TS. Debates around these three areas span several disciplines and key concepts, including multimodal theory (Section 2.2), narratology (Section 2.3), intermediality, transmediality and intertextuality (Section 2.4), new media studies (Section 2.5), interactive theory (Section 2.6), Internet studies (Section 2.7), participatory culture and convergence (Section 2.8). The chapter offers a summary and critical review of these areas, and foregrounds the fields of DS, IS and TS in relation to the research aims. The themes discussed in the subsequent sections have been instrumental in building and refining the main structures of the MDS framework, such as *principles* and *categories*. They have also been employed to develop the qualitative analysis tool and to formulate the questions used in the expert interviews.

2.2 Multimodal theory

Multimodal theory emerged within communication studies and social semiotics for describing forms of communication which include more than one mode of expression. Gunther Kress and Theo van Leeuwen explain the notion of 'mode' as a channel of communication recognised within a culture or a so-

ciety. Writing, speech, videos, images are all examples of modes (Kress and Van Leeuwen 2001). Central to multimodal theory is the concept of 'multi-modality'. This notion can be broadly defined as "the combination of different semiotic modes, such as language and music, in a communicative artefact or event" (Van Leeuwen 2005, p. 28).

Multimodal theory opposes the traditional position in semiotics that recognised written and spoken words as the leading carriers of meaning in communication. Differently from this view, multimodal theorists suggest that the meaning of a message resides in all of its channels, not only in those that are language-based. This theoretical standpoint is of particular relevance to the study of new media narratives created from the 1980s onwards, which make extensive use of multiple modes of expression. In those years, there has been a shift from text-based stories, towards polymorphous content, which mixes several modes, such as text, sound, animations, images, and video (Alexander 2011). For my investigation, multimodal theory has been central to illuminate the contribution that each mode provides to the overarching meaning of polymorphous narratives.

The concept of multimodality has been analysed from different theoretical and disciplinary perspectives (Jewitt 2009). Gunther Kress, Theo van Leeuwen, and Kay O'Halloran have contributed significantly to the area. These researchers, interested in interdisciplinary research at the crossroads of communication and social semiotics, have developed an analytical approach based on the identification of "the sign-maker and [its] situated use of modal resources" within multimodal narratives (Kress 2003, Jewitt and Kress 2003, Kress and Van Leeuwen 2001). They interpret multimodality as a fundamental "combination of different codes and modes in acts of significant and communication" (2001, p. 45). Kress defines the modes as "a socially and culturally shaped resource for making meaning" (2009, p. 79). He states that "semiotic modes, similarly, are shaped by both the intrinsic characteristics and potentialities of the medium and by the requirements, histories and values of societies and their cultures" (Kress and Van Leeuwen 1996, p. 33).

Different modes draw upon an array of distinct modal resources that are

not only grounded in the culture and history (Kress 2009), but can also be broken down into several parts. Each component possesses distinct potentials and/or limitations for conveying meaning. For instance, *writing* modal resources consist of grammatical, syntactic, graphical, and lexical components. At a lower level, the graphical element can itself be broken down into font size, colour, and font type. The observations regarding the hierarchical structure of modes and their potentialities/limitations have informed the design of the MDS framework. The methodology I introduce proposes to break down the analysis of a complex narrative artefact into its different modes and to understand how these components contribute to telling a story, in light of their intrinsic characteristics and limitations (Chapter 3 and Chapter 4).

Another notable framework that aims to study multimodalitiy is the *Systemic Functional Multimodal Discourse Analysis* (SF-MDA) developed by Kay O'Halloran (2004; 2008). SF-MDA analyses micro-textual layers, which constitute the hierarchical structure of the semiotic elements in multimodal texts. The meaning of complex media products, such as videos and websites, emerges as part of the integrated contribution of verbal language and other communication devices, termed *semiotic resources* (O'Halloran 2011, p. 1). *Semiotic resources* are the building blocks of meaning that shape a culture. By contrast, "the medium is the means through which the multimodal phenomena materialise, e.g., newspaper, television, computer or material object and event" (O'Halloran 2011, p. 2). Similarly to SF-MDA, I propose that new media narratives are two-fold, in that they have both narrative and technological components, which loosely mirror the notions of *semiotic resources* and medium. However, differently from SF-MDA, I suggest that both these elements can be carriers of meaning.

Multimodality, in all of its declinations, is a hallmark feature of DS (Gregori-Signes and Pennock Speck 2013). It can be argued that most DS products are multimodal and that, multimodal theory is necessary to analyse DS narratives effectively. In Birgit Hertzberg Kaare and Knut Lundby's words "[DS] stories do not fit into formal theories of narratives from literature and film studies" (2008, p. 106). They should be studied under the analytical lenses

of multimodal theory because they use an array of modes, semiotic resources, and media to deliver their narrative content, which extends the *monomodal* approach often found in traditional media. The same electronic tools, devices, and media used to package DS content are multimodal. They have the potential to mix video, animations, sound, text, images, and haptic feedback. Many of these resources are also used to create and deliver IS and TS stories (Scolari et al. 2009, Cavazza et al. 2004). Because of this, multimodality extends beyond DS to encompass IS and TS products. In this regard, we can identify multimodality as a first trait that is common to all of the three *storytelling types*. For this reason, I have reworked the concepts outlined in multimodal theory into the MDS framework, which aims to address a central research question of this thesis: is it possible to unify DS, IS and TS within a common conceptual framework?

2.3 Narratology

The field of narratology helped me to outline how the notion of story applies to new media narratives. As part of my review of the area, I focused on new narratology[1] and theories which blend narratology with semiotics and new media. Works in these fields provided insights into how traditional narrative components such as characters, plot, space, and time are rearranged in the context of DS, IS, and TS stories. These theoretical perspectives played an essential role in the design of the analytical categories I identified in the MDS framework.

Traditionally, researchers have conceived narratives as language-based phenomena (Ryan 2013). Prominent scholars in narratology e.g., Horace Porter Abbott (2002), Gerald Prince (1987), Gerard Genette (1972) and Seymour Chatman (1978) believe that a narrative consists of a sequence of events that is recounted by a narrator to a narratee. Prince (1987) exemplifies this position when he states that "a dramatic performance representing many fascinating events does not constitute a narrative, since these events, rather than being

---

[1]New narratology is a strand of narratology research developed during the 1990s (Meister 2011).

recounted, occur directly on stage" (Prince 1987, p. 58). According to this view – which mainly focuses on oral and written modes – other forms of storytelling, for instance, based on visuals and music, are not considered as having narrative qualities (Ryan 2013). This approach to narratology is limited, in that it ignores the narrative potential that new technologies can unlock. As the literary scholar Marie-Laure Ryan puts it:

> If we look back at the history of narrative, we can see it survived the transition from orality to writing, from manuscript to print, from book to multimedia and from stage to moving pictures. Each of these technological innovations has liberated new narrative energies and exploited new possibilities. (Ryan 2004, p. 356).

With the development of new media technologies, innovative forms of narrative have emerged. The availability of multiple modes, media, channels, and platforms for conveying stories has fostered hybridisation among storytelling techniques. The narratives promoted by new media technologies posed a series of challenges to narratologists, summarisable in a few questions that look at the relationship between semiotic systems and their attitude towards narrativity;

- Can every semiotic system tell stories?

- How can we elaborate a definition of narrative which accounts both for cognitive and semantic aspects?

- How can we dispense with the syntactic level if we need a definition of narrativity that suits every semiotic system?

(Passalacqua and Pianzola 2011, p. 65)

As observed by Ryan, the main obstacle to the resolution of the analytical issues raised by the questions above is the "language-based, or rather, speech-act approach to narrative" (Ryan 2013, p. 1). I contend that the analysis of the new, heterogeneous narrative landscape requires a re-definition of the concept of narrative, to be inclusive of multiple modes and media. This approach makes it possible to apply the analytical devices of narratology beyond textual stories.

While the classical approach to narratology relied on the identification and classification of structures and patterns shared by verbal and literary narratives, novel theoretical perspectives have emerged which pay attention to "non-verbal and non-fictional storytelling, audio-visual media, and the cultural and historical contexts of narratives" (Sommer 2012, p. 143). These studies have been of particular significance for designing the MDS framework because they shed light on how narratives can be told across different media. They also offered operational examples of how to extend traditional narratological concepts to the study of new media narratives.

Semiologist Claude Bremond provided an early extended definition of narrative (1973). He describes the story as a unit independent of the media that delivers it:

> [story] is independent of the techniques that bear it along. It may be transposed from one to another medium without losing its essential properties: the subject of a story may serve as argument for a ballet that of a novel can be transposed to stage or screen, one can recount in words a film to someone who has not seen it. These are words we read, images we see, gestures we decipher, but through them, it is a story that we follow; and it could be the same story. (Bremond 1973, p. 1)

For my investigation, Bremond's theoretical perspective proved to be a solid starting point to acknowledge that multiple modes and media possess narrative capabilities. This theory indirectly identifies a feature that I found to be common in DS, IS and TS. The story with its traditional narrative constructs (e.g., characters, time, events) remain central elements of any type of new media narrative. Despite being particularly innovative in the field, Bremond's theory falls short because it neither addresses how traditional narratological constructs are reinterpreted in non-textual narratives, nor does it account for the cognitive aspects of narratives delivered through different media. The research carried out by Ryan addresses both issues.

Ryan's body of research aims to overcome the traditional language-type approach to narratology (Passalacqua and Pianzola 2011). The scholar intro-

duces a "medium-free approach [to narratology] based on semantic and cognitive conditions", in which narrative is seen "as a set of cognitive operations" (Ryan 2004; Ryan 2005; Ryan 2007). For Ryan, narrative is a complex notion (e.g., 2006; 2007), which implies different layers of signification. In her words, narrative allows:

> a variable degree of membership, but [is] centered on prototypical cases that everybody recognizes as stories. In a scalar conception of narrative, definition becomes an open series of concentric circles which spell increasingly narrow conditions and which presuppose previously stated items, as we move from the outer to the inner circles, and from the marginal cases to the prototypes. (Passalacqua and Pianzola 2011, p. 66)

In Ryan's theory, a narrative is dependent on four dimensions, namely, the *spatial*, *temporal*, *mental* and *formal and pragmatic*. In narrative texts, characters, and objects co-exist in a world, that has a set of defined spatial properties (Ryan 2013, p. 3). The narrative universe must possess a *temporal* dimension, which should be subjected to meaningful changes, caused by agents and physical events. The *mental* dimension captures the role of the agents in the world. Some of the agents who participate in the events that happen in the narrative universe must be intelligent. They should act intentionally, responding emotionally to the state of the world, and determining events through their (re)actions. The *formal and pragmatic dimension* ensures that a narrative may comprehend causally connected sequences of events, which point towards a meaningful closure. Some events of the plot must be assumed as facts in the narrative space, and, overall, the story must convey a series of messages which are considered by the audience to be significant, at least in points (Ryan 2013).

In my research, I have employed the four narrative dimensions introduced by Ryan to understand the diegetic potential of different media. For example, I found that social media platforms such as Facebook, Instagram and Twitter have narrative capabilities, because, in certain instances, they show the *spatial*, *temporal*, *mental* and *formal and pragmatic* narrative dimensions. Let

us consider the case of fictional characters with social media accounts to clarify the previous statement. The characters *Donkey*[2] from the movie *Shrek* and *Elmo*[3] from the *Muppet Show* both have personal accounts on Facebook, which they use to interact with the audience and their fictional friends. On social media, these characters inhabit a *spatial* dimension which blends the fictional and the virtual/physical worlds. The characters are bound to the *temporal* dimension of the social media users. They interact with intelligent agents (the users), therefore creating a series of emergent narrative events, that contribute to shaping their perception by the audience.

Beyond showing the narrative capacities of social media, *Donkey*'s and *Elmo*'s Facebook accounts also exemplify the concept of *metalepsis*, introduced in the narratological debate by Genette (1972). *Metalepsis* indicates the trespass of the boundaries between the diegetic and extra-diegetic worlds. It represents a physical or psychological discourse that intervenes between the fictional characters and the spectators. Despite having been proposed in the context of traditional media, this notion is still relevant to digital, interactive, and transmedia stories. Ryan (2006), for example, suggests video games lend themselves to *metalepsis*. *Metalepsis* is indeed a common feature found in the three *storytelling types*. In my investigation, I used *metalepsis* to discuss the interaction between the audience and fictional characters in social media narratives, which sometimes blur the boundaries between the fictional and the physical worlds.

Metalepsis is not the only narratological construct introduced before the advent of new media technologies, that can effectively be applied to the analysis of new media narratives. The re-adaptation of narratological notions to the analysis of genres and media beyond the traditional language-based narratives characterises transgeneric approaches in new narratology. Transgeneric methods extend narratological analysis beyond the novel, to include various formats and media, such as films, cartoons, video games, and music. A notable series of transgeneric studies attempted to rehash the traditional taxonomy of

---

[2]The Facebook account of Donkey can be viewed at `https://www.facebook.com/DWADonkey/` [Accessed 11-11-2019].

[3]The Facebook account of Elmo can be viewed at `https://www.facebook.com/Elmo/` [Accessed 11-11-2019].

seven character types and 31 narrative functions proposed by Vladimir Propp in his influential book *Morphology of the Folktale* (1968), in the context of new media narratives. In these studies, Propp's framework was repurposed to analyse narrative formats outside literature. Mary Ann Buckles, for example, employed Propp's taxonomy for investigating the iconography of the video game *Adventure* (1985). Graeme Turner used the same framework to analyse the iconic *Star Wars* movie (1999).

Transgeneric approaches had a significant role in the design of the MDS framework. I reformulated numerous traditional narratological constructs (e.g., characters, space, time, events) in the context of DS, IS and TS; and encapsulated them into *principles* and *categories*.

2.4   Intermediality, transmediality and intertextuality

Three key concepts in the debate surrounding new narratology are *intermediality*, *transmediality* and *intertextuality*. These notions played an important role in my study, to capture essential attributes of new media narratives. These concepts are all related and partially overlap. The notions of *intermediality*, *transmediality* and *intertextuality* emerged as the result of extensive research and theoretical negotiations in the fields of literary studies and narratology. Even though they originated in academia, these notions have proved to be useful to analyse and categorise commercial DS, IS and, TS products.

The concept of *intermediality* emerged in the area of literary studies in the 1960s, and became well established in the academic circles during the 1990s (Rajewsky 2005). Scholars coming from different disciplines, such as new media studies, literary studies, narratology and film studies, have relied on the notion of *intermediality* to analyse works that trespass media boundaries. The attributes and delimitation of *intermediality* often vary depending on the study area.

Dick Higgins introduced the original operational definition of the notion, suggesting that in intermedia works "the materials of various more established art forms are 'conceptually fused' rather than merely juxtaposed" (1984). *Intermediality* is a feature of those works where there is a crossing of borders

between media types. In her article *Intermediality, Intertextuality, and Remediation: A Literary Perspective on Intermediality*, literary theorist Irina Rajewsky provides a taxonomy of types of *intermediality* (2005). For Rajewsky, a first kind of *intermediality* can be achieved using media transposition. This is the case of film adaptations of literary works or game adaptations of popular television series. Another type of *intermediality* proposed by Rajewsky is obtained by combining different media together. A prototypical example of media combination is opera, where music, theatre and, literary works are mixed to convey a unified message. Rajewsky suggests that a final type of *intermediality* is achieved through intermedial references. An example of intermedial reference is a book that references a painting with text or a video game that re-adapts film techniques such as long takes and dissolves. In my research, the notion of *intermediality* has been of particular significance to ground the analysis of case studies delivered through multiple media.

The concept of *intermediality* can be better understood when compared against those of *intramediality* and *transmediality*. Unlike intermedia, intramedia works employ a single medium to convey a message (Rajewsky 2005). An example of *intramediality* is a novel comprising only text-to-text references. In this case, there are only references within the same media type (i.e., literature). The difference between *intermediality* and *transmediality* is more subtle. In academia, the concept of *transmediality* emerged from that of *intermediality*, in the fields of new media studies and literary theory. The notion often recurs in *intermediality* theories. For example, in his intermedia research Werner Wolf suggests that *transmediality* "concerns phenomena that appear in more than one medium without being (viewed as) specific to, or having an origin in, any of them" (2015). Like *intermediality*, *transmediality* concentrates on works which transgress the border between media. Differently from *intermediality*, it describes phenomena which are not bound to a specific medium. Transmedia products can materialise in an array of different media, such as film, video games, and novels. In a transmedia work, it is impossible or irrelevant to trace the origin of a phenomenon to a given medium. Transmedia works make use of repeated motifs and thematic variations across multiple media, to arrive at

a coherent, distributed delivery of the content.

A concept close to *transmediality* is *intertextuality*. The French literary theorist Roland Barthes referred to *intertextuality* as a potential extension of a literary narrative across multiple textualities. In his theory, the literary text becomes a "tissue of quotations" or a "multidimensional space in which a variety of writings blend and clash" (1977, p. 48). In an intertextual context, different texts can reference each other, creating a web of emergent meaning scattered across multiple literary works. Building on the work of Barthes, the literary critic Julia Kristeva extended the concept of *intertextuality* to encompass multiple media, used in combination to convey a common narrative motif (1980). Marsha Kinder extended Kristeva's work, by coining the term *transmedia intertextuality*, which refers to the presentation of multimodal content across multiple platforms and channels.

In this thesis, the academic notions of *intermediality*, *transmediality* and *intertextuality* offered a solid theoretical background when analysing narratives characterised by rich storyworlds, that encompass multiple media platforms. In the analysis of the case studies, I observed that creators of new media narratives often make use of intertextual and intermedia strategies to create composite narrative worlds, with multiple entry points for the audience. Even though this trait is particularly well represented in TS narratives, it is possible to trace in numerous DS and IS productions. In this sense, *intermediality* and *intertextuality* are two other features shared by the different *storytelling types*.

Another central aspect that I considered in my study is how different types of media, both analogue and digital influence new media narratives.

2.5   New media studies

New media studies focus on the investigation of those forms of communication which employ digital technologies and networked computers (Lister 2009, p. 2). Theories in this field have helped me to outline the difference between digital/analogue media, define the concept of *remediation* in new media stories, and to pinpoint the role of multimediality in the three *storytelling types*. Research in the area concerns both the software and hardware components

that power digital, interactive and online technologies. Scholars in new media studies have often built on the work of key figures in communication theory, such as Marshall McLuhan, and re-adapted concepts from other disciplines. Key scholars who have contributed to advancing the field are Espen Aarseth (1997), Lev Manovich (2001), Marie-Laure Ryan (1999), Jay David Bolter and Richard Grusin (1999). The review of this literature has had a twofold influence on my research. First, it provided insights into the similarities and differences between traditional and new media, both employed, to a different extent, to transmit DS, IS and, TS narratives. Second, it helped pinpoint peculiarities and attributes that characterise digital media.

Digital forms of expression emerged at the end of the 20th century and re-shaped the way information is transmitted, created, and received by an audience. As claimed by Walter Jackson Ong in his book on media studies *Orality and Literacy: The Technologizing of the Word*, communication devices are not mere 'pipelines' for conveying information (1982). Instead, they play an active role in influencing the structure of the information and its reception (Ryan 2009). The concept that the medium influences the message has been central to understand how meaning is conveyed in new media narratives and, by extension, to design the MDS framework.

A scholar who embraced this theoretical standpoint and provided a significant contribution to the definition of new media is Manovich. The academic defined the notion of *newness* in media by looking at the intersection between computing and cinematic technologies, and by considering the digital/new media tendencies that emerged in that technological context (2001). Manovich suggests that new media possesses five features, namely, *numerical representation*, *modularity*, *automation*, *variability* and *transcoding*. New media artefacts are digital, in that they can be encoded with sequences of 0s and 1s (digits). A computer can interpret streams of digits as images, text, sound, or colours. Such a *numerical representation*, makes it easy to manipulate new media objects with algorithms and to store them digitally. New media objects are also modular. They consist of multiple components that an algorithm can manipulate individually. For example, a blog post is made up of lines of code,

text, images, animations, and sounds, which can be modified and reused to craft new objects. I used the principle of *modularity* by Manovich in the MDS framework to describe how MDS objects often exist in the form of re-assembled microcontent, borrowed from different sources.

Computers can automate many processes for creating and editing new media objects. The copy/paste functions in production software, for example, enable users to duplicate parts of a document at the click of a button. New media objects are variable. They "exist in different, potentially infinite versions" (2001, p. 36). For example, when users navigate interactive objects like hypertexts, they can access different content and choose among a selection of paths within the same text. The presentation of the same piece of content is, therefore, variable. New media are created and distributed on computers. Because of this, one should expect that the logic of the computer affects the shape and structure of the new media object. This idea, captured in the *transcoding* principle, creates a connection between Manovich and the early work of McLuhan, who claimed that the channel modifies the content of the communication (1964). In my research, the five features of new media objects introduced by Manovich (i.e., *numerical representation, modularity, automation, variability* and *transcoding*) were instrumental in deriving the MDS *principles* that focus on the channels used to deliver DS, IS and TS stories.

It is possible to acquire a better understanding of the concept of new media by comparing it against that of traditional media. Traditional media refers to forms of communication such as printed books, newspapers, magazines, films, sound recordings, broadcast television, and radio (Hills 2009). The separation between traditional and new media is not clear-cut, and there is some overlap in their definitions. Nevertheless, it is possible to draw a line between the two based on the types of technologies they use to store and transmit information. As suggested by Manovich, new media are digital. By contrast, traditional media generally use analogue technologies to store data.

Analogue data is encoded with physical properties, or relationships, which can change in a continuous spectrum. Digital data is related to all that is boundary marking, discrete, and quantitative controlling (Buckley 2014, p.

7). Analogue is characterised by continuous variables; digital by discretised, or quantised. By extension, analogue media (or traditional media) use continuous measures, such as electricity, to store and transmit information. Digital media (or new media) rely on discretised *numerical representations*, or digits. Digital media objects can be easily reproduced and distributed through network-based systems, such as the Internet.

New media narratives are (mainly) powered by digital media. This is another fundamental feature shared across DS, IS, and, TS. To account for this common trait, I designed most of the MDS framework's components in such a way as to provide an analytical report of properties related to digital media. The MDS framework can also partially account for the use of analogue media in new media stories. I opted for this design decision in order to cover those types of TS products, such as ARG, where analogue media play a significant role in conveying the narrative.

Traditional and new media and, by extension, analogue and digital media are co-dependent. Scholars such as Gregory Bateson (1972) and Anthony Wilden (1972), for example, have proposed that analogue and digital are not mutually exclusive concepts. Analogue and digital media continuously overlap (Buckley 2011, p. 8).

Digital media can contain analogue media and vice-versa in a recursive fashion. This idea branched from germinal work by McLuhan, who claimed that "the content of any medium is always another medium" (1964). As McLuhan suggests, the content of writing is speech. The written word itself is the content of print.

The act of remixing different media is covered in the notion of *remediation*, introduced by Bolter and Grusin (1999). *Remediation* is a complex process that can materialise in various forms. A type of *remediation* is the direct translation of a traditional medium into a digital form. This is the case of e-books, which are an almost one-to-one mapping of a book in a digital setting. A more radical form of *remediation* is the act of refashioning the older medium in a new context. Bolter and Grusin suggest VR as an example of this type of *remediation*, where physical actions are re-interpreted in a virtual environment.

Remediation can also be a process whereby the attributes of the old medium are fully absorbed in the new medium. This is the case of cut-scenes in video games, which, in essence, are short films generally used to advance the plot and to provide the player with important information about the story.

For Bolter and Grusin, *remediation* follows a double logic, that oscillates between the opposite states of *immediacy* and *hypermediacy*. The logic of *immediacy* aims to remove the traces of mediation. In this case, the technology should be as transparent as possible in order to re-create the real-world experience. Conference call services like Skype or Google Hangouts respond to the desire of *immediacy*. These technologies present minimal interfaces, with only a few buttons. The largest proportion of the interface accommodates the videos of the users. This design aims to minimise the mediation of the application and to re-create the feeling of face-to-face conversations. On the opposite end of the spectrum, there is the logic of *hypermediacy*, which multiplies the effect of mediation, by combining multiple media content such as images, sounds, text, and video in a heterogeneous space. An example of *hypermediacy* provided by Bolter and Grusin is the computer desktop, where windows with different text, images, and icons co-exist in a fragmented environment. The mediated experience reminds the user that the desktop is interactable. I have used the concept of *remediation* to analyse the case studies and to explain how content is re-adapted across different media, in different manners.

Another important notion in new media studies, which is central to the MDS framework is that of multimedia. This concept emerged from early research on new media texts, such as encyclopedias published on CD-ROMs (Vaughan 1993). The term multimedia was defined as "any combination of text, graphic art, sound, animation, and video that is delivered by computer" (Vaughan 1993, p. 3). In this context, the word 'medium' refers to the technology employed to produce and transmit the work, such as print, oral and visual. The media can be both digital and analogue. Multimedia content displays a set of properties – e.g., the use of visuals for simplifying complex ideas and background music for setting the mood – which help to engage users and retain their attention. Because of its engaging nature, multimedia content has

proved to be particularly effective in educational contexts (Shams and Seitz 2008). The definition of multimedia can be extended beyond the initial educational scope to encompass new media narratives. Most case studies I have examined showcase multimedia elements. From my research, I determined that multimedia is another constitutive feature shared by DS, IS and TS narratives. As such, multimedia has become a pillar around which I have built the MDS framework.

Close to the concept of multimedia is that of interactivity, which has long been debated in new media studies.

2.6   Interactive theory

Interactivity is a central trait of new media narratives. The phenomenon has been studied in relation to different media formats such as hypertext, computer-based art, video games, and VR; and emerged as a result of the technological advancements in hardware and software that have occurred over the last thirty years. Researchers coming from an array of disciplines such as communication studies, media studies, game studies, psychology, and literary studies have tackled interactivity from different angles. The multidisciplinary literature I discuss in this section has been fundamental to derive the interaction *category* of the MDS framework, which studies the interactive features of DS, IS and TS narratives.

This section is divided into three parts. The first provides definitions of the concept of interactivity found in the multidisciplinary academic literature I reviewed. The second focuses on three central debates surrounding the notion of interactivity in narratives: the role of the audience, non-linear narrative structures, and the relationship between interaction and immersion. The final part examines the role of interactivity in different media formats.

2.6.1   Defining interactivity

There are many definitions of interaction, proposed in different disciplines, which focus on different aspects of the phenomenon. An important contribution to the definition of interactivity comes from the field of communication

studies. In this study area, interactivity is understood as a variable characteristic of all communication exchanges. Communication researcher Sheizaf Rafaeli (1988) describes communications as interactions, where information flows between senders and receivers. The interaction is causally and temporally determined. The content of the current message depends on what has already been transmitted during previous interactions. Spiro Kiousis (2002), another communication scholar, agrees with Rafaeli that the notion of interactivity is central to the standard sender-receiver communication configuration. He suggests that interactivity is a feature of the device used for transmitting the message and that it is a function of the user perception. The focus on human-system interaction is also at the centre of the definition of interactivity provided by media scholar Erkki Huhtamo (1999). The scholar maintains that a system can be deemed interactive if there is two-way real-time feedback between the user and the system. The emphasis on the 'relational' aspect of interactivity is central in the research of Jens Jensen. The media researcher attempts to provide definitions of interactivity that work for the fields of sociology, media and communication studies, and informatics (Jensen 1998). In a sociological context, for Jensen, the notion of interaction refers to the relation between two people. In media studies, interactivity is seen as the relation between the receiver and the message. Finally, in informatics, and especially in its subfield of human-computer studies, interaction appears as the relationship established between a person and a system.

Drawing on these authors in communication and media studies, I conceptualised interactivity as a two-way relationship established between a communication/art piece/narrative and a user. Interactivity is another trait that is often found – with different types of implementation – in the three *storytelling types*.

Researchers who studied the concept of interactivity in the context of storytelling had a more significant influence on my definition of interaction. This is because, in the MDS framework, I attempt to analyse the narrative impact of interactivity in DS, IS, and TS products.

There is extensive research that examines interaction from a narrative an-

gle. In the book *Computers as Theatre*, Brenda Laurel provides an early attempt at contextualising interactivity in narratives (1991). She proposes three parameters to measure interaction: *frequency*, *range* and *significance*. *Frequency* refers to how often the user can interact with the system. *Range* represents the degree of interaction offered by the system. *Significance* indicates how meaningful is the interaction. In other words, when gauging *significance* in a story, we should ask the question: how much can the user change or influence the narrative by interacting with the system? Rather than focusing on its technical facets, Laurel investigates interaction as a means to augment the narrative experience and the user's feeling of presence in a story. Celia Pearce also discussed the role of interaction in narratives in her *The Interactive Book. A guide to the Interactive Revolution* (1997). The game designer points out that there are two types of interactions: *gratuitous* and *meaningful*. *Gratuitous* interaction has no consequence on the experience. It is a mechanical action that the user performs as part of the gameplay. *Meaningful* interaction, on the other hand, produces an effect on the story. As Laurel would put it, *meaningful* interaction is *significant*. Similarly to Pearce, Ryan (1997) introduced the concepts of *low* and *high* interactivity. The former has no effect on the experience, while the latter transforms the user into a co-author of the story.

In *Beyond Myth and Metaphor*, Ryan expands her previous work on interaction, by introducing different types of interactivity, obtained with two sets of opposing concepts: *internal/external* interactivity and *exploratory/ontological* interactivity (2002). In *internal* interactivity, the user is part of the fictional world and can interact with the environment in the first-person perspective. This can be obtained through an avatar or a first-person view. By contrast, in *external* interactivity, the user is placed outside of the fictional world. *External* interactivity is often common in strategy video games like *Age of Empires* (Ensembles Studios, 1997) or *Civilization* (Meier and Shelley, 1991), where the player does not identify with any character in the game and can control units and buildings from above. In *exploratory* interactivity, the user can interact with most elements in the fictional world. These interactions, however, do not produce any significant change in the plot. In this sense, *exploratory* inter-

activity is comparable to both the concepts of *low* and *gratious* interactivity. By contrast, in *ontological* interactivity, experiencers have an impact on the development of the storyline, through the interactions they perform. The different types of interactivity proposed by Ryan had a significant bearing on this research. Her studies prompted me to consider interaction from different theoretical perspectives and to acknowledge that interactivity is a multi-factorial phenomenon.

Another germinal work in interaction and narrative is Janet Murray's book *Hamlet on the Holodeck: The Future of Narrative in Cyberspace* (1997). For Murray, interactivity is procedural and participatory. A user should participate in an interactive process that is served procedurally by a computer system. The researcher also suggests replacing the notion of 'writing' with that of 'scripting the interactor'. When creators design an interactive narrative, they should mainly focus on how to make the user interact with the fictional world, to push the story forward. Murray's research has been particularly useful when I was examining IS case studies. Her theoretical position made me aware of the multifaceted role of the creator in interactive stories.

2.6.2 Key debates in interactivity applied to narratives

While researching the literature on interaction applied to narrative domains, I identified three long debated themes: the role of the audience, non-linear narrative structures, and the opposition between interactivity and immersion. The debates surrounding these themes had an impact on my understanding of the concept of interactivity within the narrative space. I expand on these concepts in Chapter 4, where I present the interaction *category* of the MDS framework.

The introduction of interactive features in narratives entailed a change in the role of the authorship and spectatorship. This destabilisation occurred for the first time with the advent of the hypertext. The ability to have a "plurality of discourses over definitive utterance[s]" (Coover 1992, p. 3) has decreased the level of control authors can maintain over narratives deployed through hypertext. George Paul Landow (1992) and Robert Coover (1992) connect

this point with the increased usage of interactive elements, such as multimodal content, interfaces and links; which all participate in the creation of stories, and enhance the centrality of the reader. Landow (1992) links the change in the authorship to the concept of the *death of the author*. This notion derives from the poststructuralist philosophers Barthes (1967) and Michel Foucault (1977), who claimed that the author should produce the creative work as a *scriptor*, who does not interfere with the interpretation of the text:

> the modern 'scriptor' is born simultaneously with the text, is in no way equipped with a being preceding or exceeding the writing, is not the subject with the book as predicate; there is no other time than that of the enunciation, and every text is eternally written here and now. (Barthes 1977, p. 147)

The metaphor of the *death of the author* served as a basis to explain the modification of the role of the audience in digital and interactive media productions. Bolter (1991) argues that the ephemeral and dynamic nature of the hypertext makes it challenging for the reader to recognise where their role begins, and that of the author ends (1991). The indeterminacy of the author's and reader's roles opens the way for text co-creation. The efforts of the reader and author are combined to generate a plot together. As Coover puts it: "hypertext reader and writer are said to become co-learners or co-writers" (1992, p. 3). In this research, I have used the themes discussed by Bolter, Coover, and Landow as a starting point to account for the change of the role of the audience in new media stories, elicited by the introduction of interactive features (Chapter 4). The indeterminacy of the roles of the author and reader is often found across digital, interactive and transmedia projects.

The injection of interactive elements into narrative projects produced non-linear stories. One of the primary narrative elements affected by the usage of non-linear mechanisms was the plot. The classical Aristotelian category of plot based on a finite structure where nothing can be added or removed (Aristotle 1997), had to be re-worked in the context of interactive narratives. Laurel (1991) suggested that the Aristotelian category of plot, with a few modifications, still applies to interactive stories. Interactors experience a classical

tripartite plot structure with a beginning, middle and end, while they engage with the narrative system. However, unlike the traditional definition, for Laurel, the plot becomes a mutable interactive variable, with narrative branches and bifurcations determined by the users' decisions. Michael Mateas (2001) builds on Laurel's work, proposing two roles for the plot. The first is to guide the user through the story. The second is to reveal the interaction rules necessary to advance the user through the experience in a non-linear way. In the analysis of the case studies, I paid particular attention on the study of non-linearity through the theoretical lenses of Laurel and Mateas. In doing so, I found that plot non-linearity is another feature shared among most DS, IS, and TS projects.

A significant line of research in interactive theory is the relationship between interactivity and immersion in a narrative context. This relationship has been heavily debated in video games studies as well as in the broader domain of new media studies. To understand the implications of this debate is necessary to appreciate the variety of operational definitions of immersion provided by different authors (Haywood and Cairns 2006).

For some scholars, immersion represents "a feeling of being deeply engaged where people enter a make-believe world as if it is real" (Coomans and Timmermans 1997). Other researchers examine immersion in relation to the emotional reaction elicited by a virtual world onto the experiencer (Manetta and Blade 1995). Immersion is also linked to the ability of users to exercise control over the events occurring in the game (Radford 2000). Other approaches have defined immersion as a function of the technology employed to convey the story, rather than a phenomenon directly connected to its psychological experience. According to this theoretical view, a high level of immersion is the result of a system that is capable of delivering an engaging virtual environment that elicits a sense of presence in the user (Slater, Usoh, and Steed 1994). Within new media studies, the term immersion has been described as the "illusion of immediacy" (D. J. Bolter and Grusin 1999, p. 101). For Bolter, a medium where the different elements of the interface are barely perceivable by the user creates an "illusion of immediacy", and is therefore highly immersive. Ryan

partially decouples the concept of immersion from technology. She considers immersion the result of a cognitive and psychological involvement based on the deep connection between the narrative world and the real environment of the audience (2001). For Ryan, immersion is "a deep absorption in the construction/contemplation of the textual world [causing] our immediate surroundings and everyday concerns to disappear from consciousness" (2001, p. 94).

Interactivity and immersion have been presented both as allied and competing phenomena in the academic literature. Ernest Adams maintains that when interaction is present in a narrative, users feel more immersed, and as if they are in control of the plotline (2013). On the opposite end of the spectrum, Katharina Albæk et al. have argued that interactivity hampers the immersive experience (2011). Murray (1997) concedes that a clash between interactivity and immersion is possible, but she reasons that it can be reconciled through conscious design considerations. The researcher claims that in order for the audience to be immersed in a diegetic experience, digital and interactive technologies should be as invisible as possible. In Murray's words, "all successful storytelling technologies become transparent, we lose consciousness of the medium and see neither print nor film but only the power of the story itself" (1997, p. 26).

2.6.3 Interactive media formats

The role that interactivity plays in narratives has been studied in practical terms across different media formats, such as hypertext, adventure games, and video games. The review of these studies has been important to understand how interactivity has evolved over time, and how it has shaped different media formats.

Digital narrative texts advanced in line with technological development. Theodor Nelson introduced the concept of hypertext in 1965 (T. H. Nelson 1965) when technology allowed creators to integrate references across multiple texts through hyperlinks. However, influential works hinting at hypertextual elements had already been published by the time Nelson formalised the concept of hypertext. The short story *The Garden of Forking Paths* (which was

written by Jorge Luis Borges in 1941 and explores the concept of infinite textualities) is an example in point. In an article appeared in 1945 called *As we may Think*, Vannevar Bush (1945) described a hypothetical proto-hypertextual machine called *Memex*, that could be used to store and quickly retrieve books, articles, messages and other forms of communication. Despite these proto explorations, Nelson's hypertext model (*Project Xanadu*) conceptualised in the 1960s, has been a milestone for the adoption of hypertext. The *Xanadu* model helped theorising non-sequential writing and introduced the ability for readers to navigate an electronic text in a non-linear fashion, choosing their narrative path with interactions.

There is an extensive literature focused on digital fiction based on hypertext, which is commonly referred to as *hyperfiction*. Hyperfiction is based on fragments of text connected through hyperlinks, assigned at particular narrative points by the author. Hyperlinks contribute to shape the structure of the hypertext and usually enable more than one entry point, internal branches, and not-uniquely-defined endings. Even though new media narratives have been commonly assembled combining multiple media objects (e.g., multimedia encyclopedia on CD-ROMs), early hypertexts mainly relied on text-based modes of expression. In the 1980s, textual content was still the cardinal part of the storytelling process. The text was central in the case of the early hyperfiction published by *Eastgate*[4] such as *afternoon, a story*[5] and *Victory Garden*[6].

Text-based fiction started to lose its primacy due to the technological advancements achieved from the 1990s onwards in visual technologies (e.g., Adobe Flash), and the growing usage of the Internet. During those years, visual elements and animation gained a crucial role in electronic literature (Hayles 2003). This change occurred also in the video games industry, where text-based adventures like *Zork* (Infocom, 1977) and *Colossal Cave Adventure* (Crowther and Woods, 1976), which were very popular during the 1970s, were

---

[4] *Eastgate Systems* was founded in 1982 by Mark Bernstein in Cambridge. The company developed software that allowed writers producing hypertext. *Eastgate Systems* was one of the most prestigious publishers of hypertext fictions (Atkinson 2009, p. 61).

[5] *afternoon, a story* was written in 1987 by Michael Joyce and published by *Eastgate Systems* in 1990.

[6] *Victory Garden* was written by Stuart Moulthrop and published by *Eastgate Systems* in 1992.

replaced by graphical adventure games like Sierra's *King's Quest* (1980) and LucasArts' *Maniac Mansion* (1987) during the 1980s. In these new games, the centrality of text is undermined in favour of visual elements and rich – for the time – graphical interfaces, which fostered an increased level of interaction.

In video games, interactivity refers to the ability of the player to directly influence the game state through actions mediated by devices such as the mouse, joypad, and keyboard. Interactivity is often paired with the concept of gameplay. Gameplay is an umbrella term that comprises the game mechanics and dynamics, as well as the game rules and reward system. Katie Salen and Eric Zimmerman define gameplay as "the formalized interaction that occurs when players follow the rules of a game and experience its system through play" (2004, p. 303).

The rich interactive possibilities offered by video games are often seen in opposition to their narrative capabilities. Koenitz (2018), for example, points out that "in the field of video game studies, narrative aspects of video games are often described in contrast to rule-based aspects". In a well-known debate, narratologists and ludologists assumed two different positions regarding the narrative potential of video games. The theoretical perspective of the narratologists can be summarised through the words of Murray, who pointed out that "games are always stories" (2004). As such, they can be studied through the means of narratology. By contrast, Espen Aarseth (2012), voicing a common position encountered among ludologists, pointed out that there should be some caution in applying concepts borrowed from narratology, such as 'story' and 'narrative', directly to games. For Aarseth, even though there are certain similarities between games and narratives, such as a storyworld, objects and characters, the two media are different, and it is difficult to decide whether games can be narrative at all.

Teun Dubbelman merges the two theoretical positions, by introducing the concept of *narrative game mechanics*, which he defines as "game mechanics [that] invite agents, including the player, to perform actions that support the construction of engaging stories and fictional worlds in the embodied mind of the player" (2016, p. 43).

I agree with Dubbleman that video games have the potential to support narratives. For this reason, I included in the case studies stories that leverage features traditionally found in games, such as game mechanics and the two-way feedback between the player and the narrative system. As instances of these narrative objects, I mainly focused on non-challenge-driven games. These are games such as *Dear Esther* (Pinchbeck, 2008) (Appendix C), which do not provide a binary outcome to the player (victory/loss), and, instead, explore the narrative boundaries of the video game format.

The debates surrounding interactivity that I covered in this section all play a major role in new media narratives, and, are central to IS projects. The potential to create and experience interactive narratives increases on the Internet, which, in itself, can be seen as a giant hyperlink device.

2.7 Internet studies

Internet studies focus on the analysis of the Internet from different theoretical angles. The field studies the technical aspects, the communicative potential, as well as the social, cultural, and political implications of the World Wide Web (WWW) and Internet technologies. Research in Internet studies is highly interdisciplinary and draws from several academic areas, such as cybertheory, new media studies, sociology, and computer science. In my research, I used insights from Internet studies to understand how technological disruptions changed the applications and services offered through the Internet, and how these, in turn, fostered new ways of producing, receiving and distributing new media narratives.

The history of the Internet moves through waves of cultural and technological disruption. A key innovation that fostered the popularisation of the Internet was the PC.[7] The PC is not strictly linked to the Internet, in that these two technologies are separate. However, the advent of the PC changed the role that computers played in Western societies and created the necessary

---

[7]It is possible to trace the root of home computers and the related hobbyist movement back to the mid-1970s. Leslie Haddon (1988) claims that, even if the term personal computer was officially established in 1981 when IBM commercialised it, it was the launch of Apple II in 1977 that popularised the notion of the microcomputer.

conditions for the wide adoption of the Internet. Before the advent of the PC, computers were mainly used by professionals to speed up work-related activities. When computers entered people's homes, they became multi-purpose devices (Creeber and R. Martin 2008, Hills 2009, Schafer 2011). In *Home Computer Revolution* (T. H. Nelson 1977), Ted Nelson introduced notions like 'friendly computers' and 'personal information needs' to express the emerging relationship between PCs and users. The scholar proposed that by welcoming PCs in their homes, consumers became more reliant on these devices for their leisure time. The first stage of this change was the shift of the users from "waiting operators" to "impatient" receivers/senders of the messages transmitted by the computer (T. H. Nelson 1977, p. 24). People then started joining the Internet *en masse*. Why would they do that? On the Internet, the "impatient" receivers not only had access to the limited information stored in their local machines but could also acquire, distribute and share information all over the world (Lister 2009, Schafer 2011). With the advent of the Internet, the PC became a domestic media centre, which people could use for enjoying several leisure activities, such as listening to music, watching TV series, communicating with their peers and reading blogs. This renewed relationship between people and computers also laid the ground for the emergence of new narrative formats.

The Internet has undergone major changes over time due to technological innovations. Internet scholars have proposed to divide the history of the web into two periods, termed, web 1.0 and web 2.0 (Lister 2009). According to the inventor of the WWW Tim Berners-Lee the first implementation of the web was "read-only" (1996). In web 1.0, few creators developed web pages for a multitude of readers, who would search for information online. The interaction was limited, and readers could not contribute to content creation. Since the early 2000s, new services such as blogs, wikis, social media, social bookmarking sites, and podcasts appeared on the Internet. These technologies have enabled users to interact with each other and to create content (Alexander 2011). The web moved from "read-only" to "read-and-write" (Murugesan 2007). To reflect this change and to allude to the improved implementation of

WWW, the expression web 2.0 was coined, and subsequently popularised by Tim O'Reilly (2005). The distinction between web 1.0 and web 2.0 has been useful in my research to group the case studies into meaningful time periods. In the first period (2000-2005), I consider projects that belong to the tail end of web 1.0. The other two periods (2006-2010, 2011-2015) comprise new media narratives built using web 2.0 technologies.

The widespread adoption of the Internet has had a significant impact on new media narratives (Creeber and R. Martin 2008; Abba 2009; Jose Van Dijck 2013). Since the early 2000s, creators have used online technologies to support their storytelling projects (Alexander 2017). New narrative formats have emerged, such as online diaries, web series, and social media narratives. These new formats introduced unprecedented challenges for both the audience and creators.

A key challenge in the reception of online narratives by the audience is the problem of authenticity. In online narratives, the boundaries between the fictional and the real worlds are often blurred. An audience can find it difficult to recognise which stories are fictional and which are genuinely produced by ordinary web users. Ruth Page examined the problem of authenticity on social media in her influential book *Stories and Social Media: Identities and Interaction* (2012). The researcher found that web users can often misinterpret the fictional dimension of online narrative projects published by storytelling professionals. This issue materialised iconically with *lonelygirl15* (Flinders, Beckett and Goodfried, 2006-2008) (Appendix C), a web series published on YouTube between 2006 and 2008. *lonelygirl15* attracted the interest of several scholars (Burgess and Green 2009b, K. A. Hall 2015, Alexander 2017), because it is textbook example of the issue of authenticity in online narratives.

The *lonelygirl15* videos began by recounting the day-to-day activity of a teenager girl in a vlog format. The plot soon presented a few dramatic twists. The protagonist's family was involved in occult practices, and her parents disappeared in mysterious circumstances. At the start of the project, most people in the audience believed that the vlog was authentic. The creators admitted that *lonelygirl15* was a fictional piece, only after months of heated

online debates among fans regarding the authenticity of the vlog.

There are different reasons why it is difficult for audiences to recognise an online narrative as fictional. The communication style, the language practices, and the video editing techniques employed in social narratives often mimic the activity of ordinary web users, who share their thoughts and personal experiences online (Burgess 2007). Additionally, to produce and publish online narratives, professionals can use the same mainstream platforms inhabited by their audiences. The distance between fiction and reality is short. In this research, I used the problem of authenticity as a starting point to reflect on the relationship between fictional and non-fictional aspects of online narratives (Section 7.4).

The advent of the PC and Internet technologies not only had an impact on the audience but also on how creators develop narratives. In my interviews with new media narrative experts, I discovered that creators had to find novel solutions to maximise the narrative potential offered by new technologies. Creators active between the 1990s and the early 2000s have been pioneers, who ventured off the beaten path and experimented with new narrative formats, developed with an iterative trial-and-error process. These professionals were often interested in bringing together the technical and the creative sides, necessary to create new media narratives. However, at the time, there were no specific educational or industry paths one could attend to learn how to leverage interactive and online technologies in order to create narratives. When I interviewed Guy Gadney (2018) (Appendix A.2), he told me that:

> I've always been interested in art, writing, and photography. But also have this technology base where, when I was a teenager, I learned how to program. I'd program games. And those two worlds didn't merge properly until, I would say, the invention of the CD-ROM, which was when you could keep images, data and bring them together. Aside from the video game industry, of course. This bringing together of these things happened to be about the year when I graduated. I studied Spanish and philosophy. There was no Internet degree and video games degree. So there was no

sort of digital media degrees or any of these things.

The process of creating new media narratives, which was particularly challenging during the early years of the Internet, has been streamlined with the introduction of web 2.0 technologies. The implementation of interactive platforms and online authoring tools not only made it easier to create complex multimodal narratives but also contributed to blurring the traditional boundaries between the creator and audience. This change is captured by two concepts discussed in transmedia studies: participatory culture and convergence.

2.8 Participatory culture and convergence

The widespread usage of web technologies has fostered connectivity among people, media platforms, and narratives. The emergence of interactive applications which require the active participation of users in searching, finding, gathering, and sharing information prompted researchers to rethink the relationship between users and platforms. The intertwined notions of participatory culture and convergence provide a framework to understand the shift in the modes of users' participation and engagement. These concepts have been analysed by academics active in different fields, such as media and communication studies (e.g., William Uricchio), transmedia studies (e.g., Henry Jenkins) and literary studies (e.g., Mary-Laure Ryan). The insights derived from different disciplines offer a varied, often complimentary, understanding of the two phenomena. For this thesis, I focused on the implications that participatory culture and convergence have had for new media narratives. These two concepts have been key to explain and foreground the new forms of active spectatorship often encountered in DS, IS, and TS narratives. The critical debates surrounding participatory culture and convergence also shed light on the newly established relationship between creators and consumers, in the context of online content.

Jenkins used the concept of participatory culture in the early 1990s to study science fiction and television fan communities (1992). Subsequently, the scholar refined the notion extending it to other domains. In his book *Textual*

poachers: Television fans and participatory culture, Jenkins employs the concept of participatory culture to refer to a fandom where the boundaries between forms of content creation and forms of social interaction are blurred (1992). In a participatory culture, fans appropriate raw material from entertainment products and re-work it to create new content. In the book *Confronting the Challenges of Participatory Culture*, Jenkins extends his initial definition of participatory culture to embrace different types of online communities:

> A participatory culture is a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one's creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices. A participatory culture is also one in which members believe their contributions matter, and feel some degree of social connection with one another. (Jenkins, Purushotma, et al. 2009, p. xi)

Researchers have often studied the notion of participatory culture in connection to online communities. Web technologies enable people to establish social bonds and to participate in a community actively. For Uricchio (2004), certain instances of participatory culture, such as online peer-to-peer communities where people collaborate and share information, can even be seen as sites of cultural citizenship . The members of these communities often share a sense of identity, which transcends the national borders.

Online communities also play an important role in sharing, creating and spreading new media narratives. In the book *Participatory Culture in a Networked Era* (2015), Jenkins and other prominent media scholars discussed the concept of participatory culture in the context of interactive web technologies. The researchers pointed out that participatory culture can be traced into diverse community-driven online media forms, such as user-generated content (UGC) and social networks. Online platforms and authoring tools have facilitated the creation and distribution of media content. Internet technologies made it easier for people to acquire the necessary skills to contribute to the

creative activity of an online community. The definitions of participatory culture I discussed here have been of particular significance in my research, to understand the role that communities play in the creation and distribution of new media narratives.

A notion connected to participatory culture is that of convergence culture. Convergence is a complex phenomenon that encompasses different domains. Jenkins suggests that there are five kinds of convergence: global, technological, economic, cultural and social (2001). In this study, I have focused only on the technological and cultural dimensions, because, I believe, these are the most relevant aspects for the investigation of new media narratives. Technological convergence refers to the combination of different technologies to consume content. With the advent of digital media, users can experience content across different platforms (Jenkins 2001). Technological convergence can be seen, for example, as the ability to play a video game on a tablet, to listen to music on a smartphone, or to watch television programmes on a laptop computer. Cultural convergence is a multifactorial phenomenon. One of its defining aspects is the fact that narratives are delivered on different media platforms. DS, IS, and TS stories are often building blocks of composite storyworlds. An audience can experience a single storytelling unit in isolation or as part of a more extended narrative landscape. In the latter case, multiple media platforms are used together for conveying the different narrative units. A novel can, for example, be repurposed as a film, and a video game can extend the script of a TV series. Another aspect of cultural convergence is its participatory nature. Fans can comment, discuss and re-mediate content. Jenkins mentions *The Matrix* as a prototypical example of cultural convergence (2006). *The Matrix* storyworld is not only defined by the film series but is spread across other media such as comics, video games, cartoons and websites. Fans can actively contribute to *The Matrix* storyworld, by writing fan fiction and remixing the content coming from the films and the other media formats.

Convergence has also been studied in connection with the narrative domain. Ryan builds on the work of Jenkins and points out that different media can converge around a single storyworld to present its parts, from different

angles (2014). This form of convergence, which puts the narrative dimension at the centre, consists of stories that can migrate across various media. Ryan mentions the *Star Wars*, *The Lord of The Rings* and *Batman* franchises as examples of this narrative convergence. Even though technological advancements have accelerated convergence, Ryan maintains that this phenomenon can also be traced in ancient storytelling traditions. For example, the scholar interprets the *Bible* and the Greek myths as examples of narrative convergence. The Greek myths, for example, were often re-worked into poems, but also sung by aoidos and recounted by people, as part of the oral culture.

The concepts of participatory culture and convergence underpin the increased centrality of the audience in the creation and distribution of digital content. With the introduction of new media technologies, content creation ceased to be centralised (Bruns 2008). A new media narrative is no longer necessarily produced by a professional creator and received passively by an audience. Instead, it can be continuously remixed and re-worked by users who collaborate in open communities. The advent of social networks in the early 2000s played a major role in reshaping the relationship between professional and amateur creators. Social platforms like Facebook, YouTube and Instagram, fostered the emergence of UGC at a scale. On these websites, users produce and share media content such as images, videos and audio. Soon after the advent of social networks, the role of the users in creating, sharing and distributing content had become so central, that the *Time* magazine celebrated 'You' as the Person of the Year for 2006: "[...] seizing the reins of the global media, for founding and framing the new digital democracy, for working for nothing and beating the pros at their own game, TIME's Person of the Year for 2006 is you" (Grossman 2006).

It is worth highlighting that even though most users acquire the necessary skills to produce and interact with content on the Internet, only a minority engages in content creation (Horowitz 2006). The majority of users tend to lurk in online communities and benefit from content produced by their peers (Hayes 2007, José Van Dijck and Nieborg 2009). In my research, I have examined whether users have created communities that produced UGC around

a narrative project. I also focused on identifying the strategies adopted by creators to solicit an active dialogue with the spectators, within the economy of the story.

In the article *Spreadable Media: How Audiences Create Value and Meaning in a Networked Economy*, Jenkins and Joshua Green (2011) point out that technological innovations did not transform "audiences into producers [...] "setting them free" from the tyranny of one-way chains of communications". Rather, new media platforms have reshaped the understanding of what audiences do and of their roles within the new media landscape. For the scholars, audiences in the new media age still play an essential role as audiences. The theoretical debate around the centrality of the audience in new media narratives has been of particular significance in my research. It allowed me to study the different types of audience involvement in the creation and distribution of narrative projects.

Participatory culture, convergence and the new role of the audience are overlapping features shared by DS, IS and TS projects. They emerge as a byproduct of the technologies used to create, consume and distribute new media narratives. These phenomena are also a manifestation of the complexity of digital stories. One of the research aims of my study is to manage this complexity by building an analytical framework that can compartmentalise the different aspects of new media narratives. In order to develop the MDS framework, I employed an interdisciplinary approach, which draws upon quantitative disciplines. The next section provides an introduction to the concepts I borrowed from the fields of computer science, machine learning and statistics.

2.9 Summary

In this chapter, I reviewed the highly complex, interdisciplinary and contested notions that work as a foundation for the MDS framework. The insights that emerged provided a solid methodological basis to deal with new media narratives from the practical, theoretical and analytical perspectives. Central themes that have informed the research include multimodality, multimediality, narratology, the relationship between creators and the audience, the notions

of intertextuality, intermediality and transmediality, new media, interactivity, participatory culture and convergence.

In my research, I used multimodal theory to analyse how new media narratives rely on multiple modes of expression to convey a unified story (Section 2.2). Narratology provided me the tools to re-interpret fundamental narratological structures (e.g., characters, time and events) in the context of new media narratives (Section 2.3). From new media studies (Section 2.5), I have derived the concept of *remediation* and *multimediality*, which I re-worked in the MDS framework. The literature in interactive studies (Section 2.6) was key to arrive at a definition of interactivity, which I employed as a starting point to design the interaction *category*. Research in Internet studies helped me outline the impact that the Internet has had in re-shaping the way the audience receives new media narratives, and creators produce and distribute the stories (Section 2.7).

A fundamental goal of this chapter was to address the research question: *what are the common features and patterns shared by digital, interactive, and transmedia narrative artefacts?* In order to identify the shared features of the three *storytelling types*, I interrogated the academic literature and iteratively cross-examined the findings with the empirical analyses I performed on the case studies (Section 1.5).

From this mixed theoretical/practical study, it emerged that DS, IS and TS often leverage several modes of expression to convey a narrative. *Metalepsis* is also a common phenomenon encountered in the three *storytelling types*. This is particularly evident in social media stories, where the worlds inhabited by the fictional characters and that of the audience often coincide. Another shared aspect is the fact that the traditional narrative constructs, such as characters, time and events still play a central role in DS, IS and TS. Digital, interactive and transmedia projects are often made up of multiple textualites/modes which reference each other across multiple media channels (*intermediality* and *intertextuality*). The media channels used to convey the story in the three *storytelling types* are mostly digital. Digital, interactive, and transmedia projects are multimedial, in that they often use several media channels. Another aspect

that is common to the different *storytelling types* is the presence of interactive elements in the story. This trait is more prevalent in IS, but many DS and TS projects also rely on interactivity to engage the user. Interactivity is at the basis of another shared trait: the fluidity of roles between the author and the audience in new media narratives. In digital, interactive and transmedia projects, users often interact with the story and sometimes can determine its plot. One way users can co-create the story with the author is by choosing a narrative path between several options. Plot non-linearity is another feature shared by the three *storytelling types*. In DS, IS and TS, the active role of the audience is not only bound to the real-time creation of the story. New media narratives belonging to all three *storytelling types* have active communities which produce UGC. These users, who can often be identified as fans, re-work pieces of content derived from the original projects.

The next chapter builds upon the critical debates surrounding the areas I covered in this literature review and provides an introduction to the hierarchical structure of the MDS framework.

Chapter 3

The MDS framework

3.1 Overview

Building from the theoretical debates and concepts presented in the literature review, this chapter introduces an overview of the MDS framework and its fundamental structures. The MDS framework attempts to address three research aims of this research. First, it identifies general structures, patterns and principles found across DS, IS and TS artefacts. Second, it attempts to unify the three *storytelling types* under a single framework. Finally, it offers both qualitative and quantitative analytical tools analysts can use to examine DS, IS and TS projects in a structured way.

The main novelty of the framework is that it allows researchers to perform longitudinal analyses of new media narratives at scale. New media experiences are more hybridised and therefore harder to discuss accurately and productively, for academic, professionals and audiences. With quantitative and qualitative analyses run with the MDS framework, researchers can capture the level of hybridisation of a narrative, and track how hybridisation in new media narratives changes based on different factors (e.g., time, topic, genre).

This chapter is organised as follows. Section 3.2 introduces the narrative space of MDS. It also details how I arrived at a unified framework of new media storytelling, starting from the current narrative landscape fragmented into DS, IS and TS. In Section 3.3, I introduce the concept of an MDS object in relationship with digital, interactive and transmedia narratives. Section 3.4 outlines the different analytical structures which make up the MDS framework.

I detail how the *principle of encapsulation* played a major role in designing a framework that is flexible and modular (Section 3.4.1). Finally, I described the concepts of *topic*, *format*, *Genetic Storytelling Code* and *storytelling type profile* (Section 3.4.2 and Section 3.4.3).

3.2 Towards a unified framework of new media narratives

This study is based on the key premise that I have cultivated for a long time: different implementations of new media narratives (DS, IS and TS) present shared patterns, which have the potential to be reconciled under a unified theoretical framework. The boundaries between *storytelling types* are blurred, and it is sometimes difficult to decide whether a narrative project is better defined with the label DS, IS or TS (Section 1.2.4). Transmedia projects, for example, can rely on interactive strategies usually employed in IS narratives, and these, in turn, can use features commonly found in digital stories, such as multimediality. In the interview I conducted with Colin Harvey (2018), when discussing the differences between digital, interactive and transmedia storytelling the narrative designer and scholar stated that:

> [...] There's a crossover. Clearly, the digital, they're also part of the transmedia network [...]. There's a bit of crossover as I've said between those categories. Something might be just interactive, or it might be just digital, or it might be transmedia, but it might be two of those things, or it might be three of those things (Appendix A.3).

Fundamental distinctions between *storytelling types* persist. Arguably, the defining feature of a transmedia narrative remains the cross-platform implementation of its different story units, while that of an IS piece, is the ability of the users to interact with, and often influence, the plotline and modify the storyworld.

In order to reconcile the different but overlapping traits of the *storytelling types*, I introduced the comprehensive label of MDS. As shown in Figure 3.1,

MDS is a superset of DS, IS and TS. It is a unified narrative space that contains the three different *storytelling types*.
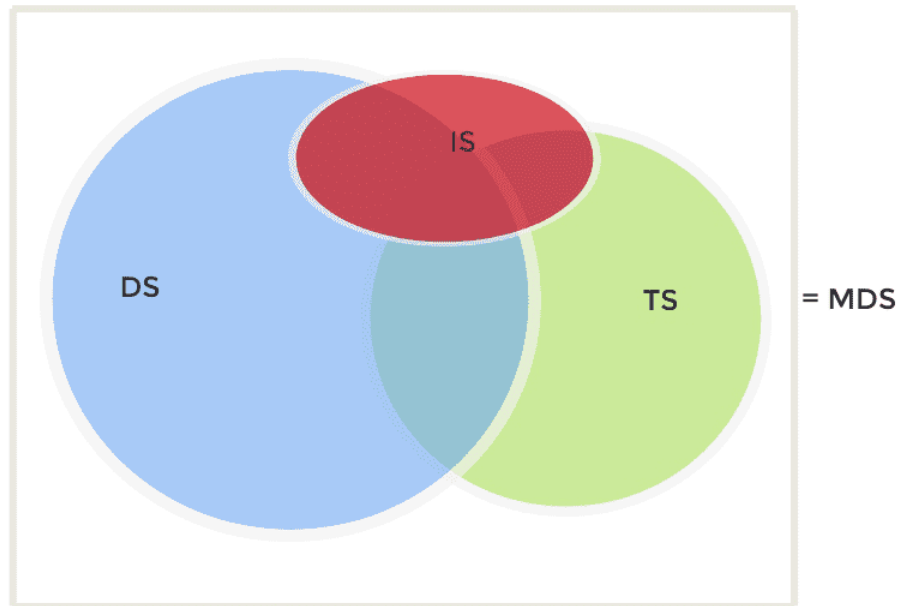
Figure 3.1: MDS is a narrative space that comprises DS, IS and TS.

After devising the concept of MDS, I started to build an analytical framework that enabled me to study stories within the narrative boundaries of MDS. To design the MDS framework, I followed an iterative process which progressed through two phases: research and framework building. In the research phase, I focused on extracting insights on DS, IS and TS from academic literature, expert interviews, and empirical analysis of the case studies. In the framework building step, I leveraged these insights to design and construct the various components which make up the MDS model. Throughout this study, I cycled through the research and framework building phases multiple times to acquire additional knowledge on DS, IS and TS, and, consequently, refine the framework.

While studying the academic literature, it emerged that research conducted in the fields of DS, IS and TS is converging towards similar, sometimes cross-*storytelling-type*, analytical frameworks. The IDN model built by Koenitz (Section 1.2.4), and the work of other researchers who attempted to systematise *storytelling types* (e.g., Gambarato 2012) influenced my research, providing a methodological direction for the development of the MDS framework. The analysis of the case studies indicated that DS, IS and TS projects are multi-

factorial objects, with many intertwined components, which can be examined at different levels of abstraction. In light of this understanding, I introduced the concept of MDS object to account for the complexity of new media narratives.

3.3   The MDS object

I define an MDS object (or MDS artefact) as a new media story made up of a complex combination of narrative and technological components. All DS, IS, and TS projects are MDS objects. However, not all MDS objects are instances of projects categorisable as only digital, interactive or transmedia. Some stories borrow narrative strategies from more than one *storytelling type*. These diegetic experiences often acquire a hybrid structure in terms of function and formats because of the array of narrative techniques and media vehicles they display. An example of these narratives is the interactive episode *Bandersnatch* (Brooker and Slade, 2018) (Appendix C) from the Netflix series *Black Mirror*. The episode follows a choose-your-own-adventure storytelling style. Viewers can interact with the story at pre-defined decision points, modifying the plotline. The episode is delivered through a digital platform. In this interactive experience, creators placed clues that viewers can follow to find additional content outside the Netflix platform. For instance, viewers can play one of the video games featured in the film on a dedicated website[1]. Considered as a whole, *Bandersnatch* is a hybrid narrative piece with digital, interactive and transmedia facets.

Hybrid diegetic experiences like *Bandersnatch* cannot easily be labelled as DS, IS or TS. They display a substantial combination of two or more *storytelling types*. Beyond accounting for DS, IS and TS, the concept of MDS object

---

[1]The video game is *Nohzdyve*. It can be downloaded from the website of the fictional company *Tuckersoft*. To play the game, viewers need to use an emulator of the *ZX Spectrum* computer. *Bandersnatch*'s creators do not directly link to the website. Instead there is an audio cue in a few of the branching paths of the story. This is a sequence of high-frequency distorted sounds. Viewers experienced with computer hardware from the 1980s would recognise those sounds as a form of data encoding used in the *ZX Spectrum*. If viewers run the audio on a *ZX Spectrum*, they can obtain a QR code, which, when scanned, shows the link to the website. The website can be found at `https://tuckersoft.net/ealing20541/bandersnatch/` [Accessed 15-08-2019].
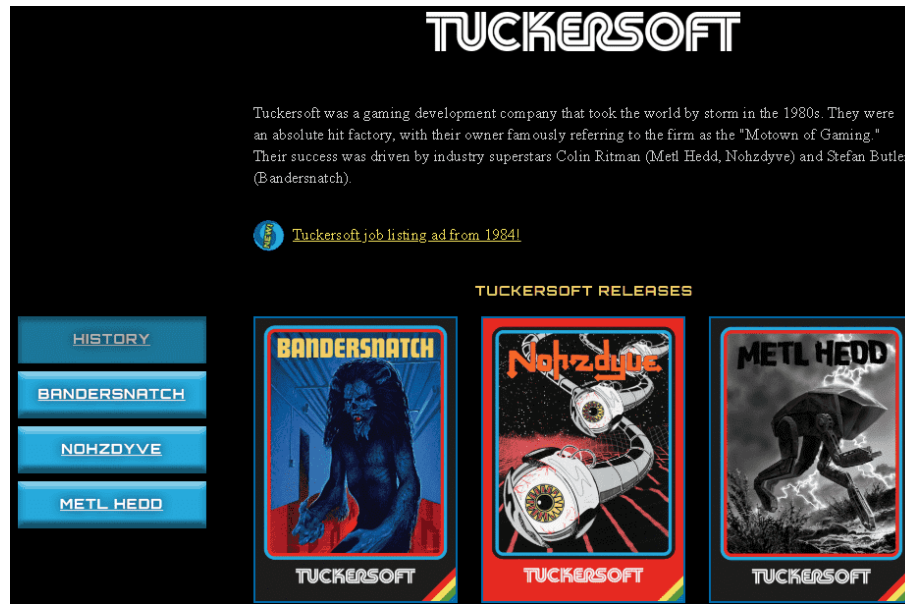
Figure 3.2: A screenshot of a website about the fictional company *Tuckersoft* featured in the *Bandersnatch* episode.

attempts to supply a systematised classification for those new media narratives that transgress 'traditional' storytelling boundaries. It may be argued that it is important to deploy novel analytical paradigms which aim to unify *storytelling types* because new media diegetic experiences are progressively becoming more hybridised (Chapter 1). The increased level of hybridisation in new media experiences poses an analytical issue to researchers and creators, who do not have the tools, nor shared concepts to examine and discuss these artefacts productively.

In order to analyse MDS artefacts, several components should be factored in. Firstly, it is essential to look at the narrative components. The function and role of the characters, their actions, the storyline, and the diegetic events, for example, are all significant elements which make up a new media narrative. In an MDS object, the technological components are also central elements to examine. The delivery platform and the interface deployed, for example, contribute to defining the scope of a project. The role of the audience is another fundamental aspect of an MDS object. In some new media narratives (e.g., *Bandersnatch*) spectators actively contribute to the plot, in others (e.g., *lonelygirl15*) they are invited to join communities and directly communicate with the protagonists of the story. By looking at these examples, it is easy to infer

that to study an MDS object analysts should consider an array of narrative and technological variables, and their impact with regards to narrative structure and audience activity/mode of address.

Building on the design approach to transmedia narratives introduced by Rampazzo Gambarato (2018), I propose that MDS objects are complex systems made up of multiple, intertwined components. The meaning of a new media narrative emerges through the continuous negotiation of its interacting components with the experiencer. Starting from this theoretical standpoint, while designing the MDS framework, I identified a set of structures which I could use to analyse the different components of an MDS object in isolation.

3.4 The structures of the MDS framework

The MDS framework is multifaceted. The framework breaks down the complexity of a new media narrative into its narrative and technological elements. These components are captured, at different levels, through various analytical tools. The structures derived from the literature, expert interviews and empirical analyses that make up the framework are: *categories*, *principles*, *topic*, *format*, *Genetic Storytelling Code* (GSC) and *storytelling type profile*. During the examination of the case studies, I used these structures as an analytical reference to question different dimensions of a new media narrative project. The structures of the MDS framework can be grouped into two separate functional sets: *categories* and *principles* considered together is one; *topic*, *format*, GSC and *storytelling type profile* is the other.

Categories and *principles* form a standalone hierarchical group (Figure 3.3). When considered together, these two structures provide the backbone of the MDS framework for both qualitative and quantitative analyses. *Categories* capture different macro areas that define a new media narrative, such as the use of interaction, the role of the audience and the textual elements found in a story. A *category* has many *principles*. *Principles* focus on specific traits of a new media narrative or technological dimension. In the case of the interaction *category*, for example, the *principles* are *ludification*, *narrative interaction*, *interface*, *agency* and *multisensorial experience*. These *principles* examine how

the interaction *category* is implemented in a narrative from different analytical perspectives. Both *categories* and *principles* build on the critical discussions reported in Chapter 2, and emerged through the analysis of the case studies. I provide a detailed account of all the *categories* and relative *principles* in Chapter 4. I chose to use a dedicated chapter to outline these structures because they are a substantial topic in the MDS framework that necessitates extended examination.
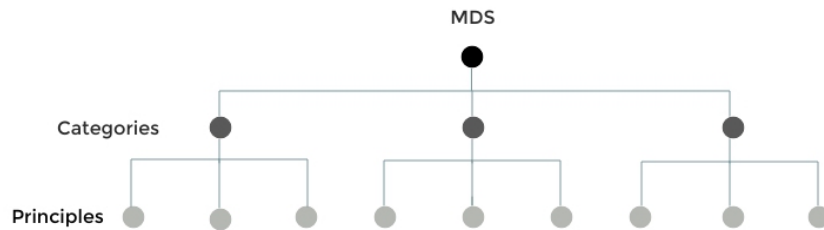
Figure 3.3: The hierarchical structure of *categories* and *principles*.

Topic, *format*, GSC and *storytelling type profile* form another functional set. These structures represent different levels of abstraction in the analysis of an MDS object (Figure 3.4). At the bottom level, *topic* and *format* consider fundamental traits of a narrative. These are the types of themes that are proposed in a story and in which form they are delivered. At higher levels of abstraction, GSC and *storytelling type profile*, provide numerical summaries of an MDS object, building on the concept of a feature vector introduced in Section 1.7.2. GSC and *storytelling type profile* are fundamental tools analysts can use to summarise the result of quantitative examinations with the MDS framework.

In the MDS framework, a new media narrative can be described through a specific arrangement of *topic*, *format*, GSC and *storytelling type profile*. When considered together, these structures provide an analytical account of the different narrative and technological dimensions which constitute an MDS object. In the remaining part of this section, I will detail how I have used encapsulation in the MDS framework, and introduce the concepts of *topic*, *format*, GSC and *storytelling type profile*.
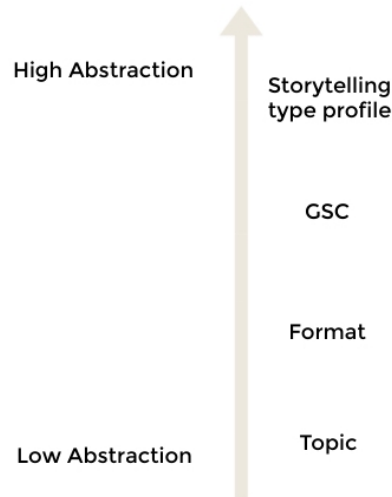
Figure 3.4: The analytical hierarchical levels of the framework.

3.4.1 Encapsulation in the MDS framework

I designed the MDS framework using the *principle of encapsulation* as a guiding reference (Section 1.7.1). Encapsulation is implemented at different levels in the framework. The model contains separate analytical structures that are independent of each other. Each structure corresponds to a different level of abstraction. Structures can be instantiated in different ways, depending on the project under examination. All the analytical structures of the MDS framework are encapsulated, in that they carry a block of related information which cannot be accessed by other structures at the same, or different, levels of abstraction. For example, the 'interaction' and the 'platform' *categories* contain different sets of *principles*. In this case, it would be possible to add or change a *principle* to the definition of the 'interaction' category, without affecting the 'platform' category.

Encapsulation is particularly significant for the *principles*. The MDS *principles* cover different, non-overlapping storytelling components and are organised into separate modules. In doing so, the MDS framework is developed as a modular and fluid analytical device. The analysis of a new media story can be conducted considering the whole set of *principles* in a *category*, or by focusing only on a subset.

Encapsulation enables the MDS framework to be particularly flexible. An-
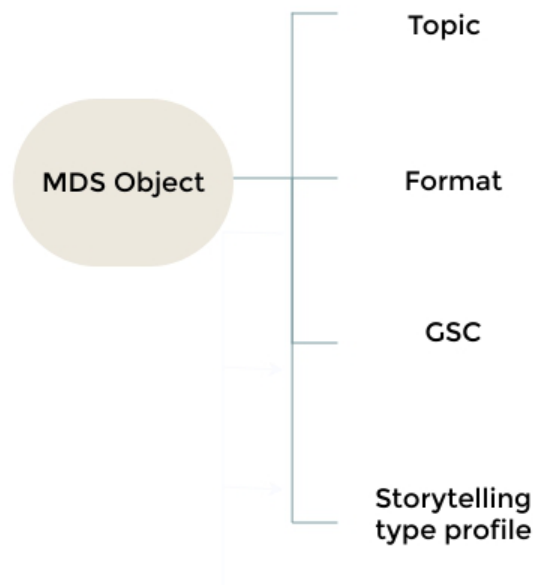
Figure 3.5: An MDS object is described by a *topic*, *format*, GSC and *storytelling type profile*.

alysts who want to use the MDS framework to examine new media narratives can extend its analytical capabilities beyond what is currently available. They can opt, for example, to add new *categories* or silence specific *principles*. In more radical circumstances, they can invent new analytical structures and fuse them with those I provide in my implementation of the framework.

3.4.2   Topic and format

Topic and *format* are not original concepts, in that they cover analytical themes that are often discussed in qualitative analyses of new media stories. However, these structures are fundamental attributes of new media narratives, which need to be investigated to describe an MDS object accurately.

Topic captures the varied subjects and themes discussed in an MDS project. Examples of topics could be the war in Vietnam, research into a cure for cancer, and an on-the-road journey. *Format* illustrates the different types of media arrangements used to transfer the content of an MDS project. Web-documentaries, video games, infographics, interactive novels are all example of formats. A new media narrative can articulate multiple topics and deliver content through an array of formats.

An exhaustive list of topics and formats is beyond the scope of the MDS framework. There is significant variability in *topic* and *format* across new media narratives. New themes and media formats are constantly being (re)invented by creatives. Rather than attempting to indicate a list of themes and media formats, the MDS framework aims to provide structures which set specific analytical boundaries. In the economy of the MDS framework, the implementation of the structures can differ and should reflect the needs of the analyst. By using this strategy, researchers in narratology and new media can integrate formats and topics in the MDS framework, which may not exist at the moment.

The examination of topics and media formats not only provides significant information *per se*, but is useful for conducting comparative analyses between MDS projects. These structures make it also possible to run analyses at scale and guarantee continuity of analysis among multiple projects. Among the case studies I examined, the online video series *LBD* (Su and Green, 2012–2013) (Appendix C), the blog page *Ted's Caving Journal* (n/a, 2000–2001) (Appendix C), and the video game *Life is Strange* (Dontnod Entertainment, 2015) (Appendix C) all have a similar *topic*: they follow the personal lives of their protagonists using autobiographical narrative strategies. In all of these narratives, creators opted for a first-person point of view. In *LBD*, the main character uses vlogs to recount her story. Ted writes articles on his blog to document the exploration of a local cave. In *Life is Strange*, the player can discover the protagonist's thoughts by reading her diary. While these new media narratives differ on several levels (e.g., characters, year of publication, the way they engage the audience), they all use realistic strategies to tell the biographical story of a fictional character. From this example, we can infer that it is possible to build a story around a similar *topic* relying on different media formats.

Topic and *format* are interrelated structures. The *topic* can influence the *format* and vice versa. *LBD* and *Lil Miquela* (Brud, 2016–present) (Appendix C) illustrate the relationship between *topic* and *format*. In both projects, there are fictional characters interested in the fashion industry. Jane Bennet, one of Lizzie Bennet's sisters, uses Tumblr for showing her daily outfits. Lil

Miquela, a digital avatar who emulates the life of Instagram influencers, works as an ambassador for fashion brands on Instagram. Segments of the audience of both social networks are interested in the fashion industry. The creators can use the tenets of social media for shaping the personality and the actions of fictional characters and for attracting specific audience segments while developing realistic and compelling storyworlds. As part of this process, in the case of *LBD* and *Lil Miquela* the creators used the social media platforms which were most dominant at the particular time of publication (i.e., Tumblr for *LBD* and Instagram for *Lil Miquela*), to achieve maximum reach among their target audience. In these examples, it emerges that the media format can be cleverly leveraged to serve the topic, in this case, the fashion industry.

Figure 3.6: An example of a post published on the Instagram profile @lilmiquela. The post is no longer available [Accessed 11-10-2019].

There are also instances where *topic* influences *format*. Let us consider the topic of a fairy tale. Due to the strong dependency on visual elements to convey the story, fairy tales are often delivered through multimodal formats, where pictures and drawings are central. This point can be observed both in the analogue and digital narrative landscapes. Not surprisingly, in the MDS storytelling universe, fairy tales are usually supported by media formats that strongly rely on visual elements. The webcomic *Hobo Lobo of Hamelin* (Zivadinovic, 2011) (Appendix C), the video games *The Path* (Tale of Tales,

2009) (Appendix C) and *The Unfinished Swan* (Giant Sparrow, 2012) (Appendix C), and the motion book *Grimm's Briar Rose* (Madefire Studios, 2014) (Appendix C) all have a strong visual impact. In all these instances, the topic has an inherent influence over the media format.

Even though *topic* and *format* are two distinct structures with distinct analytical focuses, they are inter-dependent. MDS objects with a *topic* can use different media formats to deliver a story. The *topic* can influence the types of media formats employed. Conversely, specific formats are more suited for particular topics.

3.4.3 Genetic Storytelling Code and storytelling type profile

GSC and *storytelling type profile* both rely on the concept of a feature vector. I suggest to readers who do not have a quantitative background to refresh their knowledge of the concept of a feature vector as introduced in Section 1.7.2 before continue reading this section.

GSC and *storytelling type profile* provide numerical characterisations of an MDS object, which an analyst can use to compare multiple new media narratives. In the MDS framework, these structures exist at a higher level of abstraction than *topic* and *format*. They do not deal with the components of a narrative qualitatively, as is the case for *topic* and *format*. Instead, they mediate the different components of a narrative through numerical representations. This quantitative approach enables researchers to perform longitudinal studies on large datasets of new media experiences, identifying trends in how the level of hybridisation of the stories changed depending on different factors (e.g., *topic*, time).

GSC provides a numerical summary of an MDS object across different narrative and technological components. From a technical standpoint, GSC is a feature vector (Section 1.7.2) in which each element is a numerical score associated with a *principle* of the MDS framework. To compose a GSC for a new media narrative, the analyst should assign scores to each MDS *principle* during the quantitative analysis. This process is similar to the work performed by music analysts at *Pandora*, where they break down a song into its differ-

ent musical facets, and assign numerical values to indicate how relevant each component is (Castelluccio 2006). Borrowing from the work of Brenda Laurel, who attempts to quantify interaction in narratives (1991) using the concepts of *frequency*, *range* and *significance*, I employ numerical scores to indicate the degree of relevance of a given *principle* in a new media narrative.

In the first iteration of the GSC, the feature vector was binary. I could either assign 0 or 1 to a *principle*, depending on whether it was present in a narrative. After running a few analyses, I realised that this binary approach was not expressive enough. It could not capture the nuances in the way different creators (unconsciously) implement different MDS *principles* in their narrative pieces. Two MDS projects could, for example, rely on community involvement to different degrees. For one project, a community could be as central as to determine the emergent plot. For another, the community could be a peripheral narrative aspect, which enables fans to confront their speculations regarding the story and the secret lives of the characters. With the binary GSC I would have assigned a value of 1 to the *principle* of community involvement to both projects, even though there is a substantial difference in the degree to which creators leveraged their community. The binary scoring system did not account for subtleties.

To tackle this issue, I devised a new scoring system to examine the case studies quantitatively. With the new system, each MDS *principle* (i.e., GSC's feature) can take on a score on a discrete scale from 0 to 7. I chose an eight-value scale because it strikes the balance between having enough values to capture the differences among different narrative projects, but not too many, which would make the scoring process impractical. Given the inherently qualitative/subjective nature of the narrative components captured by most *principles*, a researcher would find it very difficult to use, for example, a 50-value scale. It would be almost impossible to appreciate the difference between a score of 34 or 35, for instance, for the relevance of interaction in a new media experience.

For simplifying the scoring process, I divided the eight scores into four levels, from the lowest (0-1), where the principle has no to very little rele-

vance, to the highest (6-7) where the principle is highly relevant (Table 3.1). To determine a score for a *principle*, as a first step I respond to qualitative questions that are significant for the narrative/technological component under examination. Then, I choose a representative level. Finally, I refine the score by deciding which value to assign to a level. I found by trial and error that this iterative scoring process is particularly useful when trying to quantify complex narrative and technological traits of a narrative. It offloads the pressure to find an ideal score from the start among a broad set of candidate values, by relying on multiple phases of refinement.

Table 3.1: Score system and score ranges.

Score system	Score
Relevant	6–7
Quite relevant	4–5
Somewhat relevant	2–3
Not relevant	0–1

GSC can be visualised as a sequence of integers:

$$GSC = 1632446341755342235214263446632511123$$

The position of a score in the sequence determines to which *principle* the value refers. In this research, GSC has been a valuable tool to perform comparative analyses between new media stories at scale. Since GSC is a feature vector, it can be used to evaluate the degree of similarity/distance between two or more MDS projects. A score of similarity between two projects can be

calculated by computing the difference between the scores of the same *principles* across the two different MDS objects. The more similar the GSCs of two new media narratives, the more similar their underlying narrative and technological components will be.

Differently from GSC, the *storytelling type profile* is an aggregate numerical metric that considers multiple narrative and technological components at once. The *storytelling type profile* attempts to quantify how representative each *storytelling type* is for a new media narrative. This metric provides a rough estimate of the level of hybridisation of an MDS project. It is particularly useful for studying new media narratives like *Bandersnatch* and *The Fantastic Flying Book of Mr. Morris Lenore*, which mix narrative and technological traits proper of different *storytelling types*. From a mathematical perspective, the *storytelling type profile* is a feature vector comprising three values. Each value indicates how much, on a continuous scale between 0 and 1, an MDS project displays elements that are respectively typical of DS, IS and TS. For example, a value of 0 for TS in the *storytelling type profile* indicates that a story does not include any transmedia features. Conversely, a value of 0.8 for IS is an indicator that the project heavily relies on narrative and technological components often encountered in interactive narratives.

How are the *storytelling type profile* scores for DS, IS and TS calculated? As a starting point, I use the scores assigned for the *principles* in the GSC. As will be shown in Chapter 6, there are several *principles* which account for narrative strategies and technological components that are mainly specific to one of the three *storytelling types*. I identified sets of *principles* that have mainly been associated with DS (e.g., *multimediality* – Section 4.6.1), IS (e.g., *agency* – Section 4.4.4) and TS (e.g., *community involvement* – Section 4.8.3) in the literature . To compute the score for a *storytelling type* in the *storytelling type profile*, I use a weighted average. I add up all the scores relative to the *principles* of the *storytelling type* under examination and divide this sum by the maximum score obtainable for the *principles* belonging to the *storytelling type*. The maximum score is obtained by multiplying the number of *principles* of a *storytelling type* by 7, the highest value for a *principle*. The resulting value

for a *storytelling type* is between 0 and 1. It is 0 if the MDS project scores 0 in all the *principles* of the *storytelling type* under examination. A value of 1, conversely, is achieved if all the *principles* for the *storytelling type* have scored 7.

The *storytelling type profile* is particularly useful for studying the level of hybridisation of a new media story, to run comparative analyses, and to track the change in the level of hybridisation displayed by MDS narratives over time. If a project has high values for DS, IS, and TS (e.g., greater than 0.6) in its *storytelling type profile*, it is particularly hybrid. A high value found only in one of the *storytelling types*, implies that a story does not borrow substantial narrative and technological elements across multiple *storytelling types*. A narrative project with this *storytelling type profile* belongs to a specific *storytelling type*.

The *storytelling type profile* is a feature vector. As such, it can be used to study how similar two projects are in terms of how much they rely on different *storytelling types*. This analytical approach is also effective for studying groups of MDS projects over time. I performed batch analyses on the 36 case studies. These examinations helped me to study differences in the level of hybridisation displayed by new media stories across time.

GSC and the *storytelling type profile* have a few limitations. First, they account for only a subset of the narrative strategies and technological components employed in different *storytelling types*. They also rely on the subjective decisions of the analyst for assigning numerical values to the *principles*. These abstract metrics provide limited quantitative descriptions of narrative projects, which only partially account for the nuances in the narrative and technological traits of an MDS object. It may be argued that these are complicated tools, built around methodologies rarely employed in communication and media studies.

Even though these are valid objections, GSC and the *storytelling type profile* have been fundamental for addressing the research questions of this study. The advantages of using these structures outweigh the disadvantages. GSC enables researchers to run robust quantitative analyses on large datasets of

new media stories, which can uncover differences and trends in the way creators employ specific narrative and technological elements. The *storytelling type profile* is an effective tool to understand trends in storytelling hybridisation. I extensively performed these types of analyses in this study, to show the quantitative analytical tool in action and to understand how the level of hybridisation in new media experiences has changed from 2000 to 2015. These analyses are detailed in Chapter 6.

The scoring process is indeed imperfect and partially subjective. However, I followed the theoretical position of Willie Van Peer et al. (Van Peer, Hakemulder, and Zyngier 2012), who suggests that cultural objects with identifiable differences in their traits, like the MDS objects, can be quantified. Scoring subjectivity can be mitigated by having multiple analysts providing numerical values for the principles. For time constraints, I could not use this highly time-consuming scoring strategy in this research, but in Chapter 8, I will suggest alternative analytical policies which could be implemented to alleviate the issue of subjectivity.

The loss of analytical nuance attributable to the use of GSC and *storytelling type profile* is compensated by the ability to perform comparative, reproducible analyses at scale, which are impossible with a qualitative-only analytical methodology. Comparability, reproducibility and scalability are all fundamental properties I wanted to include in the MDS framework which are lacking in the discourse surrounding new media narratives in academic, industry and consumer circles.

3.5   Summary

This chapter introduced the notion of MDS and the basic structures of the MDS framework. From my study of the literature, the expert interviews, and the analysis of the case studies it emerged that new media narratives are becoming more hybridised and that they transgress the boundaries of DS, IS and TS. I introduced MDS as a narrative space that accounts for the three *storytelling types*, and especially for those hybridised narrative projects, which cannot be categorised only as DS, IS or TS (Section 3.3). In line with one of the

research aims of this thesis, MDS attempts to unify the different *storytelling types* under a common narrative space.

To study these new media narratives, I devised the MDS framework. This is a multifaceted analytical model made up of different structures, which focus on different narrative and technical components of an MDS object (Section 3.4.3). The MDS framework addresses another research aim of the thesis. Its structures are the basic tools that analysts can use to run in-depth quantitative and qualitative examinations of new media narratives. The structures of the model represent different levels of abstraction. On a lower level, *topic* and *format* engage with the themes and the media formats employed in a new media narrative. GSC and the *storytelling type profile* are two quantitative structures, which provide an abstract numerical summary of the different narrative and technological components of a new media story.

In this study, the MDS framework has been fundamental to address the research question: *is there any significant change in the different narrative dimensions of new media storytelling projects from 2000 to 2015?* Using the analytical tools of the framework, I was able to identify trends in the level of hybridisation of new media experiences, and pinpoint significant changes in the usage of different narrative and technological components. The framework can also benefit the wider research community and professionals interested in MDS. By offering both quantitative and qualitative analytical devices, the framework is ideal for performing longitudinal examinations on large bodies of new media experiences. The model also provides a well-defined language that can be used to discuss the different components of hybridised narratives in precise terms. This language is currently missing among academics and professionals.

The last structures in the MDS framework are *categories* and *principles*, which detail the different narrative and technological components which comprise MDS objects. *Categories* and *principles* form the backbone of the MDS framework. They are extensive subjects that warrant separate treatment. As such, I discuss them in more detail in the next chapter.

Chapter 4

The categories and principles of the MDS framework

4.1 Overview

This chapter provides a detailed description of the *categories* and *principles* that compose the MDS framework and addresses two research aims of this thesis. The chapter lays the groundwork to build a comprehensive framework that accounts for DS, IS and TS. It also provides the theoretical foundations for the qualitative and quantitative analytical methodologies necessary to examine new media narratives.

In Section 4.2, I discuss the five *categories* I have identified through the study of the academic literature and the analyses of the case studies. The *categories* are *interaction* (Section 4.2.1), *platform* (Section 4.2.2), *media* (Section 4.6), *text* (Section 4.2.4), and *agents* (Section 4.2.5). In section 4.3, I discuss the notion of *principle* in detail and provide a report of the *principles* belonging to the five *categories*. A visual representation of the *categories* with the *principles* they comprise is provided in Figure 4.1.

4.2 Categories

Categories are key structures of the MDS framework, which capture how technological and narrative elements concur in creating new media stories. *Categories* make it possible to understand high-level aspects of new media diegetic experiences, by deconstructing complex stories into their fundamental macro

MDS object
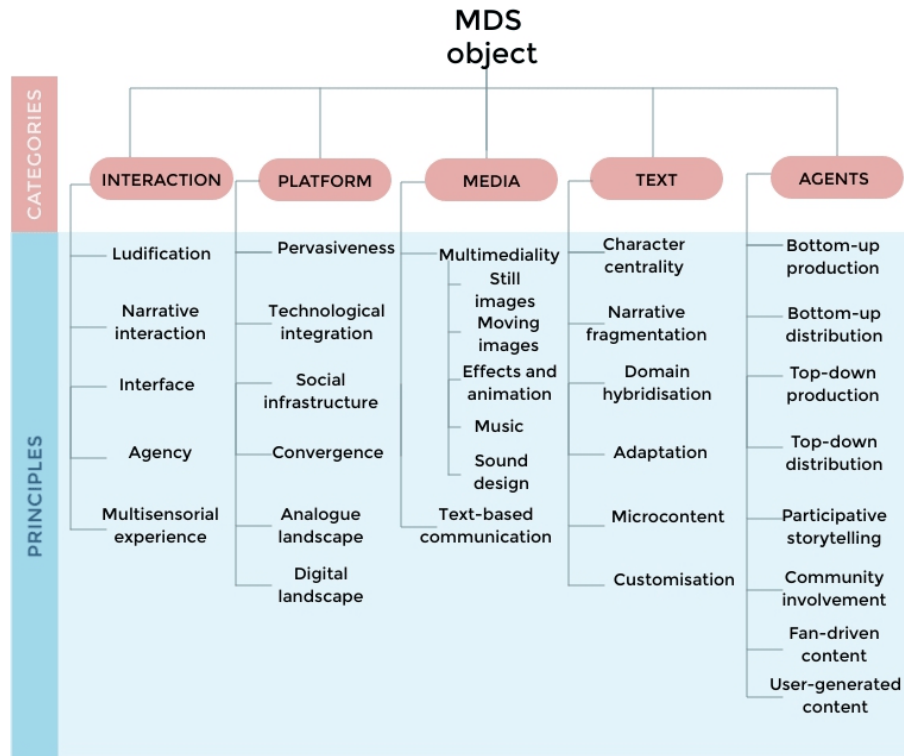
Figure 4.1: *Categories* and *principles* of the MDS framework.

components. The complexity of new media narratives stems from the multiple components of which they are made, such as narrative structures, media, platforms. A new media story is not only influenced by the narrative and technological elements that compose it but also affected by the non-linear relationships that narrative structures, media and platforms establish within the same narrative project. Thus, on the one hand, the diegetic experience of MDS objects is influenced by the media, platforms and storytelling structures used to convey the narrative. On the other hand, the basic elements of the diegetic experience acquire new potentials based on the overall narrative design. For example, in *LBD* both the development of the main character's personality and the use of the first-person narration are influenced by the characteristics of the media format, i.e., video diary, as well as, by the attributes of the platforms used in the artefact, i.e., YouTube. Specifically, in running her videos, Lizzie Bennet mirrors the behaviour of real YouTube users who upload their videos on the platform. Also, the dialogue that Lizzie establishes with the audience while contributing to advancing the plotline is made possible due to the YouTube's social infrastructures, e.g., comments, feedback buttons, such

as 'like'.

I use *categories* for analysing MDS objects at a high level of abstraction. In the observation of a storytelling artefact, *categories* describe macro elements existing within the narrative project. The *categories* I identified in the MDS framework are *interaction, platform, media, text* and *agents*. The five *categories* cover different levels of analysis by being focused on:

- The technological and social features of the *platform* used in MDS artefacts (section 4.2.2).

- The multiple *media* and modes of expression used in MDS artefacts (section 4.2.3).

- The *text* of the artefact, with its narrative elements/structures, e.g., characters, narrator (section 4.2.4).

- The audience reception of the diegetic experience and of the *agents* involved in the production and distribution of the MDS objects (section 4.2.5).

- The technical and narrative mechanisms and the narrative means that generate either a psychological or physical sense of interaction between subjects, i.e., viewers, players, users and the storytelling artefact.

Considering these elements for analysing new media narrative artefacts is not uncommon in the field of new media studies. However, scholars have tended to focus more on the observation of a specific area instead of conducting multifactorial analyses. In *Game of Thrones: Transmedial Worlds, Fandom, and Social Gaming* (Klastrup and Tosca 2014), for example, the authors discuss the storyworld of *Game of Thrones* in relation to its audience. Unlike the study by Klastrup and Tosca, with *categories* I attempt to provide a tool for systematic and reproducible observations, which help to gain an analytical overview of the multiple components which make up a diegetic experience. I believe this approach is not only beneficial to form a well-rounded understanding of an MDS object but can also help creators by offering a taxonomy of narrative and technological tools they can use in their creative practice.

Platform, *media* and *text* group *principles* which are generally related to fundamental narrative dynamics of interactive and digital projects. Within the structure of an MDS object, the *interaction* category can be overlapped with each of the three layers mentioned above. Interactive mechanisms are usually involved in sewing the story units together and in allowing the participation of the audience within the storytelling experience. At the level of *text*, interactivity is used in the creation of multiple storylines. The application of interlinks to pieces of text in hypertextual narratives, for instance, implies the use of interactive techniques as a means of narrative expression. A similar result is obtained at the *media* layer when interactive techniques are used to bind elements of broad storyworlds, as happens in the transmedia project *The Hobbit: A Journey through Middle-Earth* (North Kingdom, Schimpanz and DinahMoe, 2013) (Appendix C). In the project's website, different media units, e.g., online games, videos and text, are tied together using the mechanism of an interactive map. Users can use the map to explore different virtual places connected to *The Lord of the Rings* storyworld, such as Trollshaw, Rivendell, Dol Guldur, Thranduil's Hall and Lake Town.
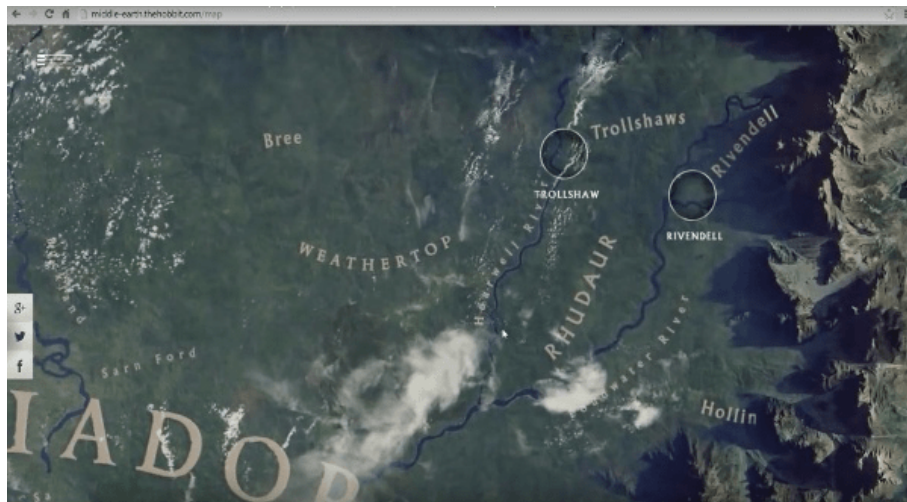
Figure 4.2: Screenshot of the online interactive map of *The Hobbit: A Journey through Middle-Earth.*

Finally, at the *platform* level characteristics of interaction are used for allowing the audience to interact with the storytelling object, as happens in *LBD*, where platforms such as YouTube and Twitter are employed to facilitate social participation. The *agents category* considers factors that, while not

always significant in the analysis of the narrative artefact itself, cover *principles* that are key to understanding how different actors interact around an MDS object. TS projects, for instance, strongly rely on the *agents* category. This category is important for considering forms of participative storytelling. In *LBD*, for example, the *agents* category is central, in that it enables the analyst to describe the audience engagement in the story, testified by the considerable production of user-generated content.

Categories not only contribute to the description of MDS objects, they are also relevant for gaining insights into the evolution of the fundamental elements involved in the creation of new media narratives. The analysis of the usage of a particular *category* in new media narrative projects published at different moments in time enables the analysts to identify trends in the composition of specific areas of diegetic objects. For instance, the analysis of TS projects over the *platform* and *media* categories, gives specific evidence of the complex narrative structures that are fostered by technological advancements. By relying on Facebook, the ARG *America 2049* (Breakthrough, Phillips and Boisvert, 2011) (Appendix C) develops a transmedia storyworld on topics related to social justice. When comparing this ARG project to *The Beast* (Weisman, Lee and Stewart, 2001) (Appendix C), an early example of TS, it emerges that the improvement of tools for social connection has increased the outreach and scope of TS projects. In this case, the analysis of *platform* and *media* shows that technological advances have enhanced the potential of TS in terms of audience involvement. Similarly, for IS projects, it is possible to understand how diegetic elements have evolved in the narrative model employed by looking at the *text category*. Since *Fahrenheit* and *Detroit* are two game adventures developed by the same studio in 2005 and in 2018 (Appendix C) they can help shed light on this point. In the more recent game (*Detroit*), diegetic elements such as plotline and characters are more robust and relevant for the overarching story than in *Fahrenheit*. This is in part due to the experience gained by David Cage and his company *Quantic Dream* in combining the potential of interactive elements with diegetic structures and techniques. The gained expertise can be observed, for example, in the characters' dialogues that in

Detroit have a stronger impact on the story compared to those in *Fahrenheit*. Another element affected is narrative coherence. With *Detroit Quantic Dream* have raised the bar in the complexity of the narrative structure since the video game has a higher number of possible endings compared to *Fahrenheit*, a game with three possible outcomes. Although in *Detroit* there are more than 40 endings, the storytelling coherence is maintained.

Knowing how the different components of a storytelling artefact have evolved over time might contribute to the development of new approaches to storytelling. The application of gaming and transmedia techniques for community mobilisation in *America 2049* show that other themes of social interest can be informed with similar strategies. Likewise, as shown by *Detroit*, storytelling components can be strongly integrated with game mechanics in video games. Being aware of this observation, developers in IS can create artefacts which put more weight on the relationship between *text* and *interactivity*. The analysis of *categories* over time reveals creative strategies that can be borrowed from different projects, in order to experiment with new narratives.

Analysing a storytelling artefact by looking at different *categories* can be considered a reductivist approach. While this provides a detailed account of single components of a complex narrative, it is possible to argue that by using such a highly reductivist approach one may overlook the whole structure of storytelling objects as well as the relationships among the different parts of a storyworld. For instance, a TS project can be analysed under the light of its media components. In doing so, while acquiring insights on the way textual, visual, and audio components are mixed together, other phenomena, such as the use of interactivity, might be neglected. However, focusing on the separate units of a diegetic experience is helpful when dealing with narrative projects with a fragmented and complex structure. In this case, being able to map the overall storytelling system of an artefact might be beneficial for gaining a clear understanding of how the different narrative units are integrated for advancing the plotline. Identifying the structures and components of compounded narratives would help in developing both similar and more complex diegetic objects. Moreover, reductionist analytical methods that examine specific elements of a

unique project are valuable for acquiring insights into specific *topics* by comparing them to similar projects. An interesting example comes from the work of Pinelle, Wong, and Stach (2008) who analyse video game genres by looking at the usability problems that exist within them. The researchers found that, because of their complexity, *role playing* games specifically come short of making clear for the players the rules of the game, while *action games* usually lack visual and design consistency (2008, p. 133). I believe that the disadvantages that come from analytical methods which work by isolating small parts of a whole can be overcome by supplementing reductionist observations with more traditional, qualitative, approaches. The MDS framework relies on qualitative analysis to compensate for the limitations of the reductionist approach.

To sum up, *categories* allow the examination of new media storytelling artefacts through their fundamental characteristics. *Interaction*, *platform*, *media*, *text* and *agents* attempt to cover a wide portion of the whole structure of a digital and interactive artefact. *Categories* are informed by insights provided by the fields of DS, IS, TS. For this reason, they enable the use of the MDS framework on varied projects of fictional and non-fictional storytelling with almost no limits on the use of the framework to different narrative domains. Over the next section, I will provide a description of the five *categories*.

4.2.1 Interaction

The *interaction* category is one of the main macro characteristics of MDS artefacts. The group of *principles* it covers captures the technical mechanisms used for establishing two-way communication between the audience and the narrative objects (Section 4.4).

Interaction is central for the analysis of DS, IS and TS, both in terms of narrative structure and audience reception. MDS objects often employ forms of user interaction towards other users within a community and/or toward the diegetic experience itself. The *interaction* category can help to shed light on the type of interactivity an artefact employs. Interactive mechanisms can be diegetic – internal to the storyworld – or they can be triggered by paratextual elements, such as comment sections on social media platforms.

The notion of interaction strongly participates in two phenomena i.e., immersion and engagement, that are connected with the audience reception of new media narratives. When *interaction* is present, users feel as if they are immersed and contributing to that precise story or piece of content (Adams 2011). *Interaction* can improve engagement and memorability of the narrative experience (Merabti et al. 2008). However, *interaction* does not always enhance engagement. The balance between narrative elements and game mechanics should be carefully designed in order to avoid disrupting engagement. As Robert Pratten observes, the use of interactivity should be justified by a consistent narrative. Otherwise, the entertainment experience will end up in a sequence of actions that provide a low level of engagement for the audience (Pratten 2018) (Appendix A.5).

In a broad sense, *interaction* through its *principles* is used for identifying the physical actions allowed by the hardware/software interface, which trigger the user's activities. For the purpose of this thesis, the user's physical actions are analysed in relation to the story. *Interaction* is conceived as a set of inputs that are meaningful within the overall narrative logic of the MDS object. Several examples of this connection between narrative and game design can be observed, for example, in video games. The graphic adventure game *Okami* (Clover, 2006) (Appendix C) uses 'brush mechanics' that allow players to perform in-game actions by drawing calligraphs. On the PS2 version of the game, players use the controller's analogue thumbsticks to create brushstrokes. On the Wii version of *Okami*, players can draw shapes in the air using the Wiimote controller as a physical brush. Because of the use of Japanese folklore and of an art style reminiscent of oriental calligraphy, game mechanics consistently support the narrative environment of the game. As can be easily inferred, this game design element supports the diegetic experience rather than being a mere technique often found in the video game medium. Indeed, the same narrative experience and mechanics can be used on other media such as a web page.

The understanding of interactivity as a multifactorial property of the communication process has been widely discussed in new media studies (e.g., Kiousis 2002, Rafaeli and Sudweeks 1997, Rafaeli 1988). Unlike rhetorical ap-

proaches which look at interactivity as a specific attribute of technology/media (Lee, Park, and Jin 2006; Sundar 2004; Jensen 1998), I believe interactivity should also be viewed in relation to the narrative level. The analysis of interactive and digital artefacts shows that thanks to technological advancements, interactive mechanisms can be applied to narrative structures independently from the media that are used for transmitting the storytelling artefact. I derived this idea from the theoretical work of Kiousis (Kiousis 2002), who employs a multi-factorial approach in the analysis of interactivity. Specifically, Kiousis studies the notion of creativity in relation to the framework in which messages are exchanged, the technology that allows the communication, and the user's perception:

> interactivity can be defined as the degree to which a communication technology can create a mediated environment in which participants can communicate (one-to-one, one-to-many, and many-to-many) both synchronously and asynchronously and participate in reciprocal message exchanges (third-order dependency). (Kiousis 2002, p. 379)

The result of de-emphasising the unique role of media in the analysis of *interaction* leads to considering this notion as a complex phenomenon that can be obtained by merging technological elements with narrative strategies. The interactive experience offered by an MDS object depends on the way the different instances of *interaction* are combined within a narrative experience.

Interactivity is not only a property of new media, but it also pertains to legacy media. Traditional media can integrate strategies which allow two-way communication with the audience. For instance, game-books used to combine branching-plot novel with the structure of a role-playing game. These books gave readers the freedom to participate in the narrative mechanisms and make their own choices to develop the storyline. The idea that traditional media can have interactive elements is not new in new media and communication studies. Andrew Darley (2002), for example, observes forms of interactivity in media with an audience that is traditionally seen as made of passive viewers such as in films. Similar positions are also adopted by practitioners in the interactive

and digital narrative domains. Colin Harvey points out that "in the broadest possible sense a novel or a movie can be interactive" (2018) (Appendix A.3) and Pullinger posits that "reading itself can be a highly interactive activity" (2018) (Appendix A.6). Using an approach that does not privilege technology over the narrative in looking at *interaction* is particularly useful for analysing storyworlds in which digital devices are mixed with real-life narrative strategies for creating unique storytelling experiences. In these cases, employing the notion of *interaction* in a broad sense might be relevant both for analysing these forms of narrative artefacts and for developing them. In the MDS framework, I employ this broad definition of *interaction*.

Within an MDS artefact the *interaction* category works in combination with *platform*, *media* and *text*. I will detail these categories in the following sections.

4.2.2 Platform

While the *interaction* category focuses on the specific components that bridge the diegetic world with the audience, the *platform* category looks at the macro characteristics of the platforms that host the MDS objects. The *principles* covered by this category guide the analysis of the technical and social characteristics of the platforms that are used for creating, sharing and experiencing MDS artefacts (Section 4.5).

Platforms are a combination of media and technologies which are fundamental in the creation of new media narratives. My understanding of the role of platforms in DS, IS, and TS derives from video game studies and platform studies. In particular, I used the research of Nick Montfort and Ian Bogost (2009) on hardware and software systems to define the role that platforms play in supporting new media projects. For example, borrowing the analytical approach promoted by Monfort and Bogost, I considered the features of computer systems as important elements that contribute to shape MDS objects, such as electronic literature and interactive narratives. The software and hardware elements have been necessary for deriving the principles of *pervasiveness* and *convergence*. To account for the diverse formats of new media narratives

that are enabled by platforms, I extended the understanding of this notion to social media applications (Jose Van Dijck 2013) and the practice of content-sharing through online platforms (Helmond 2015). In these cases, insights into platforms' functionalities have supported the design of the principle *social infrastructure*.

Hardware and software systems support a wide variety of storytelling projects, e.g., digital art, hypertext and interactive fiction and they have a considerable impact on the way MDS objects are created and experienced. The flexibility and modularity of platforms play a crucial role when narrative objects are storyworlds made up of multiple layers. In *LBD*, for instance, the plotline is distributed among different social networks such as Twitter, YouTube, and Tumblr. The peculiarities and differences among the different platforms employed in the narrative could have led to some disruption in the plotline if the digital systems had had a more rigid structure. On the contrary, the fact that these platforms are highly adaptive and suitable for cross-contamination allows the audience to follow multiple pathways without significant disruption in the experience of a storytelling product. In the case of *LBD*, a chronological timeline on the project's website orients the audience within the storyworld. The possibility of importing/sharing content, e.g., images or texts from one social media platform to another has enabled the development of coherent diegetic experience. For gaining a clear understanding of MDS artefacts, it is, therefore, crucial to look at the narrative mechanisms in connection with the technical mechanics that enable creators to build broad diegetic experiences across multiple media.

Understanding how the diegetic experience moves across multiple media platforms is relevant, for instance, in TS, which is often based on the coordinated intersection of narratives scattered across different platforms. In TS, the type and number of digital spaces through which the plotline is conveyed are carefully designed, along with the presentation of the story in relation to how different platforms use time, e.g., non-linear, sequential, parallel, simultaneous (Pratten 2011). The compositional complexity of entertainment projects like *Why so Serious* and *America 2049* makes it difficult for analysts to derive the

big picture of a project (Fast and Örnebring 2017, p. 639) and to compare such massive transmedia experiences. In this case, the *platform* category might help in identifying the different pathways through the storyworld, while obtaining a clear view of the overall narrative experience in a systematic way, making comparative analyses more straightforward and effective. *Platform* might provide interesting insight when narrative projects see the integration of digital platforms with physical spaces. An example of this approach can be observed in the project *Conspiracy for Good* (Kring and The company P., 2010) (Appendix C). The artefact attempts to bring about social change through active public participation in both real-life and virtual environments. For this reason, an exhaustive mapping of the project should take into account both the digital and the analogue landscape. This is something that the *platform* category explores in detail, through its various *principles*.

The *platform* category is also relevant for analysing characteristics which do not relate to the composite nature of the storyworld. In being so, the category is applicable not only to TS projects but also to DS and IS artefacts. The core properties of platforms can strongly influence several components of a story. For instance, the process of selecting the platform for an MDS artefact might be driven by the scope and *topic* of the storytelling experience. In *America 2049*, for example, both the *topic* – human rights – and the game mechanics match the way the selected platform, i.e. Facebook, works. Furthermore, since platforms provide information about the audience (Harvey 2015, Jenkins, Purushotma, et al. 2009), fictional characters' personalities can be shaped based on the characteristics of the users, to which the MDS aims to reach out. This happens both in *LBD* and in *Lil Miquela*, where the characters match the tone and topics used in the social media which deliver the storytelling project. In *LBD* the main character posts vlog on YouTube while *Lil Miquela* is a fashion influencer on Instagram (Section 3.4.2).

4.2.3 Media

The *media* category covers principles related to the different media forms which are used in MDS objects for producing narrative content. MDS artefacts not

only rely on different platforms but often have a hybrid facet, obtained by combining an array of different media, e.g., text, sound, images, and video (Alexander 2011). The development of storytelling objects as multimedia projects is a significant characteristic of a wide range of digital and interactive artefacts with no distinction of *storytelling types* (Section 3.4.3). DS, IS, and TS domains shape diegetic experiences by using different modes of expression (Section 2.2).

MDS artefacts result from the synergistic use of multiple media, which usually correspond to different narrative capabilities. When an MDS object is analysed through the use of the *media* category in conjunction with other components of the framework such as *text* and *interaction*, the narrative potential of the media used in the storytelling object can be captured. For instance, if we examine the projects *Hobo Lobo* (Zivadinovic, 2011)[1], *Firestorm* (Henley, 2013) (Appendix C) and *Dim O'Gauble* (Campbell, 2007) (Section 7.3) through the *media* category, parallels can be drawn in the use of visual and audio elements for setting the mood of the narrative experience and for providing descriptive information.

In the analysis of composite narratives, the relevance of *media* is visible by examining the inner structure of an isolated narrative object that is made of small pieces of content, e.g., images, audio and by capturing at a higher level the rich material of which a storyworld is made. For example, in *LBD* while the *principles* of *media* are applied to the analysis of the single video/social media posts that compose the web series, the *category* is also used for mapping the intertextual use of the different modes of expression (Section 7.4).

Connected to the general focus on the development of MDS objects over time, a few specific insights emerged on the evolution of specific communication formats while examining the case studies over *media*. The *category* helps in understanding how the traditional structure of journalistic communication content has changed by integrating digital and online technologies. By focusing on the media structure of communication content, research in new media

---

[1]The web comic *Hobo Lobo* is mentioned here with specific reference to episode 3. The episode, which encompasses varied media elements, i.e., *still images*, *moving images*, *music*, *effects and animation* can be accessed at `http://hobolobo.net/tale/3` [Accessed 14-01-2019].

studies has shown how news companies have adapted their online communication to digital landscapes by progressively shifting from text and still images to a more mixed and animated media structure (Thurman and Lupton 2008, Jacobson, Marino, and Gutsche Jr 2015). While the high level of multimediality in narrative projects benefited from online technologies, the communication industry had enriched news content through the use of digital media long before online and social media technology boomed. For instance, British national and regional online news providers increased the use of video and audio in the news by the end of the 1990s. *BBC News* hosted *news in video* and *news in audio* (Thurman and Lupton 2008) and similarly *The Guardian* website integrated audio components and *interactive guides* that combine a multimedia environment in clickable Flash movies[2].

It may be argued that capturing the specific instances which contribute to the multimedia structure of an MDS artefact provide only ancillary information on narrative objects without giving insights about the overall meaning of the artefact. I believe that the relevance of *media* strongly depends on the type of storytelling projects on which the analysis is conducted. Media elements are particularly important in the study of MDS projects that strongly rely on visuals as well as on hybrid forms that are based on multimedia and kinetic narrative structures, such as motion comics. Web journalism is another *format* that has benefited from studies that look at media features as the focal point of the analysis. For instance, in a study on online literary journalism, a group of researchers (Jacobson, Marino, and Gutsche Jr 2015) map the media components of web articles e.g., *Snow Fall*, for describing long-form multimedia journalism as a new wave of literary journalism as well as for depicting the evolution of this news format from pre-digital era to recent years.

In sum, the *media* category is central for the study of narrative objects that exist within the DS territory, as can be inferred by looking at the majority of the aforementioned projects, which can be labelled as DS artefacts. Broadcast and news companies have widely experimented with the enhancement of news content through a rich media environment. The qualitative and quantitative

---

[2]The website *Guardian Unlimited* can be viewed at `http://web.archive.org/web/20000815053701/http://www.guardian.co.uk/` [Accessed 28-12-2018].

research conducted over the case studies (Chapter 6) point to this aspect, which is also supported by the history of DS itself. The structure of recent storytelling artefacts (e.g., webcomics and online news articles) often require the focus on *media* for their analysis. Groundbreaking projects in the DS field, such as the narrative model made by the CDS (Section 1.2), show previous and continuing importance of the use of multiple modes of expression for creating digital stories.

4.2.4 Text

The *text* category looks at the narrative components of an MDS artefact. Specifically, this category analyses the characters, the narrative structures, and narrative tools in the rhetorical and generic conventions employed in MDS objects. *Text* focuses on the narrative units that compose a new media narrative. A *text* analysis explores how these units are extracted from an initial piece of content and shed light on whether and how the narrative units are customised and re-used throughout the storyworld (Section 4.7).

Text captures core elements for the creation of MDS artefacts in the narrative context. The central aspect of an MDS object is the story – a narrative that illustrates characters in an arc of dramatic events, which continuously re-define the state of the storyworld (Section 2.3). The narrative components come before choosing the technology for transmitting the diegetic experience, i.e., platform and media structures. In TS, core story elements like characters and plot are the first step for building transmedia storyworlds (Pratten 2011). As Pratten pointed out during our interview: "planning the story with its narrative structures is necessary for building a consistent transmedia project" (2018) (Appendix A.5).

The relevance of story elements in the building of storytelling artefacts particularly emerges in IS projects. Story elements such as modes of narration and characters' personalities greatly distinguish different types of interactive experiences. A strong and sound storytelling layer is for instance what differentiates actual graphic/game adventures, e.g., *Life is Strange*, *What Remains of Edith Finch* (Giant Sparrow, 2017) (Appendix C), *Detroit* from examples of

first-person shooter games, such as *Doom*, which convey minimal narratives, if any.

Within the overall structure of the MDS framework, the *text* category provides basic narrative strategies and raw material to build a complex MDS object. The choice of what media, platforms, and types of interaction to use are influenced by these basic narrative elements. In developing MDS objects, it is certainly possible to focus on media and platform components first, but this often results in a weak and inconsistent narrative experience. Pratten for example observes this point:

> I, too, often see projects with too many characters on too many platforms with too little story. It seems as though some people think that just having lots of stuff going on will be enough, but it's the storytelling that's vital to providing the cohesion across the platforms. (Sánchez-Mesa et al. 2016, p. 10)

Elements of *text* provide meaning to an MDS object in terms of engagement and persuasion. For instance, characters' actions, interactions and personalities are of vast importance in engaging an audience in an MDS artefact. This point is clearly supported in the field of new media studies (e.g., Schneider et al. 2004,Beddows 2012, Gambarato 2012) and it emerged multiple times in the interviews I conducted. Regardless of the specific domain of expertise of the interviewee, they converged on the idea that characters are a central aspect of new media narratives. The scholar and writer of interactive fiction Pullinger claims that "characters are a crucial element for connecting one story with a specific audience" (2018) (Appendix A.6). Similarly, the transmedia practitioner Pratten recognises the emotional value of interactive experiences which rely on characters with touching stories (2018) (Appendix A.5). Pratten also mentioned that *Dear Esther* is a less emotionally-charged artefact, because, in this video game, there are no characters (2018) (Appendix A.5).

Small budget entertainment productions often focus on *text* elements, because these are an inexpensive way of developing meaningful diegetic experience with limited resources. Examples from this approach come from both the fields of IS and TS, which both display storytelling artefacts that are credited

for having advanced the fields in the development of narrative objects. *The Stanley Parable* (Galactic Cafe, 2011)[3] (Appendix C) and *LBD* are two examples from IS and TS respectively of independent studios with a high focus on storytelling, which succeed in providing a robust and emotional story with relatively small resources.

The *text* category considers whether the storytelling experience is made as a monolithic object or if it is fragmented in smaller narrative instances. Also, with the category, it is possible to examine if the audience can affect/re-work the micro-components of the artefact. Projects of IS, DS and TS sometimes provide to the audience customisable spaces and interactive options for engaging with the text. This approach can be seen, for example, in the webseries *LBD*, which I explore more thoroughly in Section 7.4. Here the audience often engaged with characters' social media posts, by re-posting or re-working the content. Lately, the sophisticated use of *customisation* and *microcontent* principles can be traced in MDS objects. The online film *Angry River* (Perian, 2017) contains five-story perspectives which are customised based on the viewers' interests. This mechanism is obtained with the use of a real-time eye tracking information algorithm that adjusts the trajectory of the plot into a narrative path that encounters the audience interest (Appendix C).

As we have seen throughout the categories explored so far, the role of the audience is a key element of MDS objects. In the next section, I will introduce *agents*, a category that focuses on this aspect as well as on the production and distribution of interactive and digital entertainment projects.

4.2.5 Agents

The *agents* category covers principles related to the production, distribution and consumption of the MDS artefacts (Section 4.8). Each of the *categories* presented so far aims to capture a set of features which are distinctive for digital and interactive storytelling. Often the characteristics of MDS objects that are described by the categories resulted from the evolution over time of traditional ways of communication in terms of media and story composition techniques.

---

[3]*The Stanley Parable* is a walking simulator video game.

The combination of the *agents' principles* relates to the blurred line between production and consumption of MDS artefacts as well as to the new forms of spectatorship brought in by hybrid and complex storytelling projects.

In the current landscape of new media narratives, the same tools and platforms are used both for creating professional narrative objects and for sharing works by fans and amateurs. This has profoundly changed the way narrative artefacts are created and distributed. As of now, narrative content is often created by non-professionals. Video and photo sharing platforms such as YouTube and Instagram perfectly illustrate this point. These social media networks store high-quality visual content and are an ideal place for user-generated projects. The two platforms have plenty of users who, after running their account as a hobby or for basic self-promotion, made a professional career out of the content they create and share. This is the case of Peter McKinnon[4] and Lucy Earl on YouTube[5] and Chiara Ferragni on Instagram[6]. All of them went through a similar process, whereby they started as normal social media users, increased their viewership, and then reached the point where they became extremely influential in their respective fields of photography, language learning, and fashion. The fact that apparently ordinary users are on the same platforms and might use the same tools as highly expert creators entails a radical change in how MDS objects, which leverage social media, are consumed and produced. Indeed, the role of the creator has become more blurred with that of the user. Jean Burgess and Joshua Green (2009) suggest that social media network like YouTube fostered a new grassroots culture of media entrepreneurialism. "Homegrown" social media stars establish a co-creative relationship with their audience employing models of audience participation, which are built into the social media networks they use.

Low entry barriers for the tools for story production and consumption have enabled amateur creators to produce MDS content. A relevant example is

---

[4]Peter McKinnon is a Canadian photographer. Peter's YouTube channel can be watched at `https://www.youtube.com/user/petermckinnon24/videos` [Accessed 20-12-2018].

[5]Lucy Earl is an English language instructor. Lucy's YouTube channel can be watched at `https://www.youtube.com/channel/UCz4tgANd4yy8Oe0iXCdSWfA/videos` [Accessed 20-12-2018].

[6]Chiara Ferragni is an Italian fashion influencer. Chiara's Instagram profile can be viewed at `https://www.instagram.com/chiaraferragni/?hl=en` [Accessed 20-12-2018].

provided by the *BBC* project *Capture Wales* (Section 7.2). The overall project was produced by people belonging to the Welsh community, who used their own digital devices for producing short video clips. The broadcasting company tutored them in the creation of their projects and offered the platforms for sharing the final product.

The change in the role of the audience also determines the emergence of unconventional strategies in terms of the use of media channels for developing and disseminating MDS objects among professional creators. *The New Adventures of Peter and Wendy* (Walters and deLoache, 2014-2017) (Appendix C), for example, is a web series made by professional writers, built around YouTube's features. Videos are created and shared on this platform to tell the story. In doing so, *The New Adventures of Peter and Wendy* is developed in a similar manner to projects generated by the average YouTube user.

For informing the *agents* category, I relied on the transmedia research field. This is because TS has traditionally had a focus on audience engagement. Scholars in the field have worked on several themes I used for informing the *principles* of this category, such as fan activity and the role of communities in new media stories. The pervasive and multifaceted structure of transmedia storytelling artefacts is specifically developed for fostering audience engagement. The ultimate goal of transmedia campaign is to promote the creation of a strong bond between users and the transmedia project. When the diegetic experience successfully connects with the audience, the artefact becomes an object of fandom. The influence of TS in the *agents* category resides mainly in the production, distribution and reception dimensions. These are fundamental components for mapping the characteristics of complex storytelling artefacts.

While the themes covered in the *agents* category are not new for the analysis of transmedia storytelling artefacts, they are innovative for examining IS and DS projects. The application of the category to these *storytelling types* can enrich their analysis with the interdisciplinary focus on production, distribution and reception dimensions. The video game industry provides several examples that can be used to show this point. Interactive adventure games such as *Life is Strange* show that it is possible to expand from the traditional boundaries

of video games, by investing in community engagement. *Life is Strange* uses different channels that enable the audience not only to interact with the storyworld actively but also to follow the project as a community, in particular, by livestreaming episodes of the game[7]. The game *Everybody's Gone to the Rapture* has a PS4 community who hold screenshot competitions, compiling their favourite photos of the gameworld. Many bigger game publishers do have community managers, which help foster community engagement. Rob Gallagher (2018) suggests there has been a shift towards "narratable games" – games that may or may not have a strong predetermined story, but which allow players to experience their own emergent stories that may then be shared via videos, gifs, tweets and other social channels. With this type of games, the audience becomes the narrator of the game and, potentially, an *evangelist*.

It may be argued that a relevant portion of the gaming industry still does not focus on practices which boost community engagement, and therefore put less weight on the *principles* belonging to *agents*. In particular, small-budget companies tend not to employ resources on players' engagement outside of the game itself. As Interviewee-1[8] pointed out during the interview (2018) (Appendix A.1), development usually drains the biggest resources of a video game company. Consequently, little room is left for creating and sustaining a consistent effort to engage players on social media and other channels. Even though the *principles* of *agents* cover practices that are not mainstream among several IS objects yet, it is still relevant to observe how the use of the *agents* category can have an influence on the success or failure of IS and DS artefacts. Thus, analysing IS, and DS objects through the lenses of the *agents* category can help to identify gaps in current approaches to production and consumption, and consequently help to define good practices for improving, among other elements, audience engagement. Furthermore, the gaming industry is rapidly changing, leaning towards social games and e-sports. Multiplayer online games

---

[7]*Square Enix*'s official Twitch account can be viewed at `https://www.twitch.tv/squareenix`. Furthermore, a few videos in which the company employees play the game can be watched at `https://www.twitch.tv/videos/80330370` and `https://www.twitch.tv/squareenix/clip/KathishMoldySalsifyWow` [Accessed 20-12-2018].

[8]The interviewee chooses not to be fully identified. The interviewee is a game designer who works for an independent video game company. Throughout the thesis, I will refer to the interviewee as Interviewee-1.

such as *League of Legends*, *Fortnite* and *GTA Online* are among the most successful games ever released. These games all focus on audience engagement for the very reason they are supposed to be played on the Internet. As part of community involvement practices, *Fortnite*, for example, in February 2019 proposed a live music performance of *Marshmello*, a popular electronic music producer and DJ. According to *Fornite*'s publisher *Epidemic Sound*, more than ten million players tuned in to attend the virtual performance, making the virtual concert, the biggest event in video games to date[9].

The *agents* category can be helpful while conducting comparative analyses of different projects or standalone artefacts in a complex storyworld. As previously shown, the category can be used for investigating how strong and committed the audience is in relation to an MDS object. This can be stretched further on multiple projects that can be observed in parallel over the full set of *agents' principles*. This examination can shed light on analytical elements that are often overlooked. By focusing again on community involvement, for example, the analysis of the related *principles* within this category can bring to the surface the difference in its usage across different artefacts. When I compared *Life is Strange* with *A Calendar of Tales*, it emerged that while the first uses community engagement mainly as a promotional tool through the use of Twitch[10], the second extends its narrative by relying on audience contributions. Specifically, the creators directly asked the community to send drawings based on the tales written by the author and posted on Twitter.

The comparative analysis used for the *agents* category is effective both for corporate productions and for small-scale projects. In this doctoral research, I tested the category in large productions whose main goal was to entertain the audience and increase the interest of a wider storyworld e.g., *Why So Serious*, as well as on smaller 'serious' projects, whose final aim was to raise awareness regarding certain social issues (e.g., *Dumb Ways to Die* and *Conspiracy for Good*). In both cases, the category shows the role of fan-driven content as

---

[9]More information about the event can be found at `https://www.theverge.com/2019/2/21/18234980/fortnite-marshmello-concert-viewer-numbers` [Accessed 10/11/2019].

[10]Twitch is a platform for live streaming which enables users to interact with their peers and to share their screen while playing games. The platform originates from Justin.tv a website for live videos created in 2007. Since the growth of the game community on Justin.tv, in 2011 its spin-off – Twitch – was launched.

an indicator of the level of affection between an MDS object and its audience. Even though the production and distribution size of *Why So Serious* and *Dumb Ways to Die* (McCann Melbourne, 2012) (Appendix C) is different, they both show a strong connection with their audience which is testified by the vibrant fan activity online.

4.3 Principles

While *categories* (Section 4.2) enable the initial selection of macro-areas which are crucial when considering general features of new entertainment projects, *principles* are the sub-classes derived from *categories* that strengthen the focus on fundamental aspects of MDS objects. They provide low-level information about self-contained narrative and technological components[11].

Principles are central for gaining full description of MDS objects, both in the analysis of unique diegetic experiences and for conducting comparative observations (Section 6.5). As extensively illustrated in Section 4.2, this is obtained through the qualitative (list of questions) and quantitative (numerical score) metrics which are associated with the *principles*. In the analytical process of an MDS object, each principle is assigned a score that reflects how strongly/weakly a principle is present in a project. This implies that *principles* are not only essential features of MDS, but can also be used in an operative setting to indicate the specific properties of an MDS artefact.

Principles have been designed after identifying the distinctive attributes of the digital and interactive landscapes (Alexander 2017, Ryan 2004, Manovich 2001). They can serve as a guide for the analysis of a vast range of fictional and non-fictional projects with no limits of media specificity. The logic behind the development of *principles* particularly looked at those studies in the new media communication field which map artefacts over the use of thematic macro-areas (Section 4.2, p. 72) (Koenitz 2010 , Bizzocchi 2007). With the use of *principles* I aim to contribute to media studies, by integrating and expanding the range of analytical tools available in the aforementioned research domains, therefore ensuring repeatability of the analysis of complex storytelling projects.

---

[11]A detailed description of the 32 *principles* is provided in the following sections.

The application of *principles* to a vast range of storytelling projects enable the comparison among artefacts belonging to DS, IS and TS (section 3.4.3). By confronting different projects over similar *principles*, it is possible to infer whether commonalities exist among the three *storytelling types* as initially enquired within the research aims of this thesis.

In the following section, I will introduce the MDS *principles* grouped into the categories they belong to. A definition associated with each principle is provided, and then its implications are briefly discussed.

4.4 Principles of Interaction

The *principles* included in the *interaction* category which will be discussed in the following sections are:

- *ludification* (Section 4.4.1)

- *narrative interaction* (Section 4.4.2)

- *interface* (Section 4.4.3)

- *agency* (Section 4.4.4)

- *multisensorial experience* (Section 4.4.5)

4.4.1 Ludification

MDS artefacts often integrate game elements, whether the context for which they are originally created is game-based or not.

One of the primary reasons for using game elements such as badges, rewards/gifts, challenges, goals, leader boards (Zichermann and Cunningham 2011) in products and services outside the entertainment industry is to enhance users' involvement (Fuchs et al. 2014). Playing is not only characteristic of leisure but is a crucial anthropological (Bauman 1995) and economic factor at the basis of our society (Rifkin 2001, Raessens 2012). In aggregator websites like TripAdvisor and Booking.com, it can be observed that game mechanics are leveraged to foster the engagement of customers during their search routine, and for managing users' behaviours (Sigala 2015). On TripAdvisor, for

example, there are leaderboards which reward the most active users, who can gain social points reviewing restaurants and hotels.

Creating a playful environment can have a significant impact on how users experience a new media narrative. The design of game mechanics is crucial for managing players' experience. According to Nicole Lazzaro (2004) players can have fun while playing games through different means such as competition, social interaction or the exploration of the storyworld. By following the thoughts of both Ryan (2008) and Jan-Noël Thon (Thon 2008) about *ludic immersion*, it is possible to assume that the *ludification* principle fosters types of immersion and engagement that strongly depend on the physical activity of users within the diegetic experience.

For investigating the technical objects and processes that bring a ludic dimension to a storytelling project, the term *ludification* has been preferred over *gamification*. The principle can be applied to a vast range of MDS objects. As pointed out by Bogost (2015) while *gamification* mainly refers to video games, *ludification* points not only to digital games and to the use of game design components, but it can be adopted for describing a broader landscape of interactive and digital artefacts (Bouça 2012).

The term *gamification* has roots in the video game industry and it refers explicitly to "the use of game design elements in non-game contexts" (Deterding et al. 2011). While the notion is applied outside the video game domain such as in health, education and finance, gamification specifically indicates systems that employ components that foster challenge and competition. I believe *ludification* can better capture the ludic components that are employed by MDS objects because it has a broader application than *gamification*. For this reason, I borrowed the notion of 'ludification' from Ann Dippel and Sonia Fizek who prefer this concept over *gamification*, since it captures a more free-form 'lusory' or playful attitude (2017).

4.4.2 Narrative interaction

MDS artefacts contain elements which openly ask the audience to input or share their interpretations about what they are watching, reading, hearing, or,

more generally, experiencing.

One of the main conditions for this *principle* to occur is that the narrative system adopted in a project may enable active forms of spectatorship, by allowing communication exchange between storyworld elements (e.g., characters) and the audience.

The comment section on social media is an example of a place where instances of narrative interaction can be found. Such example can be observed in MDS objects such as *Lonelygirl15*, *Conspiracy for Good* and *Lil Miquela* (Section 3.4.2). This *principle* considers mainly modes of interaction that are outside of the narrative mechanisms internal to a story (section 4.2.1). Through *narrative interaction* users cannot interfere with the inner storytelling mechanisms. Users' actions cannot change the sequence of events of the diegetic experience.

4.4.3 Interface

MDS artefacts contain digital screen interfaces components that are an integral part of the narrative mechanism, e.g., touchscreen gestures which enable primary forms of interaction between readers/players and the content, e.g., through buttons and commands.

Depending on its use, the *interface* principle has different functions in the economy of an MDS object. The primary role it plays is to serve as a means for users to gain control over the spatial dimension of the artefact. For instance, in the webcomic *Hobo Lobo* and in the video game *Dear Esther*, the principle is used almost only for enabling users to progress through the story. However, *interface* might have a much more involved role in the diegetic experience when it is, for example, combined with other principles of the *interaction* category. In video games where an avatar is guided by the player to achieve several goals in order to progress through multiple levels, the *interface* principle contributes to the entertainment logic of the project in connection with the *ludification* principle.

4.4.4 Agency

MDS artefacts require audiences to become active users, by advancing/changing the story with their decisions.

The principle strongly emerges from the analysis of interactive narratives as discussed in section 3.3. Diegetic experiences that require audience input can be supported by either digital and non-digital environments. For example, in ARGs, which usually use real-world environments as a platform, the participants in the game can be asked to contribute with their actions to the story.

When considering new media stories which were created before the rise of the Internet and social media technology, it can be observed that *agency* mainly pertained to specific narrative forms and media such as hypertexts and video games. However, for projects developed after 2000, it is relevant to consider the principle even for narrative *formats* that are created for traditional media such as TV series. In the case of television shows, whose storyworlds (often but not always) use mobile and Internet platforms, it is not unusual for the audience to be asked to participate in the emergent creation of the plotline (Evans 2011).

The different ways in which *agency* can be used within a diegetic artefact have been a matter of debate. The user's influence on the plotline has been questioned regarding the effect of *agency* on the level of immersion and engagement of the audience. On the one hand, the active role of the audience is sometimes seen as a constraint which plays a disadvantageous role, preventing the audience from becoming fully absorbed in the narrative world (Douglas 1992). On the other hand, *agency* seems to be actively involved in fostering fans' participatory activity and audience engagement. In particular, advertising strategies tend to foster audience participation by involving them in rich and interactive storytelling experiences. For example, to promote the *The Hobbit* trilogy, creators launched a website featuring interactive games and activities to immerse the user in the fictional world of *The Lord of the Rings*. On the website, users could read recipes from *Middle Earth*, train in dwarf combat, and solve riddles in the form of a dark puzzle game. The low technological

barriers in the adoption of similar marketing strategies are probably one of the reasons why the *agency* principle can not only be observed among video games, but also in transmedia and digital storytelling products (Chapter 6).

4.4.5 Multisensorial experience

MDS artefacts provide experiences where several senses are involved. It is enabled by the coordinated use of multimedia components, e.g., effects, motion, moving images, sound and music and elements that enable forms of physical interaction which can be implemented via touch-screen technology, mouse and keyboard; and through VR and AR technologies.

It may be argued that *multisensorial experience* provides redundant information that is covered by other principles of the MDS framework. In particular, the multimedia components (Section 4.6.1) and the interface elements (Section 4.4.3) of storytelling artefacts can be assessed by analysing them over the related principles. However, *multisensorial experience* aims to convey information about the extent to which a storytelling experience stimulates human senses, i.e., sight, hearing, touch, taste, and smell in an integrated way. *Multisensorial experience* can also serve for analysing those projects in which users interact inside narrative worlds by having a sense of their body position, i.e., proprioception or/and about their physical movements, i.e. kinesthesia.

The use of *multisensorial experience* in narrative projects is still in an experimental phase both in terms of its narrow application and of the immaturity of the related technologies. For this reason, while testing the principle over the case studies, it has been partially reduced to the investigation of audiovisual stimuli that were present in the artefacts. However, I chose to include the principle within the MDS framework because of the relevance, I believe, *multisensorial experience* has to projects that use advanced computational technologies. In the VR environment, for instance, vibrotactile appliances can be used for connecting the human body to the digital environment (Yuan, Ghinea, and Muntean 2015). The use of applications with olfactory stimuli has been, for instance, a matter of research for several years, and it may be the case that olfactory media will be integrated with other modes of expres-

sion in future narrative projects (Davis et al. 2007, Richard et al. 2006). For example, in 1960, the projection of the movie *Scent of Mistery* (Cardiff) was augmented with *Smell-O-Vision*, a system which produced smells to complement the audio-visual experience of the film (Atkinson 2014a, p. 234).

4.5 Principles of Platform

The following sections illustrate the *principles* that participate in the *platform* category:

- *pervasiveness* (Section 4.5.1)

- *technological integration* (Section 4.5.2)

- *social infrastructure* (Section 4.5.3)

- *convergence* (Section 4.5.4)

- *analogue landscape* (Section 4.5.5)

- *digital landscape* (Section 4.5.5)

4.5.1 Pervasiveness

In MDS artefacts, the storytelling experience is expanded across different media platforms.

Pervasiveness considers the technical mechanisms through which narratives are extended across digital and physical space. The principle was designed after observing two phenomena which occur in gaming and transmedia projects. On the one hand, both the domains have experimented with the creation of entertainment experiences at the intersection of virtual platforms and real-life landscapes (Jegers 2009, Montola, Stenros, and Waern 2009). Examples that show this approach can be found among ARG projects and pervasive games like *Pokémon Go*, that use as a playground not only game devices but also physical space. On the other hand, the principle relies on the observation made by transmedia scholars that there are storytelling objects which are built upon an array of story fragments that are scattered among different platforms (Green, Ford, and Jenkins 2014).

4.5.2 Technological integration

In MDS, artefacts and platforms attempt to incorporate advanced technological elements, such as artificial intelligence, virtual and augmented reality.

For new media narratives, information technology can be both an essential feature of the experience and an element that supports the reception of the artefact. As posited by Carolyn Handler Miller (2008), many DS projects make use of advanced computer science techniques in the creation of plotlines and story elements. Projects and companies that make consistent use of *technological integration* are, for instance, the aforementioned *Pokémon Go* whose AI software is used for creating AR maps of existing spaces.

At the same time, platforms can provide features that facilitate content organisation and discovery of projects by viewers. Video recommendation systems, search engines, and front-page highlights are only a few examples of technological components which are integrated into platforms such as YouTube and Netflix.

In between these modes in which storytelling artefacts can be assisted by *technological integration*, there are advanced technology devices which are both crucial in the creation of the artefacts and in supporting the overall narrative experience. To this group belong the companies *Melodrive* and *Charisma.ai*, which provide creators tools for creating diegetic elements that automatically adapt to specific narrative modalities. While *Melodrive*[12] offers a software for programming music scores that adapt to the emotional mode of narrative environment, *Charisma.ai*[13] is an authoring tool for creating interactive storytelling environments. Such technologies can be integrated into MDS artefacts, in order to increase users' engagement.

To measure *technological integration*, I evaluate the use of pioneering/experimental technologies that projects make use of, compared with similar objects from the same period.

---

[12]Melodrive is an AI engine that automatically generates music in real-time for video games. Information on the company can be found at `http://melodrive.com/` [Accessed 05-02-2019].

[13]Information on the company can be read at `https://charisma.ai/` [Accessed 05-02-2019].

4.5.3 Social infrastructure

MDS objects are conveyed through platforms whose design and functionalities facilitate social interaction such as user profiles, comments, feedback buttons.

Social infrastructure considers the platform design by looking at those interface features that contribute to the audience's experience of MDS objects. The *principle* covers all those elements that enable users to participate in the diegetic experience, such as the creation of users' virtual identities, or communication among users and within the narrative world.

Depending on the type and scope of the analysis, the insights gained through *social infrastructure* can be elaborated by complementing the study with other principles. The analysis of *LBD* (Section 7.4) benefited from the use of *social infrastructure* in conjunction with *community involvement* (Section 4.8.3) and *narrative interaction* (Section 4.4.2). While *community involvement* assists the analyst in acquiring insights on audience reception, *narrative interaction* expands the understanding gained through *social infrastructure* by enabling the acquisition of more information about the conversation established between *LBD* characters and the community members.

Social infrastructure is also particularly relevant for evaluating the engagement of users with MDS objects. This data can be inferred by looking for instance, at the number and tone of comments, the likes and dislikes, and the number of subscriptions (Khobzi and Teimourpour 2015). Of course, this list greatly varies depending on the media platform that is used for transmitting the artefact.

The *social infrastructure* apparatus of a storytelling project can have a substantial impact on the overall design of the diegetic experience it conveys. Social infrastructures evolve quickly along with the features that enable users to interact with content and between themselves. Support for this point was found after observing recent storytelling projects. The online series *Artificial Next* (Su and Mandery, 2018) is broadcast on Twitch and shows a *social infrastructure* which is strongly linked to the revenue system of the platform (Appendix C). Twitch provides its users with several modes in which they can economically support streamers and projects they are interested in. Some

examples are memberships and token monetisation. These modes are integrated within the social infrastructure of the platform. By adopting the crowdsourcing technology of Twitch, the web series shows that this system of free participation and economic support – that strongly depend on the interface design – can be integrated within a scripted diegetic experience.

4.5.4 Convergence

In MDS objects, platforms are merged for conveying a single storytelling project.

Due to the focus on the expansion of a diegetic experience through different platforms, it may be argued that the *convergence* principle doubles as *pervasiveness* (Section 4.5.1). However, while the first considers the consistency and structure of the diegetic expansions, the second focuses on how the platforms enable the expansion of the storyworld. For example, *pervasiveness* is used for describing the multi-platform structure of the diegetic experience when analysing the transmedia project *Conspiracy for Good*. *Convergence*, by contrast, focuses on how the narrative is pieced together.

Considering how story fragments are communicated in different media is crucial both in the initial stage of planning the narrative object and during the analytical phase. Media and platforms are not neutral communication vehicles but have specific characteristics that affect the communication process. The selection of the channels used for reaching and engaging an audience strongly depends on the themes and scope of the artefact's content and on the audience targeted. If the conventional process of communicating through a single medium implies careful considerations, many more variables need to be taken into account when working with complex storytelling worlds.

4.5.5 Analogue landscape and digital landscape

Analogue landscape – storytelling systems are based on sets of technical and narrative components. When storytelling systems are conveyed through analogue environments, the causal relationship between these different components is visible to readers/viewers/users as well as the general picture of the overall system's organisation.

Although digital stories are the primary research object of the thesis, the role of analogue media and physical diegetic experience cannot be disregarded when analysing MDS objects. Among the framework's principles *analogue landscape* and *digital landscape* are considered explicitly for covering the characteristics of the two domains.

The type of artefacts that adhere to the *analogue landscape* principle are transmitted by analogue devices such as traditional media, print books, radio and television broadcast. Analogue objects display a single unbroken body of information that is captured in a physical medium such as print books or movies (Miller Handler 2008). The principle also describes the characteristics of diegetic experiences that are anchored to a specific time and space.

By contrast, the *digital landscape* principle focuses on attributes related to the digital nature of an entertainment object.

Digital landscape – The storytelling system created through digital media of communication promotes the integrated use of different modes of expression for developing a single artefact. The different modes of expression are coherently merged. It is difficult for readers/viewers/users to appreciate the different elements which make up the narrative system individually..

Information conveyed by digital means of expression can be easily accessed and stored. In the *digital landscape*, information can be moved and copied among different platforms and devices with minimal effort. While diegetic experiences can comprise story units that are conveyed by analogue media and digital platforms as separate instances of a unique narrative artefact, there are also, new media stories which do not use the two landscapes as discrete entities. MDS objects can be developed at the intersection between the physical and the virtual territories. This is the case of several TS projects that use the characteristics of both digital and analogue environments. One broad example is when real-life events based on fictional storyworlds are spread online using digital platforms. This happens, for example, in the augmented reality video game *Pokemon Go* (Niantic, 2016), where players are challenged to capture Pokemons in physical places around the city and can communicate their achievements to their friends using social network features.

Experimental projects that merge the physical and the virtual worlds for creating narrative experiences are also conducted within the DS and the IS fields. *Breathe* (Pullinger, 2018) (Appendix C), for example, is a ghost story app which hooks the physical environment of the reader to the fictional experience. Due to the use of application programming interfaces (APIs) user's data such as time and weather are integrated within the storyworld. The extent to which the attributes of the analogue and digital domains are integrated in the story can be understood by looking at the project through the two principles discussed in this section.

Nowadays, the cross-contamination of analogue and digital media as well as of virtual and physical dimensions can be mostly observed in ARG and TS projects. The entangled use of digital and non-digital media for creating storytelling artefacts cannot be described as a major trend in the broader entertainment industry. The aforementioned examples suggest that creators are currently experimenting with new modes for creating diegetic experiences.

4.6 Principles of Media

The principles covered by the *media* category are:

- *multimediality* (Section 4.6.1)

- *visuality – still* and *moving images* (Section 4.6.2)

- *effects and animation* (Section 4.6.3)

- *audio – music* and *sound design* (Section 4.6.4)

- *text-based communication* (Section 4.6.5)

4.6.1 Multimediality

MDS objects are rich products made by using a multimodal approach, which combines text, sound, images, video, and effects.

Multimediality focuses on the analysis of the hybrid structure of MDS objects which are made up of multiple modes of expressions. The reasons why

I include principles within the framework for describing the specific media elements that compose a unique artefact are multiple. First, it supports a detailed description of the narrative objects, which results in a more defined understanding of the artefacts. Consequently, the analyst can arrive at more precise information when conducting a comparative analysis of apparently very similar storytelling projects. Finally, looking at the subsets of *multimediality* can be the key process for analysing how a specific narrative *format* has evolved over time. For instance, for understanding how the design of online long-form journalism has evolved over time, it is essential to look at the media elements that used for this *format* (Hiippala 2016).

It is important to clarify the difference between *multimediality* and the *multisensorial experience* principle (Section 4.4.5) which lays in the original analytical goals the two principles address. On the one hand, the analysis of an MDS object's *multimediality* attempts to identify the media system of the artefact, from a compositional perspective. The principle adapts well to the study of digital and non-digital/traditional media, e.g., books, comics, movies. On the other hand, *multisensorial experience* has to do with the user's embodied experience/perception of a new media narrative.

4.6.2   Visuality – Still and moving images

In MDS artefacts still images have descriptive, explanatory, and highlighting functions. I borrowed this concept from Edward Segel and Jeffrey Heer, who studied the function of images in online narratives (2010). Images effectively illustrate the spatial configuration of the storyworld. Also, visual sources are used for conveying fictional characters' emotions and for depicting their personality (Ryan 2013).

Visuals in MDS objects can occur in the form of *moving images*. From the analysis of the case studies, it emerges that apart from sharing similar characteristics with still images, *moving images are particularly significant in setting the flow/rhythm to the sequences of events.*

4.6.3 Effects and animation

In MDS artefacts, effects and animation are used for transitioning between different story elements and scenes. When used by interactive artefacts, effects and animation are devices which serve to encourage users to explore the diegetic world (Segel and Heer 2010).

4.6.4 Audio – Music and sound design

The audio components of MDS are covered by the *music* and *sound design* principles.

Music in MDS artefacts has a descriptive function. It helps to set the emotional setting of a scene and provides (subtle) cues about the events unfolding in the story.

The *sound design principle aims to capture the tendency for MDS artefacts to edit and manipulate audio for creating aural effects which fit the scope and mood of a scene.*

4.6.5 Text-based communication

MDS artefacts do not commonly use written text as the dominant mode of expression for shaping the narrative message.

However, *text-based communication is used as one of the elements of the story artefacts. In creating the narrative structure of MDS artefacts, text-based communication is particularly suited for developing the temporal, psychological, and emotional dimensions of a diegetic experience.*

The *temporal* and the *mental* components strongly depend on textual forms of communication. As suggested by Ryan (2013, p. 3), these two components define the role of the agents in the storyworld (Section 2.3).

When present, *text-based communication* is valuable for supporting the development of the fictional characters and of the context of the story. On the one hand, through textual features, the characters' personality and their psychological dimensions can be shaped and delivered to the audience (You et al. 2006). On the other, the style of the language-based narration contributes to set the atmosphere and tone of the story effectively.

4.7 Principles of Text

The section covers the *principles* which contribute to the *text* category:

- *character centrality* (Section 4.7.1)

- *narrative fragmentation* (Section 4.7.2)

- *domain hybridisation* (Section 4.7.3)

- *adaptation* (Section 4.7.4)

- *microcontent* (Section 4.7.5)

- *customisation* (Section 4.7.6)

The first set of principles *character centrality*, *narrative fragmentation* and *domain hybridisation* emerge by considering essential components of a story such as characters, plot structure and themes. *Adaptation* (Section 4.7.4), *microcontent* (Section 4.7.5) and *customisation* (Section 4.7.6) were defined after observing features that contribute to the hybrid structure of MDS objects. It might be argued that the last three principles could have been included in the *media* category. However, I believe that *text* provides a better context due to its focus on the content of a diegetic experience. Thus, all the principles are in some way related to the *topics* used in the story.

4.7.1 Character centrality

MDS artefacts contain either virtual or physical fictional characters that contribute to the diegetic experience by participating in it.

Although characters are only one factor among the diverse elements upon which a story can be built, they greatly influence the spectators' interest in a storytelling project. The importance of characters is so crucial that it can lead to narrative projects in which the whole emphasis is on characters, and the plot plays only a marginal role. Hiroki Azuma suggests that "instead of narratives creating characters, it has become a general strategy to create

character settings first, followed by works and projects, including the stories"
(2009, p. 48).

Characters are at the centre of the audience reception of MDS objects. As
shown by research in media communication, characters facilitate the emotional
response of the audience toward a story, both when the narrative is conveyed
using traditional media, e.g., books (Oatley 1999, Zillmann 1995) and new
media, e.g., video games (Klimmt et al. 2010). How audiences participate
cognitively and emotionally in a media entertainment experience has been
investigated by an array of diverse academic fields such as television studies,
film studies, and social psychology. While different fields differ in identifying
a specific set of variables which contribute to the engagement of the audience
with a story, the role of characters is often understood to be crucial for holding
experiencers' attention when they consume a storytelling project (Cohen 2001,
Gerrig 1993). For instance, Cohen (2001) suggests that characters are involved
in the 'identification' process that connects viewers/readers to the narrative
object.

The central role of characters has also been examined in transmedia studies.
The importance of characters is stressed by Elizabeth Evans (2011, p. 103)
in relation to her study on the project *Spooks*. Evans compared the audience
reaction to the drama series and to the related digital game. In the first
case, fictional characters are present, while in the latter, a self-centred viewing
option discards fictional characters from the story. Evans suggests that in the
drama series, the presence of characters is crucial for enabling the audience
to engage with the project. By contrast, the story navigation option without
characters is less appreciated, and often rejected, by the players (Evans 2011,
p. 103).

The primary role of characters illustrated by theoretical research is corrob-
orated by evidence taken from the analysis of MDS projects. This aspect also
emerged from the interviews I conducted as part of this research. Pullinger
(2018) (Appendix A.6), for instance, talking about *Breathe*, noted that the
interactive narrative attracts an audience who belongs to the same age group
of the protagonist of the story.

The use of characters is an effective way for creating a bridge – often emotional – between the diegetic experience and the audience. As Gadney puts it, fictional characters live at the core of the communication process with the audience. Their centrality is particularly evident when narratives are adapted from one medium to another (2018) (Appendix A.2). In particular, TS projects display how effectively the use of characters may work against the possible disruption of the narrative and orient the audience within a sprawling multistrand diegetic world (Freeman 2016). Fictional characters function as an element for holding users' interest, as an emotional driver for the audience and as a diegetic reference across different storyworlds.

The analysis of MDS objects has also shown that when characters are used for DS, IS and TS projects, not only can audience engagement be solicited by their presence on social media, but they can also contribute to blurring the boundaries between the fictional and real-life environments. This point will be discussed in Chapter 6 and Chapter 7; however, a few examples of this metalepsis can be mentioned. By analysing projects such as *LBD*, *lonelygirl15*, *Lil Miquela* through the lenses of the MDS framework, it emerged that characters in these artefacts mimic ordinary users' practices in the way they interact with social media. In doing so, they produce a breach in the virtual layer between the audience and the diegetic experience (Section 2.7).

4.7.2 Narrative fragmentation

In MDS artefacts, events are non-linear or multilinear. Events and scenes do not occur in a fixed order and characters are not encountered at fixed points.

In the economy of the MDS framework, the *narrative fragmentation* principle guides the analytical observation of the organisational structure of MDS objects. Non-linear plots have been widely encountered in traditional narratives. A few examples are the book *If on a Winter's Night a Traveler*, the movie *Memento* and the graphic novel *Fun Home*. However, to the spectator of legacy media, the story is usually presented linearly. The author or director has full control over the way the plotline is received by the audience. In these cases, the shape of the experience or presentation of the narrative events (i.e.,

syuzhet) is linear, while the diegetic events or content of the experience (i.e., *fabula*) can be presented out of chronological order (Brooks 2002).

In new media stories, the relationship between the author and the plotline is less obvious and often the way story events are portrayed and organised leaves room for users to experience the story in multiple ways. In analysing artefacts which rely on non-linear narratives and multiple diegetic pathways, it is crucial to consider the role of author agency on the storyline and the balance between the level of narrative control and the level of users' freedom in experiencing the story. Analysing the structure of the story through the lenses of *narrative fragmentation* is essential not only for gaining insights on the general design of the diegetic experience but also for examining the way the story *topics* are treated.

4.7.3 Domain hybridisation

In MDS artefacts, content does not have a defined nature but tend to harmonise multiple topics and media formats. Storytelling elements usually related to entertainment content are combined with education, news and a wide variety of formats.

As has been depicted throughout the thesis, MDS objects often display a set of characteristics which originated from different media formats. The *domain hybridisation* principle introduces another factor that contributes toward defining the inherently hybrid nature of most MDS artefacts. The concept of *domain* in the MDS framework comprises both that of *topic* and *format*. In other words, a *domain* is the combination of a *topic* and a *format*.

A key attribute of new media narratives has been identified in the blurred identity of their narrative content (Alexander 2011). For this reason, through *domain hybridisation* researchers can evaluate the extent to which a story is grounded in *topics* that pertain to different fictional and non-fictional dimensions.

Furthermore, the narrative content of an artefact should be considered in relation to the audience target and to the delivery space, e.g., media and platforms through which the storytelling object is transmitted. For instance,

the main *topic* of *Lil Miquela* participates in the areas of lifestyle and fashion which find a breeding ground in the communication style and target audience of Instagram, the social media platform on which the project is published. The communication characteristics of Instagram are fed back to the design of the fictional character's appearance and personality in the story.

It is worth noting that it may appear that *domain hybridisation* is similar to the MDS *topics* structure (Section 3.4.2). However, *topics* and *domain hybridisation* pertain to different analytical levels and, therefore, the use and scope of the first slightly differs from the latter. On the one hand, *topics* provide general information on the theme of the artefact that can be used for the qualitative analysis of the MDS object. This concept participates with *format*, *genetic storytelling code* and *storytelling type* in a list of high-level descriptors that provide an analytical overview of an MDS object. On the other hand, *domain hybridisation* elaborates the *topic* and *format* analyses and takes the insights gained at the level of the quantitative analysis so that the information can be employed for a wider set of research needs such as temporal trends and comparative analysis on multiple projects.

4.7.4 Adaptation

In MDS artefacts' subjects and technologies are refashioned from earlier implementations of the story.

The *adaptation* principle is built on the concept of *remediation*[14] which explains the exchange of communication technologies between traditional and new media. *Adaptation* aims to capture the practice of adapting themes and techniques from other narrative and media traditions to new storytelling artefacts. The principle covers both the re-working of specific texts – e.g. adapting James Matthew Barrie's novel *Peter and Wendy* into the online series *The New Adventure of Peter and Wendy* – and the re-adaptation of forms/techniques in new media contexts. For example, this happened with the webcomic which remediates the comic book using digital technologies.

---

[14]The term remediation is intended with reference to Bolter (2005). The scholar argues that digital media compete with legacy media like cinema and television by "appropriating and refashioning the representational practices of these older forms" (2005, p. 14).

4.7.5 Microcontent

MDS artefacts are often created as microcontent, which are small chunks of content that convey a primary idea or concept. 'Content' is defined here as one element that brings a unit of self-contained and coherent meaning by itself e.g., videos, images, texts, audios, effects.

The use of *microcontent* for creating new media narratives is one of the hallmarks of the second generation of web technologies. The principle reflects the fragmented structure of the Internet, where bits of information are linked together.

The use of *microcontent* as a storytelling unit is common in social media narratives. On social networks, users populate their profiles with numerous short media content in the form of videos (e.g., YouTube), images (e.g., Instagram) and words (e.g., Twitter). The analysis of storytelling projects like *The New Adventures of Peter and Wendy*, for instance, benefited from the *microcontent* principle. By using this principle, I gained insights into how the storyworld and the units of the story are strategically spread across different platforms.

The principle is at the heart of the *customisation* activities of MDS users (Section 4.7.6). Particularly, the audience of online narratives is accustomed to active modes of reception that can at times lead to either using or re-working pieces of the narrative project they engage with.

4.7.6 Customisation

MDS artefacts are altered to generate other objects. From an object, several pieces of microcontent can be extracted, e.g., images, audio, videos, which can be re-assembled into one or multiple new objects that are themselves re-usable.

Customisation exists within a wide range of storytelling projects, as a consequence of the growing ability of Internet users to manipulate online material, either by hacking the code or by using authoring tools and editing software (Creeber and R. Martin 2008; Gray 2010). *Customisation* contributes to the analysis of the active involvement of users with storytelling artefacts. As already remarked, while principles can be used in isolation, the value of the

analysis is often enriched by taking into account a set of principles together. For example, for gaining a better understanding of the active role of users in relation to an MDS object, *customisation* can be seen in conjunction with other principles such as *agency*, *interface* and *narrative interaction*.

4.8 Principles of Agents

This section centres on the production, distribution and reception of the MDS objects with a particular focus on the actors involved in these processes. On one side, the set of principles of the *agents* category consider the strategies applied for producing and for distributing MDS objects. On the other, forms of collaboration among MDS users are identified, which focus both on producing narrative objects and contributing to storytelling projects as a community.

The *principles* which belong to *agents* are:

- *communication paradigms: many-to-many vs one-to-many* (Section 4.8.1)

   top-down production

   top-down distribution

   bottom-up production

   bottom-up distribution

- *participative storytelling* (Section 4.8.2)

- *community involvement* (Section 4.8.3)

- *user-generated content and fan-driven content* (Section 4.8.4)

4.8.1 Communication paradigms: many-to-many vs one-to-many

As a starting point for analysing the different forms of production and distribution of MDS objects, on the one hand, I considered the one-to-many paradigm consisting of both *top-down production* and *top-down distribution*. On the other hand, the many-to-many model is presented, which is based on *bottom-up production* and *bottom-up distribution*.

The one-to-many organisation involves large studios and distribution channels which are vertically integrated and well-financed. They are responsible for building an entertainment product and delivering it in a top-down fashion.

- *Top-down production – MDS artefacts are made by professional companies or practitioners.*

- *Top-down distribution – The distribution of MDS artefacts is centralised and occurs through professional entertainment networks.*

MDS objects that are created and delivered within many-to-many structures involve small budget firms and independent practitioners who often use Internet platforms for promoting and circulating entertainment projects.

- *Bottom-up production – MDS artefacts are made by users who create content using authoring tools and online platforms.*

- *Bottom-up distribution – MDS artefacts are distributed by users who share content using online and mobile platforms.*

Treating these as two discrete, separate scenarios is mostly theoretical since in practice only a tiny proportion of MDS projects can be described using solely either the top-down or to the bottom-up paradigms. The majority of new media storytelling projects lie somewhere along a continuous spectrum of which the top-down and bottom-up approaches are the two extremes. As will be shown in Chapter 6 and Chapter 7, narrative projects can often be analysed by merging the two models.

4.8.2 Participative storytelling

MDS artefacts are based on users' collaborative practices to create and enrich the story.

The principle is relevant both when the narrative object is entirely developed as the result of the collaborative effort of a group of individuals, and if co-creation practices are only applied to a few units of the project.

Examples from the first scenario are *Capture Wales* (Section 7.2) and *First Stars I See Tonight* (2014) which is a short film collaboratively created on the

media platform HitRecord[15]. By contrast, *participative storytelling* can play an ancillary role in MDS objects as can be seen, for instance, in *LBD* and in *A Calendar of Tales*. In *LBD*, the protagonist communicates with YouTube users through the 'question and answer' (Q&A) video type in a small number of videos. In *A Calendar of Tales* the audience was asked to contribute to the diegetic experience by providing illustrations and videos. In both instances, however, users' participation has a minor impact on the unfolding of the main story lines. In these examples, the plot is mainly determined by the creators in a top-down fashion. Users' suggestions and feedback play an ancillary role in affecting the story.

4.8.3 Community involvement

A community can emerge a round an MDS artefact which is bonded by the common interests of users towards the story elements.

Community involvement reflects the idea that the interest in a new media narrative, either in a single element (e.g., the platform, the plotline, a character) or the overall project, can draw individuals together, establishing relationships while engaging with the diegetic experience. The analysis of this principle can be combined with the analysis of *social infrastructure* Section 4.5.3. In this way, insights can be gained on the extent to which communities interact using infrastructures integrated into the artefact, or through other, unofficial channels.

The principle plays an essential role in the analysis of the reception of MDS objects. *Community involvement* supports the description of the audience of the MDS project in several ways. This principle focuses on the analysis of the demographics, social characteristics and interests of the users. It also considers the type of influence creators exercise on the audience in the project's world, and the kinds of interaction that the audience establishes with the storytelling project as a group.

Community involvement is applied to individuals who socialise around an

---

[15]HitRecord is an online platform, founded in 2011 by Joseph Gordon-Levitt, where multimedia projects can be created in a collaborative environment. The website can be visited at `https://hitrecord.org` [Accessed 10-01-2019].

MDS object both in the virtual and in the physical space. Although in this thesis, specific attention is given to online communities, the research also considers audience participation in real-life events which are, for instance, a key component of several TS projects.

Furthermore, the principle considers the existence of different types of communities. Discussing the audience of transmedia projects Sarah Atkinson (2014) defines the existence, on the one hand, of groups of people who socialise based on the material provided by the story, as an extradiegetic instance of the entertainment project. On the other hand, she suggests that there are also fictional communities made up of users who play within the storyworld as active characters, i.e., 'dramatic communities' (2014). While *community involvement* provides a generic description of the audience groups who participate in the diegetic experience, the principle can be integrated with methods useful to gather more specific users' insights. The analysis can be undertaken by using devices traditionally applied for evaluating spectatorship behaviours, such as interviews, diaries, and questionnaires (Evans 2011), and quantitative data analysis methods (Akar and Mardikyan 2018).

4.8.4 Fan-driven content and user-generated content

Fan-driven content – Fans interact with MDS artefacts by crafting/reworking them.

Fans usually perceive themselves as such and show emotional attachment to the object of fandom.*Fan-driven content* can manifest itself either as a constructive contribution, e.g., fan art, fan fiction or in disruptive forms such as petitions and protests. Fans have high levels of expertise regarding the entertainment projects they engage with. This often leads fans to create content based on the stories they follow (Jahn and Kunz 2012, Gray, Sandvoss, and Harrington 2017).

Fan-driven content focuses explicitly on the analysis of the creative content built from the activity of fans. By applying Nielsen's (2006) understanding of the *participation inequality phenomenon* to the entertainment domain, it may be hypothesised that only a minority of the audience engages with an artefact

by producing content based on it. In spite of this, fan activity is still relevant for the analysis of the reception of new media narratives. As illustrated in a recent research collection on fandom, engaging as a fan with storytelling projects has become a more usual practice than it was in the past (Gray, Sandvoss, and Harrington 2017). This is a crucial concept that should inform the study of the reception and circulation of entertainment artefacts.

Audience activity focused on producing and sharing content is also captured, on a broader level, by the principle of *user-generated content.*

MDS artefacts are made up of and can be themselves user-generated content. User-generated content implies the practice of web users producing and sharing content based on an array of different media types often made by mixing and remixing non-original material.

Differently from *fan-driven content, user-generated content* does not necessarily live within the sphere of the emotional attachment of users toward an object of interest. The term only identifies the production of creative content, e.g., audio, images, written text, that are not recognised as professional output and that are shared on public and social environments (Kaplan and Haenlein 2010, Schafer 2011). Not all users engaging with storytelling objects as creators themselves can be identified as fans. The *user-generated content* principle covers those types of creative engagement which do not fit within fan-related activities.

User-generated content focuses on a crucial phenomenon that mostly involves online user activity. Given one of the aims of this thesis is to provide insights on the evolution of MDS objects over time, the principle is particularly relevant for analysing storytelling artefacts created between 2000 and 2005. Indeed, during this time-span experiments with the creation and distribution of personal narratives occurred frequently. While user-generated content became popular after 2005 with the emergence of social media platforms such as YouTube (2005), Facebook (2006), Twitter (2006) and Tumblr (2007), before the advent of social networks innovative projects emerged which were made up of media material produced by non-professional users. This is the case, for example, of the BBC project *Capture Wales* (Section 7.2) and of the early blog-

ging platform *LiveJournal* launched in 1999. When analysing contemporary MDS objects, particularly those stories that use social media as an authoring tool and delivery platforms, it cannot be ignored that those narrative forms had their seeds set in earlier forms of media narratives.

4.9 Summary

This chapter provided a detailed account of two major structures of the MDS framework, namely, *categories* and *principles*, by presenting them from the higher to the lower level of analysis. Both *categories* and *principles* emerged from theoretical research on DS, IS and TS and from the empirical observations of artefacts belonging to the three *storytelling types*. First, *categories* are presented as a device for a primary classification of the attributes of MDS objects (Section 4.2). As such, five classes of attributes are identified i.e., *interaction* (Section 4.2.1), *platform* (Section 4.2.2), *media* (Section 4.2.3), *text* (Section 4.2.4) and *agents* (Section 4.2.5). Each category illustrates the narrative and technical macro-characteristics of the storytelling artefacts, while providing a general frame that contains the specific characteristics of the MDS objects which are covered by the *principles* (Section 4.3).

The first category presented in the chapter is *interaction*. It unearths the technical and narrative mechanisms that promote a two-way conversation between the MDS object and the audience (Section 4.2.1). Among the related set of principles, *ludification* (Section 4.4.1) and *interface* (Section 4.4.3) focus on the interactive elements of a narrative. The design of the interface and the narrative itself, can suggest different types of activities for users who participate in the storyworld. This point is taken into account by *narrative interaction* and *agency*. The first looks to the attributes which encourage weak forms of audience involvement in the story. The latter investigates mechanisms which enable users to influence the storyworld mechanics, for example, by changing the sequence of events (Section 4.4.4). Finally, the sensory inputs provided by the interaction design of the artefact are examined by *multisensorial experience*.

It is then considered how the characteristics of the delivery medium influ-

ence the diegetic experience through *platform* (Section 4.2.2). On one side, the expansion of narratives on multiple media landscapes is accounted for (*pervasiveness*) (Section 4.5.1). On the other, it is considered how the diverse platforms which convey segments of a unique story are coordinated within a vast storyworld (*convergence*) (Section 4.5.4). Furthermore, the principles of the *platform* category cover the use of both digital (*digital landscape*) and analogue domains (*analogue landscape*) for supporting the MDS objects (Section 4.5.5. The design of the platforms is also taken into account for examining how social interactions are enabled (*social infrastructure*) (Section 4.5.3). Finally, the category looks at the use of cutting-edge technologies such as VR and AI in complementing the narrative experience (*technological integration*) (Section 4.5.2).

A further aspect which is highly relevant for DS, IS and TS projects is the use of different modes of expression for creating a unique story (Section 4.6). The *media* category with its principles focuses broadly on the media environment of the artefacts (*multimediality*) (Section 4.6.1). Specific *media* principles can guide the analysis to account for the modal shape of the storytelling objects under analysis. These principles are: *visuality* (Section 4.6.2), *effects and animation* (Section 4.6.3), *audio* (Section 4.6.4) and *text-based communication* (Section 4.6.5).

At the lower level of the MDS framework, the central components of a story are mapped by the *text* category (Section 4.2.4). The narrative structures of an MDS object, the characters and the subjects of the story are examined through *narrative fragmentation* (Section 4.7.2), *character centrality* (Section 4.7.1) and *domain hybridisation* (Section 4.7.3) respectively. Furthermore, the hybrid nature of MDS objects is dissected and analysed by *adaptation*, *microcontent* and *customisation* . *Adaptation* considers the extent to which the theme and technology used in an artefact are influenced by other subjects and media (Section 4.7.4). *Microcontent* examines the units which compose the content of the story (Section 4.7.5), while *customisation* looks at the narrative elements which leave room for the audience to personalise the diegetic experience (Section 4.7.6).

Finally, the *agents* category analyses aspects involved in the creation and production of MDS objects (Section 4.2.5). The artefacts considered for the thesis are at the centre of particular forms of production and distribution which merge bottom-up and top-down strategies (Section 4.8.1). In producing current narrative artefacts, *participative storytelling* (Section 4.8.2) can play an important role. The specific attributes of the platforms which are employed for delivering digital and online storytelling artefacts, situate them at the centre of forms of collective engagement. This topic is captured by *community involvement* (Section 4.8.3) while *user-generated content and fan-driven content* focus on the types of material the audience produces after being inspired by an MDS object (Section 4.8.4).

In this chapter, by providing a detailed account of the narrative and technological components which make up new media stories, I have addressed two research goals of this thesis. First, *categories* and *principles* are the foundations which helped me to create a unified framework that accounts for DS, IS and TS. Second, they are at the basis of the qualitative and quantitative analytical approaches of the MDS framework, which I will outline in the next chapter.

Chapter 5

The MDS framework in practice

5.1 Overview

In this chapter, I move from the theoretical presentation of the MDS framework to its application. Specifically, I address a central research aim of the thesis by explaining how the analytical methodologies of the MDS framework offer both a quantitative and qualitative evaluation of new media narratives. Section 5.2 discusses the qualitative analytical methodology. In Section 5.3, I provide an introduction to the quantitative analytical devices used in the MDS model. Then, I discuss applications of the qualitative and quantitative analytical devices and suggest example research questions which can be tackled with the framework (Section 5.4). Section 5.5 and Section 5.6 offer guidelines and a detailed guide that lay out all the steps researchers should tackle to arrive at a mixed quantitative and qualitative analysis. Section 5.6 also highlights challenges analysts may encounter when performing analyses. While in the chapter I describe the overarching functions of the framework, analysts can elect to use only qualitative or quantitative tools individually, or use both in conjunction, depending on their research aims.

It may be argued that in culture and media studies, it is unusual to focus on the analytical methodology before engaging in the examination of case studies. However, for the purpose of this thesis, it is necessary to outline the qualitative and quantitative analytical methodologies of the MDS framework as a first step, in order to understand the work I performed on the case studies.

It is worth restating here that the main focus of the research is the devel-

opment of an effective methodological framework. In the academic literature surrounding new media narratives, there are numerous examples of studies which focus on analytical methodologies. For example, in the article *An Experience Approach to Transmedia Fictions* Susana Tosca and Lisbeth Klasrup (2018) present their model of TS first, then they discuss how to use it for analytical purposes, and finally, they apply it on a case study. There are also academic works which focus entirely on the methodology and do not examine any case studies. In the article *A Design Approach to Transmedia Projects*, for example, Gambarato (2018) provides a model that accounts for TS and then introduces a questionnaire that other researchers can use to examine TS projects.

This chapter reports the steps necessary to perform quantitative and qualitative analyses with the MDS framework in a procedural way. The step-by-step guide and guidelines I outline are those I followed to examine the case studies. I decided to write the chapter in this procedural way for two reasons. First, the structure and approach enable other researchers to replicate the analytical work I performed. Second, the guidelines make analysts aware of the challenges and pitfalls they may encounter when using the qualitative and quantitative offered by the MDS model.

It may be argued that the MDS framework is not established and, therefore, its analytical methodologies should not be presented in a procedural, guide-like form. However, a central goal of this thesis is to create an analytical framework that other researchers may use to study new media narratives. In order to achieve this goal, it is necessary to provide clear instructions on how to use the framework to run qualitative and quantitative analyses. A step-by-step guide facilitates the adoption of the analytical methodology by other scholars. Adoption is key to refine the MDS framework. By using the framework to carry out analyses of new media narratives, other researchers can identify weaknesses in the model and provide insights from different theoretical angles, which will strengthen both the qualitative and quantitative analytical methodologies.

5.2 Qualitative analysis

The qualitative analytical tool of the MDS framework consists of a questionnaire with questions covering the different *categories* and *principles* of the model, presented in Chapter 4. To build the questionnaire I have relied on the DS, IS and TS academic literature, I have performed textual analyses of 61 case studies, and I have spoken with seven experts in the fields of DS, IS and TS to refine my understanding of these domains.

While developing the questionnaire, I also verified the relevance of the central structures of the framework, such as *categories* and *principles*. I followed an iterative process where the *categories* and *principles* determined the questions, and these, in turn, helped to revise the structures of the framework.

The questionnaire responds to the need to ensure an adequate description of new media narratives. It helps to extract meaningful information that can contribute to the understanding of the different narrative and technological components of an MDS object. In the majority of the cases, multiple questions are grouped under a single *principle*. Each question covers a specific aspect elucidated by a *principle*. The purpose of the questions is to help the researcher organise the analysis and structure of the research findings. The questions are *encapsulated*. Encapsulation implies that the questionnaire is modular and that each group of questions is self-contained. The modularity of the questionnaire facilitates the division of the analytical work between multiple researchers who are concurrently examining the same new media narratives. While investigating new media narratives, researchers can modify the questionnaire to accommodate their analytical requirements. To do so, they can decide to remove questions and add their own.

If analysts decide to pair the qualitative analysis with a quantitative exploration, they should form an idea of how well-represented a given *principle* is in the story under examination, while answering the questions related to the given *principle*. In this sense, qualitative exploration provides an initial insight into quantitative analysis.

Table 5.1 shows all the questions that make up the questionnaire, grouped

by *categories* and *principles*.

Table 5.1: Questionnaire for the MDS qualitative analysis.

Category	Principle	Question
Interaction	Ludification	What are the narrative/technological devices through which users are rewarded?
		What are the challenges/goals developed for the audience to overcome/reach?
		What kinds of modes of play (e.g., mini-games, riddles) are present in the story?
	Narrative interaction	What narrative/technological mechanisms invite the audience to add their contribution to the story/storyworld?
		How is the audience invited to add their voice to the artefact?
		How has the audience used narrative interaction?

Table 5.1 – *Continued from previous page*

Category	Principle	Question
	Interface	If applicable, what are the commonalities and differences of the multiple narrative interaction strategies offered by the story?
		What are the technical devices/tools in the interface that ask the audience to physically interact with the artefact?
		What are the narrative elements occurring in the story that ask the audience to directly interact with the artefact?
		How are interface elements tied together?
	Agency	In what ways are users asked to advance the story?
	Multisensorial experience	How are the different human senses involved in experiencing the artefact?
		What are the senses stimulated by the artefact?

Table 5.1 – *Continued from previous page*

Category	Principle	Question
Platform	Pervasiveness	What purpose do the sensorial stimuli serve for the narrative components?
		How many platforms are used for conveying the story?
		What are the different platforms and media that are involved in the project
		Does the project extend into both digital and physical spaces? If so, how?
	Technological integration	What are the advanced technologies (e.g., AI, VR) employed in the artefact?
		In what ways do advanced technologies serve the narrative components of the story?
	Social infrastructure	How many spaces for social interaction are present in the project?
		What are the social interaction mechanisms occurring in the artefact?

Table 5.1 – *Continued from previous page*

Category	Principle	Question
	Convergence	What are the technological mechanisms through which the different platforms are tied together?
		What are the narrative mechanisms through which the different platforms are tied together?
		Is the project centred on a story/storyworld that has several extensions/expansions? What are the types of extensions/expansions (e.g., spin-off, prequel)?
		What types of platform/media convey the central story?
		How do the main features/components of each platform contribute to conveying the story?
	Analogue landscape	What kinds of analogue devices are involved in the project?
		What narrative role do analogue devices play in the project?

Table 5.1 – *Continued from previous page*

Category	Principle	Question
Media	Digital landscape	Are the causal relationships between the technological components of a project visible to the user?
		What kinds of digital devices are involved in the project?
		What narrative role do digital devices play in the project?
		If applicable, how are the analogue and digital devices integrated in the project?
	Multimediality	How many different modes of expression (e.g., text, video, audio) are used in the project?
		What are the different narrative functions fulfilled by the different modes?
	Still images	How many different functions do still images serve within the artefact?
		What are the types of functions still images address?

Table 5.1 – *Continued from previous page*

Category	Principle	Question
	Moving images	How many different functions do moving images serve within the artefact?
		What are the types of functions moving images address?
	Effects and animations	How many different functions do effects and animation serve within the artefact?
		What are the types of functions effects and animations address?
	Music	How is music used in the project?
	Sound design	What kind of atmosphere does the sound design set in the project?
		In what ways is sound edited/manipulated?
		What are the emotional effects obtained through sound manipulation?
	Text-based communication	In what ways is text-based communication used?

Table 5.1 – *Continued from previous page*

Category	Principle	Question
Text	Character centrality	What functions do text-based communications perform?
		How many characters are present in the story?
		Who are the lead and supporting characters of the narrative?
		How are physical features of characters presented?
		How are intellectual features of characters presented?
		What is the role of the characters?
		How do characters interact with each other?
	Narrative fragmentation	Are events presented in a non-linear/multilinear way?
		What are the strategies used to present the narrative in a non-linear/multilinear way?

Table 5.1 – *Continued from previous page*

Category	Principle	Question
	Domain hybridis-ation	How are the different branches of the story related to each other?
		What are the main *topics* and *formats* of the story?
		How many *topics* occur in the artefact?
		Do different *topics* overlap? If so, how?
	Adaptation	Does the project contain subjects adapted/remediated/reworked from previous implementations of the story? If so, how?
		Does the project translate a traditional medium into a digital form? If so, how?
	Microcontent	To what extent is the project made up of self-contained pieces of content?
		What ideas/concepts are conveyed through the different narrative micro-content?

Table 5.1 – *Continued from previous page*

Category	Principle	Question
Agents	Customisation	What kinds of media are blended together for conveying the pieces of content which make up the story?
		Does the project provide tools to customise its content?
		How can the audience customise the story?
		Does the project create a tailored experience based on the demographics and behaviours of the user? If so, how?
	Bottom-up production	What kind of tools (e.g., authoring tools, professional software) are used for creating the project?
		What level of expertise is necessary for using the tools and devices involved in the project?
		How skilled is the creator of the project? (e.g., amateur, professional)

Continued on next page

Table 5.1 – *Continued from previous page*

Category	Principle	Question
	Bottom-up distribution	What are the platforms and channels used for distributing the story?
		How many platforms are involved in the distribution of the project?
		Are the platforms used for producing and distributing the project the same?
	Top-down production	What kind of tools (e.g., authoring tools, professional software) are used for creating the project?
		What level of expertise is necessary for using the tools and devices involved in the project?
		How skilled is the creator of the project? (e.g., amateur, professional)
	Top-down distribution	What are the platforms and channels used for distributing the story?
		How many platforms are involved in the distribution of the project?

Table 5.1 – *Continued from previous page*

Category	Principle	Question
	Participative storytelling	Are the platforms used for producing and distributing the project the same?
		Does the project actively involve groups of users in the creation of the story?
		Do authoring tools/platforms used in the project facilitate collaborative practices? How?
		What percentage of the project is produced based on collaborative practices? (e.g. is there a main plot line that users are asked to enrich?)
		What kind of content (e.g., soundtracks, videos) do users create collaborating with each other?
	Community involvement	Is it possible to identify a community of users formed around the project?
		What does the community look like? What are its demographics and psychographics?

Table 5.1 – *Continued from previous page*

Category	Principle	Question
		What are the platforms, channels and physical spaces users rely on to interact with each other?
		Has the community emerged spontaneously? Are there community building strategies put in place by the producers?
	Fan-driven content	How do fans engage with the project?
		Do fans build content around the project such as fanfiction, fan art, wikis, memes and gifs?
	User-generated content	What percentage of the project is made up of original material?
		Have users created UGC based on original material from the project (e.g., memes, gifs)? If so, what?

5.3 Quantitative analysis

The quantitative analytical methodology is based on the Genetic Storytelling Code (GSC) and *storytelling type profile* (Section 3.4.3). After conducting the empirical investigation through the questionnaire the analyst is asked to translate the data obtained into numerical scores. For each *principle*, the analyst should provide a score between 0 and 7 which indicates the relevance of a *principle* for the narrative under examination. Section 3.4.3 details how to arrive at a numerical score for each component of a narrative. Once the scores for all the *principles* have been gathered, the analyst can compile the GSC and perform quantitative comparisons between different MDS artefacts, using the GSC and *storytelling type profile.* I provide a detailed application of the quantitative analytical methodology to 36 case studies in Chapter 6.

After having discussed the qualitative and quantitative analytical methodologies used in the MDS framework, it is important to show a few examples of the different ways in which analysts and creators can use the quantitative and qualitative analytical tools provided by the MDS framework.

5.4 Applications of qualitative and quantitative analyses

This doctoral work started with the question: how are stories told in digital interactive and online environments? (Section 1.1). Now that I have outlined the structure of the framework, which serves for defining the components of new media narratives (Chapter 4), it is worth clarifying the practical value of the methodology I propose. In this section, I intend to answer key questions such as: why is it useful to investigate the narrative and technological structures of DS, IS and TS with the MDS framework? What is that the MDS framework enables researchers and creators to understand specifically? To address these questions, I provide an array of sample research questions, which will allow the reader to familiarise with the types of enquiries that best suit the analytical potential of the MDS framework.

The research questions which can be answered using the framework fall

into the three macro areas (Section 1.6):

- comparative analysis between two to potentially hundreds of MDS objects;

- in-depth descriptive analysis of individual narrative projects;

- analysis of compositional trends across different narrative features over time.

The mixed methodology offered by the MDS framework is useful to carry out studies in all the above-mentioned research areas. The qualitative analysis well suits the descriptive examination of projects, while the quantitative analysis is a valuable resource when processing large datasets of new media stories, either for comparative purposes or for identifying patterns and trends.

The description and categorisation of new media narrative projects is a central application for the mixed methodology offered by the framework. To this respect, the MDS framework provides a convenient methodology that enables researchers to describe in a systematic way highly hybrid projects. In this thesis, I have applied the framework to the description of a set of digital and interactive stories. However, readers can adapt the methodology I propose to more specific and narrow topics. The combined use of the quantitative and qualitative MDS tools can help to clarify and analyse single hybrid projects and polymorphous media formats, which are difficult to categorise, due to their high level of hybridisation between storytelling types. The kinds of questions the mixed method can help to answer in this domain are for instance:

- To what extent does a new media storytelling project display innovative features?

- To which category does a hybrid storytelling project belong to?

- To what extent does a hybrid media format represent a 'new' mode of storytelling?

An example of the polymorphous projects and media formats to which these enquiries can be applied to is *Bandersnatch*. This interactive movie defies traditional categorisation due to its high level of hybridisation of different

media formats. In this case, both the quantitative and the qualitative tools of the MDS framework can help in answering the sample question *to what extent Bandersnatch is an innovative project?*. This interactive film shares narrative and technological features with interactive videos, hypertexts, and gamebooks, as already suggested by scholars who analysed the project (McSweeney and Joy 2019, Roth and Koenitz 2019). The MDS framework helps the analyst in answering the sample question since it allows the descriptive analysis of *Bandersnatch* and the comparison of the project with the three media formats from which the project stems. Through the questionnaire (Section 5.2) the analyst can identify the characteristics of *Bandersnatch*. For comparative purposes, the analyst can select a set of other projects in the domains of interactive videos, hypertexts, and gamebooks, and can systematically analyse the projects by using the same set of *principles* which were previously employed for examining the interactive movie. Finally, the characteristics of *Bandersnatch* can be qualitatively and quantitatively compared with those of the storytelling projects in the aforementioned three domains. In this way, the similarities and the differences between *Bandersnatch* and the other projects can be identified, along with its elements of novelty.

In this case, undertaking both qualitative and quantitative analysis for answering the research question has three major advantages:

- it is possible to analyse different projects in different domains of digital and interactive storytelling by applying the same variables;

- the systematic analysis of the projects employing the same *categories* and *principles* enables the collaboration of groups of analysts for conducting research, and comparing findings;

- the similarities and differences among the projects, as well as their uniquely characterising elements can be quickly identified by using the GSC (Section 3.4.3), which characterises each project after it is quantitatively analysed.

The capability of the framework to quantitatively and qualitatively analyse large datasets can be beneficial for investigating how DS, IS and TS are imple-

mented in different countries. For example, the MDS framework can be used to investigate the research question *how do industries in different countries approach the practice of transmediality?*. This question could, for instance, be the base for a comparative investigation of the types of narrative projects that fall under the industry label TS in the USA and South Korea. This enquiry can be tackled by firstly selecting relevant transmedia practitioners and/or studio in the countries of interest. In this context, a mixed analytical approach can be once again beneficial. The quantitative analysis enables the identification of the similarities and differences among a large number of diegetic experiences, while the qualitative analysis allows the analysts to dive in-depth into the specific narrative and technological features of the projects. The proposed mixed methodology can compound the knowledge on the cross-cultural usage of transmedia techniques, whose foundations have been already laid out by other scholars in the field (Freeman and Proctor 2018, Jenkins 2016), and provide robust and systematic results that can be shared across researchers.

Analysing new media narratives with the MDS framework can help analysts in capturing the creative and narrative potential of interactive and online technologies and new media platforms. Example research questions in this domain that can be beneficially addressed with the proposed analytical methodology are:

- What types of interactivity occurs in a new media narrative project?

- To what extent can non-linearity be applied to new media narrative projects?

- How well does non-linearity work in social media stories?

The qualitative analytical tool of the framework is valuable to derive an in-depth understanding of the creative potential of different narrative components. For example, it can be used to identify the type of interactivity which is employed by story-driven video games. In MDS objects, interactivity is multifactorial. The qualitative analytical device offered by the MDS framework enables the analyst to examine the different components which make up the two-way communication between the audience and the project. Researchers

can investigate interactivity by examining projects over the *interaction* and *text* categories. Specifically, they can study new media narratives by reflecting on the questions I suggest for the principles of *ludification, narrative interaction, interface, agency, character centrality*, and *narrative fragmentation* (Section 5.2). This type of analysis can also be beneficial for practitioners, who can understand how to combine the different elements of interactivity to arrive at a creative output.

Another compositional strategy that can be beneficially investigated with the qualitative analytical device is the use of non-linearity in new media stories. The analysis of narrative projects over the principle *narrative fragmentation* enables analysts, for example, to dive into the specific research question: *to what extent non-linearity can be applied to fictional stories that are delivered through social media platforms like Instagram, Twitter, or YouTube?.* The qualitative analysis of *LBD* in Section 7.4 will provide a sample of the type of examination I suggest here.

The qualitative analysis can also be applied fruitfully for the examination of complex phenomena, such as the study of social media storytelling. An example application in this domain is the analysis of how traditional novels are adapted to social media platforms. As in the case of *LBD* and *The New Adventure of Peter and Wendy*, a considerable number of classic English novels have been ported to social media such as YouTube. This porting opens up a few questions that have been discussed by Handler Miller in her book *Digital Storytelling* (2019):

- Is it possible to construct a story using only social media?

- What kinds of characters can "live" on social media?

The questionnaire provided in the qualitative analytical device of the MDS framework can be used to reflect on these questions, which are central to the study of social media stories.

In this section, I have discussed several applications for the MDS framework. The sample research questions reported are by no means exhaustive of the possible topics that can be tackled with the proposed methodology. How-

ever, they offer a snapshot of the possible applications of the framework and illustrate the topics that researchers are currently debating in the new media narrative space, which could benefit from the adoption of the MDS framework.

A central advantage of the proposed methodology is that it provides a set of analytical coordinates through which analysts can break down the complexity of a hybrid new media story to gain in-depth insights. In other words, the MDS framework offloads the need for analysts to identify a set of parameters and analytical procedures to use, in order to carry out examinations. Therefore, analysts can focus on the content of a hybrid story, without the need to create analytical procedures for each study they undertake. They can use the MDS framework as a starting point, which can be customised for the needs of their investigation.

In this section, while I have listed sample research questions which can be addressed by using the qualitative device, the quantitative analytical method provided by the framework, or both, I did not dive into the different steps that I set up for conducting the analysis of new media narratives. The next section outlines the procedures and guidelines I followed when performing the analysis of the case studies.

5.5 Guidelines for the analysis

The evaluation of storytelling artefacts through the MDS framework comprises three steps i.e., preparation of the sample, the examination of the MDS objects and the analysis of the findings. The pre-requisite for undertaking the overall method is that the purpose of the research is clearly defined. Defining the aims of the research will inform the criteria for selecting the case studies. Determining the fundamental requirements for the entertainment projects to be included in the study is important for ensuring the consistency of the sample.

As previously highlighted, the framework provides an analytical model whose structures, e.g., *principles* and analytical tools i.e., questions and numerical scores, can be customised depending on the purposes of the research. The usage of the framework, as presented in this study, is strongly influenced by my research objectives. In my case, the goal is to map DS, IS and TS. The

implementation of the model I used in this study is built in such a way as to classify and describe interactive and digital narrative objects. I also used the framework on elements which may be ancillary to the core narrative aspects (e.g., top-down/bottom-up production and distribution), in order to test the analytical potential of the framework.

Both the MDS qualitative and quantitative analytical tools are modular and fluid, in that they can be adapted to different goals. *Principles* can be silenced and others can be added. Also, they can be grouped in constructs for addressing the investigation of specific phenomena. In a similar way, inquiry tools can be edited to adapt to the examination. If needed, the scoring system of the quantitative analytical tool can investigate only a few *principles* in depth, leaving the others aside. Questions can be added to the qualitative analysis both inside a *principle* outlined in the current implementation of the MDS framework, or as a part of a custom principle introduced by the analyst.

It is worth stating that it is not the aim of this analytical tool to remove subjectivity from the process of analysis and from the interpretation of the relative findings. Despite the use of a quantitative approach, the role of the researcher remains crucial both in preparing the model and in interpreting the outcomes. Given the subjective nature of the items under examination, it should be understood that different analysts may arrive at different findings, by using the tools provided by the MDS framework. The analyst should tweak the analytical tools - numerical score and list of questions - based on the type of narrative objects and on the research goals. The inner mechanisms of the narrative inquiry that can be conducted through the MDS analysis do not differ in the way mono-media narratives are approached. From the object under examination insights are extracted and findings are obtained that need to be interpreted by the researcher.

This study intends to provide a method that can facilitate the preparation of the analysis, the examination of the narrative project, the interpretation and the communication of the outcomes of the research under a consistent and coherent system. As exemplified throughout the thesis, the hierarchical structure of the framework facilitates the description of fragmented narratives.

The layered approach – through *categories* and *principles* – makes it possible to cover a wide narrative experience by focusing on its discrete units. However, the analysts may have a clearer idea of the areas that can and should potentially be examined to obtain a better understanding of the artefacts under examination. In order to make the interpretation of the research findings more transparent, it is important that researchers detail both the custom implementation of the MDS framework, the criteria employed to arrive at such an implementation, and the goals they set out to achieve in their research.

The next section will bring us to the implementation level, providing an operational guide that outlines how to analyse narrative objects using the MDS analytical tools.

5.6 A step-by-step guide for analysing new media narratives

The analytical instruments previously suggested (Section 5.2 and Section 5.3) can be flexibly used for accommodating different types of research.The analyst can use the qualitative analysis, the quantitative, or both in conjunction. In the section, I am showing the most complete step-by-step analysis that an analyst can perform.

The steps listed below illustrate the general procedures that an analyst should use to examine narrative objects with the MDS framework. For clarity, the steps are grouped into three phases: *preparation*, *examination* and *analysis of the results*. I have used the procedures presented in this section to analyse the case studies (Chapter 6). It is important to highlight that the steps can be adjusted by the analyst to accommodate the research goals and the type of projects under examination.

Preparation
In the preparation phase, the analyst should define the goals of the analysis and select the types and number of case studies to evaluate. The research aims and project types should help the analyst identify the narrative and technological components to consider in the examination. These components will determine

the questions and *principles* to be used in the qualitative and quantitative analyses.

1. *Select and organise the case studies*

   The first step the analyst should take is to define the research objectives as well as the fundamental criteria for selecting the case studies to examine. The analyst should also establish an approximate number of projects to evaluate, from the beginning of the study. This will facilitate the estimation of the duration of the research. A wider sample should be taken into account for studying large phenomena and for conducting examinations that focus on extracting historic narrative trends in new media projects. In this research, I decided to focus on a sample of 36 artefacts. The selection criteria I chose were established as (1) selecting projects with high focus on narrative elements which belong to DS, IS and TS; (2) having an equal number of projects for the three *storytelling types*; (3) selecting projects that are representative of the three time-spans 2000-2005, 2006-2010, and 2011-2015.

   In the case of studies which require a large and varied sample, a significant challenge is to identify and locate projects. Due to the ephemeral nature of digital content, new media narratives with relevant metadata are not always appropriately archived and easily accessible. This is particularly true if the stories under examination were released long before the analysis takes place. In such cases, the academic and non-academic material are both suitable for supporting the selection of the artefacts.

   A selection of resources such as academic journals, databases, festivals and prizes are useful to discover information regarding MDS objects. These resources often provide empirical analyses of the projects. They can also be used as an initial pointer to find other projects. For instance, the article *The Digital Animation of Literary Journalism* (Jacobson, Marino, and Gutsche Jr 2015) mentions projects that are relevant when researching the application of animated and multimedia features in non-fictional content. Relevant material can also be found in books that

172

focus on new media narratives, which often discuss pioneering examples. For instance, the book *Beyond the Screen: Emerging Cinema and Engaging Audiences* (Atkinson 2014a) introduces an array of projects that explore new media formats, and *Fantastic Transmedia* (Harvey 2015) is a useful resource to discover transmedia projects. Online databases which focus on electronic narratives (e.g., ELMCIP) are another resource that can be used to identify MDS objects. At this stage of the inquiry, non-academic resources can compensate for the potential lack of material. Case studies can also be sourced by looking at prizes and festival appearances such as the *Emmy Awards Interactive Media* and the *idfa DOCLAB*[1].

After identifying the projects for the research, general metadata information about the sample can be registered in different fields of a spreadsheet. The structure of the metadata should reflect the goals of the analysis. The data should also be compiled in such a way as to facilitate prompt retrieval of the most significant information the analyst should have access to, in order to carry out the analysis. In the analysis I performed for this study, I extracted the following information from the new media projects: title, source, *storytelling type*, year of publication, author/studio/property, brief plot summary, relevant critical/academic work on the project (if applicable) and general comments (Appendix C).

Logging metadata enables the analyst to obtain an overall understanding of the sample data, which is particularly useful in case any adjustments should be performed to the list of case studies. The ultimate collection of storytelling projects is not necessarily acquired in a single iteration. There are cases in which the dataset needs to be reviewed more than once for obtaining a group of cases which adhere to the research criteria. For instance, the group of projects gathered for the purpose of this thesis was obtained after a number of reviews. Firstly, I selected artefacts ensuring that the same number of DS, IS and TS objects were included in the

---

[1]*idfa DOCLAB* is the *International Documentary Film Festival Amsterdam*. On the related website are stored the interactive documentaries showed during the festival `https://www.doclab.org/category/projects/` [Accessed 28-03-2018].

data sample. From this list, I initially selected 15 case studies on which I conducted an in-depth analysis. After testing the framework on the sample data, I extended the list to 36 projects.

2. *Select categories/principles for the analysis*

   The framework includes structures and analytical tools (e.g., questions) which can be customised depending on the purpose of the research. Both the MDS qualitative and quantitative analytical methodologies are modular and fluid, in that they can be adapted to different goals. Some *principles* can be silenced, while new ones can be added. Also, *principles* can be grouped in constructs for addressing the investigation of specific high-level phenomena such as immersion or user engagement. The scoring process of the quantitative analytical tool can be used to investigate only a subset of the *principles* in-depth. Questions can be added to the qualitative analysis both inside a *principle* outlined in the current implementation of the MDS framework, or as a part of a custom *principle* introduced by the analyst.

   Once the list of projects has been finalised, and the related metadata organised in a spreadsheet, the analytical methodologies should be customised. In this step, the analyst should select the *categories* and *principles* to be considered. These will provide the core characteristics of the diegetic experiences that will be observed and measured during the examination. The analyst can also specify which questions to use in the questionnaire or add their own.

   In case the research requires an expanded implementation of the framework, at this stage, the analyst can re-adjust the MDS' structures, by editing or adding new *principles* and/or questions. New combinations of principles/questions (i.e., *constructs*) can also be created.

   Once the analyst has identified the sample projects and re-defined the structures of the framework to be used in the analysis, it is time to conduct the examination.

Examination

The examination of the artefacts through the MDS framework involves the use of both qualitative and quantitative analysis. As a first step, the analyst should decide whether to focus only on one type of analysis or whether to use a mixed methodology. This choice should be made based on the research goals. For taking advantage of the framework's full potential, the use of the mixed methodology is suggested. While the qualitative analysis provides valuable insights about the content and structures of isolated projects, I believe that the quantitative evaluation is particularly appropriate in cases where storytelling projects are compared with one another, and for capturing historical trends.

1. *Get acquainted with the case studies*

   When approaching the analysis of the case studies, I suggest initially scanning the project by only considering basic information such as the general structure of the diegetic experience in terms of plot and of the media and platforms involved. This stage requires the evaluator to deepen the observation conducted when the spreadsheet was filled during the preparation phase. At this stage, each case study should be examined under the light of the selected *categories* and *principles*.

   When a diegetic experience is analysed with the MDS model, the object is examined repeatedly. It can be argued that having several passes of each project is a repetitive approach that may waste the researcher's time. However, this iterative approach leaves space for the analysts to reflect on how the phenomena that emerge from the artefacts connect to the research aims and to refine their understanding over time.

2. *Respond to the qualitative questions*

   In the second step of the examination phase, the analyst should perform an in-depth observation of each story. This stage is tackled by answering the questions related to the selected *principles* and by deriving the *topic* and *format* of the project. It is worth mentioning that the questions in the questionnaire should not necessarily be answered in the proposed order. The different areas of analysis can be tackled in different order without negatively impacting the research findings. The analyst has the

freedom to find the order that accommodates the needs of the study the best.

3. *Assign scores to the principles*

By the time the artefacts have been qualitatively analysed, the analyst should have formed a fair understanding of the extent to which the *principles* under examination are relevant for the case studies. The qualitative insights can now be quantitatively evaluated by attributing numerical scores to the *principles*.

As explained in (Section 5.3), the significance of the *principles* for each case study can be assigned through four levels, from the lowest, when the principle does not occur (0-1), to the highest (6-7) when the *principle* is highly relevant for the case study. In order to enable the evaluation of the quantitative outcomes, the use of a spreadsheet application is suggested. This tool is important for conducting the arithmetic operations necessary for performing comparative analyses. The case studies can be logged in the rows. The columns can be used to register the scores for the different *principles*. It is possible to use the spreadsheet that I compiled for my case studies (Appendix D) as a reference for how to register the results of the quantitative analysis.

Analysis of the results

After examining the artefacts through the full set of tools provided by the MDS framework, the analyst has two main outputs. The first is a document with the answers to the questionnaire for each case study. The second is a spreadsheet with scores for each *principle* considered for the study, across all projects. The analyst should elaborate on these results to infer qualitative insights, compare case studies and identify trends in the data.

1. *Write up qualitative findings*

In this step, the analyst will reflect on the answers to the questionnaire for each case study. The goal is to produce an in-depth document that elaborates on the questionnaire's results making inferences and connections between different *categories* and *principles* that point in the same

analytical direction. In the case studies I used as pilots for testing the qualitative method, I started from the answers to the questionnaire and elaborated them into extensive critical analyses that focus on the different characteristics that make up the projects (Chapter 7). The ultimate goal of this step is to create a piece of qualitative research guided by the structure of the questionnaire.

2. *Make comparative analyses between two or more cases*

The next step for the analyst is to leverage the quantitative results to draw comparisons between two or more case studies. The samples can be numerically compared across a number of *principles* and *categories*. This will provide at a glance an understanding of the differences and similarities of the projects across multiple narrative components. Different types of analyses can be conducted during this step. As shown in Chapter 7, projects which belong to the same *storytelling type* can be compared. In this way, it is possible to extract the common characteristics which may exist in a specific narrative area or topic. Moreover, insights can be gained into the difference between case studies which pertain to different narrative areas. For instance, motion comics can be compared with examples of interactive fiction.

Following this, the analyst should extract GSC for each of the artefacts under examination and calculate the *storytelling type profile*. The GSC and *storytelling type profile* can be leveraged to form a quantitative understanding of the similarity between new media narratives.

3. *Analyse trends*

In the last step of the analytical process, the researcher should look at the patterns emerging in the sample population. These trends can be measured by looking at the GSC, or at specific values for certain *principles* or constructs. The trends can be identified by filtering the data through different *storytelling types*, *topics*, *formats* or, by looking at the evolution of the projects diachronically. In order to extract these trends, statistical tools like ANOVA should be used. I provide an implementa-

tion of how I have identified trends across the DS, IS and TS *storytelling types* in Chapter 6.

5.7   Summary

This chapter serves as an instructional guide for the analyst who aims to use the MDS framework for supporting their research on storytelling projects. The methodology promoted by this study is grounded in the mixed use of qualitative and quantitative analytical tools. However, analysts can adapt the methodological procedures which I describe in the chapter to the needs of the analysis they aim to conduct. Thus, analysts can opt to use qualitative or quantitative analytical tools individually, or together.

In order to acquire an in-depth understanding of the narrative objects under examination, the analyst can examine case studies using qualitative means. MDS offers a questionnaire that enables the researcher to extrapolate insights for the *categories* and *principles* which make up the MDS framework (Section 5.2). These questions cover different narrative and technological components of a diegetic experience.

Quantitative analysis is used (Section 5.3) in order to capture the relevance of the MDS components – *principles*. By assigning numerical scores to the project under examination, the analyst can gain insights on the extent to which the artefacts rely on the selected *principles*.

The MDS framework can be fruitfully applied to gain an accurate description and categorisation of hybrid storytelling projects. It is also useful to determine the creative potential of interactive and online technologies, and new media platforms (Section 5.4).

Analysis with the MDS framework is conducted over three macro stages, i.e., preparation, examination, and analysis of results (Section 5.6). In the preparation phase, analysts should initially select the case studies by ensuring that the selection criteria are clearly defined based on the research goals. Then, they should customise the *principles* and questions to be used in the analysis. In the examination phase, researchers should perform a first pass of the case studies, getting acquainted with the narrative projects. Then, they should an-

swer the questionnaire and provide numerical scores for the different *principles*. In the final phase, the analyst should write up qualitative findings, perform comparative analysis leveraging the quantitative insights gathered during the examination phase, and identify significant trends in the case studies.

After having outlined how to use the MDS framework to run quantitative and qualitative analyses in a procedural way, in the next two chapters, I address the sample research question *is there any significant change in the different narrative dimensions of new media storytelling projects from 2000 to 2015?*. These chapters show an example study that can be carried out using the proposed methodology. In this analysis, I use the qualitative and quantitative tools in conjunction, in order to demonstrate by example the full potential of the MDS framework.

In Chapter 6 I report the results of the quantitative analysis I performed on the 36 case studies I identified. The chapter also aims to test and evaluate the MDS framework in practice.

Chapter 6

Quantitative analysis of 36 MDS projects

6.1 Overview

This chapter attempts to address an example research question that I chose, in order to demonstrate the type of studies that analysts can carry out with the MDS framework: *is there any significant change in the different narrative dimensions of new media storytelling projects from 2000 to 2015?* The chapter also aims to provide a practical demonstration of the quantitative analytical tool of the MDS framework, while testing and evaluating it.

This chapter documents the application of the quantitative analytical instruments of the MDS framework to a sample of new media narratives. I have tested the MDS framework on a group of 36 case studies (Appendix C). Section 6.2 details the requirements digital and interactive narratives have met to be included in the sample used for this study. I then prepared the sample for quantitative evaluation (Section 6.3). As a first step, I assigned scores to the MDS principles for each of the case studies. Three types of analyses were conducted. In Section 6.4, I analyse how the narrative and technological components (*principles*) of MDS objects have changed over time. Section 6.5 leverages these initial quantitative results to provide a visual comparison of three case studies, through the use of spider charts. This section also demonstrates how future researchers may use the MDS framework to compare and contrast different narrative experiences. Finally, in Section 6.6 I discuss the change that MDS projects have undergone over time, when considering different *storytelling types* (DS, IS, and TS).

6.2 Selection criteria for the 36 case studies

The research strategy employed in this quantitative study is based on the analysis of case studies. According to the aims of the research, I have selected the case studies from fictional and non-fictional DS, IS and TS projects. I selected 36 storytelling projects which exist inside the MDS narrative space. A detailed list of the case studies with metadata and brief summaries is provided in Appendix C. In order to collect the sample, I followed three selection criteria. First, I have considered the publication year. As the second selection criterion, I have considered the *storytelling type* which define the projects. Finally, in case the diegetic experiences were supported by written text or speech, I have selected only anglophone artefacts.

I have selected the projects based on the publication year. This parameter follows the aim of capturing the evolution of the *storytelling types* over time. I have sorted the projects into three time periods: 2000-2005, 2006-2010 and 2011-2015. The three time periods roughly correspond to: the pre-social-media era, the advent of social media, and the widespread adoption of social media. In order to have homogeneity across the sample, I selected the same number of projects (i.e., 12) for each time period. The chosen projects are also equally distributed among the three different *storytelling types*. Furthermore, each time period has the same number of projects for each of the *storytelling types* (i.e., four for DS, four for IS and four for TS).

I identified the *storytelling type* of the artefacts based on the definitions provided by academics, critics and practitioners, as found in the academic and non-academic literature. The initial identification of projects as DS, IS, and TS has not been intended as definitive. I have initially included the artefacts in the study with a label that served as a starting point for identifying the type of objects that populate the three *storytelling types*. It was important to map DS, IS and TS as they are perceived by those who produce and critique such diegetic experiences. The labels reflect the understanding of the different narrative domains as perceived by experts during the different time spans which have been analysed in this study. It is worth highlighting that DS,

IS and TS continuously change over time, along with the understanding that scholars and practitioners form of them. The fact that *storytelling types* are perceived as fluid implies that there may be significant differences in the case studies with the same label, across different time periods. Having an original label for the sample projects is also essential to study the broad characteristics that make up a *storytelling type.*

During the selection process, I have chosen influential new media narratives which are representative of the characteristics of a *storytelling type*, as perceived at the moment of publication. In order to understand which projects adhere to these features, I used supporting materials such as conference proceedings, articles, online databases, critical reviews and prize/festivals reports. These resources shed light on how the projects have been received in the expert discourse, and outline the features and narrative characteristics of the projects. By exploring this material, it emerged that for experts a substantial number of new media narratives did not necessarily fit into a specific *storytelling type.* DS, IS and TS objects are often perceived as hybrid, as I could confirm after conducting interviews with domain experts (Appendix A). A central goal of the quantitative study is to try to measure the polymorphous structure of MDS projects, which often resulted from the combination of the attributes of DS, IS and TS in a single diegetic experience. Given the inherent hybridity of MDS objects, the case studies collected following the selection criteria have been found to be ideal for inquiring the blurred identity of DS, IS and TS.

When I was preparing the sample, I found projects described as fitting different or multiple *storytelling types* depending on the source. In these instances, labelling a project with a single *storytelling type* has been problematic. In order to tackle the issue, I assigned the MDS object to the *storytelling type* that fitted the characteristics of the artefact the best. This process was subjective, since it was based on my understanding of the defining features of DS, IS and TS, as it was at the beginning of the research. In the case of a subjective assignment, I also logged the different *storytelling type* labels I found in the relevant literature, as suggested by domain experts. I address the issue of subjectivity in Section 8.6, where I also provide possible solutions.

The information regarding the hybrid identity of the case studies was useful during the analytical process. At this stage, I compared the *storytelling type profile* calculated for an artefact against the different labels provided by the experts. A case study that illustrates this approach is *LBD* (Section 7.4). In the literature, *LBD* has mainly been described as an example of TS, due to its fragmented storyworld. However, several commentators have attributed to *LBD* relevant features from DS and IS (e.g., Dabek 2017, Jandl 2015). In other words, this online series is highly hybrid and is difficult to define. When deciding the narrative domain label for *LBD*, I have privileged the fact that *LBD* is a first-person narrative transmitted in the form of video. These elements are traditionally major features of DS (Section 1.2.1). For this reason, I labelled *LBD* as DS.

Another constraint employed for selecting the case studies was the language. This selection criterion was only applied in cases where an artefact used textual or speech elements. The strategy was to include in the sample only artefacts using the English language. This parameter has been selected following my knowledge of new media narratives, which is limited to Western countries. The understanding of the phenomena discussed in this study, along with the selection of the case studies is supported by sources that focus on English-based storytelling projects. Another reason to limit sampling to English-based artefacts is that most researchers interested in my study will have the possibility to review the sources and narrative objects directly by themselves. Future analyses, however, could use language as a point of comparison to identify differences across MDS productions published in different countries.

The case studies have been selected to reflect the variance in the population of DS, IS and TS projects. As long as the projects were representative of a given *storytelling type*, or a combination thereof, and significant enough to be influential in the space, I selected them without further constraints. I deemed 'influential', projects which (1) have been mentioned and analysed by researchers in the academic literature; (2) have won awards; (3) have received critical acclaim and audience recognition. Artefacts with different *topics* and

formats have been included in the sample. For the same reason, both fictional and non-fictional projects have also been sampled.

In the next section, I will move from the selection criteria to the methods used for running the quantitative analysis.

6.3 Experimental design

In order to analyse the MDS objects quantitatively, I have translated the insights derived from the qualitative analysis into measurable metrics (Section 5.3). This process has been facilitated by the overall research methodology of the thesis, which merges qualitative investigation with quantitative insight. The MDS framework is based on a hierarchical structure comprised of a comprehensive set of *principles* and *categories*, which I used for analysing the 36 case studies. In the case of the qualitative analysis, I prepared a list of relevant questions for each *principle*. Then I carried out qualitative analysis by responding to the questions of each principle.

In order to provide further insight into the qualitative analysis, I developed a scoring system, which was associated with each principle in the MDS framework. When analysing an MDS artefact across all the *principles*, each principle can be assigned a score. The scoring system - consistent across all *principles* - consists of a scale from 0 to 7, and it is divided into four levels, from the lowest 0-1 when the principle has very little relevance to the highest 6-7 when the principle is highly relevant for the case study. The four levels make it easier to provide an initial score, which is then refined, based on a comparison of the case studies belonging to the same level.

In order to assign the scores, I used an empirical approach. First, I familiarised with a project and read the associated academic literature. Second, I responded to the qualitative questions that are relevant for a principle. Third, I identified a representative level. Finally, I refined the score by choosing a value in the level. A detailed description of this scoring process can be found in Section 5.6.

There are other useful strategies that could be employed to obtain scores. First, it would be possible to determine the scores with dedicated user ques-

tionnaires and interviews. In a second approach, which relies on domain experts, multiple researchers/analysts/practitioners provide scores for a group of projects. The scores can be processed and an average can be calculated, in order to minimise the bias of individual researchers. Even though both approaches would have been particularly valuable to extract scores for the 36 case studies under examination, I decided not to engage with these strategies for research limitations that I discuss in Section 8.6.

For analysing the case studies, I organised the dataset with the scores in a spreadsheet. I logged the scores I assigned for the *principles* in the columns and case studies in the rows. The spreadsheet featuring the scores can be visualised in Appendix D[1]. The projects were organised into three-time periods depending on the year of publication (i.e., 2000-2005, 2006-2010, 2011-2015). I then transferred the dataset into the software program SPSS Statistics for performing ANOVA tests. The ANOVA analyses played a crucial role by facilitating the analysis process and by providing numerical and visual evidence to the previous qualitative analysis of the case studies.

6.4 The trends of MDS principles over time

Each case study has been analysed over the 32 *principles*, and scores have been assigned (Section 5.3), to capture whether *principles* change over time. After that, I imported the obtained scores into SPSS. Consequently, through the ANOVA analysis, it has been established whether there has been any statistically significant difference in the use of a given principle over the three-time periods under examination: 2000-2005, 2006-2010, 2011-2015. A statistically significant difference indicates a change in the relative presence of the use of a principle in a period, compared against the other periods.

Among the 32 *principles* analysed, 12 *principles* were found to have no statistically significant difference over time, and did not show any significant upward/downward trends. The *principles* which do not reveal statistically significant insights are: *technological integration* (*platform* category), *mov-*

---

[1]A version of the spreadsheet that is easier to read can be accessed at `http://tiny.cc/` `2y4zgz` [Accessed 27-11-2019].

ing images, music, text-based communication (*media* category), *character centrality* (*text* category), *bottom-up production, bottom-up distribution, top-down production, top-down distribution customisation, participative storytelling* and *user-generated content*) (*agents* category). The use that creators have made of these *principles* has not significantly changed over time.

The paragraphs below detail the results for the 20 *principles*. These revealed significant changes across time periods. Among the listed *principles*, a few of them are not statistically significant but showed evident trends. The discussion for each principle features a diagram that shows the evolution in the usage of a principle along with a commentary. For the sake of brevity, in the discussion, I will refer to period A (2000-2005) B (2006-2010) and C (2011-2015) (Table 6.1).

Table 6.1: Time period and label.

Time period	Label
2000 - 2005	A
2006 - 2010	B
2011 - 2015	C

Ludification (Section 4.4.1)

An analysis of variance one-way (ANOVA) on *ludification* does not express statistical significance in the development of the *principle* over time ($F_{2,33} = 2.27, p = 0.118$). However, a clear trend emerges in the overall increase of *ludification* between 2000 and 2015 (Figure 6.1).

In order to measure the extent to which *ludification* is significant for a diegetic experience, I analysed the game design elements contained in a project. Specif-
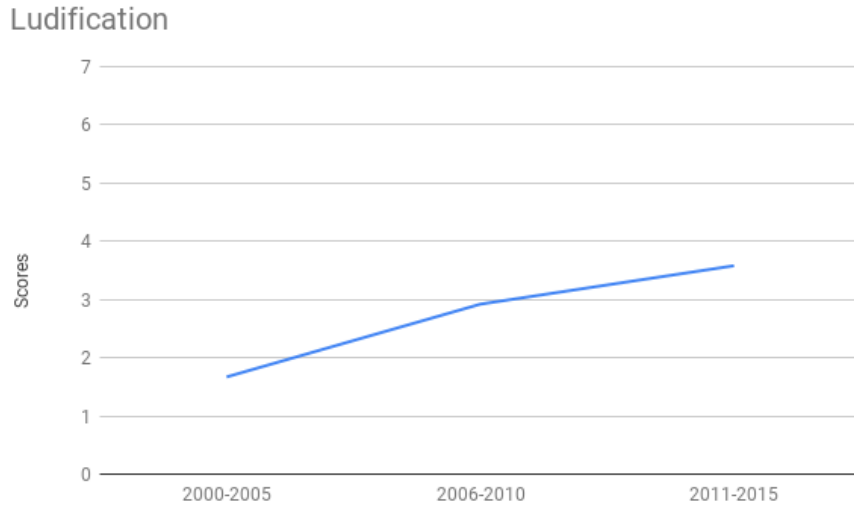
Figure 6.1: Average scores for ludification over time.

ically, the study considered whether an artefact shows elements that foster the challenge-reward mechanism, such as badges, levels, leader boards, and points/scores. In the broader sense, a 'gameful' environment can be created by employing a wide spectrum of techniques (Deterding et al. 2011). For this study, I refer to specific game elements as indicated by Sebastian Deterding et al (2011) in his article, which focuses on 'gameful design'.

As emerged from the analysis, the *principle* is not specific to video games. It is also used by digital and online artefacts initially selected within the TS type. Among the analysed case studies there are examples of video games and of interactive narratives which do not rely heavily on the challenge-reward mechanism, such as *Trauma* (C 3) (Majewski, 2011) (Appendix C), *Dear Esther* (B 2) and *Inanimate Alice: China* (A 3) (Pullinger and Joseph, 2005) (Appendix C). By comparing video games with a low level of *ludification* such as *Dear Esther* with examples of interactive fiction/ergodic literature, such as *Figurski at Findhorn on Acid* (Holeton, 2001) (Appendix C), it is clear that the predominance of the narrative dimension over player agency is one point they have in common.

It is worth pointing out that by comparing the case studies selected in IS for period A with the artefacts of the same type selected for period C, there were only a few interactive storytelling projects similar to the aforementioned hybrid artefacts in the video game field before 2005. When selecting IS projects

for period A, the source that I consulted mentioned several relevant artefacts from that period pertaining to different *storytelling types*. Indeed, I was directed towards narratives delivered through the hypertext format (*Figurski at Findhorn on Acid*, Ensslin 2014), interactive fiction projects (*Inanimate Alice: China*, (Stewart 2010) and video games (*Façade* (Mateas and Stern, 2005) (Appendix C) and *Fahrenheit*). It may be argued that the two video games cannot be grouped together because the *Façade* is an experimental project while *Fahrenheit* is a commercial video game made available for consoles, e.g., Playstation 2 and Xbox and sold in shops. However, in the field of interactive storytelling *Façade* and *Fahrenheit* have been analysed together for illustrating different examples of interactive narratives (e.g., Louchart et al. 2008, E. Aarseth 2012, Roth 2016). Along with Sandy Louchart et al. (2008), Aarseth (2012) and Roth (2012) I believe that despite the apparent differences, the two interactive narratives both exist in the IS domain and for this reason can be used together for unveiling the characteristics of this *storytelling type*.

The IS type for period C is covered by the video games *Trauma*, *Life is Strange*, *Gone Home* (The Fullbright Company, 2013) (Appendix C) and *The Unfinished Swan*. While the stories they deliver differ from each other in terms of narrative and media structures, the game elements of the projects do not exist *per se*, in that the *ludification* principle is functional to support the storytelling dimension of the projects.

The observation on the different distribution of IS in the format of hypertext and video game may be somewhat limited by the subjectivity in the selection of the case studies. The collection of the sample is based on my understanding of the new media narratives over the three-time spans. However, the group of case studies that emerged by applying the aforementioned selection parameters (Section 6.2) confirm the existence of two phenomena in the new media narrative sphere, that have been already illuminated by scholars.

On the one hand, narrative hypertexts have attracted considerable interest by scholars and practitioners between the 1980s and the first years of the 2000s. After that, although examples of hypertext narratives have been developed, the use of the format declined (Mangen and Weel 2015). It is worth

mentioning that in the very recent years, the hypertext format is at the centre of experimental interactive storytelling projects. *Bandersnatch'* creators have used Twine, a software for non-linear stories, for designing the narrative structure of a *Black Mirror* episode (McSweeney and Joy 2019, p. 274).

The decline of hypertext I believe, might be the reason why period B and C are not covered by examples of hypertext fiction. On the other hand, in period C the presence of story-driven video games may reflect the way the video game industries evolved. With the exception of *Life is Strange*, created by an independent studio and published by a triple-A company, the other video games have been developed by indie game firms. This point might be a result of the effort that indie game developers have started to release projects with a stronger narrative dimension. As Keogh (2015) illustrates in the article *Between Triple-A, Indie, Casual, and DIY*, indie studios started to enter the industry from the 2000s onward by tracing alternative paths with respect to triple-A studios. Studios outside the mainstream market have experimented with new narrative models, genres and game design formats in search for novel solutions for supporting their business. I believe that in recent years indie studios reached a certain level of maturity and the use of game elements in the video games of period C might reflect this point. Indeed, during the interview I conducted with the game developer Interviewee-1 (2018) (Appendix A.1), he suggested that the existence of video games which explore non-traditional routes in terms of themes and game mechanics was connected with the audience reception that is more open now towards interactive narratives than they were in the past. As the interviewee puts it:

> Ten years ago, or even there seemed to be a lot more anxiety among players that games like ours [e.g., *The Unfinished Swan*] even existed at all. It was like we were somehow a threat to *Call of Duty* or whatever games that those players liked [...]. Now users just accept that there are a lot of different available games, and they can still play the games that they're interested in.

.

Another aspect that stands out in the analysis is not only the use of *ludification* by TS artefacts but also the growth in the number of TS artefacts which integrate game mechanics. In period A, only half of the analysed TS projects used game elements such as goals, badges, levels, puzzles, clues. By contrast, in period C all the TS projects developed a playful experience by using a number of the aforementioned items and techniques. Furthermore, the *ludification* principle as analysed in TS has increased in terms of relevance and variety. This point can be observed by isolating and comparing how *ludification* was used in period A by *The Beast* (3) and *Perplex City* (4) (Mind Candy, 2005) (Appendix C) and in period C in *America 2049* (6) and in *Dumb Ways to Die* (5). In the latter projects, goal-rewards, clues, and achievements devices were better integrated into the narrative world and more varied than similar *ludification* devices used during period A. This qualitative assessment is justified by the fact that projects in period C are grounded in storyworlds where the different parts are better connected and less fragmented. Technological development has enabled ludic elements to be disseminated through the different narrative units and to feel more entangled inside the overarching diegetic experience.

Narrative interaction (Section 4.4.2)

A one-way (ANOVA) reveals that there has been a statistically significant increase in the use of the *principle* ($F_{2,33} = 11.011, p = 0.000$) between 2000 and 2015 (Figure 6.2).

The analysis reveals that there has been a statistically significant increase in the use of *narrative interaction* over time. Contrary to period A, between 2011 and 2015 IS, DS and TS artefacts are generally developed by allowing the audience to add their voice to digital and interactive artefacts. Live chats and comment sections on social media have been the major means through which the audience has added its spin to what users were watching/reading. In particular, the principle is used by DS and TS artefacts by integrating social media platforms, which were not available in previous time periods, such as YouTube, Facebook, and Twitter within the fictional storyworld. This can be seen, for instance, in *A Calendar of Tales* (Blackberry and Gaiman, 2013)

Narrative interaction
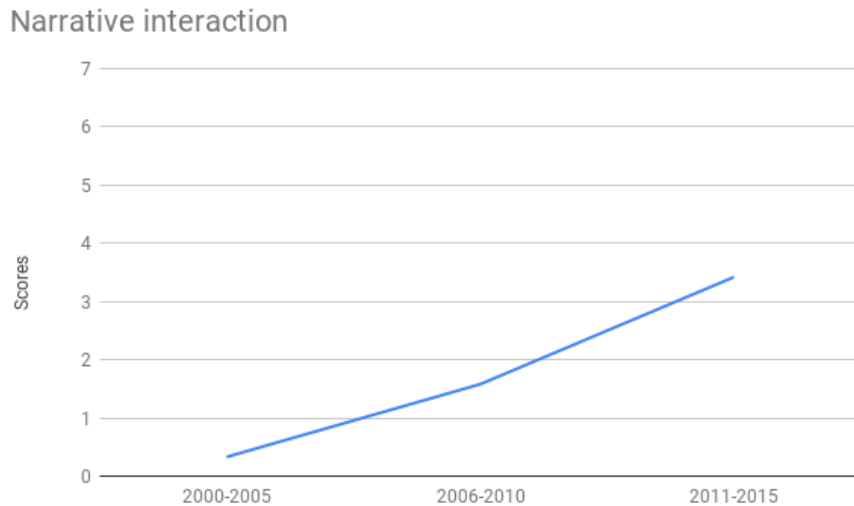
Figure 6.2: Average scores for narrative interaction over time.

(Apendix C) (DS), *LBD* (Section 7.4) (DS), *Dumb Ways to Die* (TS) and *America 2049* (TS).

When the spaces for user intervention are integrated inside the storyworld of the artefact, the *principle* can be used in such a way as to mediate characters' actions and personality as well as events. By using this *principle* as a narrative device, characters are brought to the same level as the audience. This contributes to confusing viewers' perception of the boundary between fiction and reality. This blurred perception in the relationship between fictional characters and the audience can be seen in *lonelygirl15* (DS, B), in *LBD* (DS, C) in *America 2049* (TS, C) and in *Conspiracy for Good* (TS, B). In all these cases, the audience is involved in the development of the fictional/real atmosphere of the digital and interactive object. In the first two cases, the communication between the audience and the characters through YouTube and Twitter comments contributes to the sense of proximity between fiction and reality. The same effect is visible in *America 2049* and *Conspiracy for Good*, which also use the *narrative interaction* principle for reaching and bonding with the community they have built. The blurred line between fiction and reality is also present in ARGs through the 'This Is Not a Game' (TINAG) principle (Szulborski 2005). If followed strictly, TINAG instructs that any producer/player interactions should be kept in-game or within the fiction.

The blurred boundaries of the diegetic experience using social media could

be a plot device which is understood as such by the audience, as in the case of *LBD*, where the audience is conscious that the YouTube videos published by the protagonist are part of the fictional world. Alternatively, *narrative interaction* could contribute to let the audience believe that the fictional world is actually part of real life. In this case, the artefact might be understood as a 'hoax'. An example of this is *lonelygirl15* (Section 2.7). In both cases, being aware of the techniques which foster the phenomena is important. On the one hand, it is useful to recognise the techniques available to practitioners who aim to integrate the mechanism into a diegetic experience and engage the audience. On the other hand, being aware of the potential issue of misleading the audience is key to foster the discussion around the development of ethical new media narratives (Atkinson 2014a, p. 153).

It is worth pointing out that *narrative interaction* is only one among several techniques which contribute to the blurred perception of fictional works. This is not a phenomenon exclusive to contemporary online communication. The broad context of media communication displays effects like those entailed by *narrative interaction*. Atkinson for instance in *Beyond the screen: Emerging Cinema and Engaging Audiences* (2014, p. 142) explains that the audience did not have a clear understanding of the boundaries between reality and fiction during *The War of the Worlds*, the radio drama by Orson Welles which vividly described a fictitious alien invasion.

Finally, while in certain IS artefacts (e.g., *Gone Home*, *The Unfinished Swan*, *Trauma*) the *principle* is not strictly applicable, video game users engage in forms of *narrative interaction* by using social media like Twitch and YouTube to stream gameplay sessions. In this way, viewers experience *narrative interaction* by commenting on the game experience of the player, often in real-time. While watching video game streams, viewers participate with the streamer in the continuous re-definition of the game experience, which results from the interplay between the streamer playing the game and the viewers commenting on the player's decisions and suggesting possible actions. In this sense, a game stream comprises two levels of participation: that of the streamer who interacts first hand with the game, and a meta-level contribution enacted

through the viewers' comments.

Interface (Section 4.4.3)

A one-way (ANOVA) on *interface* does not express statistically significant change over the three period ($F_{2,33} = 6.095, p = 0.006$). However, the *principle* still shows an upward trend over time (Figure 6.3).
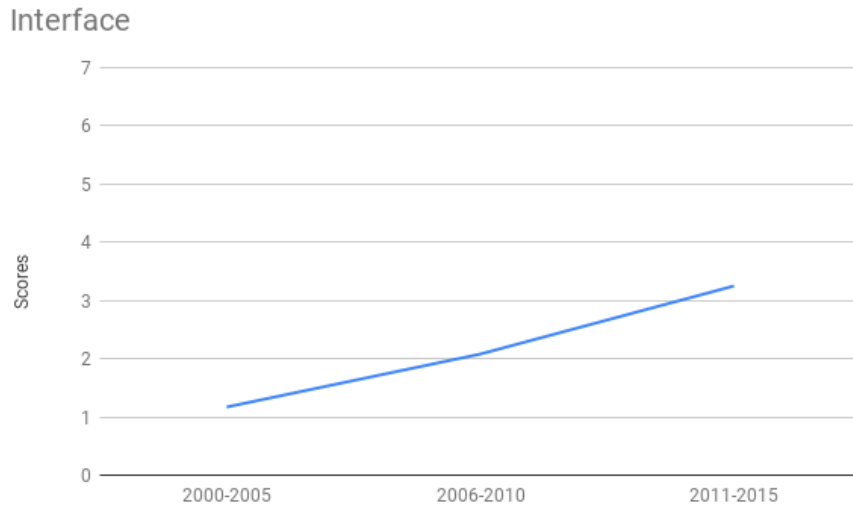
Figure 6.3: Average scores for interface over time.

The most noticeable growth over time in the use of *interface* has been observed in TS projects. This may be the case because in recent years, transmedia campaigns have started to integrate video games. This can be observed in *Dumb Ways to Die* (C) and in *Why So Serious* (B). The *Dumb Ways to Die* campaign, for example, features an educational interactive game with a rich interface. The game has the purpose of raising awareness about safety issues in transportation while engaging the audience.

The *interface* principle is used in IS and TS projects as a way of bringing the audience inside the narrative world. By contrast, DS employs the principle with less variety and as a way of enabling users to progress through the story. This can be observed in DS projects such as *Inanimate Alice: China* (A), *Dim O' Gauble* (B) (Section 7.3), and *Hobo Lobo of Hamelin* (C), where the gestures and commands and buttons are used to navigate the world and to progress the storyline, often in a linear fashion. In these projects, users use mouse clicks to intervene in the diegetic experience. They often advance in the story by

clicking on hyperlinks.

The influence that traditional literary modes have on DS creators may explain the lack of a statistically significant increase in the use of interface components. A new media narrative often integrates media and features which are typical of different domains, e.g., video diaries, interactive games. From the interviews I conducted, it emerged that the design of a new media narrative depends on the areas a creator is familiar with. For instance, as an author, Kate Pullinger highlighted the importance that her interest in writing has on her work (Appendix A.6). Textual communication has been particularly influential in the design of the digital and interactive artefacts she produced, such as *Inanimate Alice* and *Breathe* (Pullinger, 2018) (Appendix C).

It is interesting to notice that there are IS projects where the *interface* principle is used at a minimum as in some cases of DS. For instance, basic commands are only used for exploring the environment and for progressing the story as in *The Unfinished Swan* (IS) and in the webcomic *Hobo Lobo of Hamelin* (DS). From these examples, it is possible to derive that while a rich *interface* plays an important role in engaging the audience, this feature is not always necessary in order to produce new media experiences with a strong narrative.

Agency (Section 4.4.4)

A one-way (ANOVA) on *agency* does not express statistically significant change over the three periods ($F_{2,33} = 1.515, p = 0.235$). However, the average scores for the *principle* increase between 2000 and 2015 (Figure 6.4).

While in period A *agency* was almost exclusively employed by IS projects, in period C several TS projects started to put users at the centre of the story, by enabling them to act upon the story. For instance, in *Why So Serious* and *America 2049* the active role of the audience is required for experiencing the narrative worlds. At the beginning of *Why So Serious*, users must invite other users to delete pixels from an image to discover the disguised content, in order to progress through the story. These cases show that often a high usage of the *agency* principle corresponds to a high level of *ludification*. In this regard, it is possible to suggest that the two *principles* may be related.
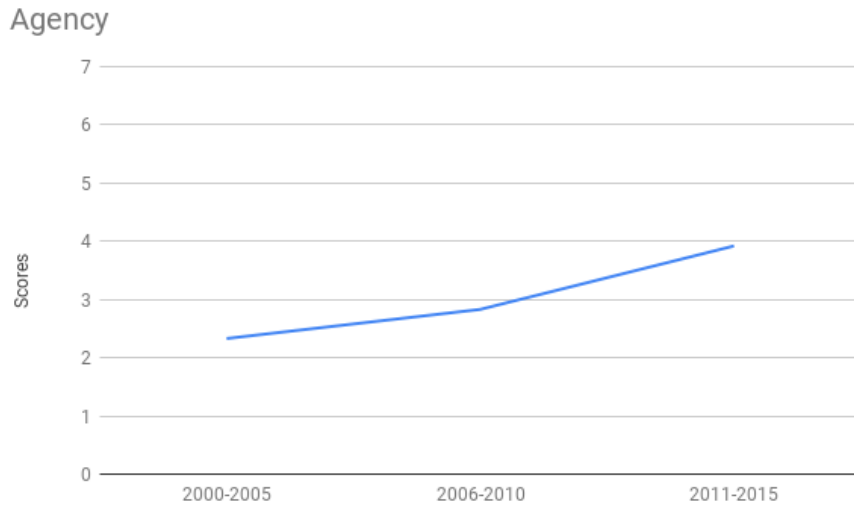
Figure 6.4: Average scores for agency over time.

Multisensorial experience (Section 4.4.5)

A one-way (ANOVA) on *multisensorial experience* reveals that there has been a statistically relevant growth in the use of the *principle* ($F_{2,33} = 4.703, p = 0.016$) between 2000 and 2015 (Figure 6.5).
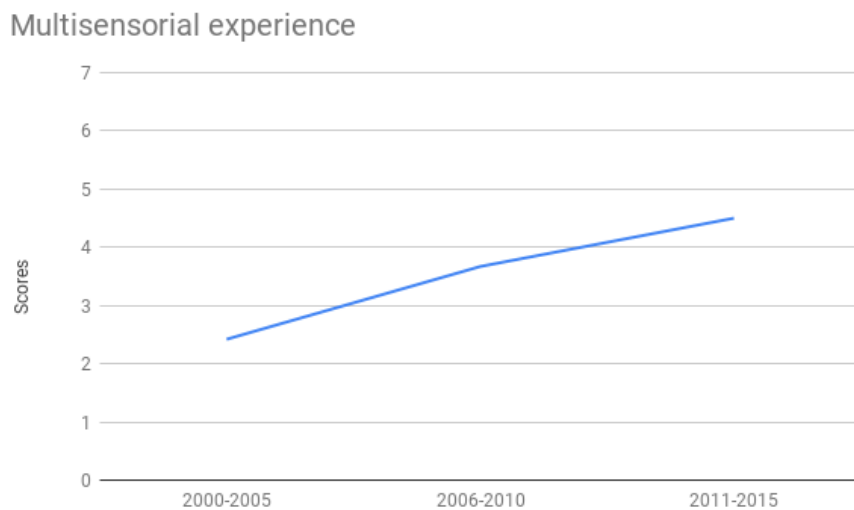
Figure 6.5: Average scores for multisensorial experience over time.

The increase in the usage of *multisensorial experience* from 2000 to 2015 suggests that the design of digital and interactive artefacts is going towards content that stimulates the audience's senses more. The environment in which the audience is immersed in has more variety and/or intensity of sensory input.

While in period A the relevance of the *principle* is observed in a few IS

projects, such as *Inanimate Alice: China* and *Fahrenheit*, in period C there is an overall occurrence of the principle among all the digital and interactive storytelling artefacts.

It can be suggested that, compared to the first years of the 2000s, DS, IS and TS are overall more populated by objects that stimulate users' senses. By involving motion, with a rich *multimedia* and *interface* environment, the *multisensorial experience* principle has recently been used for enabling the physical participation of users within the narrative world. This is the case of VR projects like *Luna* (Funomena, 2017)[2], where the audio-visual content is augmented through the embodied experience of exploring a 3D world using hand gestures and body movements.

The principle has its highest scores in the storytelling projects in which players are called to be mentally and physically engaged by following clues, in order to solve the narrative experience. This is true not only for video games (e.g.,*Life is Strange* (C 6)) but also for TS artefacts such as, *Conspiracy for Good* (B 7), *Why So Serious* (B 6) and *America 2049* (C 7). By contrast, in the online and digital artefacts which are less focused on action and exploration the level of *multisensorial experience* is lower, as can be seen in a number of DS cases such as *Snow Fall* (C 3) (Branch, 2012) (Appendix C), *Hobo Lobo* (C 2) and *LBD* (C 3).

Convergence (Section 4.5.4)

A one-way (ANOVA) on *convergence* depicts a statistically significant increase in the use of the *principle* ($F_{2,33} = 5.850, p = 0.007$) between 2000 and 2015 (Figure 6.6).

The analysis shows that the *convergence* principle was almost not used in period A, probably because the principle is strongly related to the widespread use of social media. Not surprisingly, the principle is prevalent in TS artefacts, which heavily rely on social networks and community participation. The analysis of the case studies reveals that video games manifest a low level of *conver-*

---

[2]*Luna* is a VR game about a bird that attempts to protect the Moon, which is under an ongoing process of fragmentation. In order to piece Moon fragments together, players must solve music and visual puzzles. The official website of *Luna* is available at `https://luna.funomena.com/` [Accessed 1-10-2019].
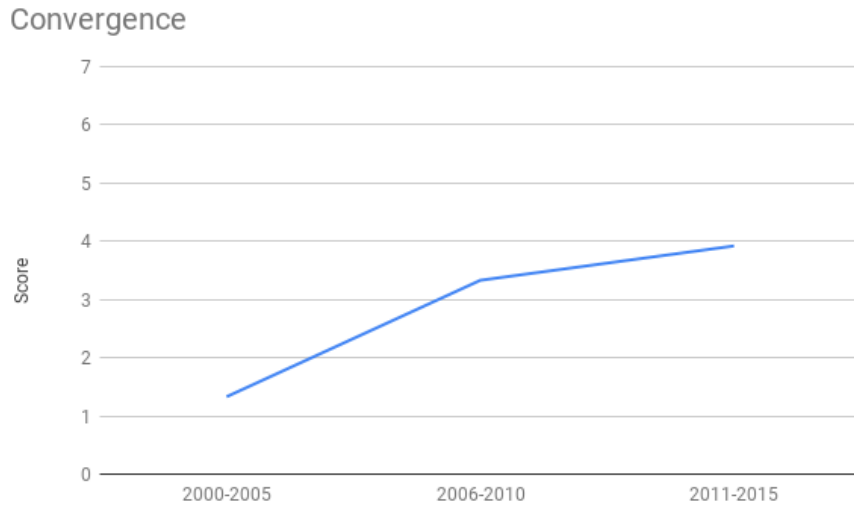
Figure 6.6: Average scores for convergence over time.

gence. This could be because video games creators may focus specifically on game mechanics (see *agency* Section 4.4.4), which already promotes the active role of the player, leaving small room for other types of cognitive involvement.

Pervasiveness (Section 4.5.1)

A one-way (ANOVA) ($F_{2,33} = 6.428, p = 0.004$) shows that there has been a statistically significant increase in the use of the *pervasiveness* between 2000 and 2015.
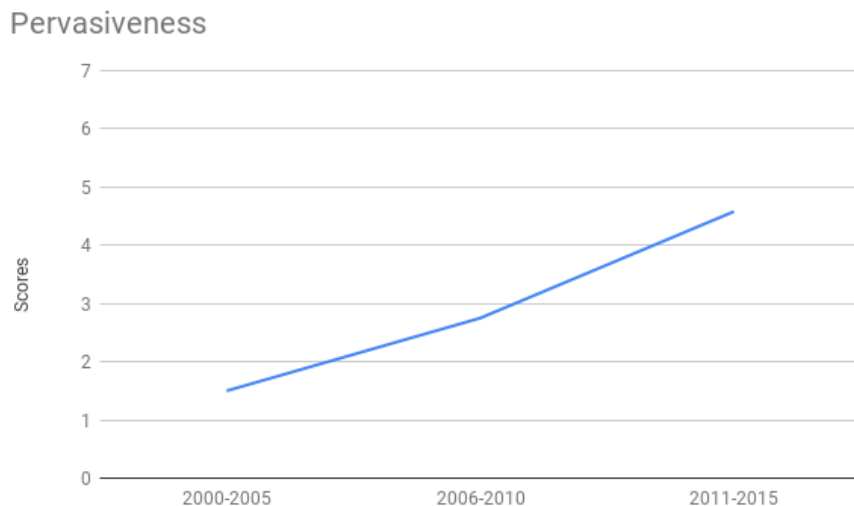
Figure 6.7: Average scores for pervasiveness over time.

As explained when outlining the characteristics of *pervasiveness*, the *princi-*

ple measures the degree to which a project involves multiple platforms. The *pervasiveness* principle is less relevant for a new media narrative when one or few platforms deliver the project. Conversely, when the diegetic experience involves several different platforms *pervasiveness* is assigned higher scores.

As can be seen in period A (Figure 6.7) the relevance of *pervasiveness* is low across all the analysed case studies. Among the case studies examined for period A, the only exception is *The Beast* (TS) to which the *principle* is relevant (4).

However, the analysis reveals that there has been a statistically significant increase in the use of the *principle* over time. Several factors may explain the growth of *pervasiveness*. Technological advances of desktop and mobile devices have fostered the use of social media and increased the number of digital platforms, which creators can simultaneously employ to build their storyworlds. At the same time, the rise of mobile devices worldwide has provided more channels people use to consume digital experiences, and increased the demand for such multi-channel experiences. In his guidebook for creating transmedia storytelling projects, Pratten highlights how the use of multiple platforms can be beneficial for bringing the narrative universe into the digital space that is inhabited by the audience:

> we tell stories across multiple platforms because no single media satisfies our curiosity and no single platform our lifestyle [...] Telling stories across multiple platforms allows content that's right-sized, right-timed and right-placed to form a larger, more profitable, cohesive and rewarding experience. (Pratten 2011)

Different types of platforms and social media attract different types of audiences e.g., age, gender, topics of interest. For designing multi-channel storyworld, creators can select the platforms that best address their target audience and the characteristics of the diegetic experience.

The growing availability of media and platforms enriches the toolbox of creators who work on multi-channel narratives. However, selecting the platforms that support a diegetic experience should come after defining the story with its key elements such as the objective, the premise, and the characters. This point

emerged during my interview with the transmedia practitioner Pratten who talks about the importance of building the platform structure of a diegetic experience as a support of the story and not vice-versa (2018) (Appendix A.5). By doing so, creators can design a journey for the audience in which each medium has a specific function in the overarching narrative that is coherent with its objective, characters and events.

When *pervasiveness* is analysed in combination with *convergence* (Section 6.4), it prompts reflection around three main points: (1) the number of platforms which are used for supporting the diegetic experience across digital and physical space; (2) whether the platforms are used for enriching the diegetic experience with new narrative contents; or (3) if the same piece of information is replicated on different platforms.

New media narratives in period A are those that show lower figures for the two *principles.* In this period, even the projects that rely on diverse platforms, show a weak connection between the different units of the storyworld. Cases in point are the projects that are transmitted by traditional media as a primary source and that use other platforms as ancillary resources, as in the case of *Freakylinks.com* (A) (Hale, 2000–2001) (Appendix C).

Freakylinks.com is a website created in 2000 as a promotional device for the eponymous Fox TV show. While the website and the TV show both link to the same diegetic experience, the narrative connection between them was not clear. Indeed, a temporal gap of 11 months elapsed between when the website was launched, and the show aired (Dena 2009, p. 165). Also, creators published the website as a standalone piece of content. Its release was announced with the motto "witness something freaky from the creators of the *Blair Witch*, its a website with a life all its own" (Dena 2009, p. 165). The detached perception the audience had of the website, and the TV show is also supported by the fact that when *Freakylinks.com* was launched it was not entirely evident for the audience that the project was fictitious (Castonguay 2004, p. 78). It could be argued that not knowing whether the website was a product of fiction sparked interest in the audience and contributed to increasing its level of engagement with the project.

Artefacts that employ *pervasiveness* and *convergence* with higher relevance can be found in period B and in period C. The following examples show different instances in the combined application of the two *principles*.

Dexter Early Cuts (B) (Showtime, 2009–2010) (Appendix C) can be taken as an example of projects that belong to a broader storyworld in which each piece is meaningfully connected to the others, but they still work as standalone narratives. *Dexter Early Cuts* is an online series created as a spin-off of the TV show *Dexter*. The series focuses on Dexter's life during his teenage years and is recounted in the form of an animated comic. *Dexter Early Cuts* is only one instance of a wider storyworld which is made of both digital content, e.g., video game and analogue products, e.g., book and print comic book. Although the number of platforms that transmit the narrative experience is significant, they work independently in terms of technological and narrative linkage. The media which articulate the diegetic experience – book, comic, game, online and TV contents – are not strongly tied together and only in some cases produced overall story advancements. For this reason, the audience is not driven to experience the entire array of transmedia content. This can be observed by considering the TV and online series. While the site that hosts the web videos links to the related crime drama, the TV series and its online extension can either be experienced together or in isolation. For the *Dexter* storyworld, having standalone transmedia content was an effective design decision. Different pieces of content catered to different audience preferences. Arguably, not everyone in the audience wanted to deep dive and explore all the available content.

Pervasiveness and *convergence* can participate in narrative experiences that are split into fragments that belong to a wide and layered storyworld (Jenkins 2006a). In this case, the audience should experience all the single fragments scattered across multiple platforms in order to follow the storyline. In other words, each of the fragments of the artefact tells a fundamental piece of the story that should not be ignored to comprehend the narrative arc fully. For instance, in *LBD* (C) the story of the Bennet sisters is covered by different YouTube channels and other social media accounts because each character has

a personal online presence, as I will detail in Section 7.4. This design approach works because the full story is attainable. Arguably, the audience is curious to discover the different pieces of the story told by different angles.

It is interesting to notice that the *pervasiveness* principle is not strongly involved in the analysed video games. The results show that while the availability of the same video game on more than one device has grown, the video game *format* is strongly connected to a single platform, which contains the overall storyworld in an almost exclusive way. However, over the years, platforms such as Steam and social media that focus on digital gaming like Twitch enabled players to access socially opened and connected platforms. For instance, players engage with the narrative world of *Life is Strange* (C) on traditional devices and computing systems, e.g., Xbox, Playstation, Microsoft Windows and iOS as well as on online platforms like Steam and Twitch, where the audience can explore the game as a community. This behaviour was absent in older IS projects such as *Fahrenheit* (A).

Social infrastructure (Section 4.5.3)
A one-way (ANOVA) ($F_{2,33} = 16.479, p = 0.000$) indicates a relevant growth in the use of the *principle* between 2000 and 2015.
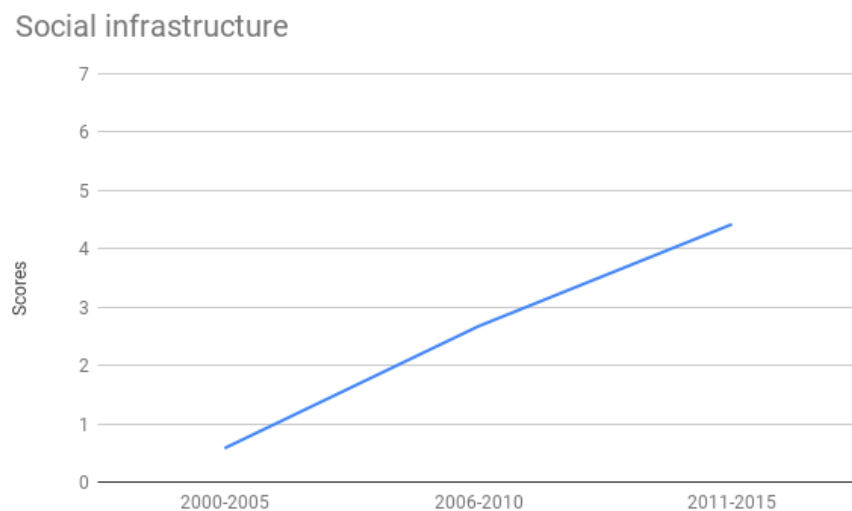
Figure 6.8: Average scores for social infrastructure over time.

As shown in Figure 6.8, there was a significant increase in *social infrastructure* over time. Not surprisingly, in period A no *social infrastructure* was present

compared to period B and C.

This is easily explained by the fact that social media were not widespread in period A. Along with the expansion of social media such as YouTube, Instagram, and Facebook during periods B and C, it increased the presence of social infrastructures in MDS projects over time. However, the fact that *social infrastructure* is not a prevalent trait of new media narratives in early 2000 is not an indication that online projects created before the social media era did not attempt to accommodate sociability and feedback collection. There were both online infrastructures devoted to IS and TS properties, such as the *Usenet* boards devoted to the US TV series *Twin Peaks* and the role-playing game webrings, and pre-digital infrastructures for connecting, communicating with and soliciting feedback from audiences as mailing lists. However, the level of integration and accessibility of these social infrastructures is arguably lower than that found in new media narratives from 2005 onwards, which rely on fully-featured social media networks. It may be argued that the recurring presence of social infrastructures in these narratives indicates that social aspects are fundamental components of new media experiences.

Analogue landscape and *digital landscape* (Section 4.5.5)

Analogue landscape – A one-way (ANOVA) on *analogue landscape* shows a statistically significant increase in the use of the *principle* ($F_{2,33} = 4.064, p = 0.026$) between 2000 and 2015 (Figure 6.9).

Digital landscape – A one-way (ANOVA) on *digital landscape* illustrates that there has been a statistically significant growth in the use of the *principle* ($F_{2,33} = 4.064, p = 0.026$) between 2000 and 2015 (Figure 6.10).

In this study, *analogue landscape* was often analysed together with *digital landscape*. The *principles* aim to investigate whether it is a common practice for new media narratives to combine media and communication modes that are typical of the digital environment with elements that pertain to the physical space and traditional media.

From the data, it is not possible to state whether *analogue landscape* is typical of one specific *storytelling type*. In the three periods, *analogue landscape* can be found with high scores and low scores independently of whether the
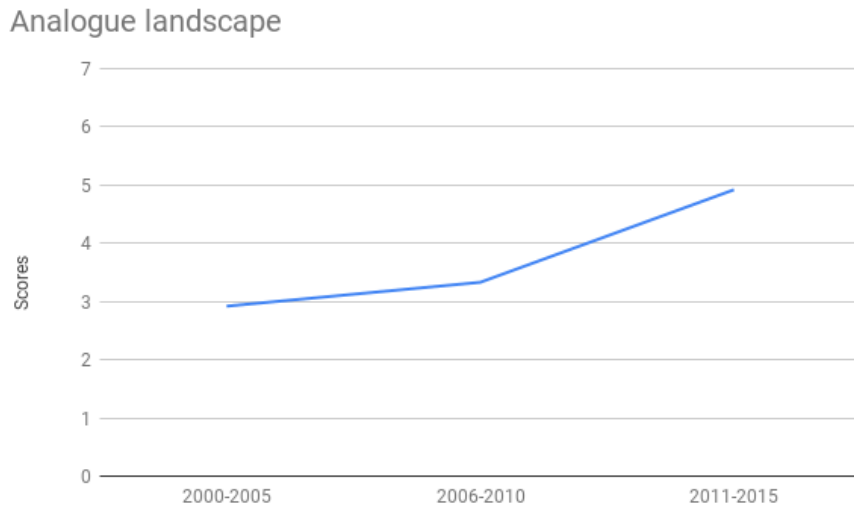
Figure 6.9: Average scores for analogue landscape over time
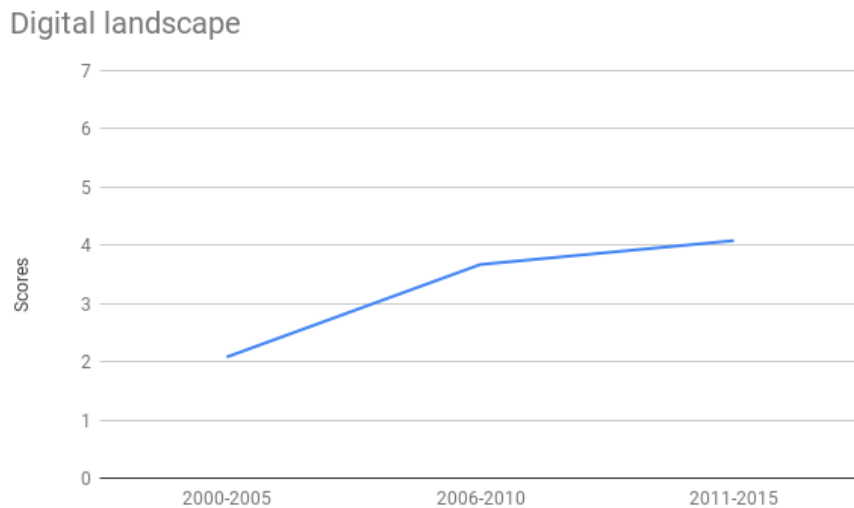
Figure 6.10: Average scores for digital landscape over time.

principle is examined for DS, IS or TS projects. However, it is apparent from the analysis that overall *analogue landscape* has higher scores in TS, both in period A, B, and C. Indeed, for seven TS projects out of twelve the *principle* obtained a score of five. This data might be connected to the integration of the physical domain in numerous transmedia diegetic experiences, especially in ARGs.

Case studies in period C are made up of multiple modes of expression that are so consistently integrated that the attention of the audience is on the unique narrative world and not so much on its fragmented segments. Between

period B and C, for almost half of the case studies the overall picture of the multimodal narrative system is so integrated into the story that its structure is barely visible e.g., *LBD* (DS C 6)[3], *Why So Serious* (TS B 6) *America 2049* (TS C 7), *The Unfinished Swan* (IS C 5). Digital and interactive projects that have lower scores for *digital landscape* seem to mirror more traditional narratives and media e.g., newspaper, television, cinema, book as for example *Capture Wales* (DS A 0) (Section 7.2), *Like Stars in a Clear Night Sky* (IS B 0), *Snow Fall* (DS C 1).

Two reasons may explain why the *digital landscape* principle is less used in period A. First, the technological means/devices used to convey complex narratives in the early 2000s were less advanced than in later periods. Second, creators in the early 2000s were relatively new to digital devices and therefore superimposed traditional narrative models in the digital and interactive domains. This phenomenon often happens when new technologies are born, which transform the way people communicate (D. J. Bolter and Grusin 1999).

Multimediality (Section 4.6.1)

A one-way (ANOVA) on *multimediality* reveals that there has been a statistically significant rise in the use of the *principle* ($F_{2,33} = 10.299, p = 0.000$) between 2000 and 2015 (Figure 6.11).
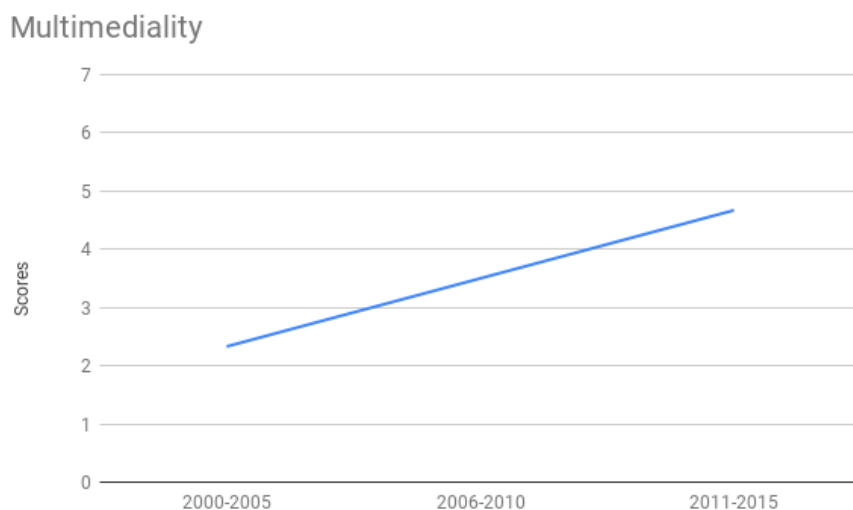
Figure 6.11: Average scores for multimediality over time.

---

[3]The outline of the scoring system I have employed in this section is in Table 3.1.

As shown by the quantitative analysis, the use of the *multimediality* principle has statistically increased over time along with its subsets, i.e. *still images, effects and animation* and *sound design.*

Still images – A one-way (ANOVA) on *still images* shows that there has been a statistically significant increase in the use of the *principle* ($F_{2,33} = 8.275, p = 0.001$) between 2000 and 2015.

Figure 6.12: Average scores for still images over time.

Effects and animation – A one-way (ANOVA) on *effects and animation* depicts a statistically significant growth in the use of the *principle* ($F_{2,33} = 4.183, p = 0.024$) between 2000 and 2015 (Figure 6.13).

Sound design – A one-way (ANOVA) on *sound design* reveals that there has been a statistically significant increase in the use of the *principle* ($F_{2,33} = 5.544, p = 0.008$) between 2000 and 2015 (Figure 6.14).

Not surprisingly, the use of multimedia elements in online content grew from 2000 to 2015. The analysis of *multimediality* is particularly interesting for those case studies whose *topics* and *formats* belong to traditional media. In particular, the journalistic article *Snow Fall* (DS C), the online comics *Hobo Lobo of Hamelin* (DS C) and *Zombified* (TS C) (CableTv, 2013) (Appendix C) use multimedia features to accomplish descriptive and explanatory functions in higher capacity than their traditional counterparts, which focus on similar narrative *formats.* Even though the three projects differ in their *topics,*
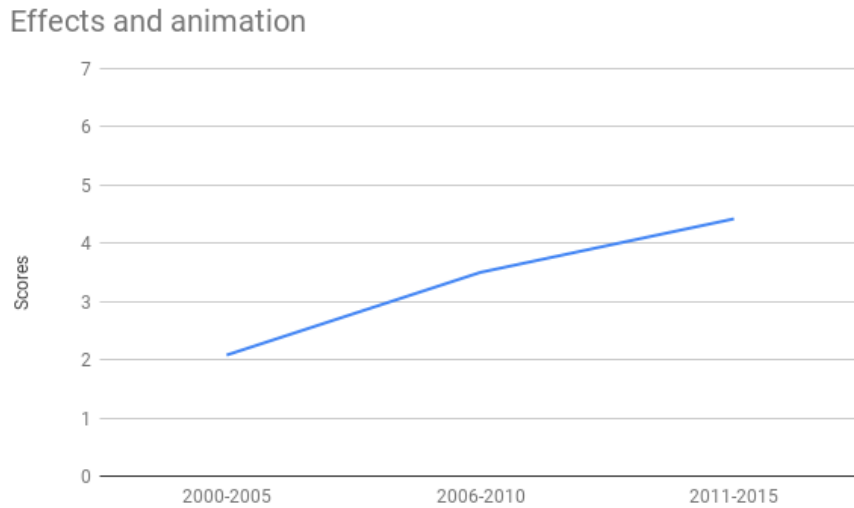
Figure 6.13: Average scores for effects and animation over time.
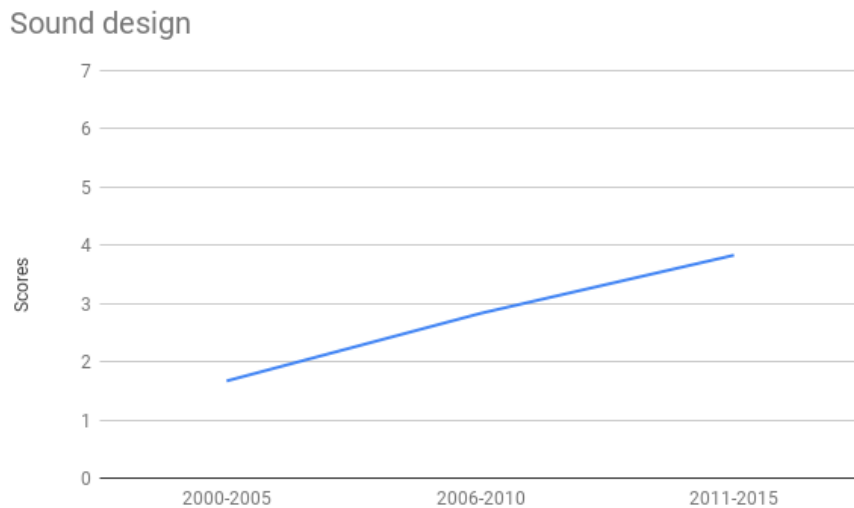
Figure 6.14: Average scores for sound design over time.

they rely on a similar engaging narrative environment for attracting the audience, which is enriched with the use of audiovisual components and interactive elements.

I believe that the increase of *multimediality* over time, with its micro-units i.e., *still images* (Section 4.6.2), *effects and animation* (Section 4.6.3) and *sound design* (Section 4.6.4), signals that story-based content is increasingly hybrid. Media communication strategies have always implied a certain level of multimediality. Legacy media have traditionally implied a degree of hybridity. Visual and textual elements have been used together in print books. Liter-

ary products for children often incorporate audio components. Also, comic books are a hybrid form of storytelling since they often rely on both textual and visual elements (Chute and DeKoven 2006, Meskin 2009). However, while with traditional media it is possible to predict the set of media components that one specific medium can support, this point is less obvious with new media. For instance, while effects and animation can be textually and visually represented, these features do not usually participate in analogue content.

The rise of digital and online technology lowers the barriers to the multimedia enrichment of narrative content. Online journalistic articles, motion books, and digital comics – webcomics, game comics and VR comics – are only a few examples of the plethora of communication formats which are highly hybrid in terms of media components.

Narrative fragmentation (Section 4.7.2)

A one-way (ANOVA) on *narrative fragmentation* does not show a statistically significant increase in the use of the *principle* ($F_{2,33} = 1.612, p = 0.215$). However, a trend emerges in the overall increase of the *principle* between 2000 and 2015 (Figure 6.15).
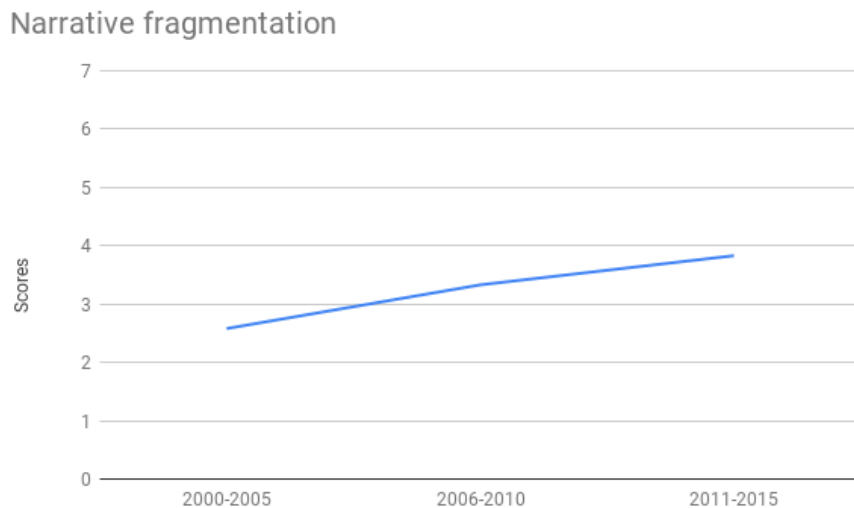
Figure 6.15: Average scores for narrative fragmentation over time.

Ever since period A, the analysed projects use multiple entry points, endings and narrative pathways that sometimes change based on the user's interaction. The *narrative fragmentation* principle relies on all the nonlinear elements

grounded in online and digital technologies, which were partially present and used by users and professionals alike, already between 2000 and 2005. The projects representative of period A that are based on a nonlinear/multilinear structure are: *Figurski at Findhorn on Acid* (IS A 4), *Façade* (IS A 5), *The Beast* (TS A 4).

The *principle* is strictly connected to the difficulty of balancing two contrasting elements: the freedom of users in playing the narrative world, and the control of the creator over the narrative mechanisms. Limited creator control tends to translate into poor story design, narrative dynamics, and themes. The more fragmented the narrative, the harder it is to control for the creator. It is interesting to notice that when moving from period A towards period C, the issue of balancing control over the plotline and nonlinearity has expanded beyond IS to affect TS and DS projects. A possible explanation for this is that TS and DS projects currently rely more on fragmented and layered storyworlds than in previous periods.

Domain hybridisation (Section 4.7.3)

A one-way (ANOVA) on *domain hybridisation* does not depict a statistically significant growth in the use of the *principle* ($F_{2,33} = 2.873, p = 0.071$). However, a trend is observed in the overall increase of the *principle* between 2000 and 2015 (Figure 6.16).
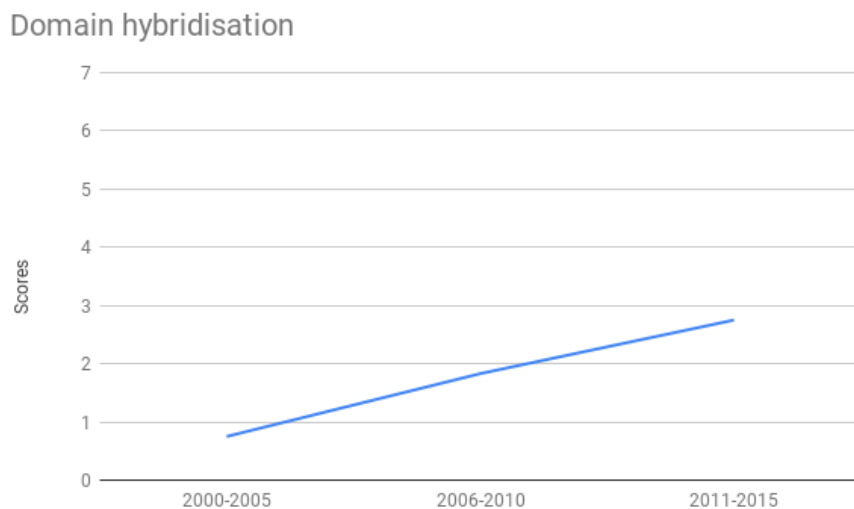
Figure 6.16: Average scores for domain hybridisation over time.

Digital and online projects tend to have a hybrid nature that combines elements of entertainment with education, news and other categories once belonging to high culture. In the book *Interactive Digital Narrative: History, Theory and Practice*, this feature has also been noted by Koenitz et al., who observe the existence of projects that address political and news topics by merging approaches and communication techniques from the domains of "news gaming, serious gaming and documentaries" (2015, p. 155).

Domain hybridisation has been widely observed among the selected case studies. For example, *Dumb Ways to Die* (IS C) promotes a *topic* related to railway safety through animated cartoon characters, who communicate with the audience in a non-realistic style. *Conspiracy for Good* (TS B) uses transmedia techniques for bringing about social change through active public participation in both real-life and virtual operations. In the world of *Why So Serious* (TS B), the audience is called to engage with mechanisms of political campaigning while experiencing the fictional world of the movie *The Dark Knight*.

As explained in Section 4.7.3 – overall – the use of *domain hybridisation* affects the audience reception of MDS objects. At times, the principle contributes to deliver serious topics playfully, as in *Dumb Ways to Die*. *Domain hybridisation* can also contribute to making the line between fiction and reality blurred, as happens in *America 2049* and *Conspiracy for Good*.

Furthermore, the use of *domain hybridisation* can add intertextual elements to an earlier narrative experience as observed in *LBD* (DS C) and in *The Path* (IS C). In the first case, narrative events and characters of the web series partially overlap with those of the novel *Pride and Prejudice*. Similarly, the video game *The Path* brings elements from the fairy tale *Little Red Riding Hood* into the surreal/dark atmosphere of the video game. In both cases, the creation of links with the traditional version of the story might influence the audience's reception of the digital and interactive artefacts. With *LBD*, this happens by attracting fans of the traditional version. In *The Path*, this is achieved by enhancing the surreal mood of the video game.

Adaptation (Section 4.7.4)

A one-way (ANOVA) on *adaptation* shows a statistically significant increment in the use of the *principle* ($F_{2,33} = 3.260, p = 0.051$) between 2000 and 2015 (Figure 6.17).
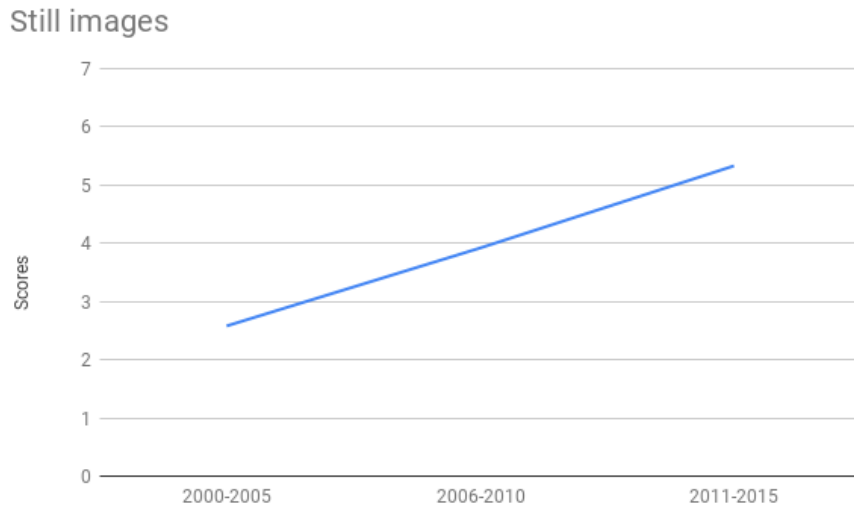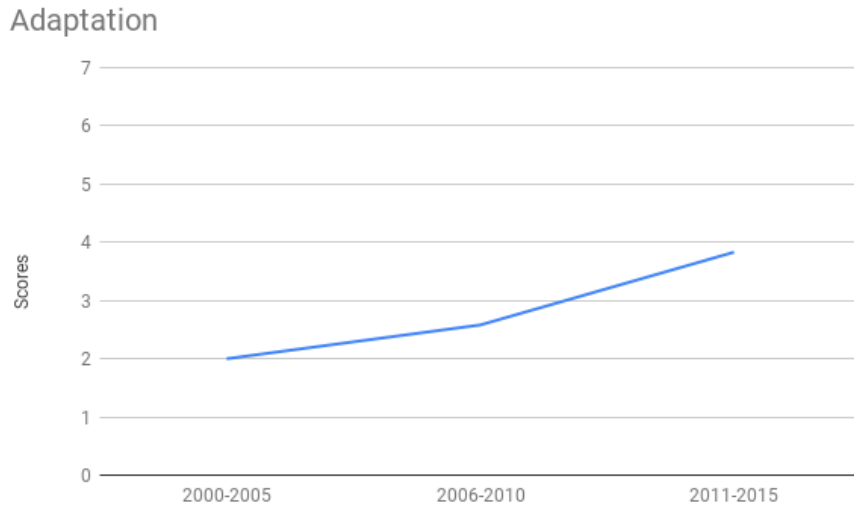

Figure 6.17: Average scores for adaptation over time.

The most significant element that emerges from the analysis of *adaptation* is the use of traditional media narrative techniques in digital and interactive artefacts. YouTube stories, as well as webcomics and video games, increase the use of episodic narrative and cinematic elements such as angles, camera movements, sound and editing. Among others, *Hobo Lobo of Hamelin* (DS C), *LBD* (DS C) and *Life is Strange* (IS C) exemplify the creation of the storylines through episodes.

Other interesting examples of *adaptation* are *Fahrenheit* (IS A) and *Dear Esther*, in which the use of cinematic techniques fosters the emotional participation of the audience in the story.

Microcontent (Section 4.7.5)

A one-way (ANOVA) on *microcontent* illustrates the statistically significant increase in the use of the *principle* ($F_{2,33} = 6.086, p = 0.006$) between 2000 and 2015 (Figure 6.18).

From the quantitative analysis, it emerges that even though there is an overall increase of *microcontent* over time, there is no particular difference in the extent to which DS, IS and TS projects make use of it. This point might
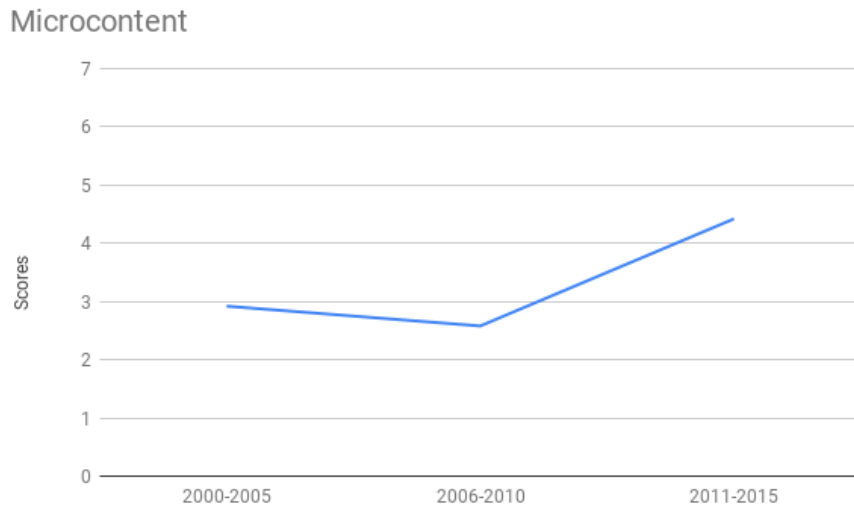
Figure 6.18: Average scores for microcontent over time.

confirm the initial assumption of this study in considering MDS objects as multifaceted units made of a combination of independent entities. Overall, the analysed case studies employ multimedia narratives, where textual and audio-visual elements often are micro-units that can be extracted and re-assembled for creating new narrative objects. In this sense, the growth of *microcontent* might be placed in the context of the increased tendency towards building storytelling experiences as layered narrative worlds entangled together.

Community involvement (Section 4.8.3)

A one-way (ANOVA) on *community involvement* does not reveal a statistically significant change in the use of the *principle* ($F_{2,33} = 1.394, p = 0.262$). However, a clear trend emerges in the overall increase of the *principle* between 2000 and 2015 (Figure 6.19).

Community involvement is one of the factors that contribute to transforming groups of users interested in an MDS object into fans/followers. To compute the scores to attribute to *community involvement* for a project, I specifically focused on the type of relationship the audience established with the diegetic experience as single members and as a group. In this regard, I analysed the *social infrastructure* of an artefact, by considering as metrics the number of likes, dislikes, subscribers, and comments it received. I read and examined the comments on the social platforms related to the MDS objects,
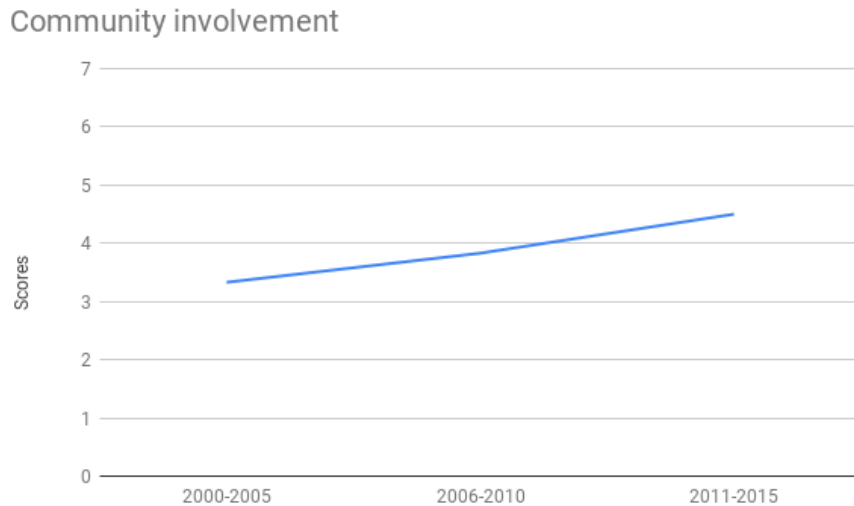
Figure 6.19: Average scores for community involvement over time.

for gaining overall insights about the reception of the artefact, including cases where the new media narrative was natively on social media. In instances where the project did not integrate social media platform at the core of its structure, I considered other sources such as official and unofficial social media pages dedicated to the project, forums, academic and non-academic material about the reception of the project.

Given that the case studies analysed are mainly digital and interactive, the audience's interest in *topics* and the narrative experience was channelled into online communities of users. For this reason, the majority of the case studies show forms of *community involvement* such as writing fan-fiction and compiling user-made wikis.

The case studies in period C are those in which *community involvement* is not only a side effect of the digital and online facet of the project, but it is intentionally used for developing the artefacts' storyworld. This is evident in a number of projects such as *A Calendar of Tales* (DS 6), *LBD* (DS 7), *America 2049* (TS C 6) and *Life is Strange* (IS 6). In *A Calendar of Tales*, for example, the community was directly asked by the creators to send drawings based on the tales written by the author, which would then be posted on Twitter. *America 2049* is fully based on the active participation of its users. The players are asked to impersonate the role of agents whose mission is to find the terrorist Ken Asaba. In doing so, the ARG promotes the discussion

on human rights that the participants engage with on Facebook.

The increase in the capacity of communities to become involved in MDS artefacts over time likely reflects the increased participation of people in online communities fostered, over the last decade, by the spreading of social media. However, the fact that scores are relatively high from the earliest time period may be an indication that *community involvement* is a key element of the works analysed.

It is also worth noting that scoring *community involvement* for projects analysed several years after the release date is challenging. For projects which have not been extensively covered by critics and researchers, information regarding community activity is particularly difficult to access and assess. This issue may have had a substantial effect on scoring of *community involvement* for the narratives in period A.

Fan-driven content (Section 4.8.4)

A one-way (ANOVA) on *fan-driven content* does not show statistical significance in the development of the *principle* over time ($F_{2,33} = 3.032, p = 0.062$). However, a clear trend emerges in the increase of the *principle* between 2000 and 2015 (Figure 6.20).
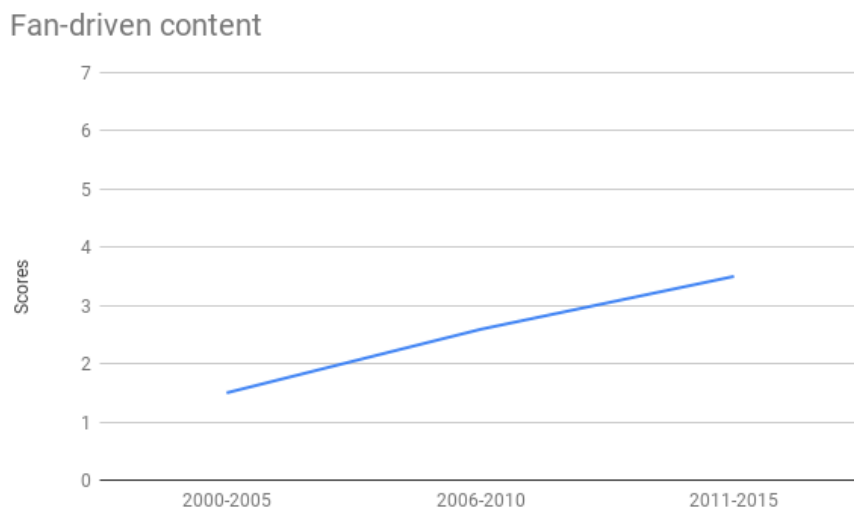
Figure 6.20: Average scores for fan-driven content over time.

Fan-driven content measures a narrow set of activities that fans can engage with. The focus of the *principle* is on content that fans can create either

by re-working elements of the original storyworld, or by elaborating on the project material and producing instructional content on the related narrative. Examples of these types of fan activities are fan fictions, wikis, gifs and mods (in the case of story-based games). To quantitatively measure the *principle*, I considered the volume of such creative productions and the vicinity of these re-workings to the original project.

The analysis of the case studies reveals that *fan-driven content* is developed by an engaged and strongly committed audience. This seems to happen when the artefacts are digitally native and characterised by strong plots and characters the audience can emotionally connect with. These projects also have channels which enable the audience to actively interact either with the storyworld or with the creators, e.g., *LBD* (DS C 7), *Life is Strange* (IS C 7), *Dumb Ways to Die* (TS C 7). When these elements are overlooked, the relevance of the *principle* is low, as can be seen in *Hobo Lobo* (DS C 1), *Conspiracy for Good* (TS C 3), *America 2049* (TS C 1).

The observed linkage between *fan-driven content* and *character centrality* confirms what has been already covered in the transmedia domain. Fictional characters seem to be a crucial factor for stimulating the interest and the consequent activity of fans (Scolari et al. 2009, Gray, Sandvoss, and Harrington 2017). Indeed, content made by fans might be used as a powerful device for promoting a diegetic project. The use of characters as a device that stimulates audience activity can be employed independently by the field and media domain in which a story is delivered, as has been shown by the different case studies mentioned above, i.e., *LBD*, *Life is Strange* and *Dumb Ways to Die*.

When isolating case studies of IS, it emerges that *fan-driven content* for story-based video games of period C plays a larger role than in earlier periods. With regards to indie story-based games, it was observed that the video game industry seems to focus more on the game mechanics and on the product itself than on managing the relationship with the community of fans (Appendix A.1). However, forms of *fan-driven content* have emerged on social media platforms like Twitch and YouTube, independently from the promotion and distribution of the game publishing companies.

These claims on *fan-driven content* do not aim to restrict its existence to the online domain. Forms of fan labour can be found in the gaming culture throughout its history. As can be observed in the case of *Doom*, the modding phenomenon was an important component of PC gaming already in the 1990s (Sotamaa 2003). However, with the advent of social media networks and online authoring tools, it has become easier for fans to organise in communities, and to produce and share fan-driven content more effectively.

This quantitative analysis revealed that 20 out of the 32 MDS *principles* show a statistically significant difference in their scores over the three examined time periods. Table 6.2 provides a summary of the *principles* with the results. All the *principles* with significant results show upward trends of the scores moving from period A to C. This implies that the new media experiences analysed in this thesis have become more hybridised and leveraged the different narrative and technological components to a fuller extent over time.

Table 6.2: List that specifies whether *principles* show a statistically significant change over time, or at least a visible trend.

Category	Principle	Changes over time?
Interaction	Ludification	Yes
	Narrative interaction	Yes
	Interface	Yes
	Agency	Yes
	Multisensorial experience	Yes

Table 6.2 – *Continued from previous page*

Category	Principle	Changes over time?
Platform	Pervasiveness	Yes
	Technological integration	No
	Social infrastructure	Yes
	Convergence	Yes
	Analogue landscape	Yes
	Digital landscape	Yes
Media	Multimediality	Yes
	Still images	Yes
	Moving images	No
	Effects and animations	Yes
	Music	No
	Sound design	Yes
	Text-based communication	No

Table 6.2 – *Continued from previous page*

Category	Principle	Changes over time?
Text	Character centrality	No
	Narrative fragmentation	Yes
	Domain hybridisation	Yes
	Adaptation	Yes
	Microcontent	Yes
	Customisation	No
Agents	Bottom-up production	No
	Bottom-up distribution	No
	Top-down production	No
	Top-down distribution	No
	Participative storytelling	No
	Community involvement	Yes
	Fan-driven content	Yes

Table 6.2 – *Continued from previous page*

Category	Principle	Changes over time?
	User-generated content	No

6.5 Quantitative comparison of three sample case studies

As part of the quantitative analysis, I compared the scores associated with three DS case studies, namely, *Capture Wales*, *Dim O' Gauble* and *LBD*. These are the same projects I have used to perform qualitative analyses in Chapter 7. The criteria used to select these narratives will be detailed in Chapter 7. In this quantitative analysis, I focused on the characteristics of the three DS projects in relation to the different *categories* and *principles*.

The projects belong each to a different time period I have considered for the case studies. Specifically, *Capture Wales* is from period A, *Dim O' Gauble* from period B and *LBD* belongs to period C. In order to compare the case studies, I provide a spider chart visualisation of the scores of the *principles* associated with each MDS *category*. Figure 6.21 summarises the different *principles* grouped under the different MDS *categories*.

I have created a spider chart for each *category*. This visualisation is a useful tool that has enabled me to make *category*-driven comparisons between different projects quickly. In each chart, the three case studies are represented together with a score for each *principle* belonging to a *category*. The scores of the case studies for each principle can be found in Table 6.4. *Principles* are used as parameters for evaluating the extent to which each of the five *categories* participates in the DS artefacts under examination. The colour coding for each case study helps to compare and contrast the artefacts over their distinct characteristics visually.
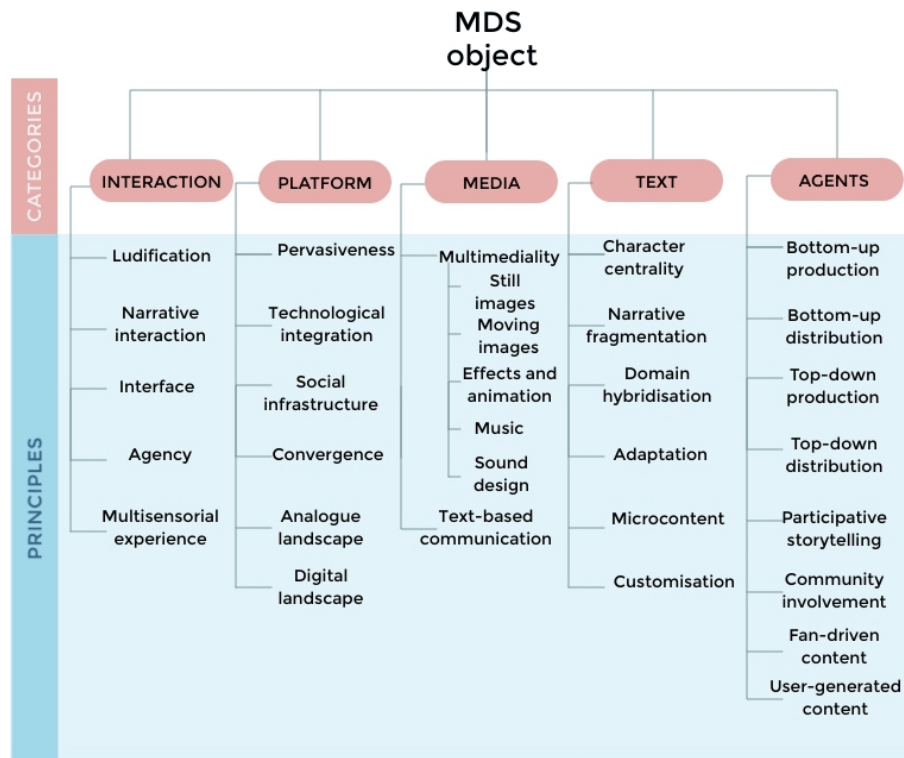
Figure 6.21: *Categories* and *principles* of the MDS framework.

Analysis of the case studies over the interaction category

Figure 6.22 presents the intercorrelations among the five components of *inter-action* for the three case studies.

Overall, *interaction* is not particularly well represented in any of the three case studies. In *LBD*, the two-way communication between the audience and the content is better supported than in *Dim O' Gauble* and in *Capture Wales*. In comparison, *Capture Wales* is the project with the lowest combined scores in the *category*. Specifically, the project does not show any relevant participation in *interaction*.

Narrative interaction marks the most significant difference between *LBD* and the other two projects. While in *LBD* a space for user intervention in the diegetic experience exists (*narrative interaction* = 5), there is no opportunity for the user to interact with the storyline in either *Dim O' Gauble* and *Capture Wales* (*narrative interaction* = 0).

Another point that stands out in the chart is that *ludification* is the *princi-ple* with lowest scores over the entire group of case studies. As observed from the analysis of digital and interactive artefacts, *ludification* is usually employed
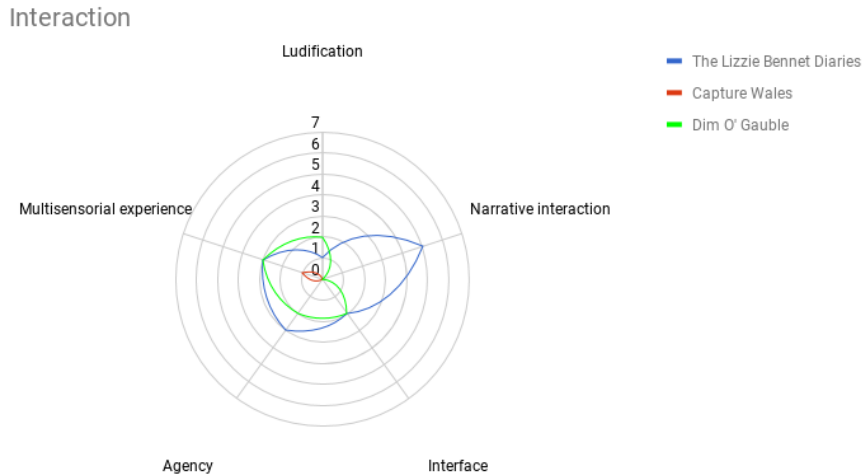
Figure 6.22: Visualisation of the scores of the principles associated to the *interaction* category.

by projects that highly depend on user interaction. For this reason, it is not surprising that these DS projects do not show any usage of this *principle*.

Analysis of the case studies over the platform category

Figure 6.23 compares the case studies over the six *principles* of *platform*.
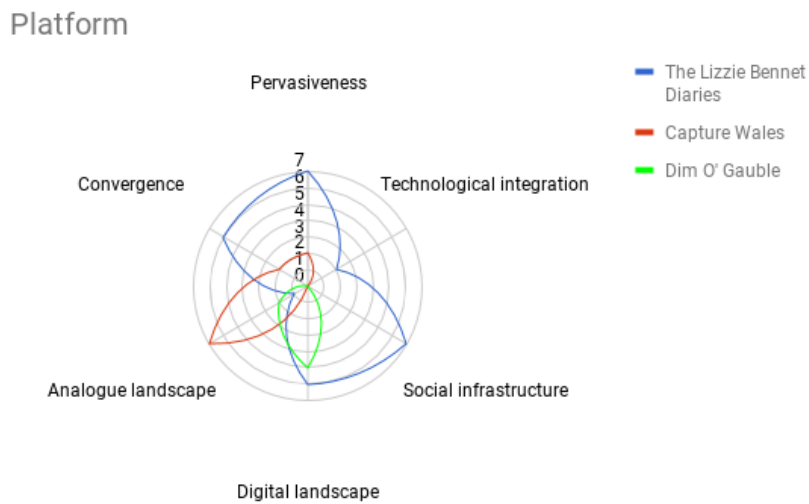
Figure 6.23: Visualisation of the scores of the principles associated to the *platform* category.

The most interesting insight that emerged from the spider chart pertains to three *principles*, namely, *analogue landscape*, *digital landscape* and *social infrastructure*. *Capture Wales* shows a high score for *analogue landscape*. As

will be further explained in Section 7.2, this project, which emerge from a collective creative and production effort, strongly relies on *analogue landscape* such as television and workshops that the participants attended in real-life to create the autobiographical stories which *Capture Wales* is based on. By contrast, analogue media and physical spaces are not employed in the narrative universe of *LBD*.

LBD and *Dim O' Gauble* both make large use of the *digital landscape*. The users cannot understand the structure of these two projects unless they follow the linkage system, which merges the different story units across digital platforms. Both *Dim O' Gauble* and *LBD* are organised in narrative units which the users are asked to follow for experiencing the story.

As expected, the graph shows that both *Dim O' Gauble* and *Capture Wales* have low scores in *social infrastructure*. These two case studies belong to period A and period B, respectively; a time during which social media technology was not so widespread as in period C.

Analysis of the case studies over the media category

Figure 6.24 provides the results obtained by comparing the three case studies against the *principles* belonging to *media*.
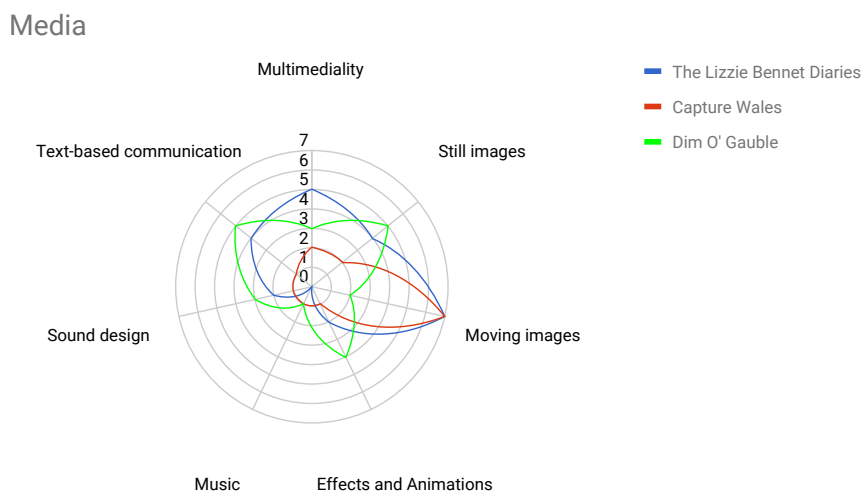
Figure 6.24: Visualisation of the scores of the principles associated to the *media* category.

It is apparent from this chart that the multimedia system of *Capture Wales*,

Dim O' Gauble and *LBD* relies mainly on visual elements, and that *music* and *sound design* components are underrepresented. Both *Capture Wales* and *LBD* have the same scores for *moving images*. Indeed, both the projects are delivered through videos. As will be detailed in Chapter 7, these two DS projects employ the video format for conveying personal stories.

Finally, *text-based communication* has similar relevance in *Dim O' Gauble* and *LBD*. The style of the textual elements that are used by the former project participates in the literary dimension. By contrast, written text in *LBD* mostly consists of the conversations fictional characters hold on social media.

Analysis of the case studies over the text category

Figure 6.25 compares *Capture Wales*, *Dim O' Gauble* and *LBD* over *text*.
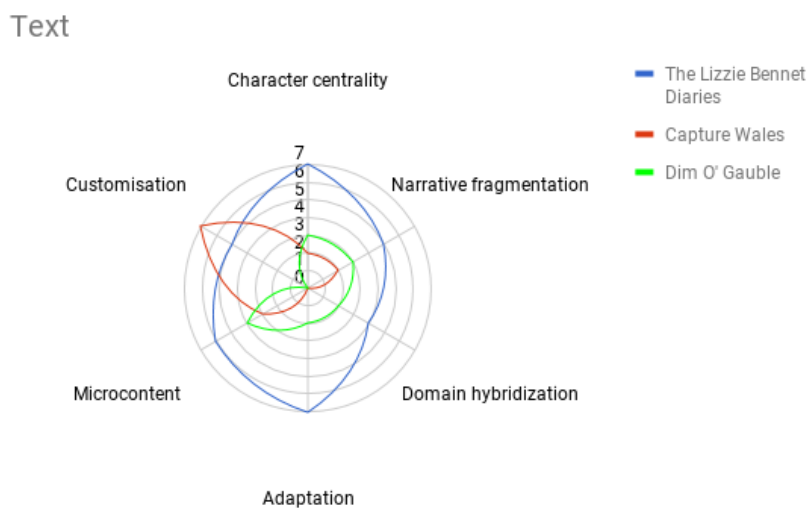
Figure 6.25: Visualisation of the scores of the principles associated to the *text* category.

The most significant insight that emerges from the chart is that *LBD* has overall higher scores over the *principles* of *text*. Among the six *principles*, *customisation* is the only component over which *LBD* shows lower scores against *Capture Wales*. While *LBD* employs customisation techniques sparingly, the digital stories of *Capture Wales* are especially dependant on *customisation*. *Customisation* has no relevance for *Dim O' Gauble*. This *principle* is usually well represented in projects that require the active involvement of users with the diegetic experience (Section 4.7.6). While the BBC project promotes forms

of audience participation, this component does not exist in *Dim O' Gauble*. The asymmetry over the *customisation* principle explains a fundamental difference in the narrative of the two projects. *Capture Wales* has a narrative that emerges from a constellation of individual user-generated stories. Conversely, *Dim O' Gauble* presents a centralised story, controlled by the producers.

Analysis of the case studies over the agents category

In Figure 6.26, the scores for the seven *principles* which participate in *agents* are provided in relation to the three DS projects.
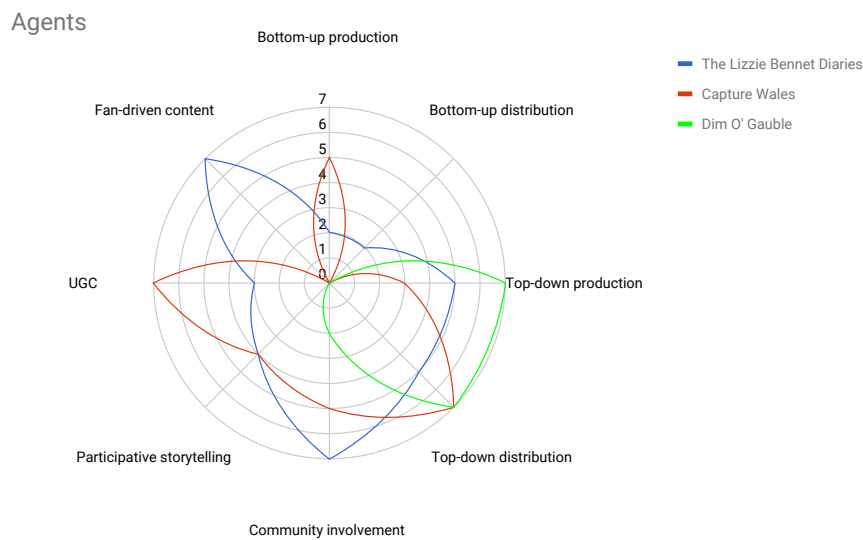
Figure 6.26: Visualisation of the scores of the principles associated to agents category

From the spider chart, it emerges that all projects obtained higher scores in *top-down production* and in *top-down distribution* than in the respective bottom-up paradigms. This can be explained because all projects depend on a hierarchical organisation, for the creation and distribution of their content.

Capture Wales and *LBD* are also interesting cases in participative creation. In particular, *Capture Wales* relies heavily on *user-generated content*, while *LBD* on *fan-driven content*. As already observed, the BBC project is the result of the creative productions of its participants. *LBD* inspired its audience in engaging with the production of material that is based on the diegetic experience. In the case of *LBD*, the creative work is performed by fans while the contents for *Capture Wales* are produced by an audience, who do not

identify themselves as fans. This nuanced difference may be the result of the different aims of the two DS projects. *LBD* had the ultimate goal of conveying a fictional story to its audience, whilst the BBC project played the social function of aggregating communities around a common theme.

Analysis of engagement construct

The scores associated with the *principles* can also be used for quantifying other concepts. Indeed, within the MDS framework, it is possible to build *constructs* that span multiple *principles*. In order to build a construct, it is possible to aggregate together groups of related *principles*, similarly to how *categories* are put together. The researcher can examine the scores of the principles belonging to a custom construct to understand the behaviour of an artefact across the construct.

This application of the MDS framework has been tested on the construct of 'engagement'. Specifically, in order to build the engagement construct the following *principles* have been grouped together: *ludification, narrative interaction, interface, agency, character centrality, fan-driven content, participative storytelling*. After that *Capture Wales, Dim O' Gauble* and *LBD* have been compared over the scores related to the *principles* and the visualisation of the data has been provided.

This analysis was inspired by the article *A Design Approach to Transmedia Projects* (Gambarato 2018). In this work, Gambarato suggests a list of questions (2018, p. 406) for measuring the level of engagement of transmedia projects. By looking at the questionnaire, similarities emerged with the *principles* of the MDS framework, through which I had already measured the different *categories*. From the full list of questions, I selected those I believe can be directly mapped onto some of the MDS *principles*. The *principles* and the relative scores have been associated with the Gambarato's questions. The final result was the engagement construct, which I used to measure and compare the engagement level of the three DS projects. In Table 6.3, it is possible to see the questions elaborated by Gambarato mapped onto the MDS *principles*.

Table 6.3: Gambarato's questions (2017, p. 406) for measuring engagement mapped onto MDS principles.

Questions	MDS principles
What role do audiences play in this project?	agency, interface
What are the mechanisms of interaction in this project?	ludification, narrative interaction, interface, agency
Is there any participation involved in the project?	narrative interaction, participative storytelling
Is there user-generated content (UGC) related to the story (parodies, recaps, mashups, fan communities, etc.)?	fan-driven content
Does the project offer audiences the possibility of immersion into the storyworld?	character centrality

While the mapping of Gambarato's questions onto MDS *principles* is partially driven by subjective parameters, I found clear points of connection between the two frameworks. However, there are a few limitations in the mapping. Employing *character centrality* as the only parameter that evaluates the question *does the project offer audiences the possibility of immersion into the storyworld?* (Gambarato 2018, p. 406) might seem limited. Indeed, the concept of immersion has been at the centre of multiple, at times, conflicting,

interpretations. Immersion has been understood as a mechanism that includes multiple factors which are variously recognised depending on the research field (Thon 2008, Ryan 2015). However, as already explained in Section 4.3, fictional characters have been identified as a dominant contributor for obtaining a deep involvement of users with a story-based project. For this reason, I believe *character centrality* is instrumental for answering Gambarato's question, at least in an initial attempt at elaborating on the analytical system provided by the scholar. This test aims to support the scholar's questionnaire. My contribution should be considered as an experiment that should be further refined in the future.
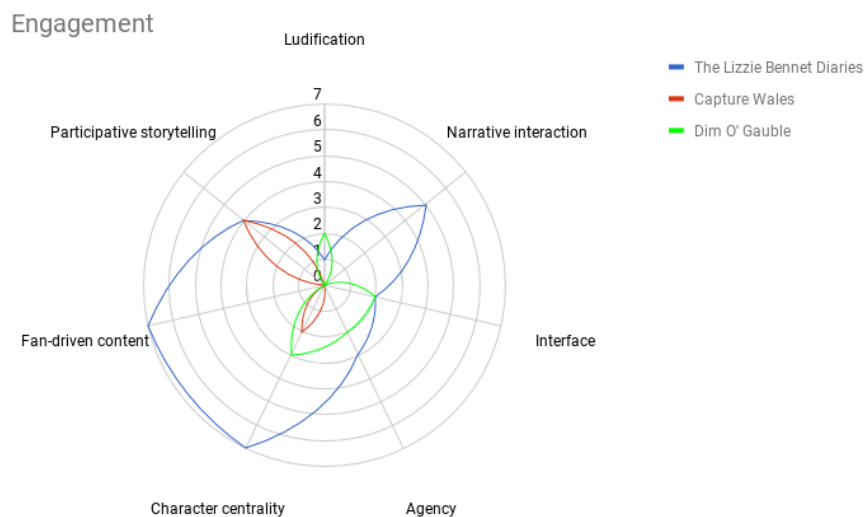
Figure 6.27: Visualisation of engagement with the related principles for *Capture Wales*, *Dim O' Gauble* and *LBD*.

As is shown by Figure 6.27, *LBD* is the project with the overall higher scores in each of the *principles* that have been used for measuring engagement, as intended by Gambarato. It is interesting to notice that the areas identified by Gambarato for measuring engagement guided me towards the selection of *principles* which in the economy of the MDS framework are covered by the *interaction* category. Such correspondence was already marked in Section 4.2.1, where the *principles* of *interaction* were identified as relevant for measuring the engagement level of diegetic experiences. Significantly, the MDS' engagement construct seems to support Gambarato's understanding of engagement, despite the MDS framework being formulated independently from the scholar's article

(2018).

The engagement construct shows the flexibility of the MDS framework. Indeed, the framework enables researchers to build custom constructs leveraging the set of modular components provided by the MDS model.

Analysis of the Genetic Storytelling Code

Among the quantitative structures provided by the MDS framework, there is also the *genetic storytelling code* (GSC), which has been introduced in Section 3.4.3. While the GSC has been derived for each project, this section shows its application on *Capture Wales*, *Dim O' Gauble* and *LBD*. By comparing the GSCs of the different case studies against each other, it has been possible to derive a theoretical distance between the projects. This distance provides information about how similar two MDS objects are based on the scores assigned for each principle.

Table 6.4 provides the GSCs for the three case studies. Each column can be interpreted as the GSC of a different project. The rows provide values for the different MDS *principles*. It is worth reminding the reader that the GSC is the collection of the scores for all the *principles* which define a diegetic experience.

Table 6.4: GSCs for three case studies.

Principle	CW	DG	LBD
Ludification	0	2	1
Narrative interaction	0	0	5
Interface	0	2	2
Agency	0	2	3

Continued on next page

Table 6.4 – *Continued from previous page*

Principle	CW	DG	LBD
Multisensorial experience	1	3	3
Pervasiveness	2	0	7
Technological integration	0	0	2
Social infrastructure	0	0	7
Convergence	2	0	6
Analogue landscape	7	2	1
Digital landscape	0	5	6
Multimediality	2	3	5
Still images	2	5	4
Moving images	7	2	7
Effects and animations	1	4	2
Music	1	1	0
Sound design	1	3	2

Table 6.4 – *Continued from previous page*

Principle	CW	DG	LBD
Text-based communication	1	5	4
Character centrality	2	3	7
Narrative fragmentation	2	3	5
Microcontent	3	4	6
Customisation	7	0	5
Adaptation	0	2	7
Domain hybridisation	0	2	4
Bottom-up production	5	0	2
Bottom-up distribution	0	0	2
Top-down production	3	7	5
Top-down distribution	7	7	5
Participative storytelling	4	0	4
Community involvement	5	2	7

Table 6.4 – *Continued from previous page*

Principle	CW	DG	LBD
User-generated content	7	0	3
Fan-driven content	0	0	7

By comparing the GSCs of two artefacts, it is possible to calculate a distance.

The distance is a value in the interval [0, 1] (Section 3.4.3). A value of '0' means that two GSCs are entirely identical. Conversely, a value of '1' means that the two GSCs are at the opposite ends of the spectrum. If we interpret the GSC of an artefact as a vector with as many dimensions as the number of *principles*, it is possible to compute the distance between two GSCs by using the Euclidean distance. Table 6.5 shows the distance values for the three pairs obtained for the three DS projects analysed.

As is depicted in the table, *LBD* and *Capture Wales* are the most distant projects. By contrast, the digital narrative *Dim O' Gauble* and *Capture Wales* are the closest artefacts. I believe that the major element of distance between *LBD* and the other DS projects is that, differently from the other artefacts, the first project is highly supported by online and social media technologies.

Table 6.5: MDS object and relative distance.

Artefacts	Distance
CW - DOG	0.44
LBD - CW	0.53
LBD - DOG	0.50

6.6 The evolution of DS, IS and TS over time

A fundamental assumption of this study is that DS, IS and TS can be analysed within a common conceptual framework. I have tested this assumption by creating aggregate scores for DS, IS and TS for each case study. When combined together, the aggregate scores make up the *storytelling type profile* of an MDS artefact.

To calculate the score of a *storytelling type* in the *storytelling type profile*, the weighted average of the scores of all the *principles* belonging to the examined *storytelling type* is performed. Table 6.6 lists all the *principles* assigned to the *storytelling type* of reference. Section 3.4.3 provides a detailed explanation of how to calculate the *storytelling type profile* for a new media experience. The *storytelling type profile* for each case study is given in Table 6.7.

Table 6.6: Principles with relative storytelling types.

Category	Principle	Storytelling type
Interaction	Ludification	IS
	Narrative interaction	IS
	Interface	IS
	Agency	IS
	Multisensorial experience	IS
Platform	Pervasiveness	TS
	Technological integration	IS
	Social infrastructure	DS
	Convergence	TS
	Analogue landscape	TS
	Digital landscape	DS, TS
Media	Multimediality	DS
	Still images	DS

Table 6.6 – *Continued from previous page*

Category	Principle	Storytelling type
Text	Moving images	DS
	Effects and animations	DS
	Music	DS
	Sound design	DS
	Text-based communication	DS
	Character centrality	DS
	Narrative fragmentation	IS
	Microcontent	DS
	Customisation	DS
Agents	Participative storytelling	DS
	Community involvement	TS
	User-generated content	TS

Table 6.7: Scores for the storytelling types.

MDS object	DS	IS	TS
Capture Wales DS	0.34	0.06	0.55
Bristol Stories DS	0.33	0.06	0.43
Red vs. Blue DS	0.40	0.06	0.40
Cruising DS	0.19	0.06	0.17
Façade IS	0.48	0.55	0.31
Fahrenheit IS	0.52	0.59	0.29
Figurski at Findhorn on Acid IS	0.33	0.06	0.43
Inanimate Alice: China IS	0.46	0.20	0.31
24: Conspiracy TS	0.19	0.02	0.36
The Beast TS	0.32	0.40	0.55
Perplex City TS	0.32	0.37	0.55
Freakylinks.com TS	0.27	0.08	0.33
Dim O'Gauble DS	0.38	0.24	0.21

Table 6.7 – *Continued from previous page*

MDS object	DS	IS	TS
Nightingale's Playground DS	0.31	0.22	0.43
Lonelygirl15 DS	0.55	0.29	0.33
Flight Paths DS	0.54	0.27	0.45
Like Stars in a Clear Night Sky IS	0.23	0.18	0.17
Dear Esther IS	0.65	0.47	0.38
Fallen London IS	0.38	0.55	0.36
The Path IS	0.48	0.51	0.45
Lost 'Missing Pieces' TS	0.19	0.06	0.54
Conspiracy for Good TS	0.58	0.69	0.57
Why So Serious TS	0.59	0.61	0.74
Dexter Early Cuts TS	0.59	0.16	0.57
The Lizzie Bennet Diaries DS	0.65	0.43	0.71
Snow Fall DS	0.41	0.24	0.33

Table 6.7 – *Continued from previous page*

MDS object	DS	IS	TS
Hobo Lobo of Hamelin DS	0.49	0.27	0.36
A Calendar of Tales DS	0.63	0.29	0.69
The Unfinished Swan IS	0.62	0.49	0.40
Gone Home IS	0.52	0.59	0.43
Trauma IS	0.45	0.41	0.31
Life is Strange IS	0.73	0.71	0.45
A Journey Through Middle-Earth TS	0.59	0.51	0.60
Dumb Ways to Die TS	0.66	0.76	0.64
Zombified TS	0.57	0.29	0.60
America 2049 TS	0.52	0.80	0.64

After arriving at a *storytelling type profile* for each project, I have imported the aggregate scores for DS, IS and TS into SPSS, and analysed one by one. I performed three one-way ANOVA tests have, which examine the statistical difference of DS, IS and TS for the MDS projects, over the three-time periods A, B and C. These results provide insights into the evolution of the usage of the different *storytelling types* in MDS projects.

Digital storytelling

A one-way (ANOVA) on DS shows a statistical significant difference in the use of the *storytelling type* ($F_{2,33} = 10.97, p = 0.000$) between 2000 and 2015 (Figure 6.28).
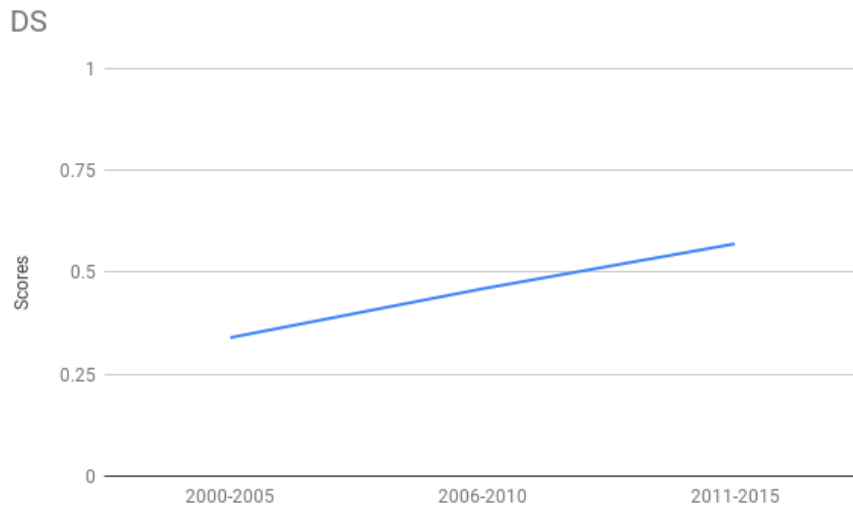
Figure 6.28: Average scores for DS over time.

As shown by the ANOVA results, the level of DS among the analysed case studies has increased over time. While the use of multiple media and modes of expression for developing digital and online artefacts has always characterised projects of DS, IS and TS, the tendency of creating rich content seems to rise over the years.

Since period A, projects labelled as IS showed significant levels of DS. This suggests that IS artefacts were developed in a rich media environment, and with a strong focus on characters, plots and sequence of events. In period A, these interactive projects were not video games in a traditional sense, since they resulted from professionals' attempt at creating interactive narratives and at experimenting with new ways of using video games. For instance, *Fahrenheit* among the analysed case studies in period A, has one of the highest scores in DS (0.51). This project has been defined as an interactive drama and developed by a studio that also works for the film industry.

From 2000 to 2015, IS evolved so that in the last few years, several examples of IS have been developed within the video game industry. Such interactive narratives have a high level of DS so that the two *storytelling types* often

overlap. This can be seen by comparing *The Unfinished Swan* (IS project with DS level 0.61) with *A Calendar of Tales* (DS project with DS level 0.62). Both projects are rich in multimedia content and are based on fictional tales. These features explain the high score for DS. Also, in *The Unfinished Swan* and *A Calendar of Tales*, interactive elements, traditionally employed in video games, are used to navigate the story and the diegetic environment.

While examining video games with a strong and coherent storytelling experience, which have been logged as IS projects, it is interesting to notice that at times the scores of DS for these projects are higher or similar to those for IS. Two instances of this are *Dear Esther* (period B, DS score 0.64 - IS score 0.46), and *Life is Strange* (period C, DS score 0.71 - IS score 0.75). These results can be interpreted as a sign that story-driven games favour narrative components particularly relevant in DS projects, sacrificing the interactive elements traditionally ascribed to IS. This is another instance of narrative hybridisation, that shows how challenging the process of assigning new media narratives to different *storytelling types* may be for academics, practitioners and the audience.

Interactive storytelling

A one-way (ANOVA) on IS shows statistically significant results, which outline a steady increase of IS ($F_{2,33} = 4.791, p = 0.015$) between 2000 and 2015 (Figure 6.29).

Three major points stand out from the analysis. First, the use of interactivity and the interactive relationship between users and the online and digital artefacts does not exclusively pertain to video games. When storytelling projects integrate multiple platforms or use the mechanical devices for user interaction which are afforded by social media platforms like YouTube, Twitch, or Instagram, the online artefacts can gain a considerable level of interactivity whether they are video games or not.

Furthermore, projects recorded as TS in periods B and C highly use IS as a mean for involving the audience within the narrative world of the artefacts. This can be observed in *Why So Serious* (B 0.61), *Conspiracy for Good* (B IS = 0.69) *Dumb Ways to Die* (C IS = 0.75), *America 2049* (C IS = 0.79).
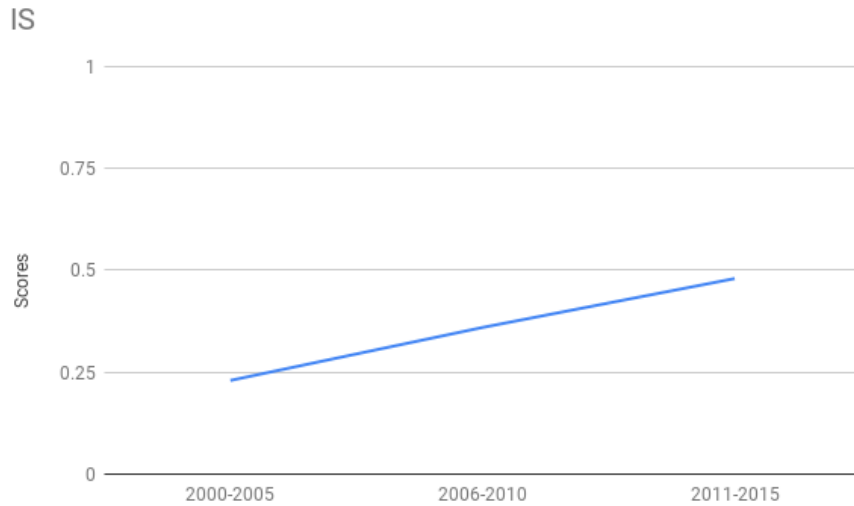
Figure 6.29: Average scores for IS over time.

Finally, IS case studies of period C show interesting experimental traits. They attempt to achieve a balance between player agency and narrative immersion. This point is traditionally crucial for story-based games. *Life is Strange*, *Dear Esther*, *The Unfinished Swan* and *Gone Home* provide remarkable examples of how diegetic elements and interactive components merge to create a hybrid narrative experience. This is obtained through a number of narrative and technical mechanisms, such as the use of strong characters along with cinematic settings and the use of the first-person player perspective.

Transmedia storytelling

A one-way (ANOVA) on TS does not show a statistical significant change in the use of the *storytelling type* ($F_{2,33} = 2.930, p = 0.067$). However, a trend emerges in the slight increase of the use of TS between 2000 and 2015 (Figure 6.30).

As expected, the TS *storytelling type* shows the highest scores in those narrative experiences which rely on storyworlds built across multiple platforms and which show a continuous bidirectional dialogue with the audience. However, from the analysis, it emerges that over the years, digital and online artefacts are increasingly using transmedia techniques. For instance, *LBD* (C TS = 0.71) and *A Calendar of Tales* (C TS = 0.69) make extensive use of transmedia techniques in the creation of the respective diegetic dimension,
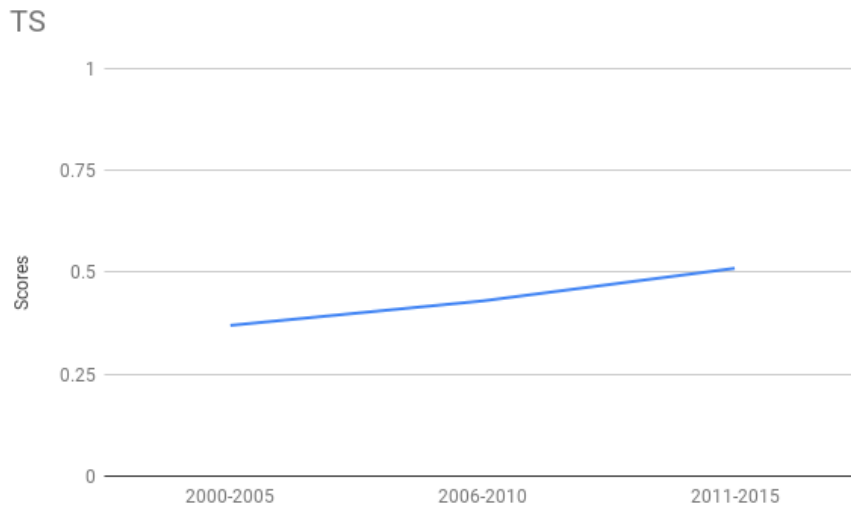
Figure 6.30: Average scores for TS over time

even though they are not strictly identified as TS artefacts.

The analysis of DS, IS and TS projects shows that there is an overlap among the three *storytelling types* across artefacts that would traditionally be defined as belonging to DS, IS or TS only. This result implies that the three *storytelling types* can be seen as subsets of a higher-level storytelling landscape, which encapsulates them all (i.e., MDS). This reasoning emerges from the fact that, moving from period A towards period C, projects belonging to one of the *storytelling types* are characterised by a significant presence of the other two *storytelling types*. In other words, projects have become increasingly hybridised. Also, the analysis of the *principles* across the case studies seems to confirm the initial assumption of the hybrid nature of digital and interactive artefacts. This is because all projects, regardless of their assigned *storytelling type*, tend to score higher across the set of most *principles* as we move from period A to period C. The increased level of hybridisation and the convergence of DS, IS and TS narratives warrant the adoption of a unified analytical framework to investigate and discuss new media narratives within a single conceptual environment.

Over the last few years, the entertainment industry has developed MDS objects which are capable of engaging an audience by leveraging multiple modes of expression. The competition between entertainment products is now fought

240

around the delivery of stories that provide engaging experiences. For this reason, new media narratives are increasingly reliant on building strong and consistent emotional experiences. The core of these engaging products is a story, and creators focus on that key element with its characters and immersive events. When I have analysed the expert interviews, I have found that practitioners coming from different backgrounds tend to agree that the story is a central element of new media narratives. For example, Linsey Raymaekers (Appendix A.7), a game developer, suggests that "narrative and interactions strengthen each other. There are also ways that they can compete with each other, but I think the real potential is where you use interaction to create a narration". Kate Pullinger, a writer with no coding background, pointed out that stories are the core of new media narratives. Robert Pratten, a transmedia and marketing expert, explained that when working on a transmedia project, he would concentrate on the story first, and then decide how to deliver it across multiple channels:

> [We would start from the story], because otherwise, you don't know what to leave in and what to take out. So you say, "what's our story?" And then, we think to ourselves, "Okay. What are the wow moments on that journey?" (Appendix A.5)

Arguably, one of the reasons why content has become more hybrid over time is that once the diegetic experience is outlined, creators implement the story by mixing media channels, modes of expression, and techniques and practices which traditionally belong to different *storytelling types*. The author's choice to create hybridised stories is probably a response to the desire of audiences to experience immersive content. When I asked Guy Gadney (Appendix A.2) about the relationship between the audience and IS projects, he stated that:

> I look at things that have come out, interactive projects that come out now, and I can draw a direct line back, almost to CD-ROM days, of how the story was structured. I think what's changed is that audiences, in general, have become more educated and keen to experience these sorts of projects and I think probably there

is a real rise in narrative games and that has benefited from two standpoints. One is that people are looking for strong stories and games and not just the sort of lightweight stuff. But then also, people who are interested in stories are looking for more interactivity. So I think there is a real, sort of perfect, moment where this concept, this conversation like we're having, this theme, this sort of storytelling and immersive storytelling, interactive storytelling, can reach mainstream.

Even though MDS projects have become more hybrid over the last couple of decades, there is still a considerable barrier to entry to the creation of complex MDS objects. As pointed out by Pullinger (Appendix A.6), writers are less interested in experimenting with new media narratives because they are generally not familiar with programming:

I think for me, one of the frustrating things is that people involved in writing fiction in particular in writing books are not very interested in digital experimentation in general. And I think that's partially why there's such an interesting set of new things happening in the independent narrative game sector because those people – the gamers – are more at home with the digital than average reader or writer might be. In particular, if you're talking about the novel and the short story. So, I think that is where some of the really interesting evolution has been happening in the last couple of years in a way that it hasn't happened in a more traditional niche literature sphere.

Writers with no programming skills cannot build narratives which rely on technological layers by themselves. Conversely, programmers often do not have the necessary skills to create story-driven projects. To produce a complex new media experience, a team of professionals with a varied skill-set is often necessary. Discussing the difference between the production of new media narratives (i.e., VR) and traditional formats (i.e., movies) Kim Baumann Larsen stated that:

So, we need new tools, and secondly, we need multidisciplinary team for these projects [VR productions] [...]. It's hard to make a movie just by yourself, although you can with the video camera. But you need programmers, sound designers who are specialised in VR sound design. You need 3D artists, directors and producers that understand this format is something different than film, and it's not the same as a game. I've seen many times, especially directors coming in from film thinking, "oh, it's just like a film", but it's not. It's something completely different. A problem happens when you start to think about it as a film or as a game; it's something else. (Appendix A.4)

I argue that, in the future, the pioneers who will push the boundaries of new media narratives are likely to be interdisciplinary teams consisting of people who have the knowledge and capacity to manage both the narrative and technological components of MDS objects. Indeed, it is no coincidence that Kate Pullinger mentioned indie game developers as those currently at the forefront of new media narratives. Indie studios often have small teams with a varied set of skills covering programming, art, music and sound design, and narrative production.

6.7   Summary

The main goal of this chapter was to show an example of a possible type of (quantitative) study that can be performed with the proposed analytical methodology. I have tested the quantitative analytical tool of the MDS framework over 36 case studies. As part of the analysis, I have performed ANOVA tests on the scores associated with the *principles* (Section 6.4), I have provided a comparative analysis of three case studies with spider charts (Section 6.5), and have analysed the evolution of the three *storytelling types* using ANOVA (Section 6.6).

This analysis achieved two goals, which are in line with the research questions of the thesis. First, the chapter tested the quantitative analytical tool

of the MDS framework proving its reliability to provide analytical accounts of DS, IS, and TS projects. The analysis shows that it is possible to examine new media narratives as belonging to a single, hybridised, narrative domain (i.e., MDS). Second, the results of the analysis showed that from 2000 to 2015, there has been an increase in the level of hybridisation of new media narratives. Over time, the boundaries between DS, IS, and TS projects have blurred. Narratives belonging to one *storytelling type* more often make use of features, which are characteristic of other *storytelling types*. This shift towards higher hybridisation justifies the introduction of a unified theoretical framework that accounts for multiple *storytelling types* – it makes it essential.

While this chapter engaged with quantitative analysis, the next will delve into qualitative investigation performed using the tools offered by the MDS framework. As will become clear, the qualitative analysis derived from the use of the MDS framework complements the quantitative investigation. The former provides a more granular account, albeit less prone to comparative, reproducible examination at scale than the latter.

Chapter 7

Qualitative analysis of three MDS projects

7.1 Overview

In this chapter, I provide an in-depth qualitative analysis of three new media narratives selected from the 36 case studies investigated in Chapter 6. The chapter aims to show by example how to conduct a qualitative analysis with the MDS framework. The proposed analyses are examples of the type of studies that can be conducted with the MDS framework.

The projects analysed are *Capture Wales* (period A) (Section 7.2), *Dim O' Gauble* (period B) (Section 7.3) and *LBD* (period C) (Section 7.4). I chose these projects following four main selection criteria. First, I selected projects labelled with the same *storytelling type*, i.e., DS. Having narratives which share the same *storytelling type* facilitated comparative analyses. Second, I focused on DS because from the review of the literature, it emerged that DS narratives are often highly hybridised. They tend to integrate traits traditionally ascribed to IS and TS. In this sense, DS narratives are particularly representative of the polymorphous nature of the MDS objects studied in this thesis, which often defy categorisation. Third, I selected each of the three projects from a different time period. With this choice, it was possible to appreciate, on a qualitative level, the change in narrative and technological components undertaken by DS over the considered time window. Fourth, I specifically chose *Capture Wales*, *Dim O' Gauble*, and *LBD* because they are pathbreaking DS products, which employ technologies and platforms that at the time of their release were considered to be cutting-edge. *Capture Wales* merged traditional and online

media. *Dim O' Gauble* developed a multimedia story leveraging the Flash programming language. *LBD* integrated its narratives across numerous social media platforms.

The investigation conducted in this chapter should be read as complementary to the comparative analysis performed in Section 6.5, where I used the same DS artefacts as a means for showing the quantitative analysis in action. The multidimensional structure of each project is examined by considering the following MDS structures in isolation: *topic*, *format* and the *principles* as grouped in the five *categories*. In the analyses, I will not discuss *principles* that are not well represented in the projects.

In general, for the qualitative analysis I considered the *principles* which had a score of four or more from the quantitative analysis. In order to manage the limited time I had for the analysis of the case studies, I used the quantitative analysis as an initial filter. The scoring system helped me to focus on the main features negotiated with those emerging from the study of the critical literature on the case studies. This selection criterion is not to be taken as a hard rule, in that it could be overridden by the information coming from the academic literature. The qualitative investigation is extensively supported not only by the scoring analysis but also by the scholarly works, which covered the case studies under examination.

The choice of focusing only on the most relevant *principles* has given me the opportunity to provide an in-depth description of the storytelling projects, channelling the analytical effort on the most relevant narrative and technological components. The analyses can be interpreted as holistic representations of the case studies, which focus on the relationships among the significant narrative and technological parameters, and avoid noisy results emerging from the treatment of *principles* that are not essential to the description of the new media stories examined.

7.2   Capture Wales

In the early 2000s, DS was frequently interpreted as the art of creating digital personal narratives, often delivered by online technologies, with multiple modes

of expression, e.g., visual, audio, text. *Capture Wales* has been widely acknowledged as a germinal project of DS in that it exemplifies the early existence of this *storytelling type.* The project is relevant for mapping the characteristics of DS and for comparing its first implementations against contemporary versions of DS.

Capture Wales is a digital media project created by BBC in partnership with the University of Cardiff. The project aimed to investigate new methods for producing online content and for connecting the project with its audience (Kidd 2005).

From 2001 to 2008, *Capture Wales* BBC ran free monthly workshops to teach people to create digital videos based on their personal experiences. The workshops were taught by a team of experts, which was made up of a producer, a creative director, several facilitators, activity leaders, and a musician (Wang 2013). The team was organised in such a way as to support non-professional storytellers in creating short multimedia stories. It was intended that the audience would create real-life narratives destined to be broadcast on television and online platforms. *Capture Wales* employed a modified version of the narrative model devised by CDS (Section 1.2).

Figure 7.1: A screenshot of the *Capture Wales* section on the BBC website.

In order to provide an account of the very first appearance of DS, the analysis of the case study specifically focuses on its inception years from 2001 to 2003. The digital narratives were examined by consulting the dedicated section on the BBC website[1]. However, the temporal distance between the release of the project and the analysis conducted for this study was a hindrance for understanding the project fully. In order to acquire information on the project, I consulted other secondary sources, such as the doctoral research *Capture Wales: Digital Storytelling and the BBC*, that involved participants and creators of the project (Kidd 2005).

Topic

The micro-narratives created under the umbrella project *Capture Wales* are real-life experiences that recounted significant moments in the storytellers' life, such as childhood, family rituals, ways of life (Lundby 2008). The project touched upon a plurality of themes. This is because the participants who attended the initial workshops came from a variety of backgrounds. Participants have been initially selected with the goal of creating a heterogeneous group of storytellers (Thumim 2012, p. 87). The digital stories reflect the different experiences of the participants and the varied motives that brought people to engage with the project. During the *Capture Wales* workshops, participants could freely elaborate on the specific content of their stories. In order to ensure that high-quality standards for storytelling productions were met, the organisers provided detailed guidance about how to best structure the narrative and how to effectively use recording and editing equipment (Thumim 2012). As a result of the variance in the participants' personal life experiences, a set of *topics* emerged, such as family, memory, community, challenge, and passions (Kidd 2006, p. 4 Thumim 2012, p. 94). The *topics* were categorised as such on the BBC website, so the online users could search the videos by areas of interest.

Format

The digital stories of *Capture Wales* were delivered through short multimedia

---

[1]The website can be accessed at`http://www.bbc.co.uk/wales/audiovideo/sites/galleries/pages/capturewales.shtml` [Accessed 3-01-2019].

videos.

As discussed in Section 6.5, the *interaction* category with the related *principles* i.e., *ludification, narrative interaction, interface, agency* and *multisensorial experience* are not particularly relevant for the case study.

The analysis of *Capture Wales* over *platform* does not show significant insights for the *principles technological integration, social infrastructure* and *digital landscape*.

Pervasiveness

The BBC project illustrates an early usage of the *pervasiveness* principle. *Capture Wales* employed both online platforms and the public broadcasting service for disseminating its videos. Overall, the project comprises more than 500 multimedia narratives which were released online on the BBC websites. A selection of videos was aired on BBC's regional channels (Lundby 2008).

Another interesting instance of *pervasiveness* that is observed in *Capture Wales* is the connection that the project established between real-life environment and the digital/online landscape. The participants were intended as both the creators of the narrative, but also as members of the audience. This BBC initiative aimed to contribute to collaboration and participation within communities. This point was reached on a first level with the workshops, where attendees could share their experiences and produce their stories in a collaborative environment. The narratives were then transmitted to a broader audience through traditional and online *platforms*.

By analysing the website and the related academic literature, it seems that while *Capture Wales* used different platforms, the website and the television program are not strongly interlinked. As the analysis of *convergence* will reveal, the project did not create a coordinated multiplatform experience. Nonetheless, despite the limited number of platforms involved in the initiative, the BBC storytelling project displayed remarkable techniques in creating a narrative collection which bridges traditional and new media.

Convergence

The case study is conveyed through new and traditional media, and it extends to both the online landscape and real-life environment. Years before Jenkins described convergence culture as the space "where old and new media collide, where grassroots and corporate media intersect, where the power of the media producer and the power of the media consumer interact in unpredictable ways" (Jenkins 2006a), *Capture Wales* made use of the Internet and of local TV channels for transmitting its multimedia stories.

Differently from *LBD*, it can be noted that in *Capture Wales*, the techniques through which the traditional and the new media channels were merged did not create strong interlinks which pushed the audience to visit the offered narrative landscape across the different channels. Scarce information exists about the videos that appeared both online and on the traditional media platform. This missing information might be interpreted as a signal that neither the website nor the television program effectively linked to each other.At the time when *Capture Wales* was produced, Internet technology was not so popular across the targeted audience. The potential lack of Internet literacy of the audience might be seen as a hindrance for the members of the public to access the *Capture Wales* website. The idea that the different places in which the project existed were not strongly connected also derives from the difficulties the broadcast company experienced in promoting the project. As Nancy Thumim (2012, p. 99) pointed out, reaching the target audience was not a straightforward process since it seems that the BBC press and publicity office encountered issues in attracting the interest of people who were not directly involved in the project. The fact that the different pieces of the composite structure of *Capture Wales* weakly merged might be one of the reasons that negatively affected the reception of the project. As suggested by Thumim, (2012, p. 99), even the title, *Capture Wales* was not clear enough as to enable the audience to comprehend the scope and the main themes of the project.

Analogue landscape

The existence of the *analogue landscape* in *Capture Wales* has already been observed in its use of analogue channels, i.e., television and physical space, i.e., workshops. Each video that composes the narrative universe of *Capture*

Wales can differ from the others in the types of media that are employed (e.g., images, text, voice-over, sound effects, music) and in the ways the different modes of expression are combined. Nevertheless, all the videos are shaped by the storyteller's personal experiences. Under this light, *Capture Wales* can be described as a unified storyworld made up of a constellation of short autobiographical narratives, which are told from the first-person point of view and recounted through the narrator's voice (Wang 2013, p. 302). Daniel Meadows, the creative director of *Capture Wales*, described the collection on his website as "multimedia sonnets from the people"[2]. In being so, the project appears as a traditional anthology of stories.

The description of the *media* structure of *Capture Wales* is more significant for its general organisation – *multimediality* principle – than for its specific instances (i.e., *still images*, *moving images*, *effects and animation*, *music*, *sound design*, *text-based communication*). The differences in the specific media components of the videos do not add any information to the understanding of *Capture Wales* over this *category*.

Multimediality

The analysis of *Capture Wales* reinforces the idea that *multimediality* is a hallmark of DS. A core characteristic of the BBC project is the use of multiple modes of expressions, i.e., text, video, still images, and animation for delivering personal experiences through digital means of communication.

Capture Wales aimed to improve the creative capacity of amateur storytellers, by instructing them in the use of multiple expressive modes, for creating their digital autobiographical narratives. In doing so, the creators of the BBC project pursued two major goals. First, during the workshops, the storytellers were asked to reflect on the story they wanted to tell, and were trained to share the unique elements of the narrative effectively. This skill was acquired on the field, through the production of multimedia content. Since the creators were urged to use different modes of expression, they were challenged to design their storytelling experiences carefully and had to decide which medium

---

[2]Daniel Meadows' website can be accessed at `https://www.photobus.co.uk/digital-storytelling` [Accessed 20-10-2019].

could better convey a specific narrative fragment (M. E. Nelson 2006, Thumim 2012). This was the second goal envisioned by the BBC team. The projects' creators wanted the participants to acquire new technical knowledge and media literacy. The workshops they organised strengthened participants' skills in the usage of the tools that were employed for designing and creating their digital stories (M. E. Nelson 2006).

As shown by the visual representation of the *text* category for *Capture Wales* (Section 6.5), the group of *principles* belonging to this category which are not relevant for the project comprehend *character centrality, narrative fragmentation, domain hybridisation* and *adaptation*.

Microcontent

The structure of the videos that composed *Capture Wales* shows early attempts in the process of assembling small chunks of media, e.g., videos, texts, images for creating a multifaceted storyworld. *Capture Wales* was ahead of the time in the way it derived both the overall composite narrative structure and its particular storytelling instances, starting from units of content.

An example in point is the video *A Circus Freak Accident* made by the user Arfon Jones[3]. In this case, the self-experience is about a childhood nightmare and was narrated in a cartoonish style. The personal photos of the creator were merged with drawings and animated gifs.

This project can be compared to a user-generated video that was uploaded more recently on YouTube. Similarly to the *Capture Wales* story, *My School Experience* illustrated happenings that apparently involve the life of the creator of the project[4]. The micro components employed in this case are partially similar to those of *A Circus Freak Accident*. They include voice-over which guides the audience through the different scenes of the story and the fictional visual style of the narration.

---

[3]The video was created in 2003 and it is no longer available on the BBC website `shorturl.at/pzNWX`. However, *A Circus Freak Accident* was also uploaded on YouTube and can be watched at `https://www.youtube.com/watch?v=IEJNKY587S0` [Accessed 19-05-2019].

[4]The video *My School Experience* was uploaded on YouTube in 2017 and can be watched at `https://www.youtube.com/watch?v=Hq6xkyweX7g` [Accessed 19-05-2019].

Figure 7.2: Screenshot from *A Circus Freak Accident* at 0'15" in which the author of the video is with his brother before going to the circus.

The comparison between *A Circus Freak Accident* and *My School Experience* shows that the digital artefacts of *Capture Wales* juxtaposed the different micro units of the story without shaping the narrative with a strong and engaging flow.

Customisation

Customisation is a significant aspect of *Capture Wales*. Participants heavily relied on the practice of re-working pre-existent digital and non-digital material for generating their stories. Although participants could use non-original content for composing their videos, the BBC warned them about the risk of using copyrighted material (Capture Wales Team 2008, p. 14). When dealing with non-original content, *customisation* shows that elements of authorship and creativity in the digital narrative emerged from the process of assembling different micro units together.

Capture Wales is a notable instance for the use of the *agents* category. Among the eight *principles* of the category, only two did not cover significant characteristics of the project, i.e., *bottom-up distribution* and *fan-driven content.*

Top-down production and *top-down distribution*

Figure 7.3: An example of the visual style that is employed in *A Circus Freak Accident*. The screenshot is taken at 0'42".

Figure 7.4: Screenshot from *My School Experience* at 2'26'.

The BBC managed both the production and the distribution of *Capture Wales*. As such, the project reflects the centralised communication strategy of traditional public broadcast companies. However, the project brought innovation to the communication paradigm.

Capture Wales displays a consumer-driven approach to the production of the project. The consumer focus would be expected, given the public-service edict of the BBC. While the broadcasting company managed the workshops which provided the storytelling models for creating the digital narratives, participants used their material, i.e., voice, personal photographs during the work-

Figure 7.5: The screenshot is taken at 9'07"of the video *My School Experience* and shows an accident that the creator had at the playground.

shops. They were also responsible for the selection of the material they employed in the videos (Chouliaraki 2009).

At the beginning of the project, *Capture Wales*'s producers videotaped a three-day workshop taught by Joe Lambert and Nina Mullen, who were facilitators at CDS in San Francisco. These workshops were then adapted for matching the *Capture Wales* needs of producing pieces of media made by amateurs to be shown to the UK audience (Wang 2013).

As already mentioned, *Capture Wales* was not only distributed on TV on the local BBC channels, but the project also had an online presence. While this experiment was conducted in the context of the public functions of the broadcast company, it also supported the BBC's strategy of venturing into the digital space (Thumim 2012).

Bottom-up production

Bottom-up production captures the community building goal that sits at the core of *Capture Wales*. The project was specifically designed for improving the digital literacy of the participants. During the project, the amateur storytellers could freely express themselves in a participatory environment. While the participants received guidance and monitoring during the design stage from the professional creative team, they were the ones who in the end had the most significant input into the collective storyworld, derived from the single stories.

The workshops provided participants with the chance not only to focus on their own experience, but to engage with the projects produced by their peers. In this way, a variety of different perspectives could have been acquired by those who participated in the workshops. Through this approach, people could enrich their communication and storytelling skills while bonding with other participants.

Community involvement

Capture Wales was created under the light of the *Connecting Community* mission of the BBC, as reported by Nancy Thumim in her book *Self-representation and digital culture* (2012). This aim was expressively mentioned in the proposal the broadcast company wrote to obtain funding for the project, which at the time was called *Welsh Lives*:

> An original and sustainable contribution to community self-expression. A new way for the BBC in Wales to connect with communities, not in a top-down corporate manner but through a project which depends for its delivery and success upon action within communities. (Thumim 2012, p. 89)

The storytelling model taught during the workshops included feedback sessions for testing the stories developed. After the production stage, the storytellers were asked to present their work in front of family and community members. The goal was to show their narratives to an audience in a real-life environment. While the case study does not seem to have generated online forms of community participation, it has shown high levels of audience participation in physical environments.

Participative storytelling

The community-based practice which enables the creation of digital videos is an essential part of the *Capture Wales* workshops. At the basis of the development of the short videos, there was a script of fewer than 300 words that the workshops' attendees wrote after a brainstorming session conducted by the BBC creative team (Lundby 2008, p. 366). The collaborative work of

the creators also involved several other tasks such as scripting, storyboarding and editing (Wang 2013).

User-generated content

Capture Wales provides relevant examples of the production/use of *user-generated content*, in a time where social media were not established. The case study interestingly illustrates how amateurs can compose multimedia content by following common rules in a controlled environment. Participants have been able to produce coherent new media stories by creatively assembling multimedia material that came from different sources. Although in cases storytellers used non-original material, the majority of the media content employed for creating the videos was produced by the workshops' attendees (Wang 2013).

7.3 Dim O' Gauble

Dim O' Gauble was created by the digital writer Andy Campbell in 2007 under the label of his media company *Dreaming Methods*. The project reflects the company aim of combining written text with coding and digital media, in order to create multimedia stories[5].

The project appears as a collection of drawings made by a child. The narrative focuses on an elderly woman who reflects on the scary grandson's visions of the future. When I selected *Dim O' Gauble* as a case study, the choice of assigning it a *storytelling type* label was not straightforward. There have been several definitions for the project offered by critics and researchers. While it was clear that the project did not participate in the transmedia dimension, the line between its digital and interactive components was less defined. *Dim O' Gauble* was reviewed as an example of digital fiction in *The Johns Hopkins Guide to Digital Media* (Engberg 2014), while in *The Ekphrastic Turn* (López-Varela and Ananta 2015, p. 393) the project is examined from a different angle. The book considered *Dim O' Gauble* among hypertexts and categorised the project as a 'responsive' story, due to its interactive properties (López-Varela and Ananta 2015, p. 393). When categorising *Dim O' Gauble*, I prioritised

---

[5]Information on *Dreaming Methods* can be viewed at `http://www.dreamingmethods.com/` [Accessed 25-03-2019].

the digital components of the project over its interactive features and classified it among DS artefacts. In what follows, fundamental components of *Dim O' Gauble* are outlined. This analysis can be used for reflecting on the hybrid facet of the project.

Topic

The themes encompassed by the project concern the life experiences of the protagonist. Family relationships and school life are the main *topics* that emerge from the plotline, as memories and nightmarish visions. These reflect the young age of the lead character.

Format

Dim O' Gauble is delivered through a coded and hypertextual environment, which mixes strong visual elements with fragments of written text in a unified space.

The principles of *interaction* that have little importance in the overall economy of the diegetic experience, which I will not cover, are *ludification* and *narrative interaction*.

Interface

Dim O' Gauble's interface consists of a multilayered drawn background that users can navigate with mouse clicks (Figure 7.6). The visual canvas is built to be freely navigated by the users. The audience can choose their starting point in the story, along with the path they want to follow within the fictional world of *Dim O' Gauble*. However, the presence of elements which require users' input in the interface is limited. Thus, only a few layers can be explored by the users out of the whole canvas.

Yellow arrows and hyperlinks are the main elements that allow the readers to navigate the fictional world (Figure 7.7). Using the arrows, users can move from one scene to another, in an order pre-established by the author. By following the arrows, readers are pointed to fragments of text which often contain hyperlinks, that lead the audience to new pieces of multimedia content.

While readers explore *Dim O' Gauble* with the pre-established transitions of the arrows, the presence of hyperlinks and interactive squares create some free

Figure 7.6: The canvas of *Dim O' Gauble.*

room for user navigation choices. Readers can choose to move in the narrative world by deciding whether to click the hyperlinks contained in the written text. The presence of interactive squares in the scenes accessed clicking the arrows enables the users to exit the scene and continue reading from another story point.

Figure 7.7: A drawn square on the top-left of the scene allows users to exit the scene.

Agency

Dim O' Gauble users cannot change the story events with their actions. How-

259

ever, the understanding they acquire about the narrative can vary depending on the way users experience the story.

The interface apparatus gives users the chance of a full or partial exploration of the story fragments. Consequently, the narrative experience might slightly differ from one user to another, depending on how far they move in reading/watching the textual/visual units. Furthermore, some textual fragments are not fixed but are programmed for appearing and disappearing while the user is experiencing the scene. This mechanism asks readers to be actively involved in the fictional story for not missing pieces of information.

User's input is solely employed as a device for exploring the narrative world of *Dim O' Gauble*. In this case, users participate in the story as observers by activating the feedback loops which are present in the interface. Similarly to *Dear Esther* and *Figurski at Findhorn on Acid*, users' *agency* is functional to the understanding of the narrative. In *Dim O' Gauble*, *Dear Esther* and *Figurski at Findhorn on Acid*, the active involvement of users is required at two levels. First, the projects involve the hermeneutic interaction of users who are usually involved in the interpretation process that exists with traditional media (S. Hall 1980), such as when reading printed narratives. Second, the project asks the reader to interact with the interface physically in order to explore the text.

In the analysis of the case studies, it emerged that *ludification* often plays a more important role than *agency* in enabling the audience to interact with the story. When *ludification* is employed, the diegetic experience has the potential to be tailored based on the users' intervention. The presence of challenge-reward mechanisms can change the story into a goal-oriented experience. I suggest that, when elements of *agency* and *ludification* are used for designing storytelling projects, it should be taken into account that user activity exists on a spectrum. This continuum spans from the psychological interaction with the text, to the exploration of the diegetic experience, to goal-oriented tasks, elements and events, which in cases, can disrupt the narrative level.

Dim O' Gauble demonstrates how *agency* can be used as an explorative device. This is a defining feature of DS projects, which are usually narrative-

driven. It is possible to see this also in *Dear Esther* and the *Black Mirror* episode *Bandersnatch.* Both projects employ *agency* as a device for exploring the narrative, instead of creating a challenging environment for the users. It is interesting to note that a similar use of *agency*, can be traced in different *formats*, which, on paper, should be theoretically distant. Indeed, *Dear Esther* for all purposes has been marketed as a video game, while *Bandersnatch* is an interactive video.

Multisensorial experience

The diegetic experience of *Dim O' Gauble* requires the use of tactile interaction for advancing through the story. Specifically, mouse and keyboard interaction is necessary. *Multisensorial experience* is triggered by the multimedia structure of the narrative, which uses media which engage both sight and hearing.

It is also interesting to note that the visual style of the multimedia hypertext immerses users in an unrealistic and nightmarish dimension. Specifically, the combination of audio, moving images and blurred and floating text contribute to the dreamlike atmosphere of *Dim O' Gauble* (Figure 7.8).

Figure 7.8: An episode with dark, unclear, floating text.

While the project is made up of fragmented multimedia units, these diegetic bits are merged and supported by a single software platform, i.e., Adobe Flash. The project does not show those *principles* that usually emerge when multiple platforms support MDS objects. In this way, we can account for the shallow significance of *principles* such as *pervasiveness* and *convergence.*

Social infrastructure is also not observed in the project since the narrative experience does not involve any social practices. Another principle that is not employed by *Dim O' Gauble* is *technological integration*. Likewise, *analogue landscape* is not a characteristic of the project, because, as we have already seen, the project has a strong digital identity.

Digital landscape

To map the overall narrative structure of the project, users need to explore the plotline in-depth. When users firstly approach the story, its overall structure is only slightly visible. The possibility of multiple entry points for accessing the narrative implies that users can progress in the story with different pathways. This scenario is enabled by the programming environment which the project relies on. The plotline displayed by *Dim O' Gauble* dwells in a dynamic, multimedia and linked space. The existence of the narrative structure of the project strongly depends on the characteristics of the digital infrastructure that supports it.

Apart from the audio component which has limited impact on the project, most *principles* belonging to *media* are well represented in *Dim O' Gauble*.

Multimediality

Dim O' Gauble makes considerable use of *moving images, still images, effects and animation* and *text-based communication*. Due to the extensive use of textual and visual components, the projects' audience can either be considered readers or viewers of the narrative. The different modes of expressions provide information about the characters and the psychological dimension of the hypertextual story. Multimedia elements in conjunction with the *agency* mechanisms enable the exploration of the canvas. In other words, users can interact with multimedia elements on the screen to advance the story. *Multimediality* contributes to the immersive effect that is generated by the spatial movement of users throughout the story fragments. I analysed *moving images, still images, effects and animation* and *text-based communication* altogether because they have a strong role within the narrative as a single integral body. The narrative structure of *Dim O' Gauble* is built with each media feature

entangled with the others. Moving images, sound design, and written text together inform the audience about the unrealistic and oneiric atmosphere of the project.

Written text, when floating and disappearing (Figure 7.8), not only reflects the mutable nature of the grandmother's reflections on the boy's visions, it also provides a gateway into the deeper layer of the narrative. Readers can access new fragments/episodes of the storyline by clicking the hyperlinks on the text. The crucial role textual effects play within the narrative is exemplified by the last scene of *Dim O' Gauble*, in which the grandmother and grandson attempt to communicate with each other. At the beginning of the sequence, which is set in an industrial tunnel, the text is barely readable, but it gains focus as users approach the end of the tunnel.

Although relevant insights do not emanate from *multimediality* if analysed over its individual components, the use of visuals denotes an exception. Graphical elements have a significant role in tricking the readers into believing that they are inside the mind of the young protagonist. That is particularly true for the images that compose the background, i.e., child-like drawings and visual layers (Barbas 2010). The coloured background – which contrasts with the darkness of the child's imagination – also is a clue to discover the protagonist's age.

In the *text* category, *Dim O' Gauble* does not engage in *adaptation*, *microcontent* or *customisation*.

Character-centrality

The multimedia hypertext is based on fictional characters who tell the story. The protagonists are a grandmother and her grandson. The narrative focuses on the older woman's reflections on the boy's dark visions of the future. The oneiric atmosphere of the story is reinforced by the fact that users are not provided with detailed information about the characters. For instance, any reference to their names and on the place where they live is missing.

Coherently with the plotline, more than the physical appearances of the characters, it is their psychological dimension that is highlighted during the story. On the one hand, the only visual representations of the boy are fuzzy

and dark (Figure 7.9). On the other, the multimedia elements, such as effects, animations, and written text elements deeply focus on the thoughts of the two characters.

Figure 7.9: A fuzzy visual representation of the lead character (the boy).

Narrative fragmentation

As explained earlier, the coloured canvas of *Dim O' Gauble* is a gateway for the reader into the fragmented narrative implemented through a hypertextual structure.

While the ending of the story is the same for every user and the possibilities of directly influencing the plotline are limited for users, the online narrative allows some freedom in the way readers can explore the fictional world. Users can choose the point from which they start reading/viewing the project. Furthermore, the level of understanding of the story they aim to have depends on their actions. Users can decide whether to click on the hyperlinks. They can also choose to wait for reading the glimpsing text, which often disappears over time, or completely ignore the written information.

The *agents* category is not relevant to the case study. *Dim O' Gauble* shows vertical modes of communication as in the other two case studies analysed in this chapter. However, differently from *Capture Wales* and *LBD*, consumer-driven approaches do not contribute to hybridise the top-down production and distribution of *Dim O' Gauble*. The project does not encourage the creative

participation of users.

7.4 The Lizzie Bennet Diaries

The last project selected to shows how the MDS qualitative analysis works in practice is *LBD* (period C). *LBD* is a webseries released between 2012 and 2013. The project was produced by *Pemberley Digital*, which is an online video production company created by the web entrepreneurs Hank Green and Bernie Su[6]. While *LBD* is inspired by Austen's novel *Pride and Prejudice*, the overall narrative is adapted to contemporary media and young audience interests. The story revolves around the 24-year old postgraduate student Lizzie Bennet, who films daily diaries and uploads them on YouTube as research projects for her course in mass communication. Lizzie lives at home with her parents Mr and Mrs Bennet and her sisters Jane and Lydia. By mirroring the original novel, other characters populate the narrative universe of *LBD*. Among others, the co-protagonist of the story are William Darcy, Bing and Caroline Lee. Lizzie's YouTube vlogs drive the main branch of the story. However, plot events are fragmented among multiple media and platforms.

Topic

In the process of translating characters and plot events from *Pride and Prejudice* into the online version, *LBD* drew on a range of *topics* which enriched the overall romance of the novel while catering not only to Austen's fans, but also to young audiences.

The selection of *topics* that informed characters and events in the *LBD* universe self-relates to the online environment, and attempts to resonate with users who commonly engage with digital and interactive stories. While in *Pride and Prejudice* the element which mainly drives character's actions is marriage, in *LBD* the focus shifts on the professional careers of the characters. Throughout the story, fictional characters show to the audience their interests,

---

[6]The name of the production company that distributes LBD (i.e., *Pemberley Digital*) is inspired by Darcy's estate in Austen's novel *Pride and Prejudice*. This reference to the original novel coherently links to the fictional world of *LBD*, where the character Darcy owns a digital media production company which has the same name of the real company run by Bernie Su and Hank Green.

which cover a set of subjects particularly popular among internauts such as, start-up entrepreneurship[7], media communication, and the fashion industry.

Format

The media formats used by *LBD* are online video diaries and social media conversations.

The qualitative analysis of *LBD* over the *interaction* category confirms that the webseries cannot be defined as an interactive project as the term is traditionally understood in video games studies (Section 6.5). Indeed, *ludification* is not a relevant characteristic of the project and, the other *principles* belonging to *interaction* do not participate in the project with high scores. However, the case study shows interesting examples of interaction between users and the diegetic experience.

Narrative interaction

The narrative world of *LBD* is based on a continuous dialogue between the audience and the fictional characters/the production team. By leveraging the technical features of the social platforms employed by the show (see *interface*), fictional characters directly address the viewers, who can interact with them. Through this premise, it is clear that *narrative interaction* is crucial for promoting the active participation of viewers in fictional events.

The *narrative interaction* mechanisms along with those that are mapped by the *interface* principle contribute to revealing segments of the story while extending the storyworld's boundaries to comprise real-world spaces. For instance, for Lizzie – a student in mass communication – developing a community around the content she produces is part of her interest in the web culture. Similarly, managing the relationship with her followers is an activity coherent with

---

[7]Episode 25 called *Vidcon* is dedicated to Lizzie's participation at Vidcon. Vidcon is an annual multi-genre online video conference organised in Southern California since 2010. The episode filmed by Lizzie can be watched at https://www.youtube.com/watch?v=hU6nVwRPcp8. It is also possible to find videos on YouTube of the real presentations given at the conference by the actors and creators of the show. The double presence of the *LBD* team at the Vidcon, as fictional characters and actors/producers, contribute to the overall undefined fiction/reality dualism that marks the *LBD* universe. The panel attended by the team behind *LBD* can be watched at `https://www.youtube.com/watch?v=LmokrucVbKU` [Accessed 5-06-2019].

her professional training. Social media platforms offer Lizzie the functionalities she needs for achieving her goals.

On YouTube, the use of *narrative interaction* is particularly relevant and has been observed in two major applications. At the end of the videos, the characters ask subscribers to leave comments. Viewers are also addressed with questions that specifically link to the topics covered in the videos. This strategy is often used in the 'Questions&Answers' (Q&A) video format, that is popular among YouTube creators[8].

Interface

The storytelling universe of *LBD* is built upon an online technology that potentially enables the audience to affect the story. The plotline is fragmented across a wide variety of social media platforms. However, YouTube and Twitter are the main social media platforms employed for moving forward the character's storylines. Both platforms enable audience participation through follow/subscribe, like, share buttons and comment sections.

These functions are analysed as forms of interaction that are internal to the fictional world of *LBD*, because they trigger the audience to share reactions to what they have watched. The dialogue between audience and characters is an integral part of the narrative system (see *narrative interaction*).

Overall, fictional characters make extensive use of social media conversations and, more generally, of the platforms' functions as narrative mechanisms. The online activity of the characters is used as a device for their characterisation. The audience can use social platforms to understand the characters' personalities and behaviours. The audience can infer the characters' personalities from the personal interests and hobbies they share on their social accounts. Similarly, by observing the social conversations among characters, it is possible to understand their perspective, dimension, and function for the economy of

---

[8]Few examples of Q&A videos are *Questions&Answers #1* that can be watched at `https://www.youtube.com/watch?v=Skv2Z2VIyYU` (3'38") [Accessed 5-06-2019] and *Questions&Answers #6* that can be watched at `https://www.youtube.com/watch?v=PBkSS9Pv9yg` (3'36"). [Accessed 5-06-2019]. At times, the questions do not pertain to the topic of the video nor to the story events. For instance, in the episode *Questions&Answers #6*, at 3'36", Lizzie and Fitz, while answering the question "who would win in a fight Pirate or Ninja?" proposed by a follower of the show, ask the audience to reply to the question via YouTube comments.

the story. In *LBD*, social media platforms are often used to signal the beginning of a friendship/love relationships between two characters (Figure 7.10), and for creating suspense/hype for events to come (Figure 7.11)[9].
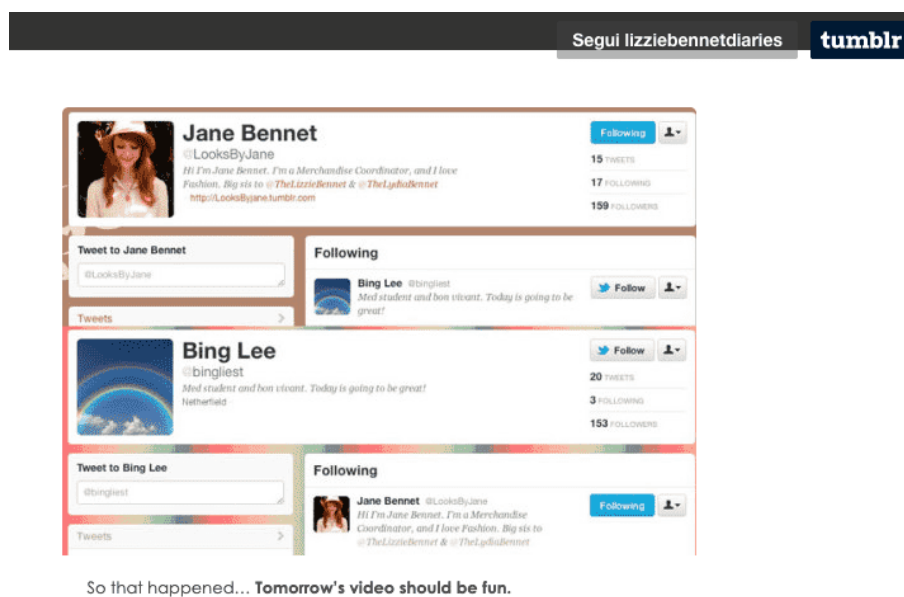
Figure 7.10: Lizzie on Tumblr tells fans that Jane and Bing follow each other on Twitter.

In sum, social media interface components that are commonly used by social media users as a tool for real-life communication are integrated into the fictional dimension of *LBD* for mediating characters and situations. The use of this strategy brought characters to the same level as the audience and contributed to confusing the viewers' understanding of the boundary between fiction and reality.

Agency

Agency does not have particular relevance for the general economy of the project, since the audience is not openly asked to change the narrative events. Nevertheless, a subtle form of *agency* emerges as a side effect of the extensive interaction between the audience and the production company. Indeed, audience's feedback influenced the narrative events and the perspective and

---

[9]When Gigi starts watching Lizzie's vlogs, the audience was aware that Lizzie used to complain about Gigi's brother during her vlogs, while Gigi ignored this information. Gigi's tweets generate a sense of suspense for the audience. The Twitter post where Gigi mentioned Lizzie's video can be read at `http://www.pemberleydigital.com/gigi-watches-the-videos/` [Accessed 5-06-2019].

Figure 7.11: Gigi Darcy writes on Twitter that she was watching Lizzie's video diaries.

function of the fictional characters (see *narrative interaction* and *participative storytelling*).

Multisensorial experience

LBD comprises different modes of expression. This being the case, different senses are engaged to experience the project. However, the limited variety of media employed by the webseries (i.e., video and social media posts) lead to a weak form of *multisensorial experience*, where mainly sight and hearing are involved.

Besides the online spaces through which the audience can participate in the diegetic experience, the webseries does not require the audience to engage with the project physically. The story does not advance through the substantial use of tactile interaction, like touch-screen technology. Instead, users can navigate the storyworld with mouse and keyboard, unless they are on a phone or tablet.

Apart from *technological integration* and *analogue landscape* the other *principles* covered by the *platform* category are all well represented in the case study.

269

Pervasiveness

LBD is supported by an array of different online platforms. While the core events are shown across YouTube and Twitter, several storylines are fragmented through multiple ancillary digital platforms. Interestingly, I observed that during the first episodes, producers used different social media for introducing different characters. YouTube and Tumblr were the privileged spaces of the Bennet sisters, while the Bings and the Darcys appeared to use mainly Twitter. The audience could also infer the relationships between the different characters by following their social media activity.

Technological integration

Technological integration in *LBD* is only covered by the functions of the web platforms which the story massively depends on. As commonly happens on YouTube, *LBD*'s videos leveraged the recommendation system built into the platform.

In the fictional dimension of the webseries, an AI software is employed as a narrative device which worked as a trigger for solving plot events and for providing information about secondary characters. In its fictional dimension, *Pemberley Digital* developed the AI communication device *Domino* and the character Gigi Darcy was in charge of the launch and the promotion of the app. *Domino* was an app for recording video, audio calls and chat messages in real-time. The app had a dedicated YouTube channel managed by Gigi. This character used *Domino* for foiling the antagonist's plans[10].

Social infrastructure

The *social infrastructure* used in *LBD* plays an essential role in supporting the blurred relationship between the fictional and the real worlds. The basic narrative strategy of the story is that fictional characters recount events through their social media accounts. Creators designed the fictional characters for operating on the same level as the social media users who engaged with the webseries. Both of them share the same online environment and exist within

---

[10]The app was used in episode 5 (*If Else*) on the *Domino*'s YouTube channel. Gigi made a call through Domino to George Wickham – the antagonist. By responding to the call, Darcy and Fitz located George. The episode can be watched at `https://www.Youtube.com/watch?v=5przNqJOQrU` [Accessed 5-03-2019].

it by employing similar communication strategies.

Social infrastructure is employed in the storyworld for showing relationships among the characters. The way characters relate to each other is displayed through their online activities. It is interesting to see this point by comparing *LBD* with its original source. In both the novel and the online version of *Pride and Prejudice*, the protagonists, i.e., Lizzie and Darcy, were presented in two separate social groups. This scenario in *LBD* is visible from the social media interactions of the protagonists, which, at the beginning of the story, were only directed towards other characters belonging to their group (see *narrative interaction*). For example, the friendship between Lizzie and Charlotte is shown by their collaboration while filming Lizzie's video diaries and through their conversation exchanges via Twitter. In the same way, the friendship between Darcy and Bing is revealed in their tweet exchanges. The Bennets and Charlotte were on opposite sides in respect to Darcy and the Bings, and they act as two separate communities. The gradual development of close connections between the protagonists resulted in the increased frequency of their interactions on social media.

Convergence

The main branch of the story of *LBD* consists of the video diaries curated by Lizzie and uploaded on her YouTube channel. However, the ancillary platforms leveraged by the producers do not have only a marginal role. All the online platforms play crucial functions in the story. Some of these have an important role in developing secondary plotlines, which strengthen the realism of the storyworld, and bring depth to characters and events. The secondary platforms employed in the project are Tumblr, Linkedin, Facebook, Google+, Lookbook, This is my jam and Telfie[11]

LBD shows that by developing a unique story scattered across multiple platforms, a rich and engaging experience can be provided to the audience. However, the rich platform structure which the narrative is based on might disrupt the reception of the project. Viewers mightfind it difficult to follow the plotlines consistently, since the story is pieced across different channels.

---

[11]This is my jam and Telfie no longer exist.

One of the strategies employed to tackle this potential issue exploited the characters' activity on social media (see *Pervasiveness*). When characters uploaded material online and when they messaged each other, they often referred to other story units told by other characters on other platforms. For example, Lizzie during her video diaries usually mentioned events that the audience could experience from a different perspective, on the Twitter or on the YouTube accounts of her sister Lydia (other examples are provided in the section dedicated to *still images*). In this case, creators seem to use redundancy as a rhetorical device for merging the narrative units, strengthening the consistency of the story and for holding users interest in the different storylines. The DS project conveys a unique and consistent storyworld across all of its delivery channels.

Digital landscape

LBD relies heavily on digital technologies. The plotline involves an array of diegetic units, which are merged and distributed across an integrated system of digital platforms and media.

The audience may not necessarily discern this polymorphous structure with its multiple entry points. For tying the varied narrative segments together, the *Pemberley Digital* website provided a chronologically ordered list of links which thoroughly covered the plotline and guided viewers through the different story units across the different platforms[12].

Typical features of *digital landscape* can be observed in the composite organisation of the project. The use of hyperlinks for giving structural unity to the diegetic experience is another crucial element which highlights the role of the World Wide Web as a platform which enables creators to build expansive and connected storyworlds.

As illustrated below, *media* is relevant for the description of this particular study.

Multimediality

---

[12]The complete timeline with the links for following the pieces of the story can be viewed at `http://www.pemberleydigital.com/the-lizzie-bennet-diaries/story-lbd/` [Accessed 5-03-2019].

LBD employs multiple, albeit limited, modes of expression. The project relies mainly on visual and textual content. The qualitative analysis reveals an interesting link between the modes of expression employed, i.e., text, video, images and animation, and the media which transmit the piece of content to which the visual or textual unit is anchored. Text-based communication was mainly delivered through Twitter, audiovisual through YouTube.

Nevertheless, this connection between the social platform and the media unit was not strictly respected. Often, producers combined different communication modes for conveying a unique piece of content. Indeed, examples of multimedia creation strategy can be found on Twitter[13] (Figure 7.12), when images are added to the text, on Tumblr[14] (Figure 7.13), and on YouTube (Figure 7.14)[15], where videos that already have a high degree of *multimediality* are integrated with other visual elements, such as graphics and effects.

Still images

Still images are often used in *LBD* with highlighting and descriptive functions. While *still images* are rarely integrated within videos[16], pictures are frequently used on dedicated platforms. For instance, Jane is the character who most frequently posts pictures on Tumblr[17]. Through pictures, Jane can share her daily outfits. In this case, visuals have the function of adding depth to the character's personality. Furthermore, the use of pictures enhanced the audience's capacity to imagine a specific event or piece of the story. For instance, in two different circumstances, Jane and Lizzie shared through pictures the outfits they were wearing during the parties they attended[18]. In this case,

---

[13]An example of multimedia content on Twitter can be viewed at `https://bit.ly/2yeRYea` [Accessed 5-3-2019].

[14]An example of multimedia content posted on Tumblr can be viewed at `http://thelydiabennet.tumblr.com/post/37690699704/you-forgot-one` [Accessed 5-3-2019].

[15]An example of multimediality on YouTube can be watched at `https://www.youtube.com/watch?v=6RDFZij8zuw`(from 3'20" to 5'29") [Accessed 5-3-2019].

[16]An example of the way visuals are integrated into videos can be found in episode 11 *Charming Mr. Lee* `https://www.youtube.com/watch?v=4I_Vaw9MbOI` (0'55") [Accessed 5-3-2019].

[17]Jane's Tumblr can be viewed at `http://looksbyjane.tumblr.com/` [Accessed 5-3-2019].

[18]The outfit wore by Jane at the party can be viewed at `http://looksbyjane.tumblr.com/post/21789409616/this-is-what-i-wore-to-a-family-friends-wedding`, and the outfit wore by Lizzie can be viewed at`http://looksbyjane.tumblr.com/post/25939463527/lizzie-bennet-ready-for-bing-lees-party-on` [Accessed 5-3-2019].

Figure 7.12: An example of multimedia content on Twitter.

the audience already was told about the events through vlogs and Twitter conversations. The pictures enriched the story. Another example is the Halloween party at Collins & Collins that was documented by pictures posted on Twitter[19].

In sum, visuals were used to contribute to the realism of the story while strengthening the similarities of fictional characters with actual online users. By documenting their lives through pictures and social media posts, fictional characters appear like ordinary internauts. In this way, the boundaries between reality and fiction become even more blurred.

Effects and animation

While *effects and animation* are rarely used in *LBD*, YouTube videos employed in the production sometimes integrate them. Animated material often func-

---

[19]The picture can be viewed at `http://www.pemberleydigital.com/cc-halloween/` [Accessed 5-3-2019].
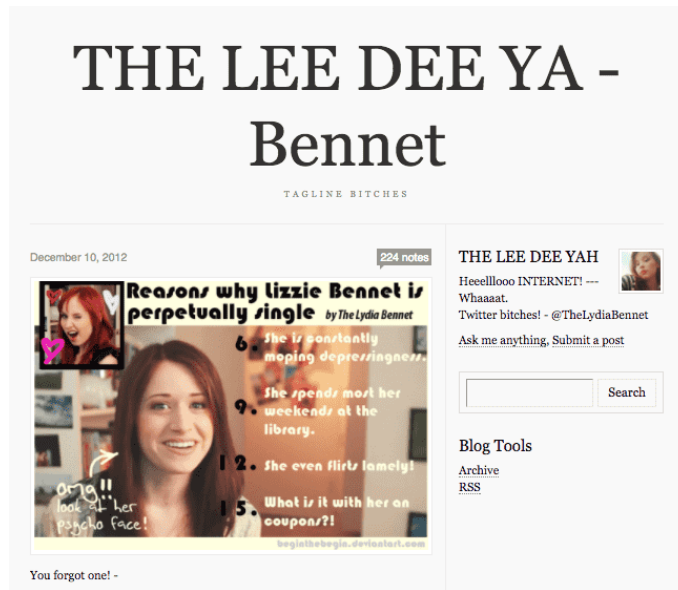
Figure 7.13: An example of multimedia content on Tumblr.

tions as fun components which make the vlogs more similar to user-generated content[20].

Among the characters, Lizzie's sister Lydia was the one who made substantial use of gifs, which she posted on her social media accounts[21]. This aspect not only made the character more realistic, since the use of *effects and animation* inscribed her inside a specific young audience target, it also shortened the distance between the story character and her followers, who probably belonged to the same age group.

Sound design

Creators employed *music* and *sound design* only marginally. Some sound effects are employed at the start of Lizzie's vlogs and at the end of Lydia's. In both cases, the use of sound matches the mood/style of comparable YouTube channels.

Text-based communication

Producers mainly employed *text-based communication* on Twitter, which is the

---

[20]Some examples of *effects and animation* can be viewed in the following: episode #16 *Happiness in the pursuit of life* 3'57"https://www.youtube.com/watch?v=dpCzkeDY4jc; episode #38 *Tale of Two Gents* (3'15") https://www.youtube.com/watch?v=6RDFZij8zuw; and episode #100 *The end* (from 2'06" to 2'09") https://www.youtube.com/watch?v=Kh5AcIAP6iU&t=5s [Accessed 5-3-2019].

[21]A gif on Lydia's Tumblr can be watched at https://bit.ly/2SSYEIF [Accessed 5-3-2019].

Figure 7.14: Episode #38 on Lizzie's YouTube channel shows an example of multimedia content on YouTube.

social network that provides complementary information about the plotline. In particular, Twitter exchanges added a real-time dimension to the diegetic experience, by providing information about events that have already been recounted in YouTube vlogs. For instance, in the first episode posted on *LBD* YouTube channel, the leading character talks about the interest her mother has for the new owner of a house in their neighborhood[22]. The same day the video was posted, the audience could have read a Twitter exchange between a few characters they had never seen before: the owner of the house and his friend. Through the Twitter conversation, fans were introduced to the new characters[23].

All the *principles* of the *text* category are well represented in the case study.

Character centrality

The fictional characters of *LBD* are at the core of the diegetic experience. The events are mostly told through the characters' voice, often in the first-person point of view.

While the protagonist of the story is Lizzie, the events often involve the

---

[22]The arrival of the new neighbour was recounted in episode #1 *My name is Lizzie Bennet* `https://www.youtube.com/watch?v=KisuGP2lcPs` (1'51" to 2'22") [Accessed 5-3-2019].

[23]The Twitter exchange among the owner of the house (Bing Lee), his sister (Caroline) and his friend (William Darcy) can be read at `https://bit.ly/32U9KBE` [Accessed 5-3-2019].

entire group of fictional characters. As shown in Section 6.5, the engagement that the audience established with the project mostly concerned the social media interactions among the inhabitants of the *LBD* storyworld. The psychology and the behaviour of the fictional characters are delineated. This may be one of the reasons behind the popularity of the show[24]. On the one hand, the characters' drivers, interests and beliefs are depicted through the online material they produce, and more generally, through the online conversations they entertained with each other, or with the audience. On the other hand, their physical presence in the show is confirmed by their online existence. The only exception is for Mr. and Mrs. Bennet and Mrs. De Bourgh, who do not appear in the show. However, their voice is conveyed by other characters who theatrically play their role wearing costumes[25] (Figure 7.15).

Figure 7.15: Episode #3, *My Parents* on the Lizzie Bennet YouTube channel.

Overall, *LBD* produced characters with strong and well-defined personalities. Characters' psychological attributes mirrored those already portrayed in the traditional versions of the story, i.e., the novel, the movie[26], and the TV

---

[24]In 2013 *LBD* was awarded an Emmy for Outstanding Creative Achievement In Interactive Media – Original Interactive Program. The way the project engages with its audience was one of the reasons the project was praised.https://www.emmys.com/news/news/release-immersive-and-interactive-digital-media-programs-receive-emmys [Accessed 5-3-2019].

[25]An example of this can be watched in episode #3 *My parents: Opposingly Supportive* on the *LBD* YouTube channelhttps://www.youtube.com/watch?v=e926p_3UXes&t=63s (1'30") [Accessed 5-3-2019].

[26]*Pride & Prejudice*, 2005, directed by Joe Wright.

series adaptations[27]. However, in the online version of the story, a new light was shed on the characters' personalities. The social media activity enhanced the audience's understanding of the characters. Their social activities made the characters wholly believable. The audience feedback contributed to explore different sides of the characters' behaviours (see *narrative interaction*).

Narrative fragmentation

LBD is an example of a non-linear narrative. The diegetic experience can be accessed from multiple points. The storytelling system of *LBD* relies on several concurrent plotlines. All the segments of the story follow a chronological order and are listed on the production company website that provides a map the audience can use for orientating themselves in the storyworld[28].

The main branch of the story is told through Lizzie's vlogs, from which viewers obtained an overview of the narrative. Nevertheless, other storylines are expanded on multiple media channels in parallel to Lizzie's daily vlogs. Producers often employed redundancy as a narrative mechanism. During Lizzie's vlogs, events that the audience can fully watch or read on other channels or platforms are often mentioned[29]. For instance, the sex tape scandal which involved Lydia – the youngest of the Bennet sisters – was mentioned several times. While the audience could have had a detailed understanding of the circumstances that led Lydia to that point of the story, the issue was mentioned by Lizzie during her vlogs[30]. This is only one case that shows the extent to which the project employed *narrative fragmentation*.

Secondary storylines in the *LBD*'s narrative universe cannot be disregarded from the analysis. They were central for understanding characters' personalities and for knowing how events linked to each other. In this sense, all the

---

[27]Pride and Prejudice is a six-episodes television drama produced by BBC in 1995 and directed by Simon Langton.

[28]The list containing all the narrative segments which composed the *LBD* universe can be viewed at `http://www.pemberleydigital.com/the-lizzie-bennet-diaries/story-lbd/` [Accessed 5-3-2019].

[29]On episode #50 *Moving On* Lydia told Lizzie that Wickham was seeing other girls `https://www.youtube.com/watch?v=jucS6hxGMMw`(from 0'58" to 1'18"). Lydia supports her statement by showing to her Wickham Twitter timeline `https://storify.com/lbdiaries/meryton?utm_source=embed_header` [Accessed 5-3-2019].

[30]Lizzie's video diaries from episode 84 to episode 88 cover the events related to Lydia's sex tapes scandal. The list of episodes can be seen on *Pemberley Digital* website at`http://www.pemberleydigital.com/the-lizzie-bennet-diaries/story-lbd` [Accessed 5-3-2019].

storylines partook in telling a single story, from several angles.

Domain hybridisation

LBD does not show an evident presence of *domain hybridisation.* However, the *principle* is tangentially visible in the *topics* that are covered by the project, i.e., mass media communication, startups, and entrepreneurship. Some of the fictional characters express interest in these subjects. In this case, *domain hybridisation* concerned both the *topics* which strongly influence the personality of the characters and the realistic way in which these themes were explored.

Adaptation

Over the years, Jane Austen's novel *Pride and Prejudice* has been re-adapted in a wide range of media products for the television and cinema. In order to attract the interest of the audience, each version of the literary work, including the faithful 1995 BBC series[31], had to make changes in adapting the original novel.

A similar process of adaptation also occurs in *LBD*. The DS project differs from all the previous versions at several levels. While the webseries is linked to the source text, it provides a unique translation of Austen's narrative into the digital and interactive media environment. *LBD* slightly modifies characters names and personalities to adjust them to the digital environment of the 21st century. While both the fundamental narrative structure and the relationship between the main characters remain similar to the original novel, the *topics* are transformed. The change reflects the contemporary setting of the webseries.

Digital platforms and social media substantially modify the experience of the story, when compared with the novel and the traditional media adaptations. In films and TV adaptations, the story is experienced by the audience linearly. By contrast, *LBD* relies on a non-linear structure and fragmented experience, which provides multiple entry-points to the story. Similar to the televised adaptation, *LBD* used an episodic structure with centralised production and distribution models.

By analysing the *LBD* storyline two additional forms of *adaptation* emerge.

---

[31]Pride and Prejudice is a six-episode television drama produced by BBC in 1995 and directed by Simon Langton.

The video diary is the main storytelling format of the webseries. Through the use of video diaries, the characters directly address the audience from the first-person point of view. Theatre performance is used for showing the audience off-camera events. Lizzie, sometimes joined by other characters, enacts theatre scenes which convey to the audience information regarding events that have happened in their lives (Figure 7.15).

Microcontent

The online material that is produced by *LBD*'s characters often appears as a cloud of multifaceted units made up of a combination of independent entities spread across several platforms. The project employs multiple digital media formats for conveying the story units, such as social media conversations, visual blog posts, videos. Each unit can be divided into micro-units, which have been extracted and re-assembled by fans in order to build new narrative content.

Customisation

In the fictional world of *LBD*, characters take part in *customisation* practices. These activities are often shared with the audience. A character who makes notable use of *customisation* is Lydia, who, for example, extracted content from her vlogs as gifs and posted them on her social pages[32]. Another important way in which *customisation* has been used in the DS project is when characters share material with the viewership, urging them to modify the content. For example, on her Tumblr page, Lydia once posted a picture of her sister Lizzie and asked her followers to pick the image and customise it[33] (Figure 7.16). In this case, the use of *customisation* techniques has made the character's personality more focused and relatable to users with similar attributes, such as age and interests. By partaking in the *customisation* process, characters decrease the distance between the fictional world and the spectatorship's, and contribute to blur the line between the fictional space and the real world.

---

[32]Two examples of the use of gifs by Lydia can be viewed at `http://thelydiabennet.tumblr.com/post/37801870253/neither-saint-nor-sinner-its-officially-theandathttp://thelydiabennet.tumblr.com/post/37792078134/bennetdiaries-happy-birthday-to-the-adorbs-aka` [Accessed 5-3-2019].

[33]The post can be read on Lydia's Tumblr page at `http://thelydiabennet.tumblr.com/post/21711020996/caption-this-and-photo-reply-holla` [Accessed 5-3-2019].
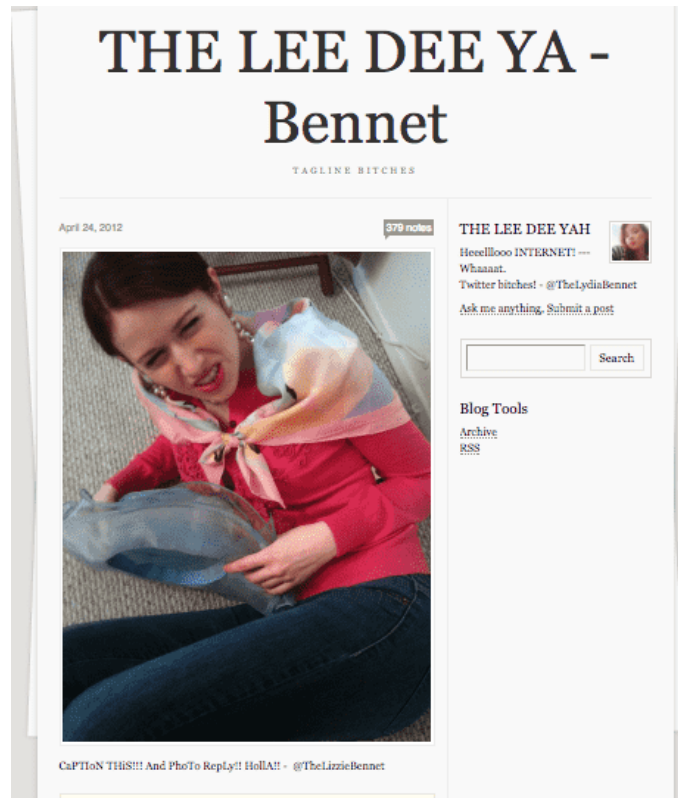
Figure 7.16: Tumblr post where Lydia asks her followers to customise the picture of her sister.

Among the *principles* of the *agents* category, *bottom-up production*, *bottom-up distribution* and *user-generated content* are those which are not involved in the description of the project.

Top-down production and *top-down distribution*

LBD employed vertical models both for its production and distribution. Professional writers[34] and the video production company *Pemberley Digital* have full control over all the different stages of the creation and distribution pipeline[35]. The fact that *LBD* employed social media commonly used in narrative projects characterised by a bottom-up approach contributes to blurring the overall production approach. It may be argued that the project has a top-down structure implemented through a bottom-up architecture. The bottom-up elements of *LBD* emerge in the ancillary content produced by fans surrounding the main story. Albeit not central, the presence of bottom-up narratives contributes to

---

[34]The writers who worked at the project are: Jay Bushman, Margaret Dunlap, Rachel Kiley, Kate Rorick, Bernie Su and Anne Toole.

[35]Information on Pemberley Digital can be viewed at `http://www.pemberleydigital.com/about/` [Accessed 20-07-2019].

blurring the line between the fictional and non-fictional worlds.

Community involvement

The storytelling strategies used by the DS project have resulted in the emergence of a strong connection with its audience. Among others, the main elements which contribute to creating and strengthening the dialogue between these two actors are (1) cross-platform dissemination; (2) accessibility through mobile and desktop devices; (3) and the dialogue that fictional characters and producers engaged in with the community. The first two factors increase the probability of reaching and retaining users. The last point produces interest and affection in the audience. It inspires a sense of reciprocity between the viewers and the characters, which contributes to grouping users into communities and transforming normal users into passionate fans/followers.

By looking at the comments of the audience on different platforms, it is evident that while a relevant portion of the *LBD* community comprises people who are fans of the original novel and of its cinema and television serial implementations, there are also users who enjoyed the project without having previous knowledge of the story. The new audiences are likely to have been attracted by the digital and interactive structure of the artifact.

The existence of defined communities around the project is also testified by the crowdfunding campaign which was launched by the production company for producing a DVD about *LBD*, when the online series ended. The Kickstarter campaign closed successfully by reaching its goal of 61 thousand dollars in three hours from its launch[36].

Participative storytelling

LBD does not strictly adhere to the practice of *participative storytelling*. However, the dialogue between creators and audience has been so productive that at points it has influenced the decisions made by the creative team. In particular, the audience feedback helped creators in expanding characters' presence

---

[36]Among the articles published in March 2013 for celebrating the successful Kickstarter campaign, it can be read `https://www.hollywoodreporter.com/news/lizzie-bennet-diaries-web-series-713123` and `https://www.thedailybeast.com/the-lizzie-bennet-diaries-celebrates-100-episodes-series-finale` [Accessed 20-7-2019].

in the narrative. This happened with the character Gigi Darcy, for example. Gigi appeared in the main branch of the story only after 77 episodes of Lizzie's vlogs[37]. Long before this point, fans had the opportunity to know Gigi through her Twitter feed. By interacting with Gigi on Twitter, fans grew fond of her character[38]. In response to this, the creative team has shaped the character's attributes and has given Gigi more space in the online episodes than she ever had in the original novel and traditional media adaptations. Similarly, Darcy's friend, Fitz Williams, gained more space because of fans intervention. Initially, the function of this character should have been only limited to support Darcy. However, after the viewer community expressed their interest in having more information about Fitz, creators expanded his role by deepening his friendship with Gigi (Fournier 2016, p. 99).

Fan-driven content

LBD has succeeded in attracting viewers' interest and converting them into fans. Fans supported the storytelling universe by producing content based on the story. Users also created fan-based communities. At its peak, at the end of the online series in March 2013, *LBD* gained an average of 81,000 views per day on YouTube. The positive response of viewers mirrors the interest the webseries produced among several magazines focused on entertainment, technology, literature and online culture, such as, *Wired*[39], *The Guardian*[40], *The Daily Dot*[41] and *The Atlantic*[42]. Fans produced a substantial amount of derived content, which went beyond the boundaries of the *LBD* storyworld. The cause of this can be attributed to the overall popularity of the project, the high level of user engagement, and the strong relationship the audience

---

[37]The first time Gigi appeared in Lizzie's vlogs is on episode #77 that can be watched at `https://www.youtube.com/watch?v=6J0lWiItdTA` [Accessed 20-7-2019].

[38]The first time Gigi Darcy appeared in the show was during a Twitter exchange with her brother. The Twitter conversation can be read at `https://storify.com/lbdiaries/gigi?utm_source=embed_header`.

[39]The *Wired* article dedicated to *LBD* can be read at `https://bit.ly/2SH5AIG` [Accessed 20-7-2019].

[40]The article dedicated to *LBD* and published on *The Guardian* can be read at `https://bit.ly/2LJmo12` [Accessed 20-7-2019].

[41]The article dedicated to *LBD* and published on *The Daily Dot* can be read at `https://bit.ly/30YrJF5` [Accessed 20-7-2019].

[42]The article dedicated to *LBD* and published on *The Atlantic* can be read at `https://bit.ly/2YtwUiL` [Accessed 20-7-2019].

had established with the *LBD*'s narrative universe.

The platforms most used by fans to share their original content are the same as those employed in the webseries (YouTube, Twitter and Tumblr). However, the audience published content also on other platforms, such as Reddit[43] and Deviantart[44]. Fan-made artwork and fan-fiction either enhanced the main narrative by adding new events or repurposed the original story by transforming the original plot[45].

There is a substantial difference between *LBD* and all the other adaptations of *Pride and Prejudice*. Living on social media, *LBD* has had the unique opportunity to be experienced both in realtime, while all the story units were being published, and once the project ended. In the first case, the audience could have fully engaged with the interactive universe of the artefact. In the latter, the relationship between the spectatorship and the production/characters has probably weakened. In the post-hoc experience, it is not possible for the audience to interact with the characters nor to influence the creative direction of the work. However, users can potentially still subscribe to the YouTube channels. What is certain is that *LBD* has had a significant influence over other online series.

It is worth comparing *Capture Wales*, *Dim O'Gauble* and *LBD* across a few significant points. When I initially selected the projects as instances of DS, the qualitative and quantitative analyses suggested that they had hybrid facets. These DS projects also show features characteristic of transmedia and interactive narratives. Although the whole set of *principles* and *categories* is not represented in each of the case studies, it is clear that their composite narrative and technological structures span different *storytelling types*. In this sense, I think it is relevant to evaluate the hybrid facets of these storytelling projects over their digital, interactive and transmedia components as a whole.

---

[43]Fanfictions can be read at `https://www.fanfiction.net/community/Lizzie-Bennet-Diaries-and-More/102837/3/0/11/0/0/0/0/` [Accessed 20-7-2019].

[44]Visual content on *LBD* can be viewed at `https://www.deviantart.com/whats-hot/?section=&global=1&q=lizzie+bennet+diaries&offset=120` [Accessed 20-7-2019].

[45]Two communities dedicated to fanfictions on *LBD* can be found at `https://www.fanfiction.net/community/Lizzie-Bennet-Diaries-and-More/102837/3/0/11/0/0/0/0/` and `https://archiveofourown.org/tags/Lizzie%20Bennet%20Diaries/works` [Accessed 20-7-2019].

The qualitative analysis presented in this chapter, along with the quantitative analysis of Chapter 6 supports the premise of the thesis, which suggests that a new, more flexible framework that may account for the highly hybrid nature of new media narratives may be needed. In this sense, MDS fulfils a central aim of the thesis that of providing a new overarching framework for examining DS, IS and TS projects.

It is possible to look at the *storytelling type profiles* relative to the three case studies to appreciate the level of hybridisation of the three DS projects. As explained in (Section 3.4.3) the *storytelling type profile* provides a handy numerical representation that measure the relevance of DS, IS and TS have for a diegetic experience.

- *Capture Wales* – DS = 0.34; IS = 0.06; TS = 0.55 (period A).

- *Dim O'Gauble* – DS = 0.38; IS = 0.24; TS = 0.21 (period B).

- *LBD* – DS = 0.65 IS = 0.43; TS = 0.71 (period C).

Interesting insights emerged by comparing the projects across the *categories* of the framework. The *agents* category shows that the audience is a key component in *LBD* and *Capture Wales*. Both projects displayed specific strategies for enhancing the participation of their respective audiences. On the one hand, *Capture Wales* promoted a type of involvement that relies on the physical involvement of people inside their local communities. On the other hand, the community of fans of *LBD* was reached entirely online. When I selected the *principles* that specifically map DS, IS, and TS, I found that some of the *principles* of the *agents* category were particularly relevant for capturing the characteristics of TS projects (Table 6.6). The high score for TS for *Capture Wales* (TS = 0.55) and *LBD* (TS = 0.71) is thus explained with the high scores the case studies obtained for the *principles* of the *agents* category.

An interesting insight that emerged from the analysis concerns the notion of interactivity. In *Dim O'Gauble* interaction is used as a device which enables the diegetic experience to be explored by the users. While in this case interaction does not generate a gaming experience, it is functional to the narrative. This point arose by observing the presence of *agency* and the absence of *ludification*.

The analysis of *agency* in *LBD* also provides an understanding of the feedback exchange between the diegetic experience and the audience. In this case, the relevance of other *principles* such as *narrative interaction* and *interface* entails a type of interaction which is different from the one displayed by *Dim O'Gauble*.

7.5 Summary

In this chapter, I provided a practical implementation of the qualitative analysis tool offered by the MDS framework. I carried out example in-depth qualitative analyses, which demonstrate in practice how researchers can use the MDS framework to capture the polymorphous facets/characteristics of new media narratives. This chapter is intended to be complementary to Chapter 6, where I showed the quantitative analysis tool of the MDS framework in action.

In particular, in this chapter I have provided a qualitative analysis of the key components of *Capture Wales* (Section 7.2), *Dim O' Gauble* (Section 7.3) and *LBD* (Section 7.4). The review of the case studies results from the application of the MDS framework with its *categories* and *principles*. I aimed to provide a sample of the analytical procedures and the results that can be obtained by considering digital and interactive storytelling projects through the qualitative instruments provided by the MDS framework. As shown throughout the chapter, the analysis of narrative objects with the framework does not always show relevant insights for the *principles* and *categories* explored. For instance, *platform* and *agents* are both well represented in *Capture Wales*, while the analysis of *interaction* does not provide any useful information, given the project does not rely on any major form of interaction.

The empirical analysis of *Capture Wales* reveals its hybrid communication model. The project production relied both on a vertical organisation and bottom-up, consumer-driven participation. The multimedia narratives of the project benefited from the BBC's work in managing the workshops during which *Capture Wales* participants were tutored. At the same time, the project strongly relies on the creative labour of amateur storytellers. By contrast, the *agents* category in *Dim O' Gauble* uses a pure form of top-down organisation. Nevertheless, the *media* system of the DS project gives evidence for discussing

its composite structure. *LBD* seems to represent the different components of the MDS framework most broadly. This data is expected since the complexity and hybridity of the project is already stated in scholarly works. However, what I attempted to do with this study is to illuminate and discuss the different evidence which concurs to the complexity of the project. With the qualitative analysis device of the MDS framework, I attempted to establish a systematic method for conducting in-depth investigations.

The chapter ended with the comparison of the projects over the respective *storytelling type profiles* (Section 3.4.3). The *storytelling type profile* of the three case studies illustrates the participation in the same project of elements which are usually analysed separately in the three fields of DS, IS and TS. As I anticipated in Section 6.2 while the case studies I considered for this study were sorted by the three *storytelling types*, they can be analysed in a more shared environment, that of MDS.

In the next and final chapter, I will conclude the thesis by outlining the contribution of this study, its benefits, possible applications and limitations.

Chapter 8

Conclusion

8.1 Overview

This final chapter presents a critical reflection on the methodological and empirical contributions of this thesis. Section 8.2 provides an evaluation of the questions and aims of the research. In Section 8.3, I summarise the main findings and contributions of the thesis. Section 8.4 and 8.5 respectively highlight the benefits and possible applications of the MDS framework. In Section 8.6 I discuss the limitations of the research and describe how to address them with further research. Finally, I provide closing remarks (Section 8.7).

8.2 Evaluation of research questions and aims

In the introduction of the thesis (Section 1.4), I outlined two core research questions, and a sample question to show the MDS framework in practice. I will now summarise and evaluate all the questions.

What are the common features and patterns shared by digital, interactive and transmedia narrative artefacts?
This question was mainly addressed in Chapter 2, and was approached by reviewing the interdisciplinary academic literature that focuses on DS, IS and TS. As part of this process, I focused on the theoretical notions shared by DS, IS and TS, which are studied in multimodal theory, narratology, new media studies, interactive studies, and Internet studies. From the research, it emerged that there are few studies which attempt to identify common features

in digital, interactive and transmedia narratives. Different fields focus on distinct aspects of new media narratives in isolation. To address this inquiry, I have also conducted interviews with experts in new media narratives, which provided insights into their theoretical understanding of DS, IS and TS, and their creative practice. At the same time, I have also performed empirical analyses of 61 DS, IS and TS narratives, which helped me identify the common traits of digital, interactive and transmedia narratives. From the research, it emerged that there are several features that are shared among digital, interactive and transmedia narratives. These traits are representative of both narrative aspects (e.g., centrality of the story) and technological components (e.g., interactive interfaces) of new media stories. The findings emerged during this study will be discussed further in Section 8.3.

Is it possible to unify DS, IS and TS within a common conceptual framework?
I initially addressed this inquiry in Chapters 3, 4 and 5, where I introduced the concept of MDS and the MDS framework. MDS is a unified taxonomy that encompasses the digital, interactive and transmedia narrative spaces. The MDS framework builds on top of the notion of MDS and can be used to examine DS, IS and TS projects within a unified analytical environment. To build the MDS framework, I employed a mixed research approach. The design of the framework was informed by the analysis of the case studies, the examination of the expert interviews and a review of the academic literature. To test the MDS framework, I examined 36 case studies using the quantitative and qualitative analytical tools provided by the model. The findings of these analyses are detailed in Chapters 6 and 7 respectively. The results I obtained from these empirical analyses support my claim that it is indeed possible to unify DS, IS and TS within a common conceptual framework.

Is there any significant change in the different narrative dimensions of new media storytelling projects from 2000 to 2015?
This is the question I employed for showing one type of study that can be conducted with the MDS framework. I have had two main reasons to include this question as part of my research. On one hand, the question is specific

and vast enough that I could show the use of the framework with its qualitative and quantitative tools at its full potential. On the other hand, this is one of the questions that initially prompted the research. The initial intuition that started the investigation was that the boundaries between DS, IS and TS have become blurred over time. New media narratives are becoming ever more hybridised. They mix narrative and technological features that are traditionally ascribed to different *storytelling types*. This intuition became the initial assumption of the thesis. It pushed me to think that it may be possible to group digital, interactive and transmedia narratives under a single theoretical framework. To understand whether there has indeed been a change over the different narrative and technological components of new media narratives, I developed the MDS framework. In Chapter 6 and 7, I analysed 36 new media narratives to investigate whether there have been significant changes in the narrative and technological dimensions of DS, IS and TS projects published in three time periods: 2000-2005, 2006-2010, 2011-2015. The analyses were performed using the qualitative and quantitative analytical tools provided by the MDS framework. The results suggest that there has been a significant increase in the level of hybridisation of the case studies over time. The findings will be summarised in Section 8.3.

In attempting to answer these questions using both theoretical and empirical research methodologies, I successfully addressed all the core and sample aims of this research (Section 1.4):

- to understand and identify the common theoretical structures, patterns, principles and implications of DS, IS and TS;

- to develop a comprehensive framework expressive enough to account for DS, IS and TS;

- to devise an analytical methodology that can be used to arrive at a qualitative and quantitative evaluation of DS, IS and TS projects in a structured way;

- to analyse a sample of new media storytelling projects, in order to test the devised analytical model.

By developing and testing the MDS framework, I also met the ultimate goal of this project: to provide researchers in media and communication studies with an analytical framework they can use to perform standardised examinations of highly hybridised narrative projects at scale.

8.3 Summary of contributions

This section outlines the main contributions of the study, tying them to the two core research questions, and the sample question.

What are the common features and patterns shared by digital, interactive and transmedia narrative artefacts?

In Chapter 2, numerous conclusions were drawn in relation to the shared features found in DS, IS and TS:

- The story is the core element of DS, IS and TS projects. The technological components of new media narratives are important but are ancillary to the narrative. The experts I interviewed agree that technology should be used in meaningful ways to support the narrative. Only if the technological components serve the story, it is possible to engage the audience in a believable diegetic experience. From the expert interviews and the empirical analyses, it emerged that sometimes MDS objects do not deploy technological elements meaningfully. Pratten (Appendix A.5), for example, observed that it is not uncommon to find projects which do not use interactivity in a narrative-driven way. In these projects, interaction is neither coherent nor essential to the story. The misuse of interaction elements hinders the audience's interest in the experiences.

- DS, IS and TS all use and re-adapt traditional narrative components, such as characters, time and events. In particular, characters are central aspects of new media narratives. They create a bond with the audience and are the most cost-effective strategy to create a strong narrative experience. This aspect emerged both from the interviews and the case studies. The game developer Linsey Raymaekers suggested that characters are fundamental in story-driven indie game production in order to

create a bond with the players (Appendix A.7). The centrality of characters also emerges from the study of the works produced by transmedia studios like Pemberley Digital, which created a project (i.e., *LBD*) using characters and a storyworld most of the audience would already know (Section 7.4).

- DS, IS and TS projects rely on several modes of expression (e.g., text, video, audio) to articulate a narrative. The different modes often deliver different units of the story. These units, which are perceived by different senses, contribute to a single, coherent narrative structure.

- Digital, interactive and transmedia narratives often rely on *intermediality* and *intertextuality*. New media narratives use multiple textualities and modes which reference each other across different media channels.

- DS, IS and TS projects use interactive elements to engage the audience. Through interaction, the users can often enter the storyworld and influence the sequence of events they will experience. In new media narratives, the type of physical interaction offered to the users is highly variable and is independent of the *storytelling type*. The interactive elements are also highly differentiated within the same *storytelling type*.

- For traditional media, it is possible to predict the users' physical and psychological involvement necessary to consume content. For instance, a book is read, a film is watched, and the radio is listened to. By contrast, it is difficult to predict the physical and cognitive activities required to experience a new media narrative. This trait is common to all three *storytelling types*.

- DS, IS and TS productions enact strategies to increase the engagement of the audience with the content. Users are often granted a degree of agency in the narratives. They can, for example, determine the plot by choosing with their actions a narrative path in an often multi-linear or non-linear narrative structure. Audience engagement also happens outside the boundaries of the story itself. Producers sometimes foster the

development of online communities and meetups, which connect people interested in an MDS artefact. Community members, who sometimes see themselves as fans, spend time together discussing the characters and events of the story. They also often engage in the production of UGC and fan-fiction stories, which contribute to broadening the storyworld and outreach of a new media experience.

Is it possible to unify DS, IS and TS within a common conceptual framework? A key contribution of the thesis is the introduction of the MDS framework, which offers a taxonomy of what constitutes digital, interactive, and transmedia narratives in the current landscape of new media. The identification of the shared traits of digital, interactive and transmedia narratives has been instrumental in unifying the three *storytelling types* under a single conceptual framework. Similar technological and narrative features are often used in new media narratives independently of the *topic* and *format* of the project. This also holds true for both fictional and non-fictional projects. The MDS framework provides quantitative and qualitative analytical tools which can be used to investigate DS, IS and TS narratives. The *categories* and *principles* of the MDS framework capture the narrative and technological elements used in new media experiences produced after 2000. *Categories* and *principles* can be used to analyse a broad array of diegetic experiences because they are highly interdisciplinary and cover concepts drawn from various fields both focused on the narrative (e.g., narratology) and technological (e.g., Internet studies) aspects of a new media narrative. A central contribution of this thesis is provided in Chapter 5, where I detailed a step-by-step guide researchers can follow to perform qualitative analysis, quantitative analysis in isolation, or in conjunction, using the MDS framework. It is worth re-stating that the focus of this research is methodological innovation and that its ultimate goal is to offer analysts a series of tools to investigate new media narratives in a reproducible, comparable and scalable way.

Is there any significant change in the different narrative dimensions of new media storytelling projects from 2000 to 2015?

By conducting quantitative and qualitative analyses (Chapter 6 and 7) using the tools offered by the MDS framework, it emerged that there has been a change over different narrative and technological dimensions in new media stories between 2000 and 2015. The results of the analysis detailed in Chapter 6 show that there has been an increase in the level of hybridisation of new media narratives over time. The process of hybridisation can be inferred by the fact that the majority of scores attributed to *principles* (20 out of 32) have increased across the analysed periods. This increase implies that the digital, interactive and transmedia elements in new media narrative projects are converging. Over time, new media stories have become more difficult to classify as DS, IS, or TS. New storytelling projects often use an array of narrative and technological elements which cross the traditional boundaries ascribed to the three *storytelling types*. These projects are complex MDS objects, which comprise intertwined narrative and technological layers. In the narratives published between 2011 and 2015 (period C), creators had access to a wider set of narrative and technological elements coming from DS, IS and TS to engage the users in the story. A relevant example is *Bandersnatch*, a new media narrative that merges the characteristics of DS, IS and TS. *Bandersnatch* has been regarded as a digital and interactive narrative because it is delivered through video and comprises interactive features (Kolhoff and Nack 2019). However, the project also belongs to the transmedia universe of the TV series *Black Mirror*.

The increased hybridisation of new media stories justifies the need for a comprehensive narrative space which unifies DS, IS and TS. New media narratives can be better analysed with models which consist of multiple interdependent variables, in that they can account for the polymorphous and complex narrative and technological structures of these stories. As I have shown by example in Chapter 6 and 7, new media narratives comprise multiple entangled dimensions that I have identified with the five dimensions of the MDS framework: *interaction*, *platform*, *media*, *text*, *agents* and with the related *principles*.

8.4 Benefits of the MDS framework

The MDS framework provides numerous benefits for the analysis of new media narratives. The framework is an effective tool that researchers can use to analyse highly hybridised narratives, which mix different *storytelling types*. The quantitative and qualitative analytical tools of the model are particularly useful to conduct longitudinal studies on large datasets of new media experiences, in order to measure the degree of hybridisation of the narratives and to identify changes in the usage of different narrative and technological components over time. The MDS framework provides standardised guidelines to conduct analyses at scale, which make the results repeatable and comparable.

The framework employs modular and fluid analytical approaches for the analysis of new media narratives. Researchers can customise the analytical devices by, for example, adding new questions to the questionnaire, silencing *principles*, or introducing new *principles* and *categories*. This modular approach enables the framework to tackle a diverse array of new media stories, which can vary in terms of *topic* and media *format*. As emerged from the quantitative analyses in Chapter 6, the narrative and technological components of DS, IS and TS evolve over time. The modular design of the framework guarantees that its structures can be updated, in order to address the new analytical needs deriving from innovations in MDS narratives.

Through the use of *categories* and *principles*, the framework makes it possible to analyse the complex and multifaceted components of MDS objects in isolation, and to understand how these interact with each other. The model enables researchers to understand the narrative and technological building blocks used in new media narratives to tell stories. It also provides a language and a taxonomy with well-defined concepts and terminology, that academics, professionals and the broader audience can use to discuss new media experiences accurately and in a productive way.

The MDS framework is also useful for creators and for educational purposes. It can be used as a reference for aspiring new media narrative producers to understand the skills they need to develop in order to create MDS objects.

Once creators understand the different technological and narrative components which come into play in new media storytelling, they can build teams with the necessary interdisciplinary skills to produce effective MDS projects. The framework can also be used to introduce undergraduates and postgraduates to new media narratives. The model can be used to familiarise students interested in creating and analysing new media experiences with the different components which make up a new media story and to give them a unified framework that may account for digital, interactive and transmedia narratives altogether.

The MDS framework can also have a positive methodological effect on new media studies, and, more generally, on the humanities. The findings on the 36 case studies detailed in Chapter 6 and 7 show by example that the combination of qualitative and quantitative methods can be useful to study cultural objects. As discussed in Chapter 1, the adoption of quantitative methods is rare in the humanities. However, by combining qualitative and quantitative approaches, it is possible to arrive at analyses that are nuanced, but, at the same time, are scalable and reproducible.

8.5   Possible applications of the MDS framework

The MDS framework can be used as the basis for numerous real-world and research applications. It can be used to store, retrieve and recommend new media narratives, to visualise data and run comparative analyses, and to identify actionable guidelines creators can leverage to build MDS artefacts.

Due to its layered components, the MDS framework can be applied to the systematic organisation of data and metadata related to new media stories. The hierarchical structure of the MDS framework with its structures, i.e., *topic*, *format*, *categories* and *principles* can accommodate the multiple elements which describe MDS artefacts. These analytical structures can be used to build a content database that can assist researchers and curators in storing and updating information related to MDS projects. Such a database could be used to tag the artefacts and to retrieve information with complex queries. By relying on the advanced data structure provided by the MDS analytical tools,

it would be possible to retrieve selected narratives by filtering them based on several attributes, such as *topic*, *format* and *principles*' scores. For example, by querying the database, it may be possible to retrieve all the projects which are focused on politics, are delivered through webcomics, and have a high level of community involvement.

A structured database of new media narratives would have several benefits. First, it would facilitate the storage of a considerable number of new media experiences in an organised way. Second, it would allow researchers, professionals and the broader audience to search content based on their interests, thus streamlining research, creation and consumption of content. Finally, the database could also be leveraged to power a recommendation system which may serve users relevant content on-demand. The recommendation engine could be implemented as an online service similar to Netflix, where users can search through an extensive catalogue of new media narratives and be offered recommendations to explore new content.

All the quantitative information extracted from the MDS-informed analyses can be used to visualise artifacts in 2D or 3D interactive maps. These can facilitate the navigation of complex databases containing MDS objects. Through this technique, it will also be possible to visualise at a glance the proximity between different objects, indicated by the physical distance in the map. These maps can also streamline the retrieval of objects based on several possible filters such as *format* and *topics*. Data visualisation of large MDS datasets will facilitate research. It would be especially useful for comparative and cross-cultural research.

As explored in this research, merging quantitative and qualitative instruments can functionally prepare the data for conducting comparative observations on databases containing MDS objects. It is possible to use the quantitative scores assigned to the MDS *principles* to describe a new media narrative and to compare it against other stories. Comparative analyses of DS, IS and TS projects can shed light on the mechanisms involved in the creation of hybrid storytelling projects. The analytical devices provided by the MDS model can also be applied for the measurement of trends. It is possible to measure spe-

cific features of narrative projects and identify significant trends, by filtering sample narratives through different variables, such as *topic*, year of production, language and geographical region. These types of comparative/trend analyses are not novel in new media studies. In the book *Global Convergence Culture: Transmedia Earth* edited by Matthew Freeman and William Proctor, for example, the authors explore how transmedia techniques are applied in twelve different countries (2018). Comparative observations conducted with the MDS framework can be used for complementing such cross-cultural research, with an analytical model that works at scale.

The results obtained through the MDS-guided analyses can be leveraged to build guidelines and operational instructions that practitioners can use to develop MDS objects. The MDS analytical devices provide a unified model for gathering information from artefacts which pertain to different *storytelling types*. Through them, narrative mechanisms and technological structures which contribute to the design of complex artefacts can be grasped. The acquired knowledge, if dispensed in actionable guidelines, can facilitate the creation of complex storytelling experiences, which leverage the narrative and technological features of hybrid narratives at their fullest. Complex projects often involve creators working in teams. Having a clear understanding of the different areas which need to be covered might be a useful resource for those who need to plan and coordinate the efforts of a team of creators working in different domains. In this sense, the MDS *categories* and *principles* could be used as a basis to inform a project planning framework, especially developed for building MDS artifacts.

8.6   Limitations and future research

This study presents a few limitations which I had to implement for time reasons and to manage the complexity of the research project. In this section, I will discuss the limitations and offer possible solutions.

The scoring process I employed to quantify the relevance of a *principle* in a new media narrative is partially subjective. In this study, I have assigned the scores based on questions I developed. Even though I elaborated the

questionnaire based on extensive literature and expert interviews, the choice to include certain questions was in the end subjective. It is worth noting that the issue of subjectivity cannot be completely solved, given the inherent nature of the cultural objects under examination. I could not minimise subjectivity during my research because I did not have access to a team of researchers, who could collaborate in the development of the questionnaire and the analyses of the case studies. Given the iterative nature of the research, it was necessary to create and modify the questionnaire quickly in order to test its questions on real data. This made collaboration with other researchers impractical, given the time constraints of the study. To minimise subjectivity in future iterations of the MDS framework, a group of academics and professionals active in new media narratives could be involved to score the projects. The scores could be aggregated and processed with statistical tools to arrive at more objective evaluations of the different narrative and technological components of MDS objects.

Another limitation of the research is the fact that I used a relatively small dataset (36 projects) for conducting quantitative analyses. The full potential of the quantitative methodologies can be appreciated on large datasets (i.e., hundreds or thousands of narratives), where qualitative approaches struggle. However, performing a thorough quantitative analysis of a new media experience following the guidelines of the MDS framework is time consuming. A story must be analysed across all its different narrative and technological components multiple times. Given the limited amount of resources I had for the research, I decided to limit the sample to 36 projects. It is worth highlighting that datasets with comparable figures are commonly used in psychological and sociological studies with success. The quantitative analysis of the 36 studies revealed that several *principles* show statistically significant change across different publication periods (Chapter 6). However, a larger dataset would have been more effective to decide whether the *principles* showing a slight upward trend over time are indeed statistically significant. In order to address this issue, an online database of new media experiences could be created, where researchers and practitioners can contribute to registering MDS projects and

assigning quantitative scores. Such a database would have the double benefit of streamlining the data acquisition process, and offering the wider community an open dataset they can use to perform analyses and further the research in the field.

Another aspect that can be seen as a limitation of the research is the heterogeneous nature of the case studies. The dataset comprises projects with different *topics*, *formats* and *storytelling types*. The choice to gather a heterogeneous dataset was intentional and instrumental to the aims of the research. This thesis set out to identify the shared patterns which can be found in DS, IS and TS, independently of *topic*, *format* and other attributes. For this reason, I decided to investigate hallmark new media narratives, instead of focusing on a narrow subset of the MDS narrative space. However, in future research it could be possible to apply the MDS framework to subsets of MDS (e.g., story-driven video games, webcomics) and to focus on specific *principles*, in order to understand the narrative and technological specificities of diegetic experiences which share same *topic* or *format*.

A final limitation of the study is related to the publication period of the case studies. The analyses presented in Chapter 6 and 7 consider projects released between 2000 and 2015 and do not provide any insights for the most recent MDS artefacts released after 2015. I decided to focus on the 2000-2015 time window, to lock the projects I was analysing during the study due to time constraints. However, I conducted preliminary qualitative analyses on a few MDS projects published after 2015, such as *Bandersnatch* and *Frankenstein AI* (Weiler, 2018)[1]. This investigation confirms that the most recent new media narratives present a high degree of hybridisation. In particular, it emerged that these narratives integrate new technologies such as AI and VR. As part of future research, it would be possible to conduct analyses on the new batch of MDS objects published after 2015. It would also be useful to study earlier texts (from the 1980s and 1990s), in order to understand the processes and creators' practices which led significantly hybrid narratives.

---

[1]Information about the diegetic experience *Frankenstein AI* can be accessed at `http://frankenstein.ai/` [Accessed 4-07-2019].

8.7 Final remarks

The main focus of this thesis has been methodological. The study set out to find the shared patterns of digital, interactive and transmedia narratives, and to encapsulate these features in a conceptual framework that could account for the three *storytelling types*. The ultimate goal of the research was to provide researchers with reliable analytical tools they can use to investigate highly hybrid new media experiences at scale. With the MDS framework, researchers can not only create reproducible, comparable and scalable analyses of new media narratives, but are also provided with a terminology and set of concepts they can employ to discuss highly multidimensional stories with their peers, in a productive manner.

Appendix A

Expert interviews

A.1 Interviewee-1

The interviewee chooses not to be fully identified. The interviewee is a game designer who works for an independent video game company. Throughout the thesis, I will refer to the interviewee as Interviewee-1.

SIMONA: When I've analysed The Unfinished Swan, I found different definitions of the project; someone talks about it as narrative experience others define it a video game. How would you define your project?

INTERVIEWEE-1: It's not a thing about I think very much. When I think about making a game, I approach it like a research project. To me what's interesting about making a game is the chance to spend a couple of years exploring a subject that I'm interested in and getting a chance to think about it from a bunch of different perspectives. So, I would put The Unfinished Swan in the category of video games, even more so than Edith Finch. But when people talk about games, they often, I think, inherently consider the importance of challenge, and success or failure.

The Unfinished Swan is not a game that really focuses on challenges, but it is something that certainly requires a level of interactivity both in terms of what the game is asking you to do from a mechanical perspective and kind of learning its systems and exploring that part. But then also just as an audience member, a player

being flexible in terms of understanding what this whole world is about, I think that part it's important that is interactive. So, you come in thinking that the game might be one thing, but it evolves. It's like an interactive process of going along with that and figuring out what it means to you as it develops. I don't think so much in terms of 'is it a game?' 'Is it a narrative?' but I would think of it as an interactive experience, just because the word game implies challenge and success or failure being a really important quality that is not true in The Unfinished Swan.

SIMONA: Can you give a general overview of the different fields in the media industry, in which you have worked?

INTERVIEWEE-1: When I was in high school and early college, I started working on newspapers and magazines and doing primarily the visual design, and a little bit of writing which gradually evolved into doing more editing. In college, I was the editor of a print new magazine. During those years, I used to write a lot, and I also organised a group of people to get together to make a game. After college, I worked at an online parity newspaper called, The Onion, for a couple of years. After that, I moved to Los Angeles, and started working as a very low-level assistant and writer for television shows, some cartoons, and sitcoms. I eventually started working in video games as a tester, originally, and then I shifted and was working doing some helping out writing for the Telltale, Simon Max series, for a couple of months, and I went to graduate school for game design, and then started making video games full-time.

SIMONA: What drew you to work within the video game industry as opposed to more traditional media industries in terms of storytelling?

INTERVIEWEE-1: It's been from college, I expected that I would eventually write for video games, but at the time – I graduated in 2000 – there wasn't much writing, it wasn't a career. I was more drawn to writing for movies and television because I could see that as a

303

career. When you go to the bookstore, you could buy books on how you become a writer for movies and television. I had thought that I would be a writer there for a couple of years in writing for movies and TV shows. Then eventually, once video games had matured, I would write video games. The reason I wanted to write video games was that I had some strong experiences growing up playing video games, and I felt like it was a medium that was very interesting to me. Another thing that really appealed to me as I started to learn more about video games was the kind of maverick culture of video game development, especially earlier. I guess it's less true now, but it's still somewhat true that people who make video games tend to be pioneers, and their interest in new ways of doing things, and I think there is a requirement that you keep learning in a way that is not true of movies and television. As a writer, being a television writer today is not that different from being a television writer 20 years ago, while making video games is completely different from what it was five or ten years ago.

It started because I was interested in the medium of video games, but then I realised writing video games is never going to be very interesting to me because you're called in too late in the process to make significant contributions. You're just trying to fix other people's mistakes. So, I decided that I wanted to design video games and conceive them, the whole thing that just really appealed to my sense of the multi-disciplinary aspect. There are so many things to learn about design, and programming, and writing that seemed like a good fit for my interests.

SIMONA: As a writer, if you look at the entertainment industry, can you draw specific differences between interactive, digital and transmedia storytelling?

INTERVIEWEE-1: I guess the first note is that video games tend to have less emotionally rich and less human-driven storytelling. I think it's often either a thin explanation for why a world works in a certain

way, or it's just to give you a very minimal goal for why you want to kill something. Or it's just kind of a completely separate track of reward for players as they move along through the game. And I think it's difficult in games to make stories that feel personal and that are really about humans, in large part, because of the rendering technologies' use of making people. Also, because the story is under player control so much of the time, like even like where the camera is pointed, and how long they may spend in the area, it's very difficult to have satisfactory pacing for most stories and games. So, I guess games tend to revolve around empowerment fantasies and revenge fantasies, and that's most of the video game stories for larger games that people are familiar with. Board games, I would say are somewhat different. A whole universe of other experiences that most of them tend to be kind of violence because that's what works pretty well in terms of mechanics for video games that we're familiar with. Things like shooting other players, you know, it's very successful. We know how to make those kinds of games. And games are so hard to make that we tend to fall back often on the things that we know. So, I guess broadly; I would say that video game stories tend to be much simpler and more in the service of other disciplines compared to most media, where the story is the thing that is really driving the whole experience. In video games, the story and the writing are usually just there to service other needs.

The video game focus stories tend to be more about revenge and violence, but regular storytelling is also pretty interested in revenge and violence. So, it's not like there aren't plenty of examples there. But I think it's much easier to have that balanced out in Star Wars, for example. In that case, there'll be action sequences, but then there are also times where the characters just fly around the galaxy and have tender moments. Video games don't tend to have those kinds of tender moments, but I guess video game stories again, just

like the thing that is noticeable to me is that they are in a very narrow range in terms of what's available, where if you look at other media, there are all kinds of really different sorts of stories about like, transgender prostitutes, and the friendships that they have together, you just would never see in a video game for a lot of reasons. So the thing is, it's just that they're very narrow, there's a narrow focus.

SIMONA: When you work on an interactive story, is there a set of narrative elements which tend always to occur?

INTERVIEWEE-1: There's nothing that is intentionally recurring for us in the games that we've made so far. I think that certain elements find their way in eventually, particularly, issues of the imagination and the dangers of the imagination. Though it's not something that was part of The Unfinished Swan or Edith Finch early on in development, I think it's just an interesting subject to me and the kind of stories and movies that I am drawn to also tend to look at issues of the kinds of worlds that we create in our imagination, and the disparity between reality and fantasy. They're really like, they're present in things like the movies of Bunuel, just great charm of the people, a lot of the same things are present. There's nothing that is there intentionally at the beginning, I think, that is necessarily shares. I mean they feel like they're very different and to me, they're all about a sense of wonder. To me is what I'm most interested in. So, the games start kind of focused on this similar emotion, but they're from very different perspectives and player goals, but they maybe evolve in a similar way, in part because they're about the sense of awe and wonder.

SIMONA: What about the programming side? Is there a set of technological elements which always tend to occur?

INTERVIEWEE-1: There wasn't anything that we shared between our first two games. We rewrote everything, although, we had the same head or technical director for both of our first two games, and he

enjoyed writing streaming systems, where you didn't have to load screen, it would be just kind of stream in the background. He liked making that kind of technology, and since both of our games had that kind of streaming, that was a big part of it. There's still like small loading moments, but a lot of technical work was spent on creating a fairly seamless world.

The choice of making first-person games, was certainly shared, and I think the controls of the first-person movement feels somewhat similar because the technical director was fairly happy with the way that it turned out on our first game. Particularly in the way that a first-person control, when it's not super responsive, when it feels a little bit slower and smoother, it kind of help to put players into a mindset that this is not about shooting things. That it feels different because the emotional goals are different. So, that is something that we carried over between games, and then I guess the presence of text, it's not necessarily like a technical thing that we carried between games, but it's certainly there visually in a technical sense, that there is an emphasis on writing and letters. Like I just find them really visually and conceptually interesting, and I think any game we make is probably also good to have visual representations of language and text.

SIMONA: How do you see the relationship between storytelling elements and interaction?

INTERVIEWEE-1: I look at the narration as one more tool to try to bring players into a world and create a tone. For me, the narration, in particular, is a really useful way to create a sense of humanity. I think in games we are often struggling. The kind of games that we make, we often struggle with making it feel like there is a human presence in it. Because you're always looking at a world that is entirely constructed and made out of triangles, and we spend so much of our time worrying about computer artifacts of the lighting, you know, is flickering, or these textures are low resolution, or

whatever the technical issues are, it's hard to make it feel alive, and like there's a presence of a real person and consciousness there, and narration, particularly because you hear, in our games, like a human talking to you. There's a chance to make it feel like it's not just any person, it's like a very specific age, and gender, and background that you can hear that comes through in the voice. We try to cast either non-professional voice-over actors or people that already sound like that, so we don't ask them to do too much performance. It's just kind of them being the person that they are, and hopefully, that comes across for players.

SIMONA: Thinking of The Unfinished Swan, how would you describe the audience that you aim to attract?

INTERVIEWEE-1: The audience whom the game most strongly applied to was cool girls who went to art galleries. That's kind of like the people who were most interested when I would talk about the game, which is difficult because most of them do not own PlayStation. So, I feel like in some ways the ideal audience we were making the game for were people that did not play games and would never play that game. What we found was that the people who were most strongly interested in the game in a broad category were people that either played lots of video games and were kind of certainly tired of games but were interested in something a little fresh, that was like, they could play between spending all weekend on Call of Duty, or Unchartered, or whatever they're playing normally. This is just like a nice alternative to that. And then on the other side, people that played no video games, because games usually were not that interesting to them. Like they weren't interested in shooting, or revenge or whatever video games tend to be about. It was funny that the players who were interested in our game either played lots of video games or played very few games.

SIMONA: In your view, what are the technical devices/mechanisms to consider for attracting the attention of users?

INTERVIEWEE-1: The thing that to me seems most important is having a unique visual style for players. Based on which games players respond to, visual style seems crucial. I think Firewatch[1] is a good example of a game that connected with an audience because of its visuals. The game is fine like it does a lot of things really well, but when I look at the games that tend to connect with the largest audience, I guess, there usually is a very strong visual side of it. I guess we're just visual animals, and that's the thing that we're drawn to, but, surprisingly, that's so important in video games, and maybe more so because there are so many games out there that it helps to stand out.

As for other technical issues, I usually just think about it in terms of the overall design process of coming up with something that I've never seen before that, hopefully, is compelling to players because they've also never seen it before. You know, encourages people to be interested in it, and then for the kind of experiences that we make, trying to make sure that even though it's unfamiliar that the game is never frustrating for players, but that's not really so much a technical issue as it is just like a polish, a tuning, and doing a lot of play tests to identify things that might trip people up and be confusing for them. I think that helps to bring in a larger audience because everybody plays games differently. Unless you're watching a lot of different people play the game, is easy to have things that seem quite harmless to you that will ruin people's experience of the game if you don't adjust it to fix it.

SIMONA: With your company, do you make any effort for creating some spaces for community involvement?

INTERVIEWEE-1: Not really. What we do is to respond to people on Twitter and email. Our focus has not been on any kind of community engagement. Just making the game drains so much work, and so far as talking to the press and doing interviews and basic things

---

[1]Firewatch is an adventure game developed in 2016 by Campo Santo `http://www.firewatchgame.com` [Accessed 20-03-2019].

like a blog and Twitter have been enough to connect with people.

SIMONA: I've noticed that online users and fans create several contents about The Unfinished Swan on YouTube and Twitch such as gameplay videos. Concerning this point, what do you think about the role of user-generated content and fan-driven content for video games like those you create with your studio?

INTERVIEWEE-1: I'm not sure if it's ultimately a positive or a negative thing in terms of sales for us. Particularly with Edith Finch, it felt like there were a lot of people who had fun watching someone else play the game and then did not play the game themselves because there was no point to it like they've already seen it. I think playing it is a very different experience. I'm not as familiar with the LetsPlay and the Twitch streams for The Unfinished Swan, but it's interesting as a game creator that even though these kinds of content probably hurt our sales in some respects, it helps to get the kind of experiences and thoughts that we're interested in out to a larger group of people. So, there are many more people that are enjoying this game, like, any given LetsPlay or Twitch, there may be 500,000 people that have watched this thing, and that's amazing that many people have paid attention. Maybe it's on the background, or maybe they're watching it the whole time, I don't know, but it's a very large audience for that.

I've been very surprised to see, at least on Twitter, that so high of a percentage of our players seem to be Japanese. For The Unfinished Swan, I'm not sure why that is, if the Japanese are just more enthusiastic on Twitter, or if it's because the game was available for free in Japan for a month, and that it was successful. I'm not sure why, to be honest, but it's nice too in terms of like all these videos that are out there, and the player creating content, that it keeps the game alive in a way that we certainly are not doing. We are focused on the next game that people have never heard of, but players are still finding and exploring these worlds and kind of

entertaining themselves, which is nice.

SIMONA: So, you are not sure how this community movement on Twitch could be beneficial for the video game.

INTERVIEWEE-1: I think for our game, it's probably not beneficial in terms of sales. But it is beneficial in terms of more people enjoying the work that we have done, and thinking about issues that we care about, so yeah, it's nice in some ways, and it's probably kind of more neutral in others.

SIMONA: How do you measure user engagement?

INTERVIEWEE-1: We don't because we don't make changes to the game after it's released.So, we look at the response that the game has on Twitter, just looking at individual comments, and we certainly read emails, but we don't change the game based on that feedback because it's too hard. We do a lot of play-testing while the game is in development, and we listen to the response when we announce the game, and when it's in development.

SIMONA: How interactive narratives and video games, have evolved over the last ten years?

INTERVIEWEE-1: I'm not sure that they have. I think for me, the most visible thing is that there's a greater diversity of people creating video games, and so we're seeing stories that, I think, would not come from white male American programmers, which the kind of people that usually were driving a lot of the video game narratives previously. So, that's positive. I guess another thing that changed is that because there were successful games that did not have conventional narrative styles, for example, Gone Home, I think it was much easier for other games to take a chance on kind of riskier narrative styles. And that helped, I think, create an audience as well. Once there are one or two games that are kind of in this other category, like the walking simulator. It was something that players could identify themselves as people who liked walking simulators. And so, maybe ten years ago, or even when The Unfinished Swan

came out about six years ago, there seemed to be a lot more anxiety among players that games like ours even existed at all. We were somehow a threat to Call of Duty, or whatever games that those players liked. And so, there was, fear and anger that our game even existed, that it was a game that wasn't challenging. And that's what seems to be the case now at all. People just accept that there are a lot of different games that are available, and they can still play the games that they're interested in. And these other games can continue to exist. I think part of that is just exhaustion that the people that used to complain about these things have just gotten tired and there're so many games coming out that they can't keep complaining about all the games because they would never do anything else.

SIMONA: What are the key challenges for the video game industry in terms of content creation?

INTERVIEWEE-1: I guess, it seems like the issue is the same one that's been present for the last twenty years or so, which is that every year video games look more and more complicated and take more and more people to make. Thus, certainly, in the triple-A space, there are different problems. Like in the triple-A kind of games, they're just getting more and more difficult to make because players have expectations about how detailed those worlds are, and there's not an obvious solution to that. But it means that there's fewer of those games that get made because they're more and more extensive, and so they become more and more sequels, and very familiar games because that's what is more likely to sell as the investment gets higher and higher. And then, on the other side, for independent games, there's the problem of having your game get discovered by players that becomes harder and harder because there are so many games. So, the focus is more on marketing and trying to connect with an audience that way, where previously, you could just make an interesting game, and that would be enough. That's increasingly

no longer the case as more and more games are released and there are obvious challenges for very different types of games.

SIMONA: if you look at the next ten years, how do you think interactive stories will evolve?

INTERVIEWEE-1: I would hope that it evolves in that it explores different kinds of stories that aren't about revenge, for example, and that it embraces a wider variety of perspectives and character backgrounds. And I think some of that is going to happen no matter what, just because the kinds of people who are making video games are changing. And when I look at movies or books, I really appreciate that there are so many different perspectives that those creators bring to their worlds, and I feel like I get a chance to inhabit and see the world through these very different eyes, and that hasn't really been true with much of video games. But I hope that the perspectives and the emotional tone will evolve and that there will be a more diverse set of options for experiences, and that games that aren't as action-driven would be very appealing. I feel like we've gotten very good at making games that appeal to 15-year old boys, and for the 15-year old boy, that was fine. I think that as more gamers become adults and have children, and do all the things that adults do, that we will see more games that reflect that more diverse reality of the players as well.

SIMONA: Do you think virtual reality will have an impact on video games?

INTERVIEWEE-1: It's very hard for me to predict in what way VR will affect video games, but right now my guess would be that there will be different kinds of stories that are possible in virtual reality that would not really work as well in a stream baked form. So, I don't know that it will change dramatically the kind of experiences that we see elsewhere, but I think it will be like a whole new category of experiences that are most effective there. And perhaps it will have an effect kind of similar to the way that now people can play a lot

of games on their phones. You don't see games like Candy Crush, for example, on PlayStation or Xbox anymore. Where ten years ago, twenty years ago, you might see those games because the only place people could play games was on their television. However, now those kinds of experiences have migrated to the phone. And I think that virtual reality will probably create certain types of stories, like perhaps things that really focus on immersed reality will be more at home in a virtual reality environment, and so you won't see as many of those kinds of stories on consoles, or PCs, but it's very hard for me at this point to predict what those sorts of experiences will be.

And it's been surprising to see how many failures there have been. That so many people have been trying really hard to make interesting virtual reality experiences. They've gotten good at making demos, and very short experiences. But it's not clear yet what the longer version of that will be. But I think it seems inevitable within the next twenty years that more and more games will start to take place in those kinds of either virtual reality or augmented reality environments.

A.2   Guy Gadney

Guy Gadney is the CEO and founder of *charisma.ai,*an AI platform which enables the creation of interactive narratives[2].

SIMONA: Thinking of the projects you worked on like the interactive story app for Sherlock, the Suspect, and Charisma.ai. How would you label these kinds of projects?

GUY: The short answer is, I'd call them interactive storytelling. The longer answer is this really rapid innovation in the space, and I don't think people have come up with the labels properly yet. It often takes decades for labels to become mature properly. What

---

[2]Information on *charisma.ai can be read at* ***https:// charisma. ai/** *[Accessed 15-01-2019].*

we know now as movies or films weren't called movies or films when they first came out. Then it was sort of talking pictures. And there was the adjective and then the word, and I think we're in that stage linguistically at the moment where we have these qualifying descriptions. And often, if you look back in history, that's indicative of a new form that hasn't yet got its labels right. So I think of my mentality, interactive storytelling's probably the best we can do, but the new label will emerge.

SIMONA: You worked for Penguin Books, for magazine publishers and television broadcasters, what drew you to work within new media after gaining experience with traditional media?

GUY: I think for me, it has always been very natural. I grew up as a child, really, balanced between technology, storytelling, and art. And so for me, that position was always natural. These different established media organizations, there's always a scepticism around anything new. Culturally, they feel that books are the correct medium; magazines are the correct medium. And they don't really want those touched in any way, shape or form. But I think that's often a fear of the unknown. How familiar are you with Monty Python?

SIMONA: Yeah, I'm familiar with them.

GUY: There was a magazine publisher who I was giving a presentation to when I first joined that publishing company. And I gave the presentation about what we wanted to do and what our strategy was and how we were going to reach new audiences, and we were slightly going to change the forum. And he just said, he was quoting Monty Python, he said, "I don't know whether you're the new Messiah or just a very silly boy". And I think it's a real challenge to explain to people what the future is going to look like, even if that future is only a year away and we can see it. If you are talking to someone who cannot see it, it all comes down to language and communication about how you explain that in a way that doesn't

make them feel nervous about the future. But also tells the story in a way that is meaningful for them and that where they can see it. That's a real challenge and probably the biggest challenge that I have of being so (inaudible 00:05:21) media. And new media is how actually to explain that this is important. And if you look back five, ten, twenty years, history is of the people who have seen it, who can see it, and the people who can't. And that's not to say one or either is right or wrong because was Myspace right? Was Bebo right? Well, sort of but not. So I think there were very many challenges in that space. But I suppose my career is the closest thing to time travel that I'll ever get.

SIMONA: I'd like to understand better the journey that brought you to found To Play For. Can you provide a general overview of your professional background, before that point?

GUY: I've always been interested in art, writing, and photography. I love photography as an art form, and I did have some exhibitions in photography. I wrote and as much as I can, still write a lot. But then also have this technology base where, when I was a teenager, I learned how to program. I'd code games; I'd program games. And those two worlds didn't merge properly until I would say, this is going back in time. The invention of sort of CD-ROM, which was when you could keep images, data and bring them together. I mean, aside from the video game industry, of course. But in this bringing together of these things. And that happened to be about the year when I graduated. I studied Spanish and philosophy. There was no internet degree and video games degree. So there was no sort of, even digital media degrees, or any of these things. I was lucky enough then to work for a small company that was doing what was then called multimedia and worked on physical installations for the World Expo and, for various other sorts of projects and museum installations. From that basis, then come when books were looking to experiment in digital, and that's probably the first

pure digital job that I had. So it was pretty early on in my career, fortunately, and also in the development of the industry. And then often, once you've been within that sort of those organizations, you can move. And I've always moved within large organizations and small organizations.

SIMONA: So you've always been interested in the multimedia way of telling stories.

GUY: Yes.

SIMONA: As you mentioned in several interviews and articles, you have identified a story as made of narratives, story world, and characters. Thinking to this point, can you draw differences between digital storytelling, interactive storytelling, and transmedia storytelling, on the way they use these elements?

GUY: I think the way to answer this is to look at when the form of the story changes. And if you look at anything on YouTube, really, they're not interactive. They are traditional video storytelling, linear storytelling, put onto a different format, distributed by a different mechanism. I think that, if you look at sort of digital media - I'm going to define that slightly as digital distribution platforms - the revolution that happened there, as much as anything, is in the cost of doing them and the intimacy. The form is very much like you, and I are talking, it's direct to the camera. And that on a lot of YouTube stars who have this very intimate and open relationship with their viewers and that's fine; however, it doesn't change the form. The form of the story changes when you move into interactive.

SIMONA: So you think that there are technical elements that change among these three narrative models.

GUY: Yes. So digital media I'm going to define as sort of YouTube, for the sake of argument. And then you have transmedia which I define as, telling a specific story but using different components. So the story leverages different media and tells that story in different

media as appropriate, and the story then comes together. And then interactive media which is where the consumer has an influence in the story. So if you're watching a YouTube video, you don't have any influence on that story. With transmedia storytelling you both do and don't, depending on the use of media. But interactive media you do, and that's where the story starts to change. And I think if you look at digital media, sort of YouTube, you can chart it back to the book as a fixed medium. It's a linear story. It has a beginning, a middle and an end. And then you visualize that book, and that becomes a film which has a beginning, middle and an end and is linear and locked. Importantly, that story is locked. It doesn't change. And then you start to get into digital media, and that's still the same.

So that to me is a steady and straight evolutionary path. With interactive media, you've got to go back and change the form. This is going back to my days at Penguin. I was really interested, even then, in interactive fiction. And the fact that this is two words. Interactive and fiction are contradictions in terms. In the sense that if you have a fiction, you're telling a story, and that story has to have tension and pace. But if it's interactive, then you're interrupting it, and therefore, you break the tension and pace. It's like going on a high-speed car chase, and then it's going, "Hang on a sec. I'm just going to stop and go to the toilet for a minute." I mean, you've sort of ruined the tension of the car chase. So that was the challenge. And I think that's the challenge that I've tried to continue to explore and research ever since.

Going back to your three points. I think that transmedia is a really interesting form. The hype around transmedia is that it's such an academically fascinating question and it's sort of the peak of the mountain, and everyone aimed at the peak of the mountain because they could see that this is the culmination of all these different media and (inaudible 00:16:26). But you need to go on the full

journey up the mountain to understand. You need to go on the journey, and you need to practice your art across all these different areas. You need to tell a story on mobile, across all the platforms, so using all the tools you've got and then you can combine them and use them appropriately in your story. Before, if you think of all these different platforms, we have as colours with a paintbrush. You use those colours, a painter uses those colours appropriately. If you throw them all together, you get grey. And that's not a good experience. You need to deploy them. The mobile SMS needs to come at a specific moment in the narrative where it is both impactful and appropriate to use that medium. I think doing stories via SMS is a temporary thing.

SIMONA: Since you mentioned this crucial relationship between narration and interaction, Do you think that it's possible to combine them for creating a story with a strong narrative level?

GUY: Absolutely, yes. And I think this is where it comes down to the emphasis that you place and you're right, I do break it down the story into the story world, the narrative, and the character. Because I think it's really valuable to work out where, and as a storyteller, you're going to focus your storytelling. And talking present day, what we're doing with charisma.ai is to focus on the character because that is our belief of where, in an interactive world, the story is strongest. The reason for that is because we look at the medium in which we're operating which is at its core essence, the intimate. And the thing about the intimate is that it is a communications media. So characters work best because they communicate.

As you've probably seen here, I go back to Marshall McLuhan quite a bit, and to his view that the message matches the medium and the medium matches the message. So if your message, which is the story you're trying to communicate, matches the medium, it's going to be a lot stronger than if you shoehorn it into another form. I think out of those three, the story world is important, of course,

it is, and we can create that with language, or we can create it graphically; however, we want to. But characters are really where, as we talk now on video, you believe that I exist.

SIMONA: So you think that the fictional character is the element that can create that bond with the audience.

GUY: Yes. Because I believe it like you believe you're talking to me. You could be talking to an AI avatar, and we should choose this as best. The example I give with this as the communications thing is actually with SMS. A very well-timed SMS text message delivered to your phone in the right context, with the right language, at the right moment in time, can be supremely emotionally powerful. You don't need to have Dolby 5.1 surround sound and all of that stuff. You need to use the right medium. The right medium at the right moment and that is, I think, where transmedia can come through. It's just the skill sets that are required to pull that together are significant. And again, you need to think about which stories are going to work.

So at the moment, we're adapting a couple of book titles into interactive media. Now, that's interesting because the question is why those book titles and not others? The answer is because some don't work in the same way that some don't adapt very well to film. And indeed, some films don't adapt well to games. Some do. Now, what elements? And again, I'm operating at a very basic level which is the things that I think work for me well is when they're really good characters. Well, that's my focus, and it won't be someone else's focus.

SIMONA: When you adapt a story from traditional media to interactive media, what are the elements on which you focus?

GUY: I think we're still working out the answer to that question. But I mean, as I said, good characters are important. And from my own perspective, themes that can be explored in more depth are really interesting. And we discovered this early on. Early on, when we

were doing soap operas, actually, and we were doing what is said is transmedia. And the interesting thing about soap operas is that their format and their structure are very high, it's got a high level. I'm a huge admirer of the way that they structure things and how it works, the storytelling. If you look at Home and Away, you can miss five years and then come back to it, and you watch one episode, and you're up to date. That's clever, that's really clever. The way they do it is by doing sort of two-minute scenes - quick quick quick - and each scene will have key characters in it. So you can get up to speed with all of those relationships very quickly. However, what that format doesn't allow is the ability to dive down into slower, thematic exploration. Whereas as we talk more and you can talk to the character, you can have conversations. Conversations naturally lend themselves to that sort of exploration. So I think the short answer again is good characters and interesting themes that the audience can explore in-depth.

SIMONA: Coming back to the interactive narratives, how do you think the relationship between the audience and these stories has changed over time?

GUY: I think maybe, in some ways, nothing is new. I look at things that have come out, interactive projects that come out now, and I can draw a direct line back, almost to CD-ROM days, of how the story was structured. I think what's changed is that audiences, in general, have become more educated and keen to experience these sorts of projects and probably there is a real rise in narrative games and that has benefited from two standpoints. One is that people are looking for strong stories and games and not just the sort of lightweight stuff. But then also, people who are interested in stories are looking for more interactivity. So I think there is a real, sort of perfect, moment where this concept, this conversation like we're having, this theme, this sort of storytelling and immersive storytelling, interactive storytelling, can reach the mainstream.

I don't think we've necessarily seen the platform that can distribute it yet. And it could be Steam, it could be something else, or it could be something unique. I mean, you look at how the Nintendo Wii changed things. The Nintendo Switch has changed things. You could well find that there is a platform somehow, whether it's a software or a hardware platform, which focuses on this. And is the evolution of the library, maybe.

SIMONA: What do you think about interactive storytelling projects in terms of community involvement? By analysing interactive storytelling projects, for instance, video games with a strong narrative like Dear Esther, or The Unfinished Swan, I found that small/indie companies do not engage in creating strong communities around their projects.

GUY: Let's look at that question in two ways. I think one is about the business model and how you generate revenue off audience involvement in your story. And the difference that we've got in this world is microtransactions. Now I'm sure, and some people may argue that they've always been there in other forms, but you watch a movie and then buy a chocolate bar. But that is different in that the transaction is within the story universe. And that doesn't happen in cinema and books. And there is a complex balance of how you balance a community, the strength of that community and its ability to grow organically with commercial models around it. I first encountered this when I was developing my roleplaying game many years ago. We had a lot of philosophical debates about whether or not you could buy progress in the game. Like, can you buy power? And our view was you don't, and as a result, we didn't make much money, and we closed the game. I'm sure if we had a more commercial hat, it may have changed. But our view was that the community came first. Whereas if you look at the way in which games like RuneScape have evolved since being bought by a Chinese company. China has a very much more brutal way of

322

implementing microtransactions. You can't do much before hitting a paywall. So, the business model impacts the community.

Then I think again, what we noticed doing that roleplaying game, years ago was that part of what the audiences like is the ability to roleplay where they use their own imagination. And so if you can create, and it's still why books still run so much because we enjoy imagining what a character might look like. And I think as we move into an immersive medium now, where we could completely override that sense of imagination. We would do that at the risk of losing an element of involvement from the audience that uses that imagination. And it's that imagination, I think, that triggers the community because they start to talk about it.

So you have the core of the story, and then you have the water cooler conservations then, around it. We need to enable those, as well.

SIMONA: What are the key challenges ahead for the entertainment industry concerning content creation?

GUY: Well, there is a part of me that says that audiences are now getting so used to this that games are mainstream now; even though the (inaudible 00:43:40) industry doesn't think that they are. Indeed, games have their own problems with legacy at the moment. They have issues around gender representation, both within their production companies and also gender representation in games themselves. They're now a mature medium that needs to grow up, and there's no reason why they shouldn't be responsible in the same way other media are. Otherwise, they run the risk of being disrupted, themselves. And you can move from being disrupted to disruptive very, very quickly these days, as you know.

So if mainstream audiences now are getting used to this form of interactivity, it does put media and entertainment companies in a position where audiences want this when it's not being provided by the entertainment company enough. And that puts them at a

little bit of, potentially, at a bit of a risk. So that's the risk issue. The flip side to that is that over the last few decades, no new medium has ever really replaced the previous one. Video didn't kill the radio star; TV didn't kill cinema; the internet hasn't killed cinema, it hasn't killed TV.

SIMONA: Well, probably new media put traditional media it in a niche.

GUY: They find their own new space. I don't think they will ever die at all. But new opportunities arise as a result of it. And it's those that excite me, I guess.

SIMONA: If you look at the next ten years, how do you think storytelling and interactive storytelling will evolve?

GUY: I quite like this idea of there being a new platform and that we'll see a new platform emerge. I think that will happen. I think virtual reality is a very interesting medium because it is so impactful to our minds and our brains. It overrides like no other storytelling medium ever did. And I think we will see many hype and troughs and all sorts of things. But it will plateau out into something quite significant. I mean, everyone's looking at what makes (inaudible 00:43:10), and I think that's very young. It's going through an evolution which is information first, and I include Pokémon Go as information. There's no emotional narrative arc in Pokémon Go. And even The Walking Dead, it's the same. It's not an evolved medium. Whereas I think had they done something like, had Walking Dead thought about or worked with the guys who did Run, Zombies book run. Run! Zombies, Run![3] is real interesting. I studied it. Because it is a story, it is a series of stories wrapped over a fitness application.

And had The Walking Dead (inaudible 00:48:14) gone down that pathway; it could have been a lot more emotionally impactful and would have really caught on. In the next ten years, we will see a lot more experiments, an evolution like we haven't seen for a

---

[3]Information on Run! Zombies, Run! can be read at `https://zombiesrungame.com/`[Accessed 15-01-2019].

long time, almost since the Gutenberg press. And the reason I go back to that is that press democratized and distributed the written word in ways which it had never happened before. It constrained the written word in ways which had never happened previously, either. The monks with their wonderful floral calligraphy in gold, and it suddenly went to black and white. It was really boring. Possibly, you could argue, and I sometimes do, that it was one of the worst things that could happen to storytelling. It's great for reading but not so good for the creative expression. So I think we are reinventing the core form now. And the view that I often talk about is how, actually, you look pre-Gutenberg and go back to fireside conversations and how you had storytellers who roamed the land telling stories that they'd heard. And those stories evolved as different communities fed it to them and then the communities took the stories and ran with them. Those old models are very much like what we've got now. Where stories are very fluid, and the impact of that is huge. I mean, it's fundamental. And the concept of an author as an auteur is very challenged in that. It's now, it is the storyteller, and the storyteller is not only someone who can tell a good story, it's someone who can reflect how their audiences think about that story and work it back into the story. Anyway, I think it is possibly the most exciting moment in storytelling that we've seen for 500 years of time.

A.3   Colin Harvey

Colin Harvey is Senior Narrative Designer with Sony VR. He is both a scholar and practitioner focused on transmedia storytelling and game narrative.

SIMONA: In Fantastic Transmedia, you claimed that the term 'transmedia' and 'storytelling' had been liable for multiple interpretations depending on the domains in which the notions are used. How would you label the project you are working on now?

COLIN: Well, the project I'm working on at the moment is a video game. Video games are a fantastic term as well, as you know. As far as how that term has been defined, most people know what a video game is. I would say the project I'm working on at the moment, it's pretty unambiguously a video game. Now, there might be transmedia that emerges from that, but, certainly, my involvement at the moment is that this is just a video game.

The preceding project I worked on, I wrote screenplays for the video game and was a narrative designer for the video game, but I was also involved in transmedia production. I produced the comic and prequel comic, which was digital, but we could print it off and have a hard copy that night. Also, I ran a marketing campaign, which was online and, again, was very consistent within the story world. It was very much transmedia production. I guess there's a difference between the current project I'm working on and the preceding project I worked on.

SIMONA: So the way a project is defined depends on the domain in which the creator works.

COLIN: Yes. I think your overarching terms, digital, the interactive and transmedia, seem very useful to me as a way of distinguishing between these allied forms of storytelling, but they are distinct. They have their own peculiarities.

SIMONA: I know that your experience in the entertainment and media industry is very extensive, can you give me a general overview of your professional background?

COLIN: Well, I think I'm reasonably unusual in that I came by the academic career path. I've had a 20-year academic career looking at all sorts of storytelling, teaching and researching all different kinds of storytelling across film, radio, and theatre. My PhD research was, as you know, exclusively about video games and really around the storytelling and gameplay relationship with video games. All the while, though, because I was always teaching, and I was a practi-

tioner as well. I was always writing stories and novellas and, more recently, comics as well as video games. I've always had that strive to what I was doing right from when I began my academic career just after I graduated. I've always seen these complementary skill sets with me. In the last four, five, six years, I've moved more exclusively into the industrial sphere working on video games and other sorts of storytelling.

SIMONA: What drew you to work within new media as opposed to more traditional narratives?

COLIN: For me, it's actually quite a person, longstanding interest in the power of interactive fiction and video games right from when I was a child. When I was 11-years-old, I won a computer in a national competition to design a house of the future. I was one of the few kids with a computer at that point (inaudible 00:05:00). One of the things I quickly discovered was a passion for more narrative-based video games, and also an interest in how I might use the computer to create my own stories which could be interactive and could have a fairly basic branching narrative, the whole idea that you can set up the concept early on in the story which you can then play off and learn through the stories. Even at that quite early age, it seemed to me quite similar and more competitive than certain variables. That seemed to work quite well. I was always interested in that, even when I was a teenager. I guess that continued through my undergraduate degree and then, subsequently, my graduate studies.

SIMONA: You mentioned before that digital, interactive and transmedia storytelling has distinct characteristics. So you believe it is possible to draw the difference among digital, interactive and transmedia projects. Can you explain how do you think these narrative types differ?

COLIN: Yeah, I think you can. This is why your definitions seemed to be quite niche. If you take the project I just talked about, the project I was working on before my current project. That video game,

which there was interactivity within that storyline that marched because it wasn't a branching narrative particularly, but, certainly, within gameplay certain decisions we made would in a very limited way have an effect on what happened subsequently. I would say that it was interactive.

The comic I mentioned is an example of the digital, in the sense that it wasn't interactive. It was just an online comic that you could look at. It's kind of like a Venn Diagram, I suppose. There's a crossover. Clearly, the digital, they're also part of the transmedia network, not with the producers who made the game beyond me (inaudible 00:07:12) necessarily see that as transmedia, but, certainly, working on it, it felt like it was identifiable transmedia. The marketing guy said to me that he hated the term transmedia, but there was that fantastic enlargement of that. That was what we were doing. There's a bit of crossover as I've said between those categories. Something might be just interactive, or it might be just digital, or it might be transmedia, but it might be two of those things, or it might be three of those things. If you were going to make a Venn Diagram of things, there would be elements of crossover for the current media.

SIMONA: More specifically, are there narrative or technical elements which you can say characterises each of these three narrative models?

COLIN: Yes, I think there's a medium specificity. I'm always kind of reluctant to use the term interactivity because, to me, in the broadest possible sense, a movie or a novel is interactive. There's a cinematic engagement with what's happening. Interactive has always been a bit of a crude term, but, generally, people know what you mean when you say that.

So, that's the obvious thing that there is some element of interaction whereby you can affect the narrative in some way. If it's a game, by playing the game, or if it's a novel by somehow interacting with the narrative that can cause maybe something with branching

or some form of character interaction, which you wouldn't get with a movie perhaps. That, to me, is the key difference.

SIMONA: In Fantastic Transmedia you analysed The Beast and America 2049. How do you think the audience's engagement with transmedia experiences has changed over time?

COLIN: It would make for an interesting longitudinal study, I guess, to find out if people return to these projects or do they just engage with them at the moment. If the transmedia question is part of the marketing network of transmedia, then it might be that there's a film coming out and there's a bit of a digital element that's going to connect it to the film, which would make things current and very contemporary, but you might not, therefore, return to it. I think the projects we've mentioned have a depth to them that I would imagine would make people want to return to them. People would want to go back and keep engaging with the stuff, not just if you want to evolve the plot. There's also that element, but there's also if you wanted to see what (inaudible 00:12:00) with the artwork, which I guess is true with any artwork that's got lanes to it.

SIMONA: When you develop transmedia or interactive projects, do you consider some narrative or technical elements for attracting the attention of users?

COLIN: Well, there are two ways of altering that. One is that I think any storyteller is trying to do that anyway. You're trying to hook in your audience, and a lot of the same rules of storytelling apply for certain video games that would apply for novel or film, from hooking them in right at the beginning by making the audience question "what's happening?" and then hooking them at the end of the first scene so that they come back to the second scene. All those sorts of things remain true, I think.

At the same time, in terms of video gaming, if you're working in the AAA sector, it's an immensely collaborative enterprise and you might provide a framework for the story and your colleagues work-

ing on the project might absolutely go along with your intention as a writer or an active designer, but they might also say, "Well, actually, how about this? This is a better hook. This is a better way of encouraging people to buy the thing in the first place and for them to continue playing it, write good reviews of it and go on YouTube and talk about it".

Again, that's true of any project which is collaborative, that might be true of a fifth-player or an ARG where a lot of people are involved in the project. In that context, you can put four or five years into ways of hooking people into the story, but that might not necessarily be what other people want to do with the project. It's the same thing you're all trying to do though. You're trying to get the player to ask questions about what's happening.

SIMONA: What to do you think about the role communities play in interactive narratives? I'm thinking of story-driven video games like Dear Esther and The Unfinished Swan. By talking with developers of indie video games, I had the impression that they focus on users involvement more when they test the video game than after it is released. It seems that they do not focus on creating a community around the project. What is your view about this point? Have you ever noticed that?

COLIN: Well, I'm somebody, in my role, I think I have more control over certain aspects than maybe some other roles within the company would have.

If you get feedback as part of that process from your user-base or your prospective user-base, you can already start incorporating stuff, certainly, with changing things or combining things.

Many downloadable contents is a mini-sequence, effectively, to what you've been working on. That's certainly the case on the last project I worked on where we did do that, or I did that on my own steam, really. I thought, "Oh, that's interesting. I'm going to incorporate that perspective into this and somehow respond to it".

You do get a bit of gala with the community around. I think in all sorts of ways the community do push the agenda in terms of what you want to do and what you're going to do.

It's a product, so the company in question are going to be very responsive to what the user-base is telling them and what the community are telling them. Then, if you look at products like Mass Effect, which I think have a very active fanbase, I think they were completely instrumental in pushing that particular game and that franchise in all sorts of interesting ways. Again, there's the opposite of that, but I think the same is true for, say, Star Trek fans. I think they pushed the object of their desires into different interesting places as well. Again, it's not particular to games or transmedia, but I think as Jenkins had said, in this era that we're living through, the web has rendered physical a lot of these interactions that the passionate fans get for the thing they're into.

SIMONA: What to do you think about the role communities play in interactive narratives? I'm thinking of story-driven video games like Dear Esther and The Unfinished Swan. By talking with developers of indie video games, I had the impression that they focus on users involvement more when they test the video game than after it is released. It seems that they do not focus on creating a community around the project. What is your view about this point? Have you ever noticed that?

COLIN: Well, I'm somebody, in my role, I think I have more control over certain aspects than maybe some other roles within the company would have.

If you get feedback as part of that process from your user-base or your prospective user-base, you can already start incorporating stuff, certainly, with changing things or combining things.

Many downloadable contents is a mini-sequence, effectively, to what you've been working on. That's certainly the case on the last project I worked on where we did do that, or I did that on my

own steam, really. I thought, "Oh, that's interesting. I'm going to incorporate that perspective into this and somehow respond to it". You do get a bit of gala with the community around. I think in all sorts of ways the community do push the agenda in terms of what you want to do and what you're going to do.

It's a product, so the company in question are going to be very responsive to what the user-base is telling them and what the community are telling them. Then, if you look at products like Mass Effect, which I think have a very active fanbase, I think they were completely instrumental in pushing that particular game and that franchise in all sorts of interesting ways. Again, there's the opposite of that, but I think the same is true for, say, Star Trek fans. I think they pushed the object of their desires into different interesting places as well. Again, it's not particular to games or transmedia, but I think as Jenkins had said, in this era that we're living through, the web has rendered physical a lot of these interactions that the passionate fans get for the thing they're into.

SIMONA: According to this point, how do you see the role of fan-driven content on video games? What do you think about 'let's play videos' on platforms like YouTube or Twitch? Some developers told me that they don't know if this could bring benefits for them in terms of sales. Do you think these types of fan-driven content can be beneficial for video games?

COLIN: Yes, absolutely. Game production, like any news media, is an expensive activity, it becomes difficult, then, to put out new material the whole time. If the community can become self-sustaining in some sense by making their own content, then that's really helpful. I think, again, if you look at the example of Star Trek, that's a really interesting one because that was off of the air for a long time, and the fanbase was very creative and very active in terms of creating their own material to fill the gap.

I think Paramount, the owner in that case, initially was quite crit-

ical of the fans for doing that and playing with their idea. I think, lately, they've come to see that's actually quite a useful positive from their viewpoint. Then, in terms again of the money and the creativity around the edges, it's keeping the product in question in the public eye and giving the fans something to talk about amongst themselves.

Actually, I think it's great that the producers of the product can then engage with the community around this stuff and say what they like and what they don't like. I mean, I think Star Wars is an absolute example of how they do that, in terms of including their website, If you look at the Star Wars website and how they utilise somebody's baked cakes or they've made. There are all sorts of ways in which you can engage with the craft movement and all these different articulations of people's passion for their product. I think that was always there, but, again, as Jenkins has said, it's the digital and the web that's enabled that connection and that symbiotic relationship to be much more explicit. I think it was always there. If you look at the history of a fandom, you can see that it was there before the digital world.

SIMONA: Digital, interactive and transmedia storytelling projects show different types of interaction. How do you see the relationship between the narrative level and the interactive level for projects in the three areas?

COLIN: That's a big question. As you were asking it, I was thinking about how I think virtual reality is going to change how we band the difference. I think you can say that there's a difference between more gamey-games. At the moment, I'm playing a lot of Tetris, because I think it's just a really good stress release, the mechanism and it's such an elegant game, but clearly, Tetris, as it's been well-documented, has very much been (inaudible 00:24:16) category, and then The Last of Us would be an example of an extremely sophisticated video game.

There's a lot of things at play here, but I think we're also moving towards the big franchises, like Star Wars and the Godzilla trailer came out yesterday. That's another shared universe, which has also got transmedia elements to it. Obviously, Marvel is the big cinematic one. I think what we, perhaps, could be moving towards is this idea of a mega-narrative, where there are these huge over-arching narratives. Again, it's not nearly like, you could say, the Bible or any similar sort of thing, but there's the transmedial component in terms of how the different aspects of it are articulated. You're talking, on one level, about consuming, say, a specific part of the transmedia network, which might be a novel or a comic or a video game, but, at the same time, you're part of this bigger mega-narrative of the bigger story roles. The interplay between those two things is really interesting.

I have a friend who reads Warhammer novels, but he's never played the game. Some people only look at one aspect of it, whereas other people will completely immerse themselves in every aspect of the story world. I don't know if that answers that question, but it's quite interesting to think about that.

SIMONA: How interactive and transmedia narratives have evolved over the last ten years.

COLIN: I think it's accelerating. I mean, this goes back to that definition of transmedia storytelling, because as I say in Fantastic Transmedia, I think that the licensing spinoff tie-in that happened before transmedia storytelling became the thing is still transmedia storytelling. I think (inaudible 00:09:10) has written about this as well. There's a history that goes back. There's more work to be done with that predates the digital. (inaudible 00:27:04), himself has said interactive storytelling is moving exclusively digital. Because of immersive technology and where that's moving at, I think the speed of that integration and the reparation of the kinds of transmedia engagement and the rapidity with which you can engage

334

with it is the thing that's really changed over the last decade. The last decade is also when IMAC came out, so there's an awareness within the film industry this idea of a shared universe, which again there's a precedent for in the universal horror movies and other film examples. They just like to see that because that's been so commercially successful. That's the other thing because these things are commercially successful.

As a fan, it's what I always wanted. When I was a kid, I would've loved for something to be involved in the cinematic universe, or Star Wars to be more explicitly integrated than it was when I was a kid. You get bits of the transmedia network, even though they're produced by different companies, still talking to each other. A novel might mention something that happened in a comic that clearly happened in a TV series.

SIMONA: Can you think of some key challenges for the entertainment industry concerning content creation?

COLIN: Again, I think there are all sorts of challenges. If we keep thinking about the shared universe idea, Marvel made it work. Star Wars already had a model that they integrated and refined when business was over, but, clearly, then you look at the DC Universe. Both critically and commercially, it's been quite patchy. If you look at the universal horror movie and attempt to start a franchise with that and make a shared universe with that, again, it hasn't really paid off. Again, these aren't transmedial yet, but they probably would become so if they'd have been successful.

There are age-old challenges about whether people are going to come to the cinema or actually pay and watch these movies. That's been around the same. I guess it's competing for the resources, which transmedia networking can invest their time in. Are you going to invest it in Star Wars or Marvel or Dr. Evil. It's an expensive past time.

To go back to the previous answer, the whole point about consumer

creation, that comes into play again in terms of what goes with your fanbase. Your fanbase is the one side, and then the bigger audience on the other side, and that's tricky. I think Star Wars and Marvel are very good at it, but there are other companies that clearly struggle to do that. There are the champions around the transmedia network. Book publishing is a very different sphere to making a movie, and making a movie is very different from making a video game or a comic. There are all those challenges as well about how you get the different areas to talk to each other.

Marvel, they have a guy called Geoffrey Colo who's a transmedia producer that works across the different elements. Even then, as I've alluded to in the book, the other challenge is what happens when the legal parameters change? Because it's Marvel, it's meant that the two halves, the television side, and the film side, are not as engaged with each as they perhaps were a few years ago.

SIMONA: If you look at ten years from now, how do you think video games and the interactive storytelling will evolve?

COLIN: I think the big thing is VR. I think VR will become a big thing, because if you get it right with VR, the cut scenes and the narratives of video games we're familiar with, the difference between those and the play of the game will dissolve. I think that's quite an important evolution in video games because you will feel like you're always part of the narrative. Gameplay and narrative will be closer together than they have been. I might be wrong, but VR feels to me a bit like the move from science (inaudible 00:34:11). It's something quite major about to happen.

The cinema analogy's quite useful actually because we're still trying to work out what the grabber of virtual reality is because we don't have editing. We can't rely on editing to have great meaning, which is an advantage and a disadvantage. The games and that side of interactive storytelling, I think, that's to be the thing that will really change.

That's dependent upon technology, and it's dependent upon what
happens with Sony, what happens with Apple, and how people
respond to them. At the same time, AR as well, what happens in
terms of AR and how those two media sit beside each other and
interact. I'm not trying to predict but trying to give you a bit of
an idea what I think might happen.

A.4   Kim Baumann Larsen

Kim Baumann Larsen is an architect and 3D artist. He has co-founded and
co-directed Digital Storytelling, a series of annual seminars and workshops
organised in Oslo. Throughout his career, Kim has developed augmented
reality apps and VR projects with a focus on architecture.

SIMONA: How would you define the projects you create?

KIM: I guess that film would work and in particular, I would say mak-
ing stories with images on architecture. So, trying to move that
forward, you can see it as making a story about architecture with
the use of cinematic storytelling techniques. It's a matter of trying
to tell a story about buildings, and the buildings will be the main
character in the story which is a bit harder than having a person
as the main character.

SIMONA: Could you give an overview of your professional background by
focusing on the different fields in the media industry in which you
have worked?

KIM: I have a background in architecture, but also a strong interest
in computer graphics technology. I'm a licensed architect from
the architecture school of Oslo, and the University of Houston. I
started working with computer graphics during my studies. That's
something that I've been interested in for a long time because I
started with informatics before studying architecture. When I came
back from the US in 1995, I founded my own company. And then
in 1999, I founded the Placebo Effects.

I guess you could say that my main interest has been since the start to tell stories with images and mostly about the built environment that include architecture and design. Throughout the time with Placebo Effects, we started looking at new technologies. Instead of rendering images and films, we started to look at real-time graphics. We first wanted to do augmented reality visualisation for buildings, but we found that it was a bit too difficult. So, we ended up doing a couple of projects for marketing, and both of those are interesting in terms of storytelling because they both have storytelling aspects[4] . Working with AR led me back into VR, which I started doing in 1995 when it was not commercially viable. For two years, I worked with VR for a startup called The Future Group, and now I'm back running my own company again.

SIMONA: What drew you to work with VR as opposed to more traditional media?

KIM: Well, the reason why I'm so interested in VR is that it's a new way of engaging with digital content. I think for anything related to space or architecture it is probably the best media because architecture is about being a human being, being in a space and directing that space, and that's what VR does.

SIMONA: Do you think that VR compared to other digital and interactive technologies provide more opportunities for your work?

KIM: I find that storytelling in VR is extremely difficult because, with this technology, you feel that you are in the 'presence', potentially you are free to do whatever you want. However, if you have a story that forces you to do something and you feel that you don't have free will, this takes you out of the presence. I guess the most successful storytelling projects in VR today are games. The reason is that games per definition put the player or the user in the centre, the player is the main character. This is different from those media where the viewer is not the main character, but he's somebody on

---

[4]A selection of Kim's project are available at `https://www.kimsarc.com/about` [Accessed 1-09-2019].

the screen that you are to sympathise with or not. I think this is a challenge.

SIMONA: As a practitioner, have you ever thought about digital and interactive projects in terms of digital storytelling, interactive storytelling, and transmedia storytelling? Have you any idea about the characteristics of these three narrative models?

KIM: Well, as a practitioner, I haven't looked into the differences between those areas so much. Could give me some examples?

SIMONA: An example of interactive storytelling is a story-driven video game like Dear Esther.

KIM: Yes, I know it.

SIMONA: I think of webcomics as examples of digital storytelling. Also, an interesting case for digital and transmedia storytelling is The Lizzie Bennet Diaries that is web series inspired by the novel Pride and Prejudice. This online series employs an array of social media such as YouTube, Twitter and Tumblr.

KIM: Well it seems that one way to differentiate them would be the level of interaction. I guess that within each of those categories, you could have different levels of interaction as well.

SIMONA: Thinking of your project Blue Waves, why have you used narrative elements for promoting an architectural design project? Why do you think that storytelling is important in your work?

KIM: I think that most architects are storytellers, by that, I mean that they build a narrative about their design. Usually, they create narratives in order to sell [the project] to their client. [The storytelling] can be about how the building is being used. Most architects are good at just telling this in a story that they communicate through drawings and images while they talk to the client. Bringing this into a film is not so easy. As I said, to make a narrative about the building, you need to include people and what they do. You should give the idea as you can follow a person or a group of people through a daily life through the building. Several professionals

use this approach. In Blue Waves, we partially did that, but we thought it wouldn't be interesting to tell the story of the building from the architect's point of view. We moved the story into the future, in order to communicate to the client that the building was technologically advanced. So, that's why we chose to write a story about the architect by using this holographic design tool. We choose to communicate the idea that the building was something that is not possible today but might exist in the future. In this way, we bring forth this feeling that this is a very futuristic project.

SIMONA: You mentioned that people – characters – are important for bringing storytelling inside a design project. Are there other narrative elements which are important in your projects?

KIM: Well, I don't know if you consider the music in narrative terms, but I guess it is important. The type of music that is employed in a film is important in terms of communicating emotion. If you listen to the music that reminds you about a certain type of film or a place, then you're accepting of this mood. This is an important thing, for all the films we did, we started very early to pick the music. Music not only is important in terms of having the right mood but it is crucial for the way we edit the film because the editor has to follow the pace of the music. Editing is also essential for the narrative because you can make a fast-paced cutting, or you can make it slow, and this choice will affect how the story is communicated.

That film [Blue Waves], in particular, it was for a competition. So in that case, we avoided selecting a commercial piece because we wouldn't be able to secure rights for that. But we said to the client, that in case the film was uploaded on the Internet, the client will have to pay for having a good poster making a different version. So, we chose the tune by a big consumer, and it was a very powerful, emotional, very dramatic to go with the thing. And then we had I think a different piece of music composed for when they won the

competition, and they wanted to put this on the Internet.

SIMONA: I'd like to know your idea about integrating VR technologies in interactive narratives. What are the key challenges in doing so?

KIM: As I told you earlier, the use of VR can collide with the feeling of being 'present'. I don't think there's a general answer to that. You need to think about what level of freedom the character, the user has, or about the level of freedom that she needs to feel that she can find her role in the story. I think it's probably something that it's going to take a lot of time before we really get to a level where it's possible. Because for instance, if you have a group of characters in the VR experience, they need some kind of logic or algorithms to behave according to the behaviour of the user. I think that's one of the biggest challenges, to find some kind of AI software that will allow characters to behave naturally.

SIMONA: So, how do you see the relationship between interaction and narration?

KIM: I think that the more the user can interact with the story, the less the story will impact the user from the storyteller perspective. It is like the story becomes the user story, I guess. It's like a sandbox, the user can do anything she wants, so it will be hard to direct the user towards a certain type of narrative and lead the user to what to do.

SIMONA: Since you mentioned the crucial role that the sense of 'presence' has in a narrative. How would you define immersion, and what are the key elements for creating a sense of 'presence'/immersion in a project?

KIM: Well, from the technical point of view, let me try to define presence. Actually, the better word for VR would be telepresence, but most people just use 'presence'. And the reason is that telepresence or 'presence' is the feeling of being somewhere here and now. You feel that you're here now, and then telepresence is that feeling enabled by some kind of technology which would usually be a VR

341

headset these days. That sensation comes mostly from our eyes; so the visual sense is the most important to get that. Then you need responsiveness in terms of movement, and then you get the images. The second part of achieving 'presence' involves the stimulation of the senses, for example, hearing. Sound is very important to have a feeling of 'presence'. In my opinion, the sound is not very well done in many VR experiences, but I think it's something that has a huge potential. The thing is that the sound connects with space. Sound has a certain type of reverberation and the wetness to it because of the architecture of this room if you want to replicate that some effort needs to be taken for the sound to seem coming from this room.

Talking about music in VR, that's really, hard from an immersion point of view. And the reason, well it depends on the type of music, but it can take like EDM music, which is quite popular today. So, EDM music has a lot of reverberations, has a lot of compressing on stems and sounds to make a very specific soundscape. The problem is if it tried to add on reverberation and positioning of this EDM music, say in the VR space, it can sound like cool music in the bad space for sound. If you say you were in the cathedral and if you have all these reflections and hard surfaces the sound wouldn't sound very good. So, I think there's definitely a lot of work needed in order to get the music to sound right in VR, and it's not necessarily about, as I said, adding the reverberations over, maybe you need to do something else. But if you don't do that, if you don't put the music into the VR space it sounds like I'm walking in a space with a headphone on me and the music is coming from there. If you do that then you kind of lose the sense of presence a little bit.

SIMONA: How do you think digital storytelling has evolved over the last ten years?

KIM: I think there's been some interest in transmedia and I've seen people using YouTube and trying to employ interaction in mu-

sic videos. Something that has happened is that we've been using smaller and smaller screens. How we consume media now is through the tiny little cellphone. I think that this point has had the most impact on storytelling because, yes, you can watch a movie on the little screen, but you've got to be distracted by several other things [that happen on the screen]. It's not the same as watching a movie in the cinema or in your living room, even if in those cases you're still going to be probably distracted by other things. I think that's probably one of the reasons I see VR so interesting because when you are in VR, you're not distracted by anything other than what's in the experience. This point has lots of potentials. It is also interesting to reinvent storytelling based on the problem I was talking about – that sort of fight between feeling 'present' and having a story told to the user.

SIMONA: What are the key challenges for the entertainment industry in relation to content creation?

KIM: In terms of VR and AR the big challenges concern the fact that these technologies are too expensive, and few people have it.

This is a problem for creators, for those who are going to make a living creating projects for users that are not enough to sell it to. That's why probably we're still going to see a lot of creators doing things for the smartphone, and tablets, and AR-based stories. Using the tablet and the smartphone is a more viable approach because more people have it.

One thing for VR stories is to take it back transmedia storytelling and to create these stories for multiple media. For instance, you have the Netflix series Stranger Things that is very popular, has really powerful storytelling and this magical fantasy universe. So, they made a little VR experience. It's not like a fully loaded game, but it really puts you inside of the universe of Stranger Things. These smaller VR experiences are something, I think, we'll see more from other popular franchises.

Other challenges I guess concern the tools. We have these game engines, but they're really not made for creating content for AR and VR, they're 3D, but they're really on the 2D screen. So, that's why we see both know Epic and Unity are trying to change their tools so that you can actually work with the tools in VR, creating VR in VR. I think that there's going to come to some other tools for this and for architects. Especially if I'm going to create buildings inside of VR because that would be, I think the best way to create the building. You can't really use these all the same kind of building information modeling tools that you use. You need simpler and better tools because you got to use your hand to create things, not a mouse or a keyboard. So, we need new tools, and secondly, we need multidisciplinary team for these projects which is pretty similar to making a movie. It's hard to make a movie just by yourself, although you can with the video camera. But you need programmers, sound designers who are specialised in VR sound design. You need 3D artists, directors and producers that understand this format is something different than film, and it's not the same as a game. I've seen many times, especially directors coming in from film thinking, 'oh, it's just like a film', but it's not. It's something completely different. A problem happens when you start to think about it as a film or as a game; it's something else.

SIMONA: If you look at ten years from now, how do you see the creation of digital and interactive project?

KIM: Well, something interesting concerns characters and their characteristics. Photorealistic characters fulfilling has been like the Holy Grail for a long time. Sometimes the film industry managed to do it right, and other times the uncanny valley still shines through. What's powerful in VR is that it doesn't have to be photorealistic. You could create a universe folded paper, or cartoon, or any kind of style as long as users accept it as it is coherent with the world. Also, I think that we will need tools to help with the building of

worlds, sounds and music within them, and that react to what the user does. Since I'm an architect I would like to see tools that would help me build larger environments without having to design every single stone. Some companies are working on these things like CityEngine[5] and like Melodrive[6] that focuses on the music. I definitely think that we need more tools, that are similar to those I mentioned, to help create more responsive environments.

SIMONA: So, in your view, in ten years, VR will be crucial in the entertainment industry.

KIM: If you compare AR and VR, I think there are going to be more tools for AR than for VR. I think AR it's going to be much simpler to integrate into the everyday life, and of course, there's going to be storytelling and games made with AR so that we could integrate them into our everyday world. But I think VR is going to be the dominant technology. I don't know if what will be created with VR is going to be called storytelling. I think this point is open to questions.

I don't think VR is going to replace everything just like movies didn't replace theatre, but it sure made theatre at much smaller niche than it was at the turn of the last century.

A.5 Robert Pratten

Robert Pratten is a marketing consultant and an expert in the field of transmedia storytelling. He is the founder of Conductrr a platform for creating mixed-reality storytelling experiences[7].

SIMONA: What do you think about the relationship between interaction

---

[5]CityEngine is a three-dimensional (3D) software application that enables users to create 3D urban environments. It is developed by Esri Research and Development Center Zurich and can be accessed at `https://www.esri.com/en-us/arcgis/products/esri-cityengine/overview` [Accessed 20-05-2019].

[6]Melodrive is an AI engine that automatically generates music in real-time for video games. Information on the company can be found at `http://melodrive.com/` [Accessed 05-02-2019].

[7]Information on Conductrr can be found at `https://www.conducttr.com/` [Accessed 15-01-2019].

and narrative?

ROBERT: I think that the problem with a lot of interactive narratives
is that you don't always feel that the interactivity adds much to
it. And you just go, "Oh, well, for all that effort, I would have
been just as engaged reading a book without clicking or waving
the phone".

I saw this play at the Edinburgh Fringe, and I think it's called
User Not Found[8]. It was written to be played in a cafe, and there
were about twelve tables with four people per table, and we each
had a phone that they gave us. And there was one actor who had
a phone, and when he touched his phone, our phones lit up. So
he went through like he was talking about the death of a friend.
And wherever he should, he raised this person's history on social
media (inaudible 00:56:26). He would do stuff on the phone which,
obviously, we couldn't see because it was a newer phone. So it
wasn't interactive in the sense that I could play with the phone.
There was nothing to click; it was all broadcast from him or from
the technology. But it did feel very intimate because it was on
a phone that was close to me and not on a big screen. Because
you imagine, he could have just put that on a big screen, and I
could have seen what he was doing. So in that sense, I found it
very engaging. I was 'passive' in that. I couldn't interact with
anything. I was just an observer, but I did feel really immersed
in the situation because the story was interesting. And the things
that they did, the spectacle of it, was quite good.

I think (inaudible 00:06:12) turned on for our podcast recently,
and it mentioned this, about these three types of engagement.
And it was like a narrative engagement, a sensory engagement
and challenge-based engagement. And those three things, because
they're so small. Because it's just three things, I need to pay at-

---

[8]The play User Not Found created by Dante or Die was presented in
2018 at the Edinburgh Festival `https://edinburghfestival.list.co.uk/event/`
`1062588-user-not-found/` [Accessed 1-06-2019].

tention to. It's really interesting. I found out they're useful for analyzing stuff that we do and that other people do. Because there's no challenge-based engagement because I'm not challenged, I just participate. But the sensory side of it was very strong, and the narrative was strong. So they scored highly on those two, and it didn't matter about the third.

I think sometimes with interactive narratives, I feel like I'm clicking around and there's not much challenge, or I'm asked to make a decision, and I've got no basis so I don't know. You find yourself in a dark room, and you've got to go west or east. Well, I don't know so I might as well pick any. So I'm not engaged in the challenge because I don't have any prior knowledge of what choice to make, so it's, "Well, I'll just go with that one", and I randomly click it. So I mean, that's a problem.

SIMONA: When you create a project, are there technical or narrative elements that you need to have for engaging the audience?

ROBERT: So you'll get a first-person experience of going into, like opening emails and social media and listening to records and stuff. It's not like we're trying to fool the audience to think that it's real, but we're trying to allow them to believe that it's real. We start with the objective for the game or the premise and the characters. And then say, "Well, what medium would they use to communicate on?".

Somebody had this formula, and it really struck a chord because it was like if you have too many characters and not enough drama, it gets very boring. And I think in transmedia, it's very easy to generate loads of characters to make it feel real like in this cafe. You might feel, "Well, I'll have to model all of these different people. If there's no drama, there's no point of having it. So the only people I care about is you, right now. And if someone, if the story unfolds in some other ways, I can leave those out. But I think in the beginning of transmedia storytelling that a lot of people felt like, "Oh, if it's

got to be real, I need to recreate all these different people". But they don't add anything except lots of effort in creating them. So when we look, it's always important to say, "What is it we're trying to say?" And then, "What about the wow moments?".

SIMONA: So you start from the story?

ROBERT: Yes, because otherwise, you don't know what to leave in and what to take out. So you say, "what's our story?" And then, we think to ourselves, "Okay. What are the wow moments on that journey?" So most of that stuff is goal-orientated. For example, we did some work with Visa, and in it, you roleplay as being a YouTuber, and you've got three days to make a video to submit to this competition. And during the course of those three days, you will encounter lots of different financial difficulties, wouldn't you? Because the game's about teaching you finance and effectively, finance skills.

What we then do is say, "what are the key points on that journey towards achieving the goal?" Like, "What's the narrative?" And so really, we create our wow moments. In that wow, then we think about the story revelation, like a sensory experience and or a particular challenging thing. So you look at a little mini game popup, and you have to do it quickly. So it's almost like there's shocks to the system. Because I think it's like any story, you need the light and the shade. I've never tried to go full blast in a complete sensory thing. So you think, "this is a time for them to recover, regroup, get their thoughts together. And then we're going to go for another wow moment". So that's how we would do it.

SIMONA: So you create the narrative structure and then you think how to implement it with a transmedia environment.

ROBERT: Yes.

SIMONA: In your view, how the process of creating transmedia experiences has changed from the early examples until now? For instance, what changes between Lowlifes and other projects.

ROBERT: So when we did that, that was an objective of the project. That each character would have their own medium, and I was particularly interested in exploring the narrative if it were possible to consume any one of these channels independently of the other and still get a good experience. So it was like dipping in, yeah, you would get a small window on someone else's world, and the idea was that that was sort of an incentive for you to go and explore their story. I mean I didn't write it, Simon Wood wrote it, who is an established writer. But we talked a lot about the objectives of trying to do it that way.

A good example recently of that type of approach is this game called Nier: Automata[9]. When you play through the game first, you play as a female android, and she has a sidekick, this boy, who's also an android. So you play as her and then he disappears for some elements of the game. When you get to the end, you then get to play as the boy. And you discover what he experienced when he's on those moments that he wasn't in your game when he disappeared off. And also, he has different skills so that you can also get another perspective from the world. And it's brilliant. I think the game and the narrative is brilliant.

I think what's interesting is that say, games like (inaudible 00:13:20) I'm playing now. I feel like they take transmedia ideas, but they keep them all inside the game, so there's lots of environmental storytelling.

SIMONA: Do you usually track the audience experience in the transmedia world? For instance, how can you understand if users prefer one medium or another?

ROBERT: So within our platform, we can track everything. So we know about the popularity of certain decisions and certain paths through it. But when we design our stuff, we don't have anything redun-

---

[9]Nier: Automata is an action role-playing game from 2017 developed by PlatinumGames. The official website can be accessed at https://nier.square-enix-games.com/de-de/age-gate/ [Accessed 1-06-2019].

dant so it's not like somebody could only occupy themselves on one channel or not. So the Lowlifes is very specific. Each platform should. But now what we do is everything's sort of woven together and so, we can analyze it but it's not like we give people an opportunity to prefer one platform or the other. They have to interact with all of them.

SIMONA: Okay, so the audience needs to get through the whole experience for understanding the story.

ROBERT: Yeah, exactly. Our recent projects are all completely integrated.

SIMONA: I read the article in which you discussed the notion of transmedia with Sánchez-Mesa, Aarseth, and Scolari. In that case, Aarseth claims that "TS is first and foremost a label, and labels should always be regarded with suspicion"[10]. What do you think about this point? For instance, which label would you use for Lowlifes?

ROBERT: We don't worry about the labels. We're a technology company. So when we do our project, it's always going to be on our technology. It does what it does, and that's what we call it. I think, so if someone said, "Can you do like an only a virtual reality experience?" We say, "Well, it's only on one platform, so that's not a project for us". We're only interested in projects that are multiplatform.

SIMONA: So, in that sense, you think of it as a transmedia project.

ROBERT: It's always transmedia to some extent, and then recently, we developed this web application, and we can get the feel of transmedia but all inside a web application. And what people like about that is it's all controlled. It's a safe environment. There is like a 'Twitter channel', but it's not the real Twitter, it's like the fake one. So all of the social media's kind of on a fake platform. It's all driven by Conductrr. It's all self-contained. So you don't get any sweary tweets. You don't get Facebook pages from people you

---

[10]The article I mention here is: *Transmedia (Storytelling?): A Polyphonic Critical Review* (Sánchez-Mesa et al. 2016).

don't know. It's all self-contained. And the same with the email, as well. So you can email people but it doesn't go on the real email system, it just all stays within Conductrr. So I would say, our story's more like an interactive narrative because these days, they tend to be done on one platform. And they're not only games. Normally there's a narrative of some sort because we've got a story to tell.

There are some exceptions to that. We work with Kodansha [11], that's the world's largest manga publisher. So last year, for Anime Expo, have you heard of Attack on Titan?

SIMONA: Yes.

ROBERT: So we built a location-based game for Attack on Titan. So if you were in Little Tokyo in L.A. on your phone and used GPS to find where these titans are hiding.

SIMONA: Is it similar to the work you did on Game of Thrones? In terms of how you involved people in that experience.

ROBERT: It's a bit different. So Game of Thrones is much bigger in the sense that was on Facebook and a website.

It's a bit different. So Game of Thrones is much bigger in the sense that was on Facebook and a website. It's different in terms of budget and scope. I mean, there was a web series, and that was full-on transmedia. Everything we talk about when we describe transmedia was in that Game of Thrones experience[12]. Because the client, Canal+, was very open to experimenting, so that was great for us. And it was great for them, as well. Because they wanted to shift the perception of the company from being only about TV to being online, as well, and hype with young people.

With the Attack on Titan, of course, there's already comic books and the animation series. But the comic books and animation series follow each other closely. So they're more like adaptations

---

[11]Information on Kodansha comics can be found at `shorturl.at/lzBT2` [Accessed 1-06-2019].

[12]Information on the transmedia campaign can be read at `shorturl.at/jqOX1`[Accessed 1-06-2019].

rather than transmedia. But the game itself that we created was really just the game with not much narrative. And the reason there wasn't much narrative was because of rights issues. And that was that the people who owned the rights to the comic books had already licensed the rights to other game companies and also, they don't want us inventing our own world. So it's been only just the game.

Which is fair enough. I understand that. But it meant that if you were already familiar with Attack on Titan from reading the comic books, when you played the game, you were in the game. You could roam around Little Tokyo killing titans but using this slash mechanism. In the books, you have to swipe them across the back of their neck to properly kill them. So that is definitely transmedia. So we've got some examples of that, but most, in our core business these days is all within this web application.

SIMONA: You work with digital interactive and transmedia storytelling. What do you think characterises each of these three narrative models?

ROBERT: Well, there's always a story. I mean, there's always a premise. It's not like Tetris, you just play, and there's no narrative even though people try to make up one. I mean, it's participatory. So people are always doing something. It's never just sort of like to sit back and watch. I mean, that play that I saw – User Not Found – was really good. And it got me thinking about whether we would have approached that project in the same way. Because I think we would have had people clicking on their phones. And when people clicked on their phones, it would have influenced the actor. Like if we would have done that. Let's say we would have thought about including that. But again, it's probably because, in a way, the technology that we've created leads you down that path.

SIMONA: Before starting with Conductrr, have you worked with traditional media?

ROBERT: Yes. I made two feature films.

SIMONA: Can you give me an overview of the experience you have had with traditional media?

ROBERT: My background is in computer and then I went to film school, so my degree's in electronics. I went to film school, London Film School around it. And then I made two feature films. One I shot on 2x16, like proper film, which was blown up to 35 and we had a theatrical screening with that. And then, that was in about 2003, something like that. In 2007, we made another film which was called MindFlesh. And that was always intended to be straight to DVD, straight to video. That was all shot digitally, and we shot on location.

When we did London Voodoo, there were no social media. Myspace had only just come out. Steven Severin, from Siouxsie And The Banshees, did the music. And the music guys got onto Myspace first, and Severin said to me, "We need to get the film onto Myspace". So we did that. And we couldn't find any crossover into (inaudible 00:33:26) like the music runner and leaving it like (inaudible 00:33:29) when you're trying to get gobs to come and watch the thing. But it was very (inaudible 00:33:33) and then by the time we did MindFlesh, YouTube was around, and I did a series of baby video days. But there is no celebrity in those films. So there's nothing there that's familiar to people apart from the genre, for them to latch on. So imagining that we were going to build up a following. And I think it was a bit green at the time. I learned a lot, and it was an interesting experience, but it's really tough to build an audience. I think you have to do it with something that people are familiar with either like a popular genre or a book. Say like the Lizzie Bennett Diaries, they all know Pride and Prejudice, which is out at the coffee bar. So it's already a story that people might warm to. And then I see a lot today, lots of people pay for placement, so they all create the trailer or something and then they

just pay to have it advertised. I don't know any commercial venture that would launch a game without any actually having paid advertising. And that includes paying an influencer on social media. I mean, so they would just pay them to get the product out. Because it's a crowded market, there are so many people vying for attention.

SIMONA: Do you think that what new media can add to narrative experiences is this relationship with the audience?

ROBERT: It can do, yes. I think so, but it's not like about adding. I think it's just something different; because I like games that are played where I just watch the playing. And I like cinema, books and I also like some interactive narratives. And it's not like I ever feel like one supersedes the other or one is better than the other. It's just whatever I'm in the mood for. So let's say I sit down in front of the TV, and if I'm feeling particularly energetic or something, I might play a computer game. I never feel like one is better than the other, it's just what I'm in the mood for.

I think that could be the problem with some of the narrative people, that they think that interactive narrative is a step up from normal narrative, but it's not. If you read a good book, you're totally immersed in that; it gets you thinking, it gets you wondering. Especially like, say, a short story, right? So a really short story. It might only be, let's say it takes you 5 minutes to read. But a good short story, for fifteen, thirty minutes after that, you're still thinking about it, and you're wondering, "So, what does that mean? What were they saying?" So it's really engaging. And to try to pull that off with interactive narrative is really hard.

SIMONA: Yeah, and what about video games that ask users to explore a story instead of playing it? Video games like Dear Esther.

ROBERT: I think a better example is Everybody's Gone to the Rapture[13]. Have you played that?

---

[13]The adventure game was developed in 2015 by The Chinese Room. Information on the game can be read at `shorturl.at/yzFMR` [Accessed 3-06-2019].

SIMONA: No.

ROBERT: It's a British game. I think it won a BAFTA. And you kind of wander around a village and try to learn what's gone on. It's really well done. It's really touching because the stories and the characters that you meet are really touching. In Dear Esther, I don't think I ever met a character. But on this one, you pick up the spirit of people there. So you get audio.

SIMONA: Yes, strong characters can play a crucial role in engaging the audience.

ROBERT: I think so, yeah, because that's how we relate to other people's experiences.

SIMONA: If you look back ten years from now, how do you think trans-media and the entertainment industry has changed?

ROBERT: If you look at Skam[14], I think it originally came from Norway. They've got Facebook Watch and their own video channel. It's not in Europe yet. It plays out on a game, so it's a story, it plays out on Instagram. I think they've got a Twitter account, as well but they're calling it TV. But it's not on TV. They just call it TV because it's episodic video. But it's not on Netflix, it's not a video channel. So I think just the terminology's changed into something that people understand.

One of the things that I see happening now is in Virtual Reality. I watched a film recently on VR. It was a 360 filmed experience. And there was actually no reason for it to be in 360. It didn't create any more immersion, and I felt like the director was trying to direct where I looked far too much. I was in a room, and I was expected to look out the window, something was going on. And I chose not to look out the window. I looked around. I saw like this bullet hole, and I started to think to myself, "I wonder how that bullet hole got there". So I was much more interested in the environmental storytelling. I think that the VR filmmakers need to

---

[14]The episodes of the webseries can be watched at `http://skam.p3.no/sesong/1/` [Accessed 3-06-2019].

look much more closely at games and theatre for their inspiration for their storytelling. At the moment, too much of the training is a channel-based experience stovepipe. So if you're going to learn film, you learn film. If you're going to learn games, you learn games. And you don't very often get to inspire each other.

SIMONA: What do you think about comics for VR?

ROBERT: That sounds terrible. I've played lots of interactive comics. I've also looked at comics in VR. I can't see the point. I'm not getting anything new then I would just flick into a normal comic. It's exactly like 3D cinema. They try to charge extra for those ridiculous glasses, and if the story's good enough, you forget about the 3D element. The only reason that came out was to defeat piracy. So they could put out DVDs which are now defunct. But that's a good example where you've got the technology looking for a problem.

With VR, there are certain things that it does well but doing comics is not one of them, in my opinion.

SIMONA: What are the key challenges you think that transmedia storytelling will have in the future?

ROBERT: If you're always trying to do something original, the problem is with audience expectations, that they already have a certain frame of reference about what they would do. If you can imagine a video game, the first thing you have to learn is how to use the controller and what the rules of the game are so that you can find your way around. And if I try to swap between one game and another game, it's very disorientating because now a square is a gun instead of jumping in or something like this. And so transmedia has that same problem that you never quite know what the rules are because everyone's inventing it for themselves as what's appropriate to them. I think very few people take time to give you a little tutorial before you get into it because they want it to be immersive. They want it to be real, and so you just get thrown into it, and

356

you're expected to find your way around. But that can be a bit problematic.

It's always this blend of taking something familiar and adding something special. Or if you've got something special, you have to find some way to get a sense. So like Lance Weiler. He did Sherlock Holmes and the Internet of Things[15]. And then he's doing something with Frankenstein in AI[16]. He's choosing popular culture that people are familiar with, and he's injecting it with something new and original. So it's something like to say, "Okay. I know Sherlock Holmes. I know what that's about, now tell me about the Internet of Things. "Okay, I know Frankenstein. Tell me a little bit about AI". I think, often new creators try to do too new things with a new property that no one's ever heard of.

A.6 Kate Pullinger

Kate Pullinger is Director of the Centre for Cultural and Creative Industries and Professor of Creative Writing and Digital Media at Bath Spa University. She is a writer of both print novels and digital interactive fiction.

SIMONA: While analysing Inanimate Alice and in particular the chapter *China*, I've found different definitions for the project. How would you define it?

KATE: It's a very thorny question that has continued to evolve and indeed, how you define these works and what you call these works also continues to change and develop. For me, I guess currently I use the term digital fiction, although most people don't know what that means. I also use a transmedia fiction title, but most people also don't know what that means. So, sometimes the way I define it completely depends on who I am defining it too. Who the audi-

---

[15]Sherlock Holmes and the Internet of Things is a project developed by the Digital Storytelling Lab at Columbia University School of the Arts `http://sherlockholmes.io/` [Accessed 4-07-2019].

[16]Information on the immersive installation Frankenstein AI can be accessed at `http://frankenstein.ai/` [Accessed 4-07-2019].

ence I'm addressing might be. So, for instance, you could call it an interactive children's literature title that has one meaning for one particular audience. There's no easy answer.

SIMONA: Thinking of different areas in the media industry, transmedia, digital media, or video games industry. In which of these fields have you worked? I'd like to know how you describe the field in which you have worked.

KATE: Well, I guess I would describe myself as having worked across all those fields, but I think for me as a fiction writer, I write fiction, and sometimes I write books that are intended for the mainstream publishing industry and indeed are published and print, and sometimes I write hybrid collaborative media forms. So, the core definition of somebody who writes fiction resides across all those categories.

SIMONA: So, stories are the core for you?

KATE: Yes, absolutely.

SIMONA: I know that your experience with digital and interactive projects is very extensive and that you worked for traditional media. Why did you start working in a more broad media environment?

KATE: Well, I started in 2002, but prior to that I've been publishing novels and short stories since 1989, and throughout the 1990s, I collaborated with other art forms quite a lot. So for instance, I collaborated with a choreographer, I worked on film and television collaborative projects. By 2002 collaboration was something that I knew that I really enjoyed and wanted to do more of. When I was given the opportunity in 2002 to be a research fellow at Nottingham Trent University, the University at the time hosted an online writing community called trAce, which was very important in those early years of kind of experiments in literature, trAce ran for ten years, I think it was 1995 to 2005. So, I did this research fellowship with that, and that gave me a year. I was not all involved with academia at that stage really, but that gave me a whole year to look at what was already happening in 2002. Obviously, there was

already a lot of activity within the realm of literature in technology, but a lot of it was very high experimental. A lot of it ended up being about the technology. So, there was a whole kind of code poetry and movement, and the hypertext novel etc. So, from the very beginning, I was interested in what new the new media could bring to the process of storytelling, but also always interested from the beginning in being involved with projects that were accessible to people who consider themselves readers.

SIMONA: Are there specific projects which influenced/inspired you for creating Inanimate Alice?

KATE: Not really because it's old now Inanimate Alice, it's twelve years old, and back then there was nothing like it. There had been a few experiments aimed at kids. So for example, Chris Joseph, who was my main collaborator on those early years of Inanimate Alice, he had done a big online poetry project for children called Animal Mania. So, there were a few things, but when we started working on it, on that first episode, we had no idea what to call it because there was really nothing else like it. That first year we used to call it a web vid, it's before YouTube even. In terms of what's happened in the last decade, it's kind of the dawn of time.

SIMONA: Do you think there are precise characteristics which define and identify digital storytelling, interactive storytelling and transmedia storytelling? Do you think we can differentiate these three different narrative models?

KATE: I think we're still really in an emerging field and that it's the same problem with definitions as there is with characteristics really, because as the field continues to grow and emerge there's such a huge range of new forms of storytelling that blur the boundaries and are therefore hard to categorise. So for instance, I'm involved with this academic research project called ambient literature, and we're trying to look at situated narratives and what that notion of the situated narrative means to literature as a whole, but also

more specifically digitally mediated literature projects. But then there's also the very interesting and really rapidly growing field of narrative games. And in some ways some of the most accessible and interesting literary experiences are emerging from that independent narrative games sector currently. I think that's really interesting as well. And then at the same time, because of the software Twine, there's also been a real resurgence of what you could classify as the more traditional IF interactive fiction, I mean trying has enabled a whole bunch of people to create interactive narratives in a way that it's quite groundbreaking in its way what that one tool has allowed many people to do. So again, none of these things are clear.

SIMONA: When you work on a new interactive/digital project, is there a set of narrative elements or technological elements which always turn to a core in your storytelling project?

KATE: I guess for me personally the presence of text is the absolute key component to engage with the media whatever form it takes, and the presence of text really differs from one project to the next depending upon what other media are being used to tell the story. So for instance, with say Inanimate Alice you have quite a few other bits of media assets to help with the storytelling, not the least of which is music because music is such a profound effect on the narrative whereas my most research project which will be released next week, which is called Breathe is the project that I've done for Ambient literature. It's a collaboration with the publisher Visual Additions and Google Creative Lab, Sydney, and it's a story that personalises itself to every reader. It's a ghost story. The ghosts in the story know where the reader is, and they know the end of the season, the time, they know things about you, the reader. The text there is working with APIs Application Processing Interfaces, and the APIs are leveraging data about the reader. So, that's a very different kind of relationship with technology and with media then Inanimate Alice. If you're looking at a spectrum, I think Inanimate

Alice is closer to a visual media despite the fact there's text always there, whereas Breathe is closer to a book form if you see what I mean.

SIMONA: Thinking of Inanimate Alice how would you describe the audience that you aim to attract? More broadly, I'd like to know if you think of a specific audience when you work on interactive narratives.

KATE: I tend to think of a general reader, but one of the things that emerged about Inanimate Alice which we hadn't anticipated was that a story about a child would attract young readers because in 2005, 2006, like I said, there was so little out there. We really had no idea at all who the audience would be, but that audience, the young reader plus a school's audience has become very important for that project. With Breathe again – to take the oldest example and the most recent example – for me, it's always more to do with the character in the story than thinking about the audience. But once it was finished, it became clear that, again, because the main character is a young woman, she's 23, that a younger audience in particular in this instance, would be interested in it. And also, I think there's a way in which these additions in Google are hoping that the fact that it's a story for the phone, and then it's free online will again bring in a younger readership.

SIMONA: So, characters are a crucial element for connecting one story with a specific audience.

KATE: Yes, and I think that's become clear through Alice as she has got older through the episodes. And then also again through this character Flo, who's the main character in Breathe, and she's also the main character of my project from last year, Jellybone, it's the same character, the same storyworld.

SIMONA: I'd like to know your idea about the relationship between narration and interaction.

KATE: Well, I'm much more interested in projects that try to merge the

two things, because for me that's always been in the video game world, that idea of the cutscene, it's always been really problematic for me. So, this is the bit where the story happens, and then the other bit is where you play. And I think one of the things that we tried to do in Inanimate Alice was merged them much more, trying to think about how to merge them. I'm not so interested in the game sector; I'm much more interested in new forms of narrative. And I think reading itself can be a highly interactive activity, and I think the arguments about narrative versus interactive aren't really interesting. It's more about [the fact that] some kind of interactivity can bring meaning to the narrative and what's the way to go about that. I think that Breathe is a really interesting example of that because of the way it uses the APIs. It's interactive without you realising it's interactive.

SIMONA: When I analysed video games such as The Unfinished Swan and Dear Esther, I noticed some similarities with Inanimate Alice in the type of interaction the two projects employed. The Unfinished Swan and Dear Esther are called video games, even if – I think – they can be described as Inanimate Alice, digital narratives or interactive narratives. What do you think about this point?

KATE: Yeah, that was something that we tried to do with episode six of Inanimate Alice where there's a kind of story scape for the reader to inhabit, and that's something that Andy Campbell has done quite a lot of work with him on himself, for instance, in his project All The Delicate Duplicates[17]. There's a new story being created currently for Inanimate Alice, which is called Perpetual Nomads[18], which is a virtual reality experience. So again, it's about developing a landscape and putting the story into the landscape. So in that sense, those particular parts of Inanimate Alice do have much more to do with narrative games than a project like Breathe or indeed

---

[17]Information on the project can be accessed at `https://allthedelicateduplicat.es/` [Accessed: 10-10-2019].

[18]Perpetual Nomads is available at `https://perpetual-nomads.com/` [Accessed: 10-10-2019].

last year's Jellybone.

SIMONA: Turning now to user engagement, do you have some methods for measuring it? I'm thinking of projects which integrate VR or of Breathe that employs APIs.

KATE: No. It's not an easy task. With Breathe obviously it's going to have Google Creative Lab behind this, they're going to be able to look at engagement in a really in-depth way. I will look at it, I will be very interested in it, but it's not something that drives me as a writer.

SIMONA: Do you keep track of the different phases of the project that you work on? Do you maintain an archive and preserve documentation?

KATE: No. Only in a half-hazard way because obsolescence is gaining a big feature in this world. And part of me feels like the work of documenting and archiving these projects again it's somebody else's interest, I just want to know what the next thing is. I absolutely know the value of it, and I can see it very clearly when we are talking about projects that are very important that it disappeared. But as I said it's part of working in this field. Unless we find a way to retrofit the first four episodes of Inanimate Alice, they will stop working in the next couple of years because they're made using Flash and Flash is not going to be supported by any browsers in the next couple years. So, the episodes in the assets of Inanimate Alice are properly archived, and the producer of it is looking for funding currently to retrofit those earlier episodes. But at the same time, part of me thinks it's like I said, it is part of working in this field that things break and they stop working and they no longer support it. That's just a fact of life. And that's bad when you compare it to books especially, although books went through a bad period in the 1970s, 1980s, and 1990s, particularly with paperbacks where they just fell apart immediately. They seem to have fixed that now. So books don't have the same level of obsolescence as digital media does.

SIMONA: In your view, how did interactive and digital storytelling has evolved over the last ten years, or some key elements.

KATE: I think one key thing that didn't happen, which fifteen years ago I thought would happen, was more involvement and interest from publishing from mainstream book reader fiction in [inaudible 00:25:26]. I think the reasons that didn't happen are very complex and continue to evolve and develop as well. I think for me, one of the frustrating things is that people involved in writing fiction in particular in writing books are not very interested in digital experimentation in general. And I think that's partially why there's such an interesting set of new things happening in the independent narrative game sector because those people – the gamers – are more at home with the digital than average reader or writer might be. In particular, If you're talking about the novel and the short story. So, I think that is where some of the really interesting evolution has been happening in the last couple of years in a way that it hasn't happened in a more traditional niche literature sphere.

SIMONA: What are the key challenges in the domain of the digital narratives, and do you think that a unique field or industry will emerge?

KATE: No, I don't think that. I think it will continue to develop in pockets around various industries. I think more will continue to be done with the smartphone as a kind of native device for reading on. I think that we're only at the beginning of thinking about the potential for reading that uses the affordances of the smartphone in interesting ways. I also think that the reading itself is slightly in danger, and when I say reading in this context I mean long-form prose reading, because of the rise of readily accessible visual media. I'm sure there's some research been done on this, but anecdotally so many people read much less now because of Netflix and YouTube etcetera, and the least consume very high-quality narrative forms. So, sometimes I kind of worry about reading in that context, which is part of why I think it's interesting and important for writers to

be thinking about texts on the screen and what kinds of literary forms are native to the screen, and kind of trying to keep on carving out a place for writing in the digital era. Obviously, we read all the time on our phones people tend to read journalism, or they follow links on social media to read articles.

SIMONA: How do you think digital and interactive narratives will evolve?

KATE: I think 5G will be an inch very interesting development for content. I'm only beginning to understand what 5G will offer, but my understanding of one of the things that it'll offer is the ability to deliver chunked up content locally in a way that 4G and the current Internet doesn't enable you to do so fluidly. And I think that kind of local approach to content is quite an interesting development. Technology continues to develop and change, so I think that what the field that people are calling XR now, which incorporates virtual reality, augmented reality and mixed reality has a huge amount of potential to offer to storytellers. I'm not so interested in virtual reality because my opinion is that will find its home largely in console gaming, and an occasional kind of event experiences. I think XR and augmented reality have much more potential for layering storytelling onto the world that we actually live in, which is part of what Ambient Literature has been trying to explore.

SIMONA: Do you think that virtual reality technologies can negatively affect the narrative side of storytelling projects?

KATE: I think that the fundamentals of storytelling always remain the same, but the modes of delivering and the modes of enabling people to interact with stories will evolve.

A.7   Linsey Raymaekers

Linsey Raymaekers is a game developer who explores the potential of video games as a vehicle for artistic and narrative expression. Among her projects,

there are both 3D and 2D games[19].

SIMONA: How would you define the type of projects that you have created so far?

LINSEY: I would call them video games. Well, I would call them, for example, poetic games, maybe, personal games, short games, microgames.

SIMONA: Can you give a general overview of your academic and professional background?

LINSEY: I studied computer science and informatics in my bachelors, and then my masters, I studied human-computer interaction, and game studies during a short period abroad. While I was doing my last year at the university, I started to create games as a hobby. I created poetic games and personal games. Now I'm working as a programmer for a video production company.

Academically, I have a very technical background. However, due to my personal experience like writing poetry, and playing music, that I see in terms of emotional expression, at one point, I've started considering computer games as a media for expressing emotions. I saw other people using video games in this way, so I wanted to do that, too. Now I work as a programmer, but I'm trying to be more involved in the story and design. For my own projects, I follow my personal interest in emotional storytelling.

SIMONA: Do you see narrative potential in video games. Could explain how do you see video games comparing to more traditional media?

LINSEY: If I compare video games to stories that are told in written words or through films, I think video games have had a lot more potential for those types of storytelling that focus on interaction. Video games are interesting for those types of projects in which you want to tell the story through what the player is able to do. There's a lot of people doing that already, but I think we're only

---

[19]A collection of Linsey's work is available at `https://linseyray.itch.io/` [Accessed 15-01-2019].

really scratching the surface there, especially when we think of VR and other newer technologies.

Also, in these more poetic video games that I make, for example, there's a lot of potentials for communicating not a story, per se, like we're used to, but more of a story that focuses on personal feelings. It can be communicated the experience with depression or other similar conditions. I think games have a strong potential to convey these abstract experiences and to let other people explore them and experience them from a particular perspective.

SIMONA: Do you think that video games can add something more to the expression of personal feelings than other types of media such as books, television or cinema?

LINSEY: Well, this is a tough point because it links to the creator's perspective and the player view.

From a creator's perspective, for example, writing a poem might be quicker, and it can be a lot more satisfying than making a game. Even though the process is getting better, a video game still needs quite some time to be done.

In terms of what you can express, I think that through video games you have the potential to express things that we're not even thinking about it at the moment. Like when I create the game called Gravitation. There are some things I thought of that a poem wouldn't be able to communicate. It enables this act of being, of moving the character around and undergoing diverse events and then relating them to your own experiences. Interactivity makes it a very different experience from just reading something. In games, there's also sound, words if you want and there are visuals. The whole atmospheric content that it contains based on what you do and this is very powerful.

SIMONA: When you work on a new video game, is there a set of narrative elements which tend to recur?

LINSEY: It depends on the project. When I think of, for example, per-

sonal poetic projects, and projects like La Carga[20], there's always some kind of interaction that is linked to an emotion. The character in La Carga is developed like a real person, and this person lives some experience. Also, music and effects come together to tell the story.

SIMONA: Could you tell me more about the way you use programming/ technical elements in your projects?

LINSEY: I would say that usually the experience, the story has some underlying system in terms of movement and interaction. There is a system with which you can interact. In poetic games the system bases on someone overcoming fears, so, there are very specific actions that you can do and very specific states that you can go in if you do this or that, so it's a very systemic thing. Whereas in other stories, or in games like La Carga there is more in the place that defines how the character behaves or moves. You get in touch with that, and it influences how you experience the game.

SIMONA: Thinking of La Carga, what kind of audience can be attracted to that game?

LINSEY: For La Carga, we don't have a specific view of who we want to target, although on some way, I guess we are targeting people who are seeking for a short experience. Also it's a very emotional and intimate experience. It's very compact so it's not like a story that can be told in a game that is fifty hours long. This is more like a few hours max.

Well, in that sense, we have an audience, but we don't really target it based on other parameters such as age, gender or nationality. Although since it is a game about a Colombian character, we do hope that people from other ethnic backgrounds might be interested in it. Maybe it can attract people who have experienced loss. Maybe they could also be attracted to the game because it speaks about something that they've experienced. In that sense, we are

---

[20]La Carga is a 2D sidescroller game. Information on the game can be read at `https://linseyray.itch.io/la-carga` [Accessed 1-06-2019].

hoping to reach people with these characteristics, but we are not specifically targeting them.

SIMONA: When you develop a video game, are there some narrative or technical device you consider for attracting the attention of users?

LINSEY: For La Carga, at one point, we decided to completely eradicate the text bubbles that we initially used in the game, and we attempted to tell everything through animations and interaction. We did that also on the website.

Animations and sounds play a very strong part in the game. The way the mood and level change, for example, is communicated through the environment, through the colour palette that is used. We're spending a lot of attention to that. When a character at the beginning is more cheerful, so it is the colour, and then as the game progresses, when she gets less hopeful, the colour code adapts as well as the music. Everything tries to reinforce this emotion. But also, interaction wise. For example, when the character is cheerful, she would have more stamina, or she would be more able to move stuff around, but when things change, she won't be able to move fast. It is through these very subtle cues, I think, the players pick up a lot about what's happening to the character.

SIMONA: With your company, do you have strategies for creating some space for community involvement or not?

LINSEY: At the company, no, we really don't do much in that sense at the moment. We sometimes organise play-testing sessions, but this is more to get our feedback and see if we are on the right track. And everything we do is to organise after-work gameazon drink, an event where everyone can come to the office. There will be some talks, some games to be played, but specifically, community as in regards to our games, at the moment, no.

SIMONA: Do you think that in the video game industry it is common this type of approach to communities? And what do you think about the role of fan-driven content and user-generated content in the

video game industry? What do you think about game fan-driven content on Twitch of YouTube - In your view, what is the role they play for the success of the video game?

LINSEY: It depends a lot on the video game. For example, with La Carga, or with poetic games, it doesn't make as much sense to reach out. It makes sense to involve the community in terms of play-testing, but really not in the way that games like League of Legends do. They involve players with Twitch and live competition.

Then there are games like Stardew Valley[21] or Sky by thatgame-company[22] that really request a very social experience, so it makes a lot of sense that they involved their community from the beginning.

Also, I guess there's also a lot of people streaming while they play. In that sense, it can be very beneficial for people to watch someone play, especially for people who either want to play themselves, but they also enjoy watching someone play because they still get the whole experience without actively engaging.

SIMONA: How do you see the relationship between interaction and the level of narration?

LINSEY: I find that narrative and interactions strengthen each other. There are also ways that they can compete with each other, but I think the real potential is where you use interaction to create a narration. So, for example, in La Carga, we tell the story via the way that you can control the player but limiting your control over that also says something about the story that's going on. Also, I like to design and to play games where there aren't necessarily many words, but a lot is being told through the interaction. Emotion can be attached to that, and also, of course, audio, animation, etcetera. Like in a journey, for example, you can interpret the story in many

---

[21]Stardew Valley is a farming simulation role-playing game developed by ConcernedApe in 2016. The website can be accessed at `https://www.stardewvalley.net/` [Accessed 1-06-2019].

[22]The adventure game Sky was developed and released by the studio thatgamecompany in 2019. Information on the game can be read at `http://thatgamecompany.com/sky/` [Accessed 1-06-2019].

ways, and at the same time, it's a very strong experience. Maybe that's also better to think at the difference between story and experience, where you're not really feeding a story to the player, but you're asking them to have an experience, and maybe that experience is different from one player to another. So, one reason why we took out the dialogue in the text in La Carga is that we want people to create and have their own experience. In that sense, maybe someone has a very different experience than someone else. Maybe they built their experience around what they can see and what they experience, and so in that sense, video games in some ways can be more about the experience for the player rather than hearing the story.

It also depends on how much freedom the creator gives to the players. It might be a story that you have to follow very rigidly; there's nothing else the player can change. Some creators give more freedom to the players. They create something and let players experience it.

SIMONA: How video games have changed over the last ten years?

LINSEY: I suppose, in the last years, there have been more changes toward the storytelling side.

I see less violence and action, and people are really exploring all the different sides of video games, so instead of having very high-active, high-adrenaline, high-stress games, there are a lot of video games that are maybe like products just go there to relax, or like a journey. Some games make players reflect on their own self. Yeah, I think people are exploring different types of topics through video games.

In the process, I think that because of the variety in the types of video games, this word is becoming not nice to describe them. It sets expectations that sometimes do not match with the type of experience, as for poetic games and small personal games.

The tools are becoming more accessible, so more people play games.

This is another reason why we're seeing a lot more diverse experiences and more creators telling personal stories through video games. I think we're only at the beginning of this, or quite in the beginning. But, indeed, there is still a very large portion of players who see video games in relation to violence and as a high adrenaline media.

SIMONA: What are the key challenges ahead for the video game industries?

LINSEY: Well, I think it's time to explore more themes. As I was saying before, I would like video games will go more into relationships and characters. I guess maybe it also comes from what I hear some people say they want to see.

Some people play a game just to explore the world or to connect with the world, so I would like to see more maybe AAA companies spending their budget on that and focus less on conflict-ridden.

One challenge I also see is changing the perspective of a large audience about video games. Whenever I speak at non-video game events, like tech events, and I talk about, for example, these more personal games, I see that people would be interested in that even if they have never had an interest in video games. So, I always try to tell people video games are a medium, and there is a lot of variety in there, but I think that this will be a big challenge because new games are being seen by many as being very unhealthy for people. Getting rid of all that stigma and getting more variety, yeah, that's a pretty big challenge.

SIMONA: If you look at the next ten years, how do you think interactive storytelling or video game will evolve?

LINSEY: I guess my answer is a bit related to what I said. So, I hope creators will start carrying different kinds of stories that are more human-based. I hope that there will be more and more tools that make it easy to do storytelling like we already see now in Unity. They're going a lot more towards filmish productions, so you have

372

a very advanced kind of system there, as in a machine and timeline where you as in moves, we can create more cinematic shots. It would be great if there were more very specific tools, more AI tools that can help in creating a world that's alive.

I think we will see more diverse stories because a lot of people with different types of backgrounds are starting to create video games, so I think that's very exciting. I see people create games either professionally or just as a hobby. The fact that normal people are creating video games might change things over time. It will change the way people tell stories.

Appendix B

Interview template

In this appendix, I include the semi-structured template I used to conduct interviews with experts in new media narratives.

1. How would you define the projects you have created?

2. Considering the different fields in the new media industry - video games, transmedia, digital media - in which of these fields have you worked in?

3. If you look at the new media narrative landscape, can you draw differences between projects of DS, IS, TS?

4. What do you think characterises each of these three narrative models?

5. When you work on a new digital/interactive artefact, is there a set of narrative elements which tend always to occur? What are these themes and why are they important?

6. When you think about creating a new digital/interactive artefact, is there a set of technological elements which tend to recur in your storytelling projects? What are these elements and why are they important?

7. How would you describe the audience that you aim to attract?

8. When developing digital and interactive artefacts, what are the narrative/technical devices to consider for attracting the attention of users?

9. How do you see the relationship between narration and interaction?

10. How do you track/measure user engagement?

11. How have digital, interactive and transmedia storytelling evolved over the last ten years?

12. What are the key challenges ahead for the entertainment industry concerning content creation?

13. If you look at the next ten years, how do you think digital, interactive and transmedia storytelling will evolve?

Appendix C

List of case studies

In Table C.1, I list the 36 case studies which I used to test the quantitative and qualitative analytical tools of the MDS framework. The narrative projects are grouped by period (A, B, and C) and *storytelling type* (DS, IS and TS). Periods A, B and C indicate projects respectively published between 2000-2005, 2006-2010 and 2011-2015. Period is abbreviated with 'P.' in the table. I performed the last access to the websites reported in the two tables below on 02-09-2019.

Table C.1: Case studies used to test the MDS framework.

MDS object	Type	P.	Year	Creator	Website
Cruising	DS	A	2001	Ingrid Ankerson and Megan Sapnar	`http://tiny.cc/s1kvdz`
Capture Wales	DS	A	2001–2008	BBC Wales and Cardiff University	`http://tiny.cc/t3kvdz`

Continued on next page

376

Table C.1 – *Continued from previous page*

MDS object	Type	P.	Year	Creator	Website
Red vs. Blue: The Blood Gulch Chronicles	DS	A	2003	Rooster Teeth Productions	`http://tiny.cc/d5kvdz`
Bristol Stories	DS	A	2005–2007	Watershed (in partnership with Bristol Museums, Galleries and Archives Service	`http://tiny.cc/f6kvdz`
Figurski at Findhorn on Acid	IS	A	2001	Richard Holeton	`http://tiny.cc/g7kvdz`
Façade	IS	A	2005	Michael Mateas and Andrew Stern	`http://tiny.cc/a8kvdz`
Fahrenheit (Indigo Prophecy)	IS	A	2005	Quantic Dream	`http://tiny.cc/tmlvdz`
Inanimate Alice: China	IS	A	2005	Kate Pullinger and Christopher Joseph	`http://tiny.cc/holvdz`

Continued on next page

Table C.1 – *Continued from previous page*

MDS object	Type	P.	Year	Creator	Website
The Beast	TS	A	2001	Jordan Weisman, Elan Lee, and Sean Stewart, (Microsoft Game Studios)	n/a
Freakylinks.com	TS	A	2000–2001	Gregg Hale	`http://tiny.cc/gqlvdz`
24: Conspiracy	TS	A	2005	Marc Ostrick and Eric Neal Young	n/a
Perplex City (season 1)	TS	A	2005	Mind Candy	`http://tiny.cc/grlvdz`
Lonelygirl15	DS	B	2006–2008	Mesh Flinders, Miles Beckett and Greg Goodfried	`http://tiny.cc/phmvdz`
Dim O'Gauble	DS	B	2007	Andy Campbell (Dreaming Methods)	`http://tiny.cc/vnmvdz`

Table C.1 – *Continued from previous page*

MDS object	Type	P.	Year	Creator	Website
Flight Paths	DS	B	2007	Kate Pullinger and Christopher Joseph	`http://tiny.cc/bkmvdz`
Nightingale's Playground	DS	B	2010	Andy Campbell and Judi Alston (Dreaming Methods)	`http://tiny.cc/htmvdz`
Like Stars in a Clear Night Sky	IS	B	2006	Sharif Ezzat	`http://tiny.cc/rvmvdz`
Fallen London	IS	B	2009	Alexis Kennedy and Chris Gardiner (Failbetter Games)	`http://tiny.cc/3wmvdz`
The Path	IS	B	2009	Tale of Tales	`http://tiny.cc/pymvdz`
Dear Esther	IS	B	2008	Dan Pinchbeck	`http://tiny.cc/r2mvdz`
Lost: Missing Pieces	TS	B	2007–2008	ABC and Lost's creative team	n/a

Continued on next page

379

Table C.1 – *Continued from previous page*

MDS object	Type	P.	Year	Creator	Website
Why So Serious	TS	B	2007	42 Entertainment	`http://tiny.cc/d8mvdz`
Conspiracy for Good	TS	B	2010	Tim Kring, The company P. (in partnership with Nokia)	`http://tiny.cc/p9mvdz`
Dexter Early Cuts	TS	B	2009–2010	Showtime	`http://tiny.cc/gbnvdz`
Hobo Lobo of Hamelin	DS	C	2011	Stevan Zivadinovic	`http://tiny.cc/lcnvdz`
The Lizzie Bennet Diaries (LBD)	DS	C	2012–2013	Bernie Su e Hank Green	`http://tiny.cc/mdnvdz`
Snow Fall: The Avalanche at Tunnel Creek	DS	C	2012	John Branch	`http://bit.do/fbwxj`
A Calendar of Tales	DS	C	2013	Neil Gaiman and Blackberry	`http://bit.ly/2nbpGzi` `http://tiny.cc/0gpuez`

Continued on next page

Table C.1 – *Continued from previous page*

MDS object	Type	P.	Year	Creator	Website
Trauma	IS	C	2011	Krystian Majewski	`http://bit.ly/2oJnsI2`
The Unfinished Swan	IS	C	2012	Giant Sparrow	`http://bit.ly/2o9Ezmi`
Gone Home	IS	C	2013	The Fullbright Company	`http://bit.ly/2obbCGt`
Life is Strange	IS	C	2015	Dontnod Entertainment	`http://bit.ly/2o7Ef7q`
America 2049	TS	C	2011	Andrea Phillips and Heidi Boisvert and Breakthrough	`http://bit.ly/2oJoC6m`
Dumb Ways to Die	TS	C	2012	McCann Melbourne	`http://bit.ly/2pyHyF4`
A Journey Through Middle-Earth	TS	C	2013	North Kingdom, Schimpanz and DinahMoe, Google and Warner Bros	`http://bit.ly/2o8NRyT`

MDS object	Type	P.	Year	Creator	Website
Zombified	TS	C	2013	CableTv.com creative team	`http://bit.ly/2ocLCdM`

Below I provide brief summaries for the 36 case studies listed in Table C.1.

C.1 *Cruising*

Cruising is an online digital fiction. The interactive project uses the Flash programming language for telling the story of teenage girls and their experiences while cruising around their town in Wisconsin.

C.2 *Capture Wales*

Capture Wales is a collection of digital stories in a video format. BBC Wales' producers and tutors ran monthly workshops during which local amateur storytellers learned how to create the short videos that compose the project. The videos have been uploaded on the BBC website and broadcasted on the local BBC channel. The in-depth qualitative analysis of the project can be found in Section 7.2.

C.3 *Red vs Blue*

Red vs Blue is an online series which is inspired by *Halo*, the military science fiction media franchise.The web series is still ongoing – the series has 17 seasons so far. For this thesis, I analysed only the first season, which is called *The Blood Gulch Chronicles*.

C.4 *Bristol Stories*

Bristol Stories is a storytelling project that involved people living in Bristol, who created and shared their personal stories online through videos. The digital stories that compose the overarching project resulted from a series of workshops through which the organisers of *Bristol Stories* tutored groups of amateurs for translating their experiences into multimedia narrative projects.

C.5 *Figurski at Findhorn on Acid*

Figurski at Findhorn on Acid is a hypertext fiction, written with the software programme *Storyspace*. The digital novel has a tripartite structure. It is set in three different locations – Findhorn in Scotland, Port St. Lucie in Florida and the Star Trek Holodeck – and tells the story of three characters – Figurski, The No-Hands Cup Flipper Nguyen Van Tho, and Fatima Michelle Vieuchanger. The story is centred around three objects (Spam, LSD and a mechanical pig).

C.6 *Façade*

The interactive drama *Façade* revolves around the relationship between a married couple, Grace and Trip. The player has the role of a friend of the couple who is involved in the conflict that occurs between Grace and Trip. Players can dialogue in real-time with the two characters, which use AI and natural-language processing techniques to understand the user's text and to formulate appropriate responses.

C.7 *Fahrenheit (Indigo Prophecy)*

Fahrenheit is an interactive drama that tells the story of Lucas Kane and his investigation about a murder that happened in mysterious circumstances. Next to the lead, the other characters of this paranormal thriller are The Oracle, Lucas's older brother (Father Markus), Carla Valenti and Tyler Miles. Depending on the events that happen in the last chapter of the game, the

narrative can end in three different ways: Good ending, Orange Clan ending, Purple Clan ending.

C.8 *Inanimate Alice: China*

Inanimate Alice is an ongoing digital narrative that encompasses ten episodes. The main character of the story is a girl named Alice. Each chapter of the project captures different life events which happen to the girl while she grows up. The first episode is set in China and tells the story of an eight-year old Alice . The China episode employs Flash technology for supporting a multimedia environment that combines text, sounds, effects and animation.

C.9 *The Beast*

The *Beast* is an ARG created as a marketing campaign for the movie *A.I.: Artificial Intelligence*. The ARG has the form of a mystery story. The plot revolves around the character Dr. Jeanine Salla and her attempt to solve the mysterious murder of her friend Eva Chan. The storyworld of the ARG involves several websites. On the websites, users were asked to find clues disseminated through numerous media formats such as telephone messages, live promotional events and print ads.

C.10 *Freakylinks.com*

Freakylinks.com is a website that belongs to the transmedia universe of the eponymous TV series. The television drama centred on the investigation that Derek Barnes conducted for unveiling the truth behind the unexpected death of his twin brother Adam. Along with the clues connected to his deceased brother, Derek explored other mysterious events. In the attempt of analysing and finding the reasons behind urban legends, horror stories and paranormal phenomena, Derek opened a website called *Freakylinks.com*. The website lived both inside and outside the fictional world of the TV series, since real users joined the website and discussed the themes proposed on it.

C.11   *24: Conspiracy*

24: Conspiracy derives from the TV series *24*, an action drama that aired for eight seasons on Fox channel from 2001 to 2010. *24: Conspiracy* is one project among several others that belong to the narrative universe of the action-drama series. The project comprises 24 videos that are one minute in length[1]. The mini-series was launched for mobile devices and served for introducing the audience to the fourth season of *24*.

C.12   *Perplex city*

Perplex city is the name of the fictional city where this ARG is set. The game takes place after *The Receda Cube* is stolen. Since it is an essential artefact for the Perplex City Academy Museum, the master of the Academy makes a call for helping in rescuing the item. The players who respond to the call join the group called Cube Retrieval Team. In the attempt of detecting the artefact, the players explore clues disseminated in various formats, such as blogs and puzzles. The ARG awarded the player/players who helped locate the stolen item a money prize .

C.13   *Lonelygirl15*

Lonelygirl15 is an online series centred on Bree, a young girl who uploads video blogs about her life on YouTube with the name of lonelygirl15. Initially, Bree was considered a real teenage girl and not an actress who was filming a web drama. After fans started questioning the authenticity of Bree's identity, the creators of the online series revealed that *Lonelygirl15* was indeed a fictional project.

---

[1]The list of the episodes is available on the wiki made by the fan of the series at `https://24.fandom.com/wiki/24:_Conspiracy` [Accessed 25-08-2018]

C.14 *Dim O'Gauble*

Dim O'Gauble is a digital fiction that is supported by Flash programming language. The story follows a boy's vision about the future and his grandmother's thoughts. A detailed qualitative analysis of the project is offered in Section 7.3.

C.15 *Flight Paths*

Flight Paths is a multimedia digital novel that describes the encounter between the British housewife Harriet and the young man Yacub, who was trying to escape from Pakistan. The two characters met in London in the parking area outside a supermarket close to Heathrow airport. While Harriet was leaving the parking, Yacub felt from a plane and crashed into her car. The authors used multimedia elements to recount the story of the two characters and invited readers to contribute text, pictures and sounds.

C.16 *Nightingale's Playground*

Nightingale's Playground is a digital fiction about an adolescent called Carl, who is the lead of the story. At the beginning of the narrative, users are introduced to Alex, Carl's friend. However, Carl does not remember the details about their relationship and Carl's schoolmates do not have clues about Alex identity. The story of *Nightingale's Playground* is told through a browser-based experience, an interactive digital book, an e-book and a real-time 3D game that is available for PC and Mac.

C.17 *Like Stars in a Clear Night Sky*

Like Stars in a Clear Night Sky encompasses a collection of stories that users can navigate through the interface of the project. The narrative fragments are poems which tell the personal experience of the authors' life. Users can both read and hear the stories. The text is in English, while the voice is reading the stories in Arabic.

C.18 *Fallen London*

Fallen London is a story-driven RPG game set in Victorian London. In 2009, Failbetter Games launched the RPG as a browser-based game with the title *Echo Bazaar*. The studio initially developed *Fallen London* for testing *Storynexus*, a platform for creating interactive stories[2].

C.19 *The Path*

The psychological video game *The Path* is inspired by the fairytale *Little Red Riding Hood*. The protagonists of the story are six sisters, who are asked by their mother to go to their Grandmother's house. For reaching their destination, the girls need to leave the apartment where they are at the beginning of the narrative experience and pass through a forest. While in the forest, they have to pay attention to 'stay on the path', as their mother warns them. At the beginning of the game, players take the role of one of the sisters in third person. When they arrive at the Grandmother's house, the game shifts to first person. The antagonist of the story is the Wolf that represents the trials and tribulations that adolescents need to overcome while they grow up. The Wolf's appearance changes depending on which of the girls the player is controlling.

C.20 *Dear Esther*

Dear Esther is a first-person video game which takes place on the Hebridean island. The main character of this diegetic experience is a man who reads letters fragments to his dead wife. Players can only hear the voice of the man which guides them while they explore the island. The goal of the players is to explore the island, and piece together the different story fragments scattered across the environment. The video game has two versions. It was initially released in 2008. A remastered version became commercially available in 2012.

---

[2]Information on *Storynexus* can be read at `https://www.failbettergames.com/storynexus_is_live/` [Accessed 3-01-2019].

C.21 *Lost: Missing Pieces*

Lost: Missing Pieces comprises thirteen short videos that extend the storyline of the TV series *Lost*. The TC series aired on the ABC from 2004 to 2010. Its storywold involves supernatural and science fiction themes. Between the 3rd and the 4th season, fans could watch *Lost: Missing Pieces*on the device supported by the telecommunication service Verizon Wireless and on the ABC website. The webisodes and mobisodes add information about the events that happened during the first three seasons of *Lost*. The episodes are no longer available on the official website. However, the DVD dedicated to the 4th season contains the video clips which are also available on unofficial sites created by fans, such as YoTube channel[3], and the *Lost* wiki[4].

C.22 *Why So Serious*

Why So Serious is the transmedia project that introduced the audience to the fictional world of the movie *The Dark Knight*. The project has the format of an ARG and was launched in 2007 during the Comic Con in San Diego. During the event, fans received the first tasks (out of several others) through which they discovered material about the film and information about the Joker. The game involved an array of traditional and online media, e.g., print, webpages, emails and real-life events.

C.23 *Conspiracy for Good*

Conspiracy for Good is an ARG active from the Spring to the Summer of 2010 both online and in real-life events in London. In the fictional world of the project, players join the *Conspiracy for Good* organisation to defeat Blackwell Briggs, a global paramilitary corporation which makes illegal use of security services such as CCTV networks. *Conspiracy for Good* involved social media platforms, i.e., Twitter, Facebook and YouTube (Hunter 2015), and employed

---

[3]The videos can be watched at `https://www.youtube.com/watch?v=9QDCyAte_4Q&t=3s` [Accessed 30-10-2019].

[4]The full list of the episodes is available at `https://lostpedia.fandom.com/wiki/Lost:_Missing_Pieces` [Accessed 30-10-2019].

the 'point&find' technology, developed by Nokia for real-life playing. Besides being an ARG, the narrative universe of *Conspiracy for Good* is 'social benefit storytelling', as was defined by Tim Kring (Hunter 2015, p. 188). The ARG collaborated with charities, and the social movement built around the game contributed to raising money to build libraries in Africa, to donate books to libraries in Zambia, and to fund scholarships for schoolgirls[5].

C.24 *Dexter Early Cuts*

Dexter Early Cuts is an online series created as a spin-off of the TV show *Dexter*. The series focuses on the life of the vigilante serial killer Dexter Morgan during his teenage years and it is told in the form of an animated comic.

C.25 *Hobo Lobo of Hamelin*

Hobo Lobo of Hamelin is an online comic inspired by *The Pied Piper*. Like in the German folktale, the story was set in the small village, Hamelin, infested by rats. The plotline focuses on the conflictual relationship between Hobo Lobo and the Mayor of Hamelin. The 'renaissance journeyman' Hobo Lobo succeeds in driving away the rats from the village, but the Mayor refuses to pay him for its achievement. A horizontally scrolling site based on parallax supports the multimedia story which encompasses images, text, audio and effects.

C.26 *The Lizzie Bennet Diaries*

(LBD) *The Lizzie Bennet Diaries* is a multiplatform and online series that is based on the novel *Pride and Prejudice*. A detailed analysis of the project is provided in Section 7.4.

---

[5]The achievements obtained by the project are summarised in the YouTube video *Conspiracy for Good - 2010*, that can be watched at `https://www.youtube.com/watch?v=wN590e-fopc` [Accessed 3-01-2019].

C.27 *Snow Fall: The Avalanche at Tunnel Creek*

In February 2012 an avalanche occurred in the State of Washington (USA) in a mountain pass through the Cascade Mountains. Professional freeskiers and free snowboarders were at the site of the avalanche that killed the three skiers Jim Jack, Chris Rudolph and John Brenan. The reporter John Branch documented this tragic event in the online multimedia article *Snow Fall.* In the article, images, videos, maps, graphics and image slideshows support the story. In 2013, *Snow Fall* won the Pulitzer Prize in Feature Writing and since then it has been recognised as a milestone in long-form journalism (Jacobson, Marino, and Gutsche Jr 2015).

C.28 *A Calendar of Tales*

A Calendar of Tales is a collection of 12 multimedia stories created by Neil Gaiman in collaboration with his social media followers. Each story unit focuses on a month of the year. In 2013, on Twitter, Gaiman posted 12 questions concerning the months. Examples of questions are 'Why is January so dangerous?', 'What is your happiest memory of April?,' 'What would you burn in November, if you could?'[6]. After selecting his favourite responses, Gaiman wrote 12 short stories. Finally, BlackBerry provided technological support for creating the digital book that comprises illustrations and videos (Prescott 2015, p. 5).

C.29 *Trauma*

Trauma is a graphic adventure game that employs the Flash programming language. The story centres on the dreams of a young woman who is hospitalised after a car crash. A video presents information about the backstory of the players. *Trauma* encompasses four photographic dreamscapes that play-

---

[6]The full list of questions was available on the website that BalckBerry created for *A Calendar of Tales.* While the website is no longer available, the questions can be read on several blogs created by fans. The post I referred to for having information about the questions can be read at `https://rivervox.tumblr.com/post/42363185351/calendar-of-tales-questions` [Accessed 3-01-2019].

ers can enter from the opening menù. Players can explore the dreamscape and interact with the objects with gesture-based action and point-and-click. In each dreamscape, players must perform a primary task to asolve the level. Throughout the video game, players can hear the voice of the woman speaking to herself in the attempt of unveiling what occurred to her. The voice provides backstory information and gives clues to the players concerning the multiple endings they can experience.

C.30 *The Unfinished Swan*

The video game *The Unfinished Swan* tells the story of a young boy called Monroe, who enters a painted world in the attempt of catching a swan escaped from a painting made by her dead mother. Monroe's journey is recounted in four chapters. The exploration of the world begins in a white canvas. Players who control Monroe can shoot spots of black ink to unveil the path forward. In 2013, the video game won the *British Academy of Film and Television Arts* (BAFTA) awards for Game Innovation and Debut Game.

C.31 *Gone Home*

The story of the first-person video game *Gone Home* takes place in Oregon, where Katie Greenbriar returned to her house after spending a few months in Europe. Players soon realise that Katie's family left the house, without Katie knowing. On the front door of the home, the 21st-year-old woman finds a note from her younger sister Samantha who asks not to look for her. The player's goal is to find an answer to Katie's family disappearance. In order to do so, they can explore the rooms of the house and examine items.

C.32 *Life is Strange*

Life is strange is a story-driven game that tells the story of Max Caulfield, a young girl who returned to her hometown Arcadia Bay after five years of absence. After witnessing a murder in her school Blackwell Academy, Max

developed the ability to rewind time. From that point, Max started investigating the murder according to players' choices. The graphic adventure has non-linear gameplay and an episodic structure.

C.33 *America 2049*

America 2049 is an ARG created by the human rights organisation *Breakthrough* to increase awareness about themes concerning social justice such as racial discrimination, racism, and sex trafficking. The project run for 12 weeks on Facebook during which players got through information concerning the US heritage in terms of human rights. The hunt for the Ugandan terrorist Ken Asaba is the device that was used in the fictional world of *America 2049* for making players advancing the plot. In order to find Asaba, players had to search for clues disseminated across websites, social media and real-life events.

C.34 *Dumb Ways to Die*

Dumb Ways to Die is part of of an Australian multi-channel campaign that *Metro Trains* produced for promoting safe railway behaviours. The campaign originally involved a YouTube video and a song downloadable from the *Metro Trains* website and the iTunes store. In 2013, the mobile app game of the campaign was launched, and other online and traditional channels were used for supporting the project, such as Tumblr, press and the radio. *Dumb Ways to Die* employs a cartoonish and fun style, and it focuses on the diverse accidents and deaths of the characters. In 2013, the project won numerous *Webby Awards*. This prize is dedicated to Internet content and is promoted by *The International Academy of Digital Arts and Sciences*. Among others, the campaign won in the categories: *Best Public Service and Activism* and *Best Animation Film and Video* `http://tiny.cc/5n12dz`.

C.35 *A Journey Through Middle-Earth*

A Journey Through Middle-Earth is the web-based experience that Google and Warner Bros have created for advertising the movie *The Hobbit: The*

Desolation of Smaug. The project encompasses diverse media formats such as online games, videos with material from the movie and static text. Users access the diverse media formats from an interactive map through which they can explore different places of the Tolkien's trilogy, such as, Trollshaw, Rivendell, Dol Guldur, Thranduil's Hall and Lake-town.

C.36 *Zombified*

Zombified is a motion comic based on the tv series *The Walking Dead*. The project is a graphic and animated representation of the behind-the-scene material of season 4 of the TV series. *Zombified* was made for advertising the website Cabletv.com that provides a search engine for cable TV and Internet. The Facebook fans of Cabletv supported the making of the motion comic. They chose *The Walking Dead* as the topic of the marketing campaign out of three possibilities, i.e., *Game of Thrones* and *Family Guy.*

In Table C.2, I report additional new media narratives that I have used to extract common features from DS, IS and TS, and that have provided insights for the design of the MDS framework. I also include projects mentioned during the expert interviews. These narratives were not included in the dataset of 36 case studies used to test the MDS framework. The projects are ordered by *storytelling type* and year of publication.

Table C.2: Additional case studies.

MDS object	Type	Year	Creator	Website
Ted's Caving Journal	DS	2000–2001	unknown author	`http://bit.ly/2nZUkfE`

Continued on next page

Table C.2 – *Continued from previous page*

MDS object	Type	Year	Creator	Website
Online Caroline	DS	2000	Rob Bevan and Tim Wright	`http://bit.ly/2oJqGv8`
Firestorm	DS	2013	Jon Henley, The Guardian	`http://bit.ly/2nZyb11`
Grimm's Briar Rose	DS	2014	Madefire Studios	`http://bit.ly/2nbXFHR`
First Stars I See Tonight	DS	2014	HitRECord (collaborative project)	`http://bit.ly/2pGlWXy`
The New Adventure of Peter and Wendy	DS	2014–2017	Kyle Walters and Shawn deLoache	`http://bit.ly/2pyHTYn`
Lil Miquela	DS	2016–present	Brud	`http://bit.ly/2oJbU7F`
Artificial (ArtificialNext)	DS	2018–present	Bernie Su and Evan Mandery	`http://bit.ly/2oQWKwQ`
Galatea	IS	2000	Emily Short	`http://bit.ly/2oMiDh7`

Continued on next page

Table C.2 – *Continued from previous page*

MDS object	Type	Year	Creator	Website
Okami	IS	2006	Clover Studio	`http://bit.ly/2oQXhyQ`
Braid	IS	2008	Number None	`http://bit.ly/2o9QuR4`
88 Constellations for Wittgenstein	IS	2011	David Clark	`http://bit.ly/2pI2ee9`
The Stanley Parable	IS	2011	Galactic Cafe	`http://bit.ly/2n95lKW`
Hollow: An Interactive Documentary	IS	2013	Elaine McMillion Sheldon	`http://bit.ly/2ncJgv3`
Everybody's Gone to the Rapture	IS	2015	The Chinese Room	`http://bit.ly/2o7UL7q`
What Remains of Edith Finch	IS	2017	Giant Sparrow	`http://bit.ly/2oJD2Dw`
The Angry River	IS	2017	Armen Perian	`http://tiny.cc/0iw2dz`

Continued on next page

Table C.2 – *Continued from previous page*

MDS object	Type	Year	Creator	Website
Black Mirror: Bandersnatch	IS	2018	Charlie Brooker and David Slade	`https://imdb.to/2oMCMDB`
Detroit: Become Human	IS	2018	Quantic Dream	`http://bit.ly/2nXtpkB`
Breathe	IS	2018	Kate Pullinger (AHRC-funded Ambient Literature research project)	`http://tiny.cc/75mvdz`
I Love Bees	TS	2004	42 Entertainment	`http://bit.ly/2oJk7Zx`
The Fantastic Flying Books of Mr. Morris Lenore	TS	2011-2012	William Joyce (Moonbot Studios)	`http://bit.ly/2oJkPGb`
The Malthusian Paradox	TS	2012	Dominic Shaw and Adam Sporne (Urban Angel)	n/a

Continued on next page

Table C.2 – *Continued from previous page*

MDS object	Type	Year	Creator	Website
Sherlock Holmes and the Internet of Things	TS	2014	Lance Weiler, Nick Fortugno (Columbia Digital Storytelling Lab)	`http://bit.ly/2ncN1k9`
Frankenstein AI	TS	2018	Lance Weiler (Columbia Digital Storytelling Lab)	`http://bit.ly/2pBNZY0`

Appendix D

Scores for 36 case studies

This appendix reports the scores of the quantitative analysis conducted on 36 case studies (Appendix C). The case studies are ordered by *storytelling type* and time period (A=2000-2005, B=2006-2010, C=2011-2015). An easy-to-navigate spreadsheet featuring the scores can be accessed at `http://tiny.cc/2y4zgz` [Accessed 27-11-2019].

| | | Categories and Principles | | | | | | | | | | |
| | | Interaction | | | | | Platform | | | | | |
	Storytelling Type	Period	Ludification	Narrative interaction	Interface	Agency	Multisensorial experience	Pervasiveness	Technological integration	Social infrastructure	Digital landscape	Analogue landscape	Convergence
Cruising	DS	A	0	0	1	1	1	0	0	0	0	7	0
Capture Wales	DS	A	0	0	0	0	1	2	0	0	0	7	2
Red vs. Blue	DS	A	0	0	0	0	1	2	0	1	1	6	0
Bristol Stories	DS	A	0	0	0	0	1	1	0	0	0	7	1
Figurski at Findhorn on Acid	IS	A	0	0	1	5	2	0	0	0	3	4	0
Façade	IS	A	4	0	2	6	4	0	6	0	4	3	0
Fahrenheit	IS	A	6	0	5	6	6	2	0	0	5	2	0
Inanimate Alice: China	IS	A	3	0	2	1	3	0	0	0	3	4	0
The Beast	TS	A	3	3	1	5	4	4	0	3	2	5	5
Freakylinks.com	TS	A	0	1	1	0	1	2	0	1	2	5	1
24: Conspiracy	TS	A	0	0	0	0	1	2	0	0	2	5	3
Perplex City	TS	A	4	0	1	4	4	3	1	2	3	4	4
Lonelygirl15	DS	B	5	3	1	1	2	0	0	5	5	2	1
Dim O'Gauble	DS	B	2	0	2	2	3	0	0	0	5	2	0
Flight Paths	DS	B	2	0	2	3	3	2	0	0	2	5	1
Nightingale's Playground	DS	B	2	0	1	2	3	4	0	0	4	3	5
Like Stars in a Clear Night Sky	IS	B	2	0	2	1	2	0	0	0	0	7	0
Fallen London	IS	B	5	4	3	5	4	0	1	4	5	2	4
The Path	IS	B	5	1	4	5	5	2	0	4	3	4	5
Dear Esther	IS	B	2	1	3	3	5	2	5	4	4	3	3
Lost: Missing Pieces	TS	B	0	0	0	0	1	4	0	2	2	5	6
Why So Serious	TS	B	5	4	4	6	6	7	1	4	6	1	6
Conspiracy for Good	TS	B	5	3	3	6	7	6	5	5	6	1	4
Dexter Early Cuts	TS	B	0	3	0	0	3	6	0	4	2	5	5
Hobo Lobo of Hamelin	DS	C	0	4	2	2	2	3	0	4	2	5	3
The Lizzie Bennet Diaries	DS	C	1	5	2	3	3	7	2	7	6	1	6
Snow Fall: The Avalanche at Tunnel Creek	DS	C	1	3	2	2	3	3	0	3	1	6	1
A Calendar of Tales	DS	C	1	5	1	1	4	6	0	5	2	5	5
Trauma	IS	C	3	1	3	4	5	2	0	4	4	3	1
The Unfinished Swan	IS	C	6	1	3	5	5	2	0	1	5	2	3
Gone Home	IS	C	7	1	6	5	5	3	1	4	5	2	3
Life is Strange	IS	C	6	2	6	7	6	2	1	5	5	2	4
America 2049	TS	C	6	6	4	7	7	6	3	6	7	0	5
Dumb Ways to Die	TS	C	5	7	4	5	6	7	5	6	6	1	5
A Journey Through Middle-Earth	TS	C	5	2	4	4	5	7	1	3	2	5	6
Zombified	TS	C	2	4	2	2	3	7	0	5	4	3	5

			Media						Text						
	Storytelling Type	Period	Multimediality	Still images	Moving images	Effects and Animations	Music	Sound design	Text-based communication	Character centrality	Narrative fragmentation	Domain hybridisation	Adaptation	Microcontent	Customisation
Cruising	DS	A	2	2	5	1	1	1	1	1	0	0	0	1	2
Capture Wales	DS	A	2	2	7	1	1	1	1	2	2	0	0	3	7
Red vs. Blue	DS	A	1	3	7	4	3	3	0	3	2	2	6	3	7
Bristol Stories	DS	A	2	2	7	0	1	1	1	2	2	0	0	3	7
Figurski at Findhorn on Acid	IS	A	1	2	0	1	0	0	6	3	4	3	1	2	1
Façade	IS	A	3	3	5	4	3	3	6	5	5	0	1	3	0
Fahrenheit	IS	A	4	4	7	7	4	4	3	5	6	0	4	3	0
Inanimate Alice: China	IS	A	4	3	4	5	2	2	4	4	1	0	3	5	3
The Beast	TS	A	3	4	1	0	1	1	3	4	4	1	2	3	1
Freakylinks.com	TS	A	2	2	1	1	1	2	4	3	1	1	1	3	3
24: Conspiracy	TS	A	1	0	7	1	0	2	0	3	0	0	4	2	0
Perplex City	TS	A	3	4	1	0	0	0	5	3	4	2	2	4	0
Lonelygirl15	DS	B	3	1	7	3	4	3	1	6	2	0	0	4	5
Dim O'Gauble	DS	B	3	5	2	4	1	3	5	3	3	2	2	4	0
Flight Paths	DS	B	4	5	5	6	6	3	4	3	3	0	2	3	4
Nightingale's Playground	DS	B	3	3	2	4	1	2	4	2	3	1	0	3	0
Like Stars in a Clear Night Sky	IS	B	2	1	0	1	1	2	7	3	2	0	2	2	2
Fallen London	IS	B	3	3	1	2	1	0	5	4	5	3	2	3	2
The Path	IS	B	3	5	7	5	2	4	2	5	5	1	6	3	1
Dear Esther	IS	B	6	5	7	7	4	7	6	4	4	1	4	4	1
Lost: Missing Pieces	TS	B	1	0	0	0	0	1	1	6	2	0	2	2	3
Why So Serious	TS	B	6	7	3	2	2	1	4	7	4	5	4	6	2
Conspiracy for Good	TS	B	5	5	7	3	2	3	4	3	5	7	3	4	2
Dexter Early Cuts	TS	B	3	7	7	5	5	5	1	7	2	2	4	5	3
Hobo Lobo of Hamelin	DS	C	3	7	4	3	1	3	6	5	3	3	5	3	4
The Lizzie Bennet Diaries	DS	C	5	4	7	2	0	2	4	7	5	4	7	6	5
Snow Fall: The Avalanche at Tunnel Creek	DS	C	4	4	2	4	0	2	7	1	1	1	5	5	4
A Calendar of Tales	DS	C	5	4	5	5	3	6	7	2	2	0	4	4	3
Trauma	IS	C	3	5	4	4	1	5	1	5	4	2	2	4	1
The Unfinished Swan	IS	C	5	7	5	6	6	6	6	4	4	0	4	4	0
Gone Home	IS	C	5	5	5	5	3	4	3	3	4	0	2	4	0
Life is Strange	IS	C	6	6	7	7	4	5	6	7	7	3	4	5	1
America 2049	TS	C	5	4	4	2	0	1	5	3	6	7	2	5	0
Dumb Ways to Die	TS	C	4	7	7	5	7	4	2	3	5	7	1	3	5
A Journey Through Middle-Earth	TS	C	7	6	4	5	2	4	4	6	4	1	5	6	5
Zombified	TS	C	4	5	6	5	3	4	4	2	1	5	5	4	4

			Agents							
	Storytelling Type	Period	Bottom-up production	Bottom-up distribution	Top-down production	Top-down distribution	Community involvement	Participative Storytelling	User-Generated Content	Fan-driven content
Cruising	DS	A	0	0	7	7	0	0	0	0
Capture Wales	DS	A	5	0	3	7	5	4	7	0
Red vs. Blue	DS	A	3	0	4	7	5	0	3	4
Bristol Stories	DS	A	5	0	3	7	2	4	7	0
Figurski at Findhorn on Acid	IS	A	0	0	7	7	1	0	0	0
Façade	IS	A	0	0	7	7	5	5	1	3
Fahrenheit	IS	A	0	0	7	7	3	1	0	2
Inanimate Alice: China	IS	A	0	0	7	7	3	3	3	2
The Beast	TS	A	0	1	7	6	5	3	2	2
Freakylinks.com	TS	A	0	0	7	7	3	0	1	2
24: Conspiracy	TS	A	0	0	7	7	3	0	0	1
Perplex City	TS	A	0	0	7	7	5	4	4	2
Lonelygirl15	DS	B	0	1	7	6	5	3	1	5
Dim O'Gauble	DS	B	0	0	7	7	2	0	0	0
Flight Paths	DS	B	3	0	4	7	4	4	5	0
Nightingale's Playground	DS	B	0	0	7	7	2	0	0	1
Like Stars in a Clear Night Sky	IS	B	0	0	7	7	0	0	0	0
Fallen London	IS	B	0	1	7	6	4	2	0	4
The Path	IS	B	0	0	7	7	4	0	1	4
Dear Esther	IS	B	0	0	7	7	4	0	0	4
Lost: Missing Pieces	TS	B	0	0	7	7	5	0	1	3
Why So Serious	TS	B	0	2	7	5	7	4	4	4
Conspiracy for Good	TS	B	0	2	7	5	5	4	2	3
Dexter Early Cuts	TS	B	0	1	7	6	4	0	2	3
Hobo Lobo of Hamelin	DS	C	0	0	7	7	2	0	0	1
The Lizzie Bennet Diaries	DS	C	2	2	5	5	7	4	3	7
Snow Fall: The Avalanche at Tunnel Creek	DS	C	0	0	7	7	3	0	0	0
A Calendar of Tales	DS	C	2	1	5	6	6	6	5	3
Trauma	IS	C	0	0	7	7	3	0	0	2
The Unfinished Swan	IS	C	0	0	7	7	4	1	1	5
Gone Home	IS	C	0	0	7	7	4	1	1	5
Life is Strange	IS	C	0	0	7	7	6	2	0	7
America 2049	TS	C	0	2	7	5	6	5	3	1
Dumb Ways to Die	TS	C	0	1	7	6	6	1	2	7
A Journey Through Middle-Earth	TS	C	0	0	7	7	4	0	1	1
Zombified	TS	C	1	0	7	7	3	2	3	3

Bibliography

Aarseth, Espen (2012). "A narrative theory of games". In: *FDG '12 Proceedings of the International Conference on the Foundations of Digital Games*, pp. 129–133.

Aarseth, Espen J (1997). *Cybertext: Perspectives on ergodic literature*. Baltimore, Maryland: Johns Hopkins University Press.

Abba, Tom (2009). "Hybrid stories: Examining the future of transmedia narrative". In: *Science Fiction Film & Television* 2.1, pp. 59–75.

Abbott, Porter H (2002). *The Cambridge introduction to narrative*. Cambridge, UK: Cambridge University Press.

Adams, Ernest W (2011). "A Requirements Specification Template for Interactive Storytelling". In: *Lecture delivered at the Game Developers' Conference, San Francisco, California*. Vol. 4.

— (2013). "Resolutions to some problems in interactive storytelling". PhD thesis. University of Teesside.

Akar, Ezgi and Sona Mardikyan (2018). "User roles and contribution patterns in online communities: A managerial perspective". In: *SAGE Open* 8.3, pp. 1–19.

Albæk, Katharina R et al. (2011). "The Influence of interactivity on immersion within digital interactive narratives". In: *Aalborg University Copenhagen*, pp. 1–45.

Alexander, Bryan (2011). *The new digital storytelling: Creating narratives with new media*. Santa Barbara, California: Praeger.

— (2017). *The New Digital Storytelling: Creating Narratives with New Media–Revised and Updated Edition*. Santa Barbara, CA: ABC-Clio.

Aristotle (1997). *Poetics*. Ed. by John Baxter and Patrick Atherton. Trans. by George Whalley. Montreal, Quebec: McGill University Press.

Arkkelin, Daniel (2014). *Using SPSS to understand research and data analysis*. Valparaiso, Indiana: Valparaiso University.

Atkinson, Sarah (2009). "Telling interactive stories: A practice-based investigation into new media interactive storytelling". PhD thesis. Brunel University.

— (2014a). *Beyond the screen: Emerging cinema and engaging audiences*. London, UK: Bloomsbury Publishing.

Atkinson, Sarah (2014b). "The performative functions of dramatic communities: Conceptualizing audience engagement in transmedia fiction". In: *International Journal of Communication* 8, pp. 2201–2219.

Azuma, Hiroki (2009). *Otaku: Japan's database animals.* Translation of Dobutsukasuru posutomodan: otaku kara mita nihon shakai, Tokyo: KōGendai Shinsho, 2001. Minneapolis, US: University of Minnesota Press.

Babin, Barry J and William G Zikmund (2015). *Exploring marketing research.* Madrid, Spain: Cengage Learning.

Barbas, Helena (2010). "Narrative Memory in Hyperfiction and Games". In: *GameOn'2010-11th International Conference on Intelligent Games and Simulation*, pp. 85–91.

Barthes, Roland (1967). "The death of the author". In: *Aspen* 5-6. Accessed: 06-11-2017. URL: http://www.ubu.com/aspen/aspen5and6/.

— (1977). *Image, music, text.* New York, New York: Hill and Wang.

Barthes, Roland and Stephen Heath (1977). *Image, music, text.* London, UK.

Bateson, Gregory (1972). *Steps to an ecology of the mind.* San Francisco, California: Chandler.

Batinic, Josip (2016). "Enhanced webcomics: An exploration of the hybrid form of comics on the digital medium". MA thesis. University of Amsterdam.

Bauman, Zygmunt (1995). *Life in fragments: Essays in postmodern morality.* Oxford, UK: Blackwell.

Beddows, Emma (2012). "Buffy the transmedia hero". In: *Colloquy text theory critique* 24, pp. 143–158.

Berners-Lee, Tim J (1996). "The World Wide Web: Past, present and future". In: *Proceedings of IEEE computer.* Vol. 29. 10, pp. 69–77.

Bishop, Christopher M (2006). *Pattern recognition and machine learning.* Berlin, Germany: Springer.

Bizzocchi, Jim (2007). "Games and narrative: An analytical framework". In: *Loading-The Journal of the Canadian Games Studies Association* 1.1, pp. 5–10.

Bogost, Ian (2015). "Why gamification is bullshit". In: *The Atlantic.* Accessed: 27-04-2017. URL: https://www.theatlantic.com/technology/archive/2011/08/gamification-is-bullshit/243338/.

Bolter, David J (1991). *Writing space: The computer, hypertext, and the history of writing.* Mahwah, New Jersey: Lawrence Erlbaum Associates.

Bolter, David J and Richard Grusin (1999). *Remediation: Understanding new media.* Cambridge, Massachusetts: MIT Press.

Bolter, Jay (2005). "Transference and transparency: Digital technology and the remediation of cinema". In: *Intermédialités: Histoire et théorie des arts, des lettres et des techniques/Intermediality: History and Theory of the Arts, Literature and Technologies* 6, pp. 13–26.

Bordwell, David and Kristin Thompson (2017). *Film art: An introduction*. New York, New York: McGraw-Hill Education.

Bouça, Maura (2012). "Mobile communication, gamification and ludification". In: *Proceedings of the 16th International Academic MindTrek Conference*, pp. 295–301.

Bremond, Claude (1973). *Logique du récit*. Paris, France: Éditions du Seuil.

Brooks, Peter (2002). "Narrative desire". In: *Narrative dynamics: Essays on time, plot, closure, and frames*. Ed. by Brian Richardson, James Phalen, and Peter Rabinowitz. Columbus, Ohio: Ohio State University Press, pp. 130–158.

Bruns, Axel (2008). *Blogs, wikipedia, second life, and beyond: From production to produsage*. New York, New York: Peter Lang.

Buckles, Mary A (1985). "Interactive fiction: the computer storygame adventure". PhD thesis. University of California.

Buckley, Jake (2011). "Believing in the (analogico)-digital". In: *Culture Machine* 12.

— (2014). "Analogue versus digital". In: *The Johns Hopkins guide to digital media*. Ed. by Marie-Laure Ryan, Lori Emerson, and Benjamin J Robertson. Baltimore, Maryland: John Hopkins University Press.

Burgess, Jean E (2007). "Vernacular creativity and new media". PhD thesis. Queensland University of Technology.

Burgess, Jean E and Joshua Green (2009a). "The entrepreneurial vlogger: Participatory culture beyond the professional-amateur divide". In: *The YouTube reader*. Ed. by Pelle Snickars and Patrick Vonderau. Stockholm, SE: National Library of Sweden/Wallflower Press, pp. 89–107.

— (2009b). *YouTube: Online video and participatory culture*. New York, New York: John Wiley & Sons.

Bush, Vannevar (1945). "As we may think". In: *The Atlantic Monthly* 176.1, pp. 101–108.

Capture Wales Team, BBC (2008). *A Guide to Digital Storytelling by members of the BBC Capture Wales team*. Cardiff, UK: Cardiff University.

Castelluccio, Michael (2006). "The music genome project". In: *Strategic Finance*, pp. 57–59.

Castonguay, James (2004). "The political economy of the indie blockbuster: Fandom, intermediality, and The Blair Witch Project". In: *Nothing that is: Millennial cinema and the Blair Witch controversies*. Ed. by Sarah L

Higley and Weinstock Jeffrey A. Detroit, USA: Wayne State University Press, pp. 65–85.

Cavazza, Marc et al. (2004). "Multimodal acting in mixed reality interactive storytelling". In: *IEEE MultiMedia* 11.3, pp. 30–39.

Chatman, Seymour B (1978). *Story and discourse: Narrative structure in fiction and film.* Ithaca, New York: Cornell University Press.

Chouliaraki, Lilie (2009). *Media, organizations and identity.* London, UK: Palgrave Macmillan.

Chute, Hillary L and Marianne DeKoven (2006). "Graphic narrative". In: *MFS Modern Fiction Studies* 52.4, pp. 767–782.

Cohen, Jonathan (2001). "Defining identification: A theoretical look at the identification of audiences with media characters". In: *Mass Communication & Society* 4.3, pp. 245–264.

Coomans, Marc KD and Harry JP Timmermans (1997). "Towards a taxonomy of virtual reality user interfaces". In: *Information Visualization. Proceedings of Conference on IEEE*, pp. 279–284.

Coover, Robert (1992). "The end of books". In: *New York Times Book Review* 21.6, pp. 23–25.

Creeber, Glen and Royston Martin (2008). *Digital culture: Understanding new media.* New York, New York: McGraw-Hill Education.

Dabek, Meredith (2017). "Deconstructing Austen cybertexts: How Pride and Prejudice became The Lizzie Bennet Diaries". In: *NPPSH Reflections* 1, pp. 32–37.

Darley, Andrew (2002). *Visual digital culture: Surface play and spectacle in new media genres.* London; New York: Routledge.

Davis, Stephen B et al. (2007). "Smell me: Engaging with an interactive olfactory game". In: *People and Computers XX–Engage*, pp. 25–40.

Dena, Christy (2009). "Transmedia practice: Theorising the practice of expressing a fictional world across distinct media and environments". PhD thesis. University of Sydney.

Deszcz-Tryhubczak, Justyna and Mateusz Marecki (2015). "Reading as synthesis of immersion and interactivity: Multimodal metaphors in The Fantastic Flying Books of Mr. Morris Lessmore Combo". In: *Anglica Wratislaviensia* 53, pp. 45–54.

Deterding, Sebastian et al. (2011). "From game design elements to gamefulness: Defining gamification". In: *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments*, pp. 9–15.

Dippel, Anne and Sonia Fizek (2017). "Ludification of culture: The significance of play and games in everyday practices of the digital era". In: *Digitisa-*

tion. Theories and concepts for empirical cultural research. Ed. by Gertraud Koch. London, UK: Routledge, pp. 276–292.

Dittmar, Jakob (2012). "Digital comics". In: *Scandinavian Journal of Comic Art* 1.2, pp. 82–91.

Douglas, Yellowlees J (1992). "What hypertext can do that print narratives cannot". In: *Reader* 28, p. 1.

Dubbelman, Teun (2016). "Narrative game mechanics". In: *International Conference on Interactive Digital Storytelling*, pp. 39–50.

Duncan, Randy (2000). "Toward a theory of comic book communication". In: *Academic forum.* Ed. by K Fudge and M R Lloyd. Vol. 17. Arkadelphia, AR: Henderson State University, pp. 71–88.

Engberg, Maria (2014). "Digital Fiction". In: *The Johns Hopkins guide to digital media.* Ed. by Marie-Laure Ryan, Lori Emerson, and Benjamin J Robertson. Baltimore, Maryland: John Hopkins University Press, pp. 138–43.

Ensslin, Astrid (2014). *Literary gaming.* Cambridge, Massachusetts: MIT Press.

Evans, Elizabeth (2011). *Transmedia television: Audiences, new media, and daily life.* New York, New York: Routledge.

Fast, Karin and Henrik Örnebring (2017). "Transmedia world-building: The shadow (1931–present) and transformers (1984–present)". In: *International Journal of Cultural Studies* 20.6, pp. 636–652.

Figueiredo Filho, Dalson Britto et al. (2013). "When is statistical significance not significant?" In: *Brazilian Political Science Review* 7.1, pp. 31–55.

Foucault, Michel (1977). *Language, counter-memory, practice.* Ithaca, New York: Cornell University Press.

Fournier, Alexandra (2016). "My name is Lizzie Bennet: Successfully adapting Jane Austen's Pride and Prejudice (1813) for the twenty-first century with The Lizzie Bennet diaries (2012-2013)". MA thesis. University of Waterloo.

Freeman, Matthew (2016). *Historicising transmedia storytelling: Early twentieth-century transmedia story worlds.* London, UK: Routledge.

Freeman, Matthew and William Proctor (2018). *Global convergence cultures: Transmedia earth.* New York and London: Routledge.

Fuchs, Mathias et al. (2014). *Rethinking gamification.* Meson Press.

Gadney, Guy (2018). *Interview with Author.* 31st July 2018.

Gallagher, Rob (2018). "Plotting the loop: Videogames and narratability". In: *The Edinburgh companion to contemporary narrative theories.* Ed. by Zara Dinnen and R Warhol Robyn. Edinburgh, Scotland: Edinburgh University Press. Chap. 12.

Gambarato, Renira R (2012). "How to Analyze Transmedia Narratives?" In: *Baltic Film and Media School Screen Studies*. Ed. by Andres Joesaar. Tallin, Estonia: Tallinn University Press, pp. 1–23.

— (2018). "A design approach to transmedia projects". In: *The Routledge companion to transmedia studies*. Ed. by Matthew Freeman and Renira R Gambarato. New York, New York: Routledge, pp. 401–409.

Gambarato, Renira R and Lorena Peret Teixeira Tárcia (2017). "Transmedia Strategies in Journalism: An analytical model for the news coverage of planned events". In: *Journalism Studies* 18.11, pp. 401–408.

Garber-Barron, Michael and Mei Si (2013). "The role of gender and age on user preferences in narrative experiences". In: *International Conference on Interactive Digital Storytelling*, pp. 114–120.

Genette, Gerard (1972). *Figures III*. Paris, France: Éditions du Seuil.

Genette, Gérard (1972). *Narrative discourse: An essay in method*. Ithaca, New York: Cornell University Press.

Gerrig, Richard J (1993). *Experiencing narrative worlds: On the psychological activities of reading*. New Haven, Connecticut: Yale University Press.

Gray, Jonathan (2010). "Entertainment and media/cultural/communication/etc. studies". In: *Continuum: Journal of Media and Cultural Studies* 24.6, pp. 811–817.

Gray, Jonathan, Cornel Sandvoss, and C Lee Harrington (2017). *Fandom: Identities and communities in a mediated world*. New York and London: New York University Press.

Green, Joshua, Sam Ford, and Henry Jenkins (2014). *Spreadable media: Creating value and meaning in a networked culture*. New York, New York: New York University Press.

Green, Joshua and Henry Jenkins (2011). "How audiences create value and meaning in a networked economy". In: *The handbook of media audiences* 4, p. 109.

Gregori-Signes, Carmen and Barry Pennock Speck (2013). "Digital storytelling as a genre of mediatized self-representations: An introduction". In: *Digital Education Review* 22, pp. 1–8.

Grossman, Lev (2006). "You—yes, you—are Time's person of the year". In: Accessed: 27-04-2017. URL: `http://content.time.com/time/magazine/article/0,9171,1570810,00.html`.

Haddon, Leslie (1988). "The home computer: The making of a consumer electronic". In: *Science as Culture* 1.2, pp. 7–51.

Hall, Kimberly A (2015). "The authenticity of social-media performance: Lonelygirl15 and the amateur brand of Young-Girlhood". In: *Women & Performance: A Journal of Feminist Theory* 25.2, pp. 128–142.

Hall, Stuart (1980). "Encoding/decoding". In: *Culture, media, language*. Ed. by Stuart Hall et al. London, UK: Hutchinson, pp. 128–38.

Hartley, John and Kelly McWilliam (2009). *Story circle: Digital storytelling around the world*. New York, New York: John Wiley & Sons.

Harvey, Colin (2015). *Fantastic transmedia: Narrative, play and memory across science fiction and fantasy storyworlds*. London, UK: Palgrave MacMillan.

— (2018). *Interview with Author*. 19th July 2018.

Hayes, Gary (2007). "Web 2.0 and the myth of non-participation". In: Accessed: 2-11-2018. URL: https://www.personalizemedia.com/the-myth-of-non-participation-in-web-20-social-networks/.

Hayles, Katherine N (2003). "Translating media: Why we should rethink textuality". In: *The Yale Journal of Criticism* 16.2, pp. 263–290.

Haywood, Naomi and Paul Cairns (2006). "Engagement with an interactive museum exhibit". In: *Proceedings of People and Computers XIX – The Bigger Picture*, pp. 113–129.

Helmond, Anne (2015). "The platformization of the web: Making web data platform ready". In: *Social Media + Society* 1.2, pp. 1–11.

Higgins, Dick (1984). *Horizons, the Poetics and Theory of the Intermedia*. Carbondale, Illinois: Southern Illinois University Press.

Hiippala, Tuomo (2016). "The multimodality of digital longform journalism". In: *Digital Journalism* 5.4, pp. 420–442.

Hills, Matt (2009). "Participatory culture: Mobility, interactivity and identity". In: *Digital cultures: Understanding new media*. Ed. by Martin Royston and Glen Creeber. Maidenhead, UK: Open University Press, pp. 107–116.

Horowitz, Bradley (2006). "Creators, synthesizers, and consumers". In: Accessed: 20-02-2019. URL: http://blog.elatable.com/2006/02/creators-synthesizers-and-consumers.html.

Huhtamo, Erkki (1999). "From cybernation to interaction: A contribution to an archaeology of interactivity". In: *The digital dialectic: New essays on new media*. Ed. by Peter Lunenfeld. Cambridge, Massachusetts: MIT Press, pp. 96–110.

Hunter, Lindsay Brandon (2015). "This is not a threat: Conspiracy For Good". In: *International Journal of Performance Arts and Digital Media* 11.2, pp. 185–201.

Interviewee-1 (2018). *Interview with Author*. 6th August 2018.

Jacobson, Susan, Jacqueline Marino, and Robert E Gutsche Jr (2015). "The digital animation of literary journalism". In: *Journalism* 17.4, pp. 1–20.

Jahn, Benedikt and Werner Kunz (2012). "How to transform consumers into fans of your brand". In: *Journal of Service Management* 23.3, pp. 344–361.

Jandl, Silke (2015). "The Lizzie Bennet Diaries: Adapting Jane Austen in the Internet age". In: *AAA: Arbeiten aus Anglistik und Amerikanistik*, pp. 167–196.

Jegers, Kalle (2009). "Pervasive GameFlow: Identifying and exploring the mechanisms of player enjoyment in pervasive games". PhD thesis. Umeå Universitet, Inst för Informatik.

Jenkins, Henry (1992). *Textual poachers: Television fans and participatory culture*. New York, New York: Routledge.

— (2001). "Convergence? I diverge". In: *Technology Review* 104.5, p. 93.

— (2006a). *Convergence culture: Where old and new media collide*. New York, New York: New York University Press.

— (2006b). *Fans, bloggers, and gamers: Exploring participatory culture*. New York, New York: New York University Press.

— (2016). "13 Transmedia logics and locations". In: *The rise of transtexts: Challenges and opportunities*. New York, New York: Taylor & Francis, pp. 220–241.

Jenkins, Henry, Mizuko Ito, et al. (2015). *Participatory culture in a networked era: A conversation on youth, learning, commerce, and politics*. Hoboken, New jersey: John Wiley & Sons.

Jenkins, Henry, Ravi Purushotma, et al. (2009). *Confronting the challenges of participatory culture: Media education for the 21st century*. Cambridge, Massachusetts: MIT Press.

Jensen, Jens F (1998). "Interactivity: Tracking a new concept in media and communication Studies". In: *Nordicom Review* 1.19, pp. 185–204.

Jewitt, Carey (2009). "Different approaches to multimodality". In: *Handbook of multimodal analysis*. Ed. by Carey Jewitt. London, UK: Routledge, pp. 28–39.

Jewitt, Carey and Gunther Kress (2003). *Multimodal literacy*. Pieterlen, Switzerland: Peter Lang.

Kaare, Birgit H and Knut Lundby (2008). "Mediatized lives: Autobiography and assumed authenticity in digital storytelling". In: ed. by Knut Lundby. New York, New York: Peter Lang, pp. 105–122.

Kaplan, Andreas M and Michael Haenlein (2010). "Users of the world, unite! The challenges and opportunities of social media". In: *Business Horizons* 53.1, pp. 59–68.

Keogh, Brendan (2015). "Between triple-A, indie, casual, and DIY: Sites of tension in the videogame cultural industries". In: *The Routledge companion to the cultural industries*. Ed. by Kate Oakley and Justin O'Connor. New York, New York: Routledge, pp. 152–162.

Keselman, Harvey J et al. (1998). "Statistical practices of educational researchers: An analysis of their ANOVA, MANOVA, and ANCOVA analyses". In: *Review of Educational Research* 68.3, pp. 350–386.

Khobzi, Hamid and Babak Teimourpour (2015). "LCP segmentation: A framework for evaluation of user engagement in online social networks". In: *Computers in Human Behavior* 50, pp. 101–107.

Kidd, Jenny (2005). "Capture Wales: Digital storytelling and the BBC". PhD thesis. Cardiff University.

— (2006). "Digital Storytelling at the BBC: The reality of innovative audience participation". In: *RIPE@2006 Conference*.

Kiousis, Spiro (2002). "Interactivity: A concept explication". In: *New Media & Society* 4.3, pp. 355–383.

Klastrup, Lisbeth and Susana Tosca (2014). "Game of thrones: Transmedial worlds, fandom, and social gaming". In: *Storyworlds Across Media. Toward a Media-Conscious Narratology*. Ed. by Marie-Laure Ryan and Jan-Noël Thon. Lincoln, Nebraska: University of Nebraska Press, pp. 295–314.

Klimmt, Christoph et al. (2010). "Identification with video game characters as automatic shift of self-perceptions". In: *Media Psychology* 13.4, pp. 323–338.

Koenitz, Hartmut (2010). "Reframing interactive digital narrative: Toward an inclusive open-ended iterative process for research and practice". PhD thesis. Georgia Institute of Technology.

— (2018). "Narrative in video games". In: *Encyclopedia of computer graphics and games*. Ed. by Lee Newton. Vol. 1. Cham, Switzerland: Springer, pp. 1–9.

Koenitz, Hartmut, Gabriele Ferri, Mads Haahr, Digdem Sezen, et al. (2015). "Towards a ludonarrative toolbox". In: *Proceedings of DiGRA. Diversity of play: Games, Cultures, Identities*, pp. 1–6.

Koenitz, Hartmut, Gabriele Ferri, Mads Haahr, Diğdem Sezen, et al. (2015). *Interactive digital narrative: history, theory and practice*. New York, New York: Routledge.

Kolhoff, Lobke and Frank Nack (2019). "How relevant is your choice? user engagement and perceived agency in interactive digital narratives on video streaming platforms". In: *International Conference on Interactive Digital Storytelling*, pp. 73–85.

Kress, Gunther (2003). *Literacy in the new media age*. New York, New York: Routledge.

— (2009). *Multimodality: A social semiotic approach to contemporary communication*. London, UK: Routledge.

Kress, Gunther and Theo Van Leeuwen (1996). *Reading images: The grammar of visual design*. Oxford, UK: Psychology Press.

Kress, Gunther and Theo Van Leeuwen (2001). *Multimodal discourse: The modes and media of contemporary communication*. London, UK: Edward Arnold.

Kristeva, Julia (1980). *Desire in language: A semiotic approach to literature and art*. New York, New York: Columbia University Press.

Lambert, Joe (2003). *Digital storytelling cookbook and traveling companion*. Berkeley, CA: Digital Diner Press.

Landow, George P (1992). *Hypertext: The convergence of contemporary critical theory and technology*. Baltimore, Maryland: The John Hopkins Press.

Laurel, Brenda (1986). "Toward the design of a computer-based interactive fantasy system". PhD thesis. The Ohio State University.

— (1991). *Computers as theatre*. Boston, Massachusetts: Addison-Wesley.

Lazzaro, Nicole (2004). "Why we play games: Four keys to more emotion without story". In: *XEODesign*. Accessed: 27-10-2018. URL: `http://xeodesign.com/xeodesign_whyweplaygames.pdf`.

Lee, Kwan Min, Namkee Park, and Seung-A Jin (2006). "Narrative and interactivity in computer games". In: *Playing video games: Motives, responses, and consequences*. Ed. by Peter Vorderer and Jennings Bryant. New York, New York: Routledge, pp. 259–274.

Leiserson, Charles E et al. (2001). *Introduction to algorithms*. Cambridge, Massachusetts: MIT Press.

Lister, Martin (2009). *New media: A critical introduction*. New York, New York: Taylor & Francis.

López-Varela, Asunción and Sukla Ananta (2015). *The ekphrastic turn. Inter– art Dialogues*. Illinois, US: Common Ground Publishing.

Louchart, Sandy et al. (2008). "Authoring emergent narrative-based games". In: *Journal of Game Development* 3.1, pp. 19–37.

Lundby, Knut (2008). "Mediatized stories: Mediation perspectives on digital storytelling". In: *New Media and Society* 10.3, pp. 363–371.

Manetta, Carol and Richard Blade (1995). "Glossary of virtual reality terminology". In: *International Journal of Virtual Reality* 1.2, pp. 35–39.

Mangen, Anne and Adriaan van der Weel (2015). "Why don't we read hypertext novels?" In: *Convergence. The International Journal of Research into New Media Technologies* 23.2, pp. 166–181.

Manovich, Lev (2001). *The language of new media*. Cambridge, Massachusetts: MIT Press.

Martin, Adam, Brooke Thompson, and Tom Chatfield (2006). "Alternate reality games white paper". In: *International Game Developers Association IGDA*. Accessed: 27-10-2018, pp. 1–78. URL: `shorturl.at/wJ389`.

Mateas, Michael (2001). "A preliminary poetics for interactive drama and games". In: *Digital Creativity* 12.3, pp. 140–152.

McLuhan, Marshall (1964). *Understanding media: The extensions of man.* London, UK: Routledge and Kegan Paul Ltd.

McSweeney, Terence and Stuart Joy (2019). "Change your past, your present, your future? Interactive narratives and trauma in Bandersnatch (2018)". In: *Through the Black Mirror.* Ed. by Terence McSweeney and Stuart Joy. Cham, Switzerland: Palgrave Macmillan, pp. 271–284.

Meister, Jan C (2011). "Narratology". In: *The Living Book of Narratology.* Ed. by Peter Hühn. Revised on January 2014. Accessed: 2-09-2018. URL: `https://www.lhn.uni-hamburg.de/node/48.html`.

Merabti, Madjid et al. (2008). "Interactive storytelling: Approaches and techniques to achieve dynamic stories". In: *Transactions on edutainment I. Lecture notes in computer science.* Ed. by Zhigeng Pan et al. Berlin, Germany: Springer, pp. 118–134.

Meskin, Aaron (2009). "Comics as literature?" In: *The British Journal of Aesthetics* 49.3, pp. 219–239.

Miller Handler, Carolyn (2008). *Digital storytelling: A creator's guide to interactive entertainment.* New York, New York: Taylor & Francis.

— (2019). *Digital storytelling 4e: A creator's guide to interactive entertainment.* New York and London: CRC Press.

Montfort, Nick and Ian Bogost (2009). *Racing the beam: The Atari video computer system.* Cambridge, Massachusetts: MIT Press.

Montola, Markus, Jaakko Stenros, and Annika Waern (2009). *Pervasive games: Theory and design.* Burlington, Massachusetts: Morgan Kaufmann Publishers.

Murray, Janet (1997). *Hamlet on the holodeck. The future of narrative in cyberspace.* Cambridge, Massachusetts: MIT Press.

— (2004). "From game-story to cyberdrama". In: *First person: New media as story, performance, and game.* Ed. by Noah Wardrip-Fruin and Pat Harrigan. Cambridge, MA: MIT press, pp. 2–11.

Murugesan, San (2007). "Understanding Web 2.0". In: *IT Professional Magazine* 9.4, pp. 34–41.

Nelson, Mark E (2006). "Mode, meaning, and synaesthesia in multimedia L2 writing". In: *Language Learning & Technology* 10.2, pp. 56–76.

Nelson, Theodor H (1965). "The hypertext". In: *Proceedings of the World Documentation Federation*, pp. 84–100.

— (1977). *The home computer revolution.* South Bend, Indiana: Distributors.

Nielsen, Jakob (2006). *The 90-9-1 rule for participation inequality in social media and online communities.* Accessed: 06-11-2017. URL: `shorturl.at/nyKY8`.

O'Halloran, Kay (2004). *Multimodal discourse analysis: Systemic functional perspectives.* London, UK: A&C Black.

O'Halloran, Kay L (2008). "Systemic functional-multimodal discourse analysis: Constructing ideational meaning using language and visual imagery". In: *Visual Communication* 7.4, pp. 443–475.

O'Reilly, Tim (2005). "What is web 2.0? design patterns and business models for the next generation of software". In: Accessed: 27-04-2017. URL: `http://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html`.

O'Halloran, Kay L (2011). "Multimodal discourse analysis". In: *Continuum Companion to Discourse Analysis*, pp. 120–137.

Oatley, Keith (1999). "Meetings of minds: Dialogue, sympathy, and identification, in reading fiction". In: *Poetics* 26.5-6, pp. 439–454.

Ong, Walter J (1982). *Orality and literacy: the technologizing of the word.* London, UK: Metheun.

Page, Ruth (2012). *Stories and social media: Identities and Interaction.* New York, New York: Routledge.

Passalacqua, Franco and Federico Pianzola (2011). "Defining transmedia narrative: Problems and questions. Dialogue with Mary-Laure Ryan". In: *Enthymema* 4, pp. 65–71.

Pearce, Celia (1997). *The interactive book: A guide to the interactive revolution.* Alpel Publishing.

Pinelle, David, Nelson Wong, and Tadeusz Stach (2008). "Using genres to customize usability evaluations of video games". In: *Proceedings of the 2008 Conference on Future Play: Research, Play, Share*, pp. 129–136.

Pratten, Robert (2011). *Getting started with transmedia storytelling.* Scott Valley, California: CreateSpace.

— (2018). *Interview with Author.* 31st August 2018.

Prescott, Tara (2015). *Neil Gaiman in the 21st Century: Essays on the novels, children's stories, online writings, comics and other Works.* North Carolina, US: McFarland.

Prince, Gerald (1987). *A dictionary of narratology.* Lincoln, Nebraska: University of Nebraska Press.

Propp, Vladimir (1968). *Morphology of the folktale.* Austin, Texas: University of Texas Press.

Pullinger, Kate (2018). *Interview with Author.* 25th January 2018.

Radford, Antony (2000). "Games and learning about form in architecture". In: *Automation in Construction* 9.4, pp. 379–385.

Raessens, Jozef Frederik Ferdinand (2012). *Homo Ludens 2.0 The Ludic Turn in Media Theory*. Utrecht, NL: Universiteit Utrecht.

Rafaeli, Sheizaf (1988). "From new media to communication". In: *Sage annual review of communication research: Advancing communication science* 16, pp. 110–134.

Rafaeli, Sheizaf and Fay Sudweeks (1997). "Networked interactivity". In: *Journal of computer-mediated communication* 2.4.

Rajewsky, Irina (2005). "Intermediality, intertextuality, and remediation: A literary perspective on intermediality". In: *Intermédialités* 6, pp. 43–64.

Richard, Emmanuelle et al. (2006). "Multi-modal virtual environments for education with haptic and olfactory feedback". In: *Virtual Reality* 10.3-4, pp. 207–225.

Rifkin, Jeremy (2001). *The age of access: The new culture of hypercapitalism*. London, UK: Penguin.

Robin, Bernard (2006). "The educational uses of digital storytelling". In: *Technology and Teacher Education Annual* 1, p. 709.

Roth, Christian (2016). "Experiencing interactive storytelling". PhD thesis. Vrije Universiteit Amsterdam.

Roth, Christian and Hartmut Koenitz (2019). "Bandersnatch, yea or nay? Reception and user experience of an interactive digital narrative video". In: *Proceedings of the 2019 ACM International Conference on Interactive Experiences for TV and Online Video*, pp. 247–254.

Ryan, Marie-Laure (1997). "Interactive drama: Narrativity in a highly interactive environment". In: *Modern Fiction Studies* 43.3, pp. 677–707.

— (1999). "Cyberspace, virtuality, and the text". In: *Cyberspace textuality, computer technology and literary theory*. Ed. by Marie-Laure Ryan. Indianapolis, Indiana: Indiana University Press, pp. 78–107.

— (2001). *Narrative as virtual reality: Immersion and interactivity in literature and electronic media*. Baltimore, Maryland: Johns Hopkins University Press.

— (2002). "Beyond myth and metaphor: Narrative in digital media". In: *Poetics Today* 23.4, pp. 581–609.

— (2004). *Narrative across media: The languages of storytelling*. Lincoln, Nebraska: University of Nebraska Press.

— (2005). "On the theoretical foundations of transmedial narratology". In: *Narratology beyond literary criticism*. Ed. by Jan C Meister. Berlin, Germany: Walter de Gruyter, pp. 1–23.

— (2006a). *Avatars of story*. Minneapolis, US: University of Minnesota Press.

Ryan, Marie-Laure (2006b). "Semantics, pragmatics, and narrativity: A response to David Rudrum". In: *Narrative* 14.2, pp. 188–196.

— (2007). "Toward a definition of narrative". In: *The Cambridge companion to narrative.* Ed. by David Herman. Cambridge, UK: Cambridge University Press, pp. 22–35.

— (2008). "Interactive narrative, plot types, and interpersonal relations". In: *Joint International Conference on Interactive Digital Storytelling*, pp. 6–13.

— (2009). "Narration in various media". In: *Handbook of narratology.* Ed. by Peter Hühn et al. Berlin, Germany: Walter de Gruyter, pp. 263–281.

— (2013). *Defining media from the perspective of narratology.* Accessed: 06-11-2018. URL: `http://pure.au.dk/portal/files/7562/M-L_Ryans_paper.pdf`.

— (2015). *Narrative as virtual reality 2: Revisiting immersion and interactivity in literature and electronic media.* Vol. 2. Baltimore, Maryland: Johns Hopkins University Press.

Ryan, Marie-Laure and Jan-Noël Thon (2014). *Storyworlds across media: Toward a media-conscious narratology.* Nebraska, US: University of Nebraska Press.

Salen, Katie, Katie Salen Tekinbaş, and Eric Zimmerman (2004). *Rules of play: Game design fundamentals.* Cambridge, Massachusetts: MIT press.

Sánchez-Mesa, Domingo et al. (2016). "Transmedia (Storytelling?): A polyphonic critical review". In: *Artnodes* 18, pp. 7–19.

Schafer, Mirko Tobias (2011). *Bastard culture! How user participation transforms cultural production.* Amsterdam, Netherlands: Amsterdam University Press.

Schneider, Edward F et al. (2004). "Death with a story: How story impacts emotional, motivational, and physiological responses to first-person shooter video games". In: *Human communication research* 30.3, pp. 361–375.

Schwebs, Ture (2014). "Affordances of an app: A reading of the fantastic flying books of Mr. Morris Lessmore". In: *Nordic Journal of ChildLit Aesthetics* 5.1, pp. 1–11.

Scolari, Carlos A et al. (2009). "Transmedia storytelling: Implicit consumers, narrative worlds, and branding in contemporary media production". In: *International Journal of Communication*, pp. 586–606.

Scott, Michael L (2000). *Programming language pragmatics.* San Francisco, CA: Morgan Kaufmann.

Segel, Edward and Jeffrey Heer (2010). "Narrative visualization: Telling stories with data". In: *Transactions on Visualization and Computer Graphics* 16.6, pp. 1139–1148.

Shams, Ladan and Aaron R Seitz (2008). "Benefits of multisensory learning". In: *Trends in Cognitive Sciences* 12.11, pp. 411–417.

Sigala, Marianna (2015). "The application and impact of gamification funware on trip planning and experiences: The case of TripAdvisor's funware". In: *Electronic Markets* 25.3, pp. 189–209.

Slater, Mel, Martin Usoh, and Anthony Steed (1994). "Depth of presence in virtual environments". In: *Presence: Teleoperators & Virtual Environments* 3.2, pp. 130–144.

Sommer, Roy (2012). "The Merger of classical and postclassical narratologies and the consolidated future of narrative theory". In: *Diegesis* 1.1, pp. 143–157.

Sotamaa, Olli (2003). "Computer game modding, intermediality and participatory culture". In: *New Media*, pp. 1–5.

Stewart, Gavin (2010). "The paratexts of Inanimate Alice: Thresholds, genre expectations and status". In: *Convergence* 16.1, pp. 57–74.

Sundar, Shyam S (2004). "Theorizing interactivity's effects". In: *The Information Society* 20.5, pp. 385–389.

Szulborski, Dave (2005). *This is not a game: A guide to alternate reality gaming.* New Fiction Publishing.

Thon, Jan-Noël (2008). *Immersion revisited: on the value of a contested concept.* Rovaniemi, Finland: Lapland University Press.

Thumim, Nancy (2012). *Self-representation and digital culture.* New York, New York: Palgrave Macmillan.

Thurman, Neil and Ben Lupton (2008). "Convergence calls: Multimedia storytelling at British news websites". In: *Convergence* 14.4, pp. 439–455.

Tosca, Susana and Lisbeth Klastrup (2018). "An experience approach to transmedia fictions". In: *The Routledge companion to transmedia studies.* Ed. by Matthew Freeman and Renira R Gambarato. New York, New York: Routledge, pp. 392–400.

Turner, Graeme (1999). *Film as social practice.* London, UK: Routledge.

Uricchio, William (2004). *Cultural citizenship in the age of P2P networks.* Bristol, UK: Intellect Books.

Van Dijck, Jose (2013). *The culture of connectivity: A critical history of social media.* Oxford, UK: Oxford University Press.

Van Dijck, José and David Nieborg (2009). "Wikinomics and its discontents: A critical analysis of Web 2.0 business manifestos". In: *New media & society* 11.4, pp. 855–874.

Van Leeuwen, Theo (2005). *Introducing social semiotics.* London, UK: Routledge.

Van Peer, Willie, Frank Hakemulder, and Sonia Zyngier (2012). *Scientific methods for the humanities*. Vol. 13. Amsterdam, Netherlands: John Benjamins Publishing.

Vaughan, Tay (1993). *Multimedia. Making it work*. New York, New York: McGraw-Hill.

Wang, Xiqiao (2013). *A genre theory perspective on digital storytelling*. Nashville, TN: Vanderbilt University.

Wilden, Anthony (1972). "Analog and digital communication: On the relationship between negation, signification, and the emergence of the discrete element". In: *Semiotica* 6.1, pp. 50–82.

Wolf, Werner (2015). "Literature and music: Theory". In: *Handbook of intermediality: Literature–image–sound–music*. Ed. by Gabriele Rippl. Vol. 1. Berlin, Germany: Walter de Gruyter, pp. 459–473.

You, Fang et al. (2006). "Creating emotions by characters design for computer games". In: *International Conference on Technologies for E-Learning and Digital Entertainment*, pp. 638–647.

Yuan, Zhenhui, Gheorghita Ghinea, and Gabriel-Miro Muntean (2015). "Beyond multimedia adaptation: Quality of experience-aware multi-sensorial media delivery". In: *IEEE Transactions on Multimedia* 17.1, pp. 104–117.

Zichermann, Gabe and Christopher Cunningham (2011). *Gamification by design: Implementing game mechanics in web and mobile apps*. O'Reilly Media.

Zillmann, Dolf (1995). "Mechanisms of emotional involvement with drama". In: *Poetics* 23.1-2, pp. 33–51.