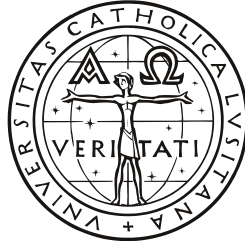


**Escola das Artes da Universidade Católica Portuguesa
Master's Degree in Sound and Image**



**Writing for the Player.
Adapting a traditional screenplay into an interactive format.**

Cinema and Audiovisual - 2013

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Abstract

Video games are one of the most powerful storytelling tools of today and possess one intriguing and complex element: interactivity. Player interaction is often difficult to implement within the structure of a story and, as such, many games opt for a linear narrative structure, rather than giving players control over the course of the story's events.

The main goal of this work is to understand the evolution of storytelling within games, by analyzing their history, and to bridge the gap between traditional screenwriting and interactive storytelling, by exploring the process of adaptation from one medium to the other. By approaching interactivity as a new tool for storytelling, this work aims to create an understandable compilation of the mechanics and tropes that make up successful video game narratives.

This dissertation also delves into the future possibilities of storytelling in video games, by exploring the limitations of today's technology and the existence of future autonomous, dynamic, procedural and artificially intelligent story creation systems.

Keywords: Story, Videogames, Interactivity, Evolution, Choice

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1 Introduction

Video games have evolved to become one of the most prominent forms of entertainment and artistic expression of the 21st century. From the simple games created during the mid-20th century to the magnificent works of artistic prowess that we see nowadays, games have experienced one of the fastest and most impressive processes of evolution of any media to date.

However, video games have not only evolved from a technological or artistic point of view, they have also evolved on a conceptual and thematic level and, today, offer some of the most immersive, creative and original experiences in entertainment media.

An important element of video games has been their ability to convey story. Starting with interactive fiction titles and culminating with the immersive narrative-driven experiences of modern video games, games have always been viewed as a powerful medium for storytelling, responsible for some of the most interesting and original narrative experiences of the past few decades.

As interactive storytelling becomes more and more commonplace, there is need for critical analysis of its structural elements. As such, throughout this dissertation we will explore the evolution of video games and the evolution of storytelling within the medium, by analyzing important shifts within the industry, as well as the independent game design and development community, and how they affected the way games are perceived today.

1.1 Work Proposal

Throughout this dissertation, we will explore the development and evolution of this digital and interactive medium throughout its recent history, as well as the main advancements – both technological and otherwise – it has suffered in the past few decades.

This dissertation will also focus on the presence and evolution of storytelling in video games. We will discuss the importance of interactivity in delivering powerful and otherwise impossible experiences and we will dissect video games as a medium in order to distill the essence of interactivity in their story and discover how it allows for new forms of engagement with users and players. We will also explore the existence of communities centered around games and video game development, primarily the independent (or *indie*) game development community. We will analyze the importance of *indie* developers and how different people from different backgrounds have contributed to the democratization of game development and to the access of cheap tools for fast and easy creation of interactive experiences.

This dissertation is accompanied by a practical project: a prototype of the adaptation of a traditional screenplay into an interactive fiction format. Through it, we will also explore the process of introducing interactivity to already established stories, analyzing the main elements and innovative aspects of writing for an active participant.

Both this dissertation and its practical project focus on the theme of “Writing for the Player” as a means to explore the essence of interactivity in story by analyzing the necessary tools and techniques used to create meaningful player interactions.

1.2 Development

The main purpose for the creation of *Entropy*, the practical project that accompanies this dissertation, was to analyze the adaptation of a story from a non-interactive format to an interactive one, isolating the main recurring elements in modern interactive stories and the way they succeed or fail in engaging with the player.

This project doesn't aspire to be anything but a test of any theoretical principles explored throughout this dissertation.

Through this project, we were able to ascertain some of the recurring interactive storytelling tropes in videogames and evaluate their need and purpose within the story's structure and within the game's interactive system.

1.3 Themes and Structure

This dissertation follows a four-part structure. The first part, comprised of chapters 1 and 2, presents the overall theme and field of study on which the entire work will focus. It contextualizes both the dissertation and its accompanying project within the surrounding field of media studies.

The second part, which contains chapter 3, addresses the evolution of video games within the large structure of entertainment media, as well as the evolution of storytelling within that medium. We will focus on recent examples of narrative-driven video games, by analyzing their story and the way it can or cannot be shaped by the interactions of the player. As the main theme of this dissertation, interactive storytelling plays an important role within the structural evolution of video games and, as such, we will analyze recent advancements in the field, as well as some tools that have essentially democratized the creation of video games and interactive fiction.

The third part, chapter 4, will focus on the creation and production of *Entropy*, an interactive adaptation of a traditional screenplay. During this chapter, we will focus on the tropes and main mechanics of interactive storytelling, which allow the creation of immersive, player-driven experiences.

The fourth part of this dissertation, chapter 5, will review the previous chapters and compile the results of our analysis, revealing the main strengths and weaknesses of interactive storytelling as a means to create new types of experiences that require constant active participation from a player. In this last part, we will also theorize about the future evolution of the medium's ability to tell enticing, procedurally generated stories that dynamically adapt to the player's choices.

2 Adaptation

During this chapter, we will contextualize this dissertation within the field it explores, as well as present the main objectives of this work.

2.1 Goals

This dissertation's main objective is to analyze interactive storytelling from the perspective of its mechanics, systems and dynamics, in order to achieve a deeper understanding of its universal elements and their ability to be integrated into previously created stories, in order to develop entirely new experiences.

It is also our goal to explore the evolution of storytelling in video games, its strengths, weaknesses and shortcomings, in order to better understand how to improve player interaction within the context of modern interactive entertainment experiences.

2.2 Contextualizing the Project

The main theme of this dissertation, "Writing for the Player", has been a constant presence in my work for the past two years, seeing as most of my writing work has been targeted towards interactive experiences and figuring out ways to enhance the connection between a game and its players. In recent projects, I've been trying to meld intuitive gameplay experiences with meaningful storytelling, in order to create new immersive experiences. Working as a game designer in a small games studio has allowed me to apply some of those concepts to real projects and has motivated me to explore this theme in a more academic environment.

Video games have the potential for excitingly new experiences in storytelling, due to the fact that they allow users to actively change the progression and outcome of the story. Even though viewers and readers of non-interactive stories experience the same basic and universal aspects of the story, a player has access to a set of pre-determined and pre-designed tools that allow him/her to act upon the game's world, environment and characters. It is a game designer's mission to perfect that set of tools, allowing the player to have more and more control over the game, shaping its story to become his/her own.

On a personal and professional level, the design process of an interactive narrative is what drove me to dedicate myself to this medium.

3 Interactive Storytelling in Video Games

By the means of evolution, we, as a species, have obtained an innate predisposition to communicate and interact with each other. As a result of that process, we have become proficient storytellers. As Jonathan Gotchall states, “tens of thousands of years ago, when the human mind was young and our numbers were few, we were telling one another stories. And now, tens of thousands of years later, (...) we still thrill to an astonishing multitude of fictions on pages, on stages, and on screens (...)” (Gotchall, 2012, p. 13).

Story, be it an “account of incidents or events”¹ or a “fictional narrative”², has been a part of our cultural processes since the first humans discovered how to communicate. Myths, legends folklore, are all representations of our innate storytelling need and ability. A lot of our inventions – the telephone, television, computer – focus on communication and the transferring of information and knowledge between humans. As such, they eventually became vessels for stories – fictional or otherwise. Story is a part of our culture and a part of our humanity and we can’t help but create and consume them. Gotchall even goes so far as to state that “we are, as a species, addicted to story” (Gotchall, 2012, p. 13).

Games were also a product of our evolution and seem to be deeply linked to story and storytelling. In fact, as Miller states, “extremely old forms of social interaction (...)”, such as the retelling of myths in ancient history, “were the precursors of modern interactive entertainment” (Miller, 2004, p. 14).



Fig. 1 – Children learning and communicating through *play*³

¹ See <http://www.merriam-webster.com/dictionary/story>

² *Ibid.*

³ Image collected from [17-11-2013]: < <http://www.theguardian.com/society/joepublic/2011/may/12/bob-reitemeier-munro-report-listen-to-the-children> >

Games focus on communication of ideas, information and knowledge through their systems and mechanics – making them an excellent medium for new kinds of stories –, but they also focus on another rather important aspect of human psychology and development: the element of *play*.

Although the creation of stories has been with us since we first developed the ability to communicate, *play*, on the other hand, “is older than culture, for culture, however inadequately defined, always presupposes human society, and animals have not waited for man to teach them their playing” (Huizinga, 1944, p.1). As stated, *play* is an inherent trait of nearly all animals that predates society and culture itself. It is part of who we are as animals and as human beings.

Jesse Schell, a prominent video game designer and academic, tries to define *play* as some sort of “(...) manipulation that indulges curiosity” (Schell, 2008, p. 30). Although video games might be viewed by some as mere entertainment, they effectively serve as ways to explore our curiosity within structured systems. They provide a window into several worlds where we can indulge our curiosity, learn, adapt and react – characteristics that have been essential in the process of our biological evolution and are, in fact, part of our human fabric.

Through the act of play, we explore our need to discover and learn, we indulge our child-like inquisitiveness and we approach each experience with a fresh mindset. The concept of *play* has been present in various media throughout the ages and video games are the most recent form of a medium that has always strived to successfully merge *play* and story.

But what exactly is a game and how are story and *play* related to each other? At the heart of story, there’s drama, which may be defined as “a series of events involving interesting or intense conflicts of forces”⁴. A game, on the other hand, is defined by Schell as “a problem-solving activity approached with a playful attitude” (Schell, 2008, p. 37). It seems as though games and story share a common element: conflict. Conflict is at the heart of drama and at the heart of problem-solving. Games provide a way for a person to overcome obstacles within a structured and well-defined system, by experimenting – or *playing* – within the confines of that same system. Games are not only able to convey story, but they also truly create story by merely being played. Games can not only present conflict through story, but actually allow the player to experience conflict through problem-solving. As such, it seems clear that “we look at games as storytelling systems” (Salen & Zimmerman, 2010) and that they have been evolving to become a sort of nexus of *play* and story, allowing players to explore both fields within a single structure.

In order to further study the evolution of interactive storytelling – as applied to video games – this dissertation will focus on exploring the origins of video games in subchapter 3.1, while subchapter 3.2 will touch upon the present state of storytelling within this recent medium. Subchapter 3.3 will present the tools and communities responsible for the ever-increasing presence of storytelling in modern video games.

⁴ See <http://www.merriam-webster.com/dictionary/drama>

3.1 The Evolution of Video Games

The first video game-related experiments can be traced back to the 1950s, with games such as *OXO* (Douglas, 1952) and *Tennis for Two* (Higinbotham, 1958) being among the first interactive computer experiences developed for entertainment purposes.



Fig. 2 – *Spacewar!* running on a PDP-1 computer⁵

With the development of *Spacewar!* (Russell, 1962) – considered by many to be the first truly interactive computer game (Kent, 2001, p. xi) –, it became clear that computers could be used to develop highly complex entertainment experiences. Many games soon followed, such as *Periscope* (SEGA, 1966), *Pong* (Atari, 1972) and *Gunfight* (Taito, 1975).

Interactive fiction games, such as *Colossal Cave Adventure* (Crowther, 1976) or *Zork* (Infocom, 1977), became wildly popular in the mid-1970s – despite the absence of any graphical elements – due to their non-linear structure and the ability to seemingly react to the player’s choices. The illusion of an ever-changing story that adapted to the player’s commands and actions was the main differentiator of these early interactive fiction games.

Although their gameplay was centered around inputting text into a terminal, these pieces of software provided deeper and more meaningful experiences than other games available at the time, due to their heavy reliance on story and their deep science-fiction and fantasy roots. They weren’t skill-based games and had a slower play-style, a characteristic that allowed a larger number of people from different (i.e. non-gaming) backgrounds to become immersed in their worlds and stories.

With the advent of dedicated gaming devices and machines, games eventually started reaching a much wider audience. The “Golden Age” of gaming (Kent, 2001, p. 126) started in the late 1970s and early 1980s, with the introduction of arcades and dedicated home consoles.

⁵ Image collected from [16-11-2013]: < [http://en.wikipedia.org/wiki/Spacewar_\(video_game\)](http://en.wikipedia.org/wiki/Spacewar_(video_game)) >

The games created during that period had very thin layers of narrative. They were mainly skill or reflex-based experiences built for arcade cabinets and included a simple story that served only to contextualize the player's actions.

For example, in *Space Invaders* (Taito, 1978) players controlled a small gun and their main objective was to fend off an alien invasion, with no prior explanation as to why they were doing so. In *Pac-Man* (Namco, 1980) players controlled a character that ate pellets and avoided ghosts, for no apparent reason. Games were about fun and gameplay and their story was only something that was appended at a later stage – often conveyed through other media, such as television (in the form of cartoons) –, as a means to spruce up the experience.

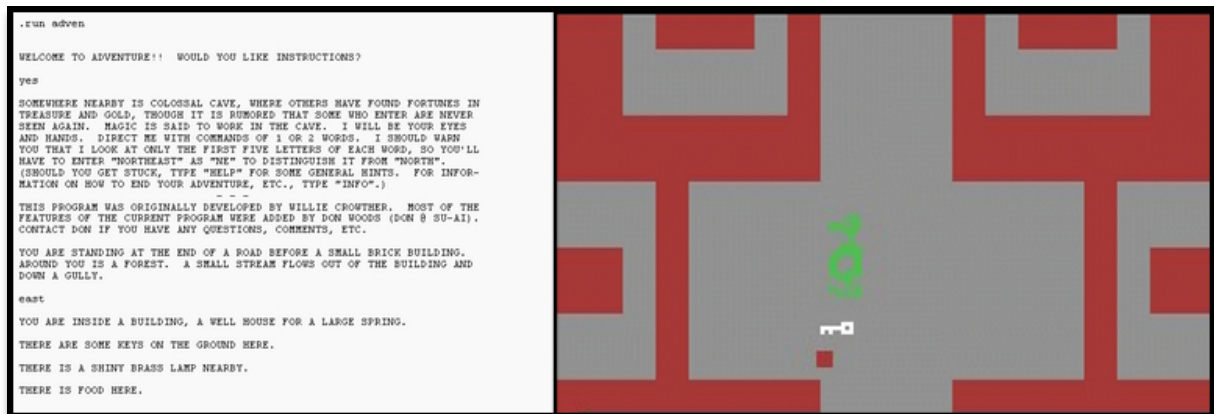


Fig. 3 – Crowther's *Colossal Cave Adventure*⁶ (on the left) and Robinett's *Adventure*⁷ (on the right)

In 1979, Atari released *Adventure* (Robinett, 1979) for the Atari 2600. *Adventure* was created by Warren Robinett as a graphical adaptation of the previously mentioned *Colossal Cave Adventure*. Robinett's *Adventure* was one of the most successful games for the Atari 2600, revealing that, although there had been graphical and technological changes, there was still an interest for deeper, more complex experiences, similar to the heavily verbose interactive fiction titles. *Adventure* was responsible for the birth of a new genre of games – aptly named “Adventure games” –, that would, in time, provide some of the richest story-driven experiences in the medium.

Up until the late 1980s, the available games were mostly skill-based experiences with a few more narrative or character-driven titles. Games like the various titles in the *King's Quest* series (Sierra Entertainment, 1984) started presenting players with deeper stories – often in Fantasy or *sci-fi* settings –, animated characters and detailed worlds with a wide color palette.

In the late 1980s and early 1990s, the digital entertainment division of Lucasfilm, Lucasfilm Games (later known as LucasArts), was responsible for the birth of the modern Adventure game genre, with the release of games such as *Labyrinth* (LucasArts, 1986), *Maniac Mansion* (LucasArts, 1987) and, most importantly, *The Secret of Monkey Island* (LucasArts, 1990).

⁶ Image collected from [19-11-2013] - < http://en.wikipedia.org/wiki/Colossal_Cave_Adventure >

⁷ Image collected from [19-11-2013] - < [http://en.wikipedia.org/wiki/Adventure_\(1979_video_game\)](http://en.wikipedia.org/wiki/Adventure_(1979_video_game)) >

With *Monkey Island*, LucasArts captured the imagination of a generation. By using the theme of pirates, inspired by Disney World's *Pirates of the Caribbean* ride, they tapped into a role that most young players had always wanted to play: the role of a mighty pirate, roaming the seven seas. Most players were surprised, though, as the pirate they embodied – a strange young man by the name of Guybrush Threepwood – was not a fearsome pirate, but indeed a novice, aspiring one. This actually made the character a lot easier to empathize with, as his wit and perseverance were his main tools of survival, instead of swords and cannons. Players were also introduced to a living, breathing world, filled with unique characters and locations that were fully interactive. With *Monkey Island*, LucasArts took the Adventure genre to new heights by introducing its complex characters and puzzles, creating a title that would forever change the landscape of interactive storytelling.



Fig. 4 – LucasArts's *The Secret of Monkey Island*⁸

After the massive successes of *Monkey Island* and *Indiana Jones and the Last Crusade* (LucasArts, 1989), an adventure game based on the movie of the same title, LucasArts decided to bet heavily on the Adventure genre.

Games like *Day of the Tentacle* (LucasArts, 1993), *Full Throttle* (LucasArts, 1995) and *The Dig* (LucasArts, 1995) soon followed, with the latter being an unprecedented collaboration between LucasArts, filmmaker Steven Spielberg and writer Orson Scott Card that resulted in one of the most highly praised stories in video games to date.

The reign of the Adventure game genre and the golden era of LucasArts came to an end in the late 1990s and early 2000s. Two of the last Adventure games that the studio produced were the highly praised *Grim Fandango* (LucasArts, 1998) and *Escape From Monkey Island* (LucasArts, 2000).

⁸ Image collected from [17-11-2013]: < http://en.wikipedia.org/wiki/The_Secret_of_Monkey_Island >

With that, the Adventure genre was considered to be over, as LucasArts focused their attention solely on their *Star Wars* action games. To this day, only a handful of studios – such as Double Fine, a company mostly made up of former LucasArts employees – still produce true Adventure games.

The Adventure genre faded away to make way for the Action genre, due to a heavier focus on skill-based competitive games, aimed at a younger male audience. From the early 1990s onward, the *first-person shooter*, *third-person shooter* and *real-time strategy* games have become the most popular genres in the industry. Games like *Doom* (id Software, 1993), *Quake* (id Software, 1996) and *Starcraft* (Blizzard Entertainment, 1998) ushered in a new era of Action games that focused on skill and reflex-based gameplay, pushing story to the sidelines. It was a resurgence of the original aspects and characteristics of early video games – that focused on fun and entertainment – , but adapted to a more modern age.



Fig. 5 – id Software's *Doom*⁹

Although story-centric games became somewhat rare throughout the 2000s, Action games have been increasingly relying on story to deliver powerful experiences that go beyond gameplay. Games like *Gears of War 2* (Epic Games, 2008) are examples of action, fun and gameplay-oriented experiences that use themes of loss and love to tell a poignant story within the larger surreal context of an alien invasion.

It seems as though Adventure games' impact in the industry created story-conscious players that demand good plot and good characters, alongside good gameplay. Meanwhile, Adventure games themselves have had a come back in recent years.

⁹ Image collected from [19-11-2013]: < <http://www.desura.com/news/classic-games-doom> >

As an example, Double Fine's *Broken Age* (Double Fine, TBA) crowdfunding¹⁰ campaign raised \$3.4 million over a period of 30 days, after asking for only \$400,000, signaling that there is still indeed a public demand for games that deliver great story through great characters and great dialog.

In fact, regarding the evolution of this particular genre, Adams states that “storytelling is so powerful as an entertainment device that one genre of video game – the adventure game – is starting to move away from the formal concept of a game entirely” (Adams, 2010, p. 22). Adventures games are becoming something that Adams refers to only as *interactive stories*, experimental titles that forego modern gameplay tropes in lieu of masterful storytelling. In effect, studios such as Tale of Tales have even produced *manifestos*¹¹, declaring the end of games and the birth of “notgames”¹², experiences that prioritize story and connection with the player, over simple fun and entertainment.



Fig. 6 – Tale of Tales's *the Graveyard*¹³

3.2 Storytelling in Modern Video Games

As mentioned, non-linear, interactive experiences, such as Adventure games, were among the first examples of video games as tools for storytelling and were instrumental in shifting public perception from games as meaningless entertainment to games as poignant and important works of fiction.

¹⁰ A process in which a person or a company asks for investment from the overall public

¹¹ Tale of Tales's “Realtime Art Manifesto”: <http://tale-of-tales.com/tales/RAM.html>

¹² See <http://tale-of-tales.com/tales/OverGames.html>

¹³ Image collected from [23-11-2013]: < <http://tale-of-tales.com/TheGraveyard/> >

Role-playing board games, such as *Dungeons & Dragons* (TSR, 1974), or interactive narrative-driven titles, like the previously mentioned *Zork*, were true pioneers of modern non-linear interactive fiction and some of the first real examples of how games can serve as extremely efficient narrative vessels, indulging both our need for *play* and our need for story.

The rapid rise of the software entertainment industry in the 1990s and its teen male-centric approach dictated the end of the slow, narrative-centric experiences in lieu of short, expendable, high-octane games that focus on fun and competition, while, at the same time, disregarding story, character and narrative.

In more recent years, the rise of the *indie*¹⁴ community has ushered in a new era of thoughtful experiences, trading mindless entertainment for story, character and meaningful player interactivity.

Games such as *Call of Duty: Ghosts* (Activision, 2013), *Battlefield 4* (Electronic Arts, 2013) and *Grand Theft Auto V* (Rockstar Games, 2013) still occupy the top of the sales charts each year, but the industry is undergoing a cultural shift.

Titles like *The Walking Dead* (Telltale Games, 2012), *Gone Home* (The Fulbright Company, 2013) and *Papers, Please* (Pope, 2013) are but a few examples of the growing presence of deep, story and character-driven games that allow players to explore situations that go beyond mere power fantasies.



Fig. 7 – Lucas Pope’s *Papers, Please*¹⁵

¹⁴ Short for “independent”

¹⁵ In-game screenshot taken by the author

Games have proven themselves to be great vessels for story, but their inherent reliance on interactivity makes them completely different experiences that require a somewhat different approach. Video games are, by default, interactive – seeing that the game requires a player to function and will not progress without some sort of input –, but, although interaction is needed in order to play a game, that does not always mean that the game’s narrative is truly interactive.

As Jesse Schell states, the difference in interactive and non-interactive storytelling comes down to “the participant’s ability to *take* action. The *desire* to act and all the thought and emotion that go with that are present in both” (Schell, 2008, p. 263). In effect, the only true difference between both styles of storytelling is the fact that the player has the ability to influence the story.

Although games have this untapped potential for interactive storytelling, many game designers forego any kind of interactive experimentation and often employ linear stories that move the player from point A to point B and serve only as ways to embellish gameplay. The player’s actions contribute only to the progression of the pre-determined story, and don’t actually influence its outcome.

A truly interactive narrative should be able to shift and adapt itself to the player’s actions and choices, changing alongside the player. However, the limitations of today’s artificial intelligence systems keep games from having true interactive and reactive stories. Today’s video games are, therefore, carefully crafted experiences, from a storytelling perspective. Even if their objective is to allow the player to feel like they are truly affecting the game’s world, game designers need to predict every outcome of every player choice, making their game’s narrative nothing but a set of closed, pre-determined results. Still, there can be a lot of freedom within those pre-determined systems.

Games often rely on a few gimmicks to convey the feeling of true interactivity within their narrative structure, as we will further explore in chapter 4. The illusion of choice, for example, is one of the most powerful and prominent tools of interactive storytelling. In recent years, a few games delivered great interactive, narrative-driven experiences. Others, however, failed to do so, by being unable to employ choice (or the illusion of it) in a meaningful way.

As a means to evaluate the current state of storytelling in games, we will analyze a few examples of games with truly innovative approaches to interactive stories.

3.2.1 Example: *Mass Effect 3*

A recent example of a controversial exercise in interactive storytelling was the third installment in the famous action-game series *Mass Effect* (BioWare, 2007-2012).

Throughout the *Mass Effect* series, the player is presented with constant choices, mainly in regards to dialog options. The game aptly reacts to the player’s choices but most of them have little-to-no effect on the actual progression of the story. Instead, pivotal narrative moments are clearly presented to the player with a complete lack of subtlety or nuance. Instead of having a conversation that branches out into multiple possibilities – therefore creating multiple outcomes –, the game clearly defines which dialog option will result in what outcome.

Although the game is riddled with choice – or the illusion of it –, the end of the trilogy clearly presents the almost archaic interactive storytelling system upon which the entire story was built. When arriving at *Mass Effect 3*'s (Electronic Arts, 2012) climax, the player is presented with three simple choices: Destruction, Control and Synthesis. The Destruction option allows the player to eliminate the enemy threat; the Control option allows the player to control the enemies and end the conflict; the Synthesis option allows for the whole galaxy to be saved, while merging organic and synthetic life forms into new beings.



Fig. 8 – BioWare's *Mass Effect 3*¹⁶

There are various interpretations regarding *Mass Effect 3*'s ending and its whole story, but, in the end, it results in a complete lack of consequence for the players' actions. Players held *Mass Effect* as a true example of modern interactive storytelling and were troubled by the end's lack of respect for the main element of the series: choice.

The game's developers promised a final chapter that would take every choice made in previous games and present a different path depending on the character's past. What they released was a game that disregarded every player choice throughout the entire trilogy and presented players with a simple three-way dial that determined how the game would end, regardless of what the player had done.

Mass Effect 3 remains, to this day, a controversial game from the point of view of its story, its mechanics and its promises. Although the "Option A – Effect A" choice system was already limited to begin with, the fact that the game failed to make its ending dependent on the player's journey and previous choices was the proverbial pulling of the curtain regarding the game's story.

¹⁶ Image collected from [23-11-2013]: < http://www.thelevelounge.com/2012_05_01_archive.html >

3.2.2 Example: *The Walking Dead*

Telltale's *The Walking Dead* was one of the most critically acclaimed games of 2012, earning various "Game of the Year" awards and being praised for the quality of its story and its characters.

Both the comic books and the television show upon which the game is based present stories that involve characters in morally ambiguous situations, while dealing with a post-apocalyptic society and waves of dangerous undead enemies. Instead of dividing its attention between several elements of an entire cast of characters – much like the TV show or the comics –, Telltale's *The Walking Dead* focuses mainly on two characters: Lee Everett – the main, player-controlled character – and Clementine.

The game starts with Lee on route to the nearest prison for allegedly being involved in the murder of a Senator with whom his wife was having an affair. After being involved in a car crash, Lee manages to escape the cop car where he was being held and makes his way into a nearby backyard. While noticing that something has clearly gone wrong, he meets Clementine, a young, 9-year-old girl that has become separated from her parents and feels obligated to protect her.



Fig. 9 – Telltale's *The Walking Dead*¹⁷

Unlike *Mass Effect 3*'s approach, *The Walking Dead* presents choice in a more subtle way. The player is free to explore and interact with the environment as he/she pleases and there are constant elements of information sprinkled throughout the game's world. The player also has dialog options, much like in many Adventure games, but there are a few key differentiators, though. The characters and the story react to the player's every decision. Although there are certain narrative set-pieces that are unavoidable, the player is presented with a myriad of possibilities throughout the game. No matter which choice the player picks, characters always react differently.

¹⁷ Image collected from [23-11-2013]: < <http://thegamingheretic.com/telltale-the-wolf-among-us/> >

Every choice results in a slightly different outcome, reaction or emotional response. Players witness the loss of characters due to seemingly “wrong” choices that are presented to them in subtle ways as to not be too evident.

One of the more powerful elements of the game consists of a small text label that tells players that “Clementine will remember this.”, whenever they do a good, bad or simply passive or apathetic choice. Players are constantly reminded that the characters are present and that they react to Lee’s decisions. This is especially important when it comes to Clementine, due to the fact that one of the player’s – Lee’s – key responsibilities is to become a moral compass for the young child. Having her witness a display of violence or aggression and being told that she will remember Lee’s actions is a very powerful tool to shape the players perception of the world and its characters.

Although the game’s many narrative paths converge into a single ending, the possibilities throughout its story are vast. Most players don’t have the same experience and reach the end with different friends, enemies and having witnessed completely different events.

3.2.3 Example: *Gone Home*

Gone Home is not a traditional Adventure game, although some might classify it as such. It forgoes the classic point-and-click mechanics for a more modern real-time first-person exploration system.

In *Gone Home* the player embodies Kaitlin Greenbriar, who is returning to her parent’s house after having been abroad for a few months. As Kaitlin arrives at the front door, she realizes that her parents and sister aren’t home to greet her. She enters the house and starts exploring, trying to figure out where they could’ve gone. As she explores, she learns more and more about her family members’ lives during the past few months. She gets a better understanding of her sister’s life, and her issues, and she gets the feeling that her parents’ relationship isn’t as solid as it used to be. Bit by bit, Kaitlin starts to feel as though her family and the house she used to know have been evolving and changing in her absence.

Gone Home delivers on its premise by making the player embody and experience the game’s world and story through Kaitlin’s eyes. Rarely do we hear Kaitlin’s voice and we never see her facial reactions. Kaitlin is a vessel for the player. She is there to bridge the gap between the game’s world and our own.

Gone Home may seem like a more linear experience than other previously mentioned titles, but the way the game presents its own non-linearity is at the heart of its great execution.

As the player enters the house, he/she is presented with various doors and various pieces of furniture within an enormous, sprawling mansion. Almost instantly, the player realizes that practically anything within the house is interactive. Kaitlin can open every door, every drawer go through every room, look at books, letters, pamphlets, music tapes and board games, among dozens of other actions and interactions.

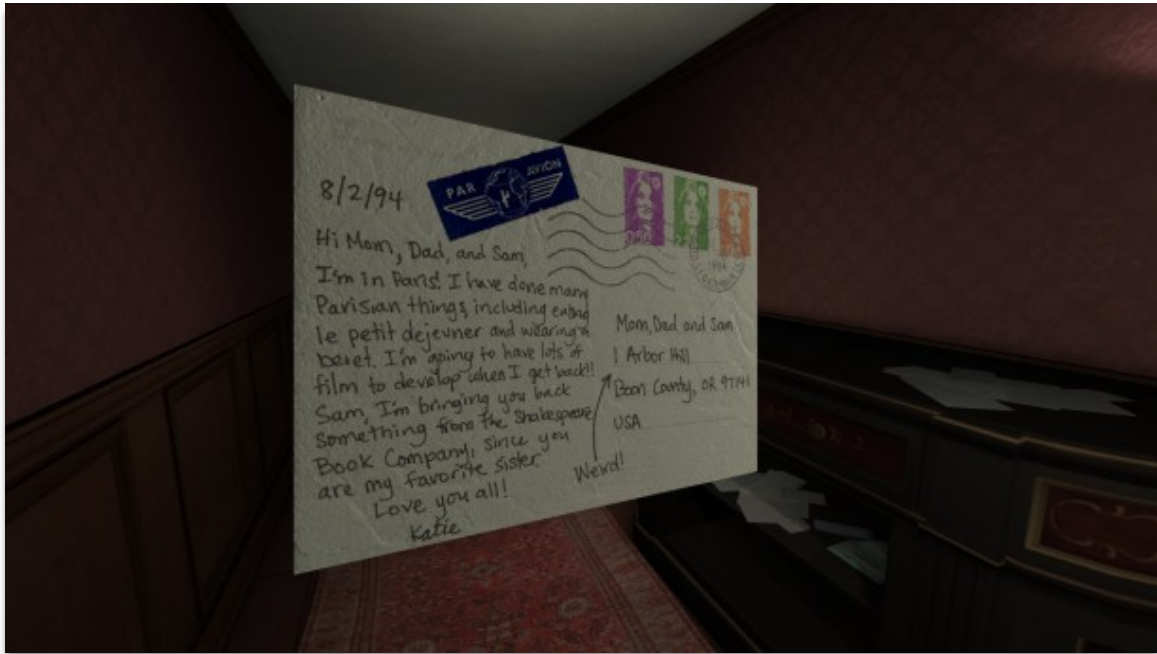


Fig. 10 – The Fullbright Company’s *Gone Home*¹⁸

As soon as the player realizes this, it is up to him/her to decide how they should approach the game. The exploration system is built in such a way that the player knows that he/she has a few essential elements that are needed to advance the plot. The player can focus on obtaining only those elements, or he/she can keep exploring and looking for every interactive element in the house. As such, different players will have different play-styles and will ultimately finish the game with access to different information, therefore crafting their own version and interpretation of the story.

It is, for example, possible to finish the story with the firm belief that Kaitlin’s mother has been having extra-marital affairs, while her father has been descending into alcoholism after having trouble publishing his books.

This information is available through small letters and journal entries that the player finds throughout the house. If a player rushes to the finish, he/she will end the game with an incomplete set of information.

A player that takes his/her time to explore the entirety of the mansion, may realize that, although their parents’ relationship isn’t as strong as it once was, Kaitlin’s mother is not having an affair and Kaitlin’s father temporarily struggled with depression due to his failures, but was recently offered a publishing deal. These two players end the same game with completely distinct senses of reality regarding Kaitlin’s life and family.

Gone Home is one of the most recent experiments in interactive storytelling and it outshines its competition because it forgoes traditional elements in favor of a new kind of exploration-centric approach to narrative structure. Players aren’t forced to pick between options A, B, C or D, but instead have complete freedom to approach the game’s story and world as they see fit.

¹⁸ Image collected from [22-11-2013]: < <http://www.edge-online.com/review/gone-home-review/> >

3.3 Twine and the *indie* community: the rebirth of interactive fiction

Some of the most critically acclaimed games of the past few years have been created by independent developers. The strength of independent game development comes mainly from the lack of business and commercial ties to specific publishers.

Independent developers are usually small studios made up of very few elements, or even single individuals who dedicate themselves to the various areas of game development and are, therefore, able to create unique projects that aren't dictated by the market or the industry's demand.

In the past few years, we've seen a rapid increase in the production of independent games. Titles such as *Braid* (Blow, 2008), *Minecraft* (Mojang, 2009) and *Super Meat Boy* (Team Meat, 2011) proved that it was possible for a small team of one or two people to make a game and have moderate-to-high success rates, without having to work on a publisher's terms, and were effectively responsible for the rapid development of a community that, up until recently, had been completely *underground*.



Fig. 11 – Mojang's *Minecraft*¹⁹

Game designers and developers such as Jonathan Blow, Edmund McMillen, Markus Persson, Rami Ismail, Sophie Houlden, Anna Anthropy, Zoe Quinn, Jason Rohrer, among many others, have since become prominent figures within the games industry and their work signaled a shift in the balance of AAA²⁰ game development *versus* independent, low-budget productions.

¹⁹ In-game screenshot taken by the author

²⁰ AAA, or "triple-A", often refers to big-budget games with extremely high production values

One of the most important changes that allowed this revolution to occur was the availability of cheap – or free – game development tools. Software such as Unity3D²¹, GameMaker²², Stencyl²³ and GameSalad²⁴ made it easy for people with little-to-no programming experience to start creating their own games, and to develop a career as game designers or developers, by distributing and selling their games digitally (Anthropy, 2012, p. 9).

One of the tools of this revolution was a recent small, lightweight, open-source software program called Twine²⁵. Twine is, essentially, a canvas for interactive fiction authors. It allows writers, narrative designers and game designers to map or sketch out a story and its narrative structure.

It is based on well-known technologies and programming languages, such as HTML²⁶ and CSS²⁷, allowing creators to add diverse visual styles, images and sounds to their work.

For game designers and narrative designers alike, Twine functions as a notepad, making it possible to create entire non-linear structures and storylines without spending countless hours and resources on building complex prototypes.

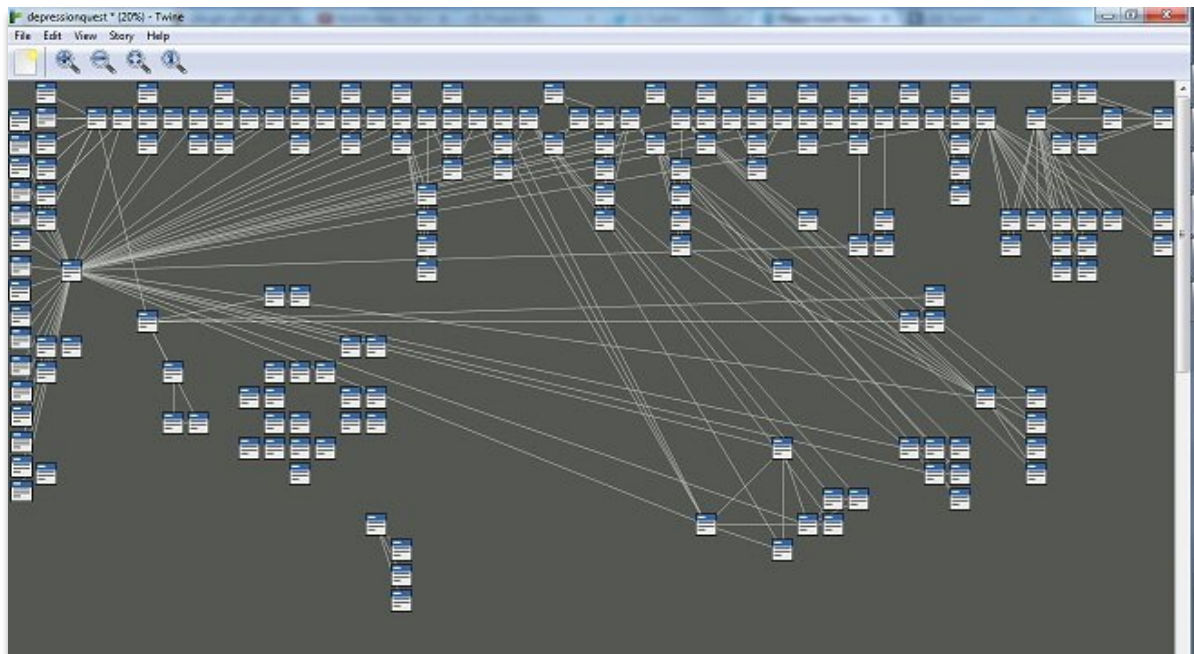


Fig. 12 – *Depression Quest's* node map²⁸ in Twine

²¹ <http://unity3d.com>

²² <https://www.yoyogames.com/studio>

²³ <http://www.stencyl.com>

²⁴ <http://gamesalad.com>

²⁵ <http://twinery.org>

²⁶ Hypertext Markup Language

²⁷ Cascading Style Sheets

²⁸ Image collected from [11-08-2013]: < <http://twitter.com/ZoeQuinn> >

Some game designers, such as Zoe Quinn, Anna Anthropy and Porpentine, have started using Twine almost exclusively as their main game development tool, opting to create deeper and meaningful works of interactive fiction, mixed with more traditional gameplay systems and mechanics, often pushing the boundaries of what the application can handle.

Twine has signaled a sort of “second coming” for interactive fiction, lowering the barrier of entry – or removing it altogether – by focusing on simple, easy-to-learn technology. It presents itself as a tool for writers and creators who want to create stories without delving into the technical side of game development.

Recent Twine games, such as *Depression Quest* (Quinn, 2013) or *Howling Dogs* (Porpentine, 2012) have signaled the birth of meaningful games that not only strive to achieve great story, but also explore the human condition in ways that interactive entertainment has never done.

As a practical application of the theoretic concepts explored within dissertation, a prototype of an interactive fiction game was developed. This game is based on an existing screenplay and tries to bridge the gap between traditional and interactive storytelling. The challenge with the *Entropy*, was to create a short, minimalist work of interactive fiction that used the usual tropes and mechanics of the medium, but in such a way that it tried to avoid meaningless gimmicks and focus on its sole purpose, which is to convey a story that can be experienced in different ways, depending on the player.

4 *Entropy*: Crafting Interaction

Throughout this chapter, we will delve into the process of creating *Entropy*, a prototype adaptation of a traditional screenplay into an interactive format. Focusing on some of the most common elements of interactive stories as well as the mechanics and systems they employ to maintain player engagement and player agency, we will analyze the process of introducing interactive elements to a non-interactive story.

The original story for *Entropy* was originally developed as a screenplay for a fifteen-minute short-film. From the beginning, the goal of the original screenplay was to present a non-linear story that delved into *sci-fi* territory, but that also touched upon more existential and metaphysical aspects of our own experience of time, space and memory.

As a practical implementation of the topics and subjects present throughout this dissertation, a version of *Entropy* was then adapted into a work of interactive fiction. The purpose of that work was to understand the structural pillars that make up some of the most popular works of interactive storytelling and to understand how interactivity might influence, change and add to an already existing story, by making the player an active element in it.

The main goal of this project is not to create a manual or a primer for interactive storytelling. Much like in traditional screenwriting, “all notions of paradigms and foolproof story models are nonsense” (McKee, 2010, p. 6), therefore, trying to build a compilation of formulas for successful interactive stories would be an exercise in futility. This project presents itself solely as a way to analyze recurring tropes in interactive storytelling and their overall efficiency in conveying the strengths and/or weaknesses of the medium.

4.1 *Entropia*

Entropia started as an original screenplay titled *Conundrum* (written by Henrique Sousa) that focused on a large-scale *sci-fi* story about a man that ends up becoming aware of his father’s past and true identity. He is thrown into a situation where he must decide if he’s willing to face his father and be prepared to sacrifice his future, in order to save human lives.

Conundrum was chosen by Henrique Sousa (co-screenwriter and Director of Photography), João Pedro Augusto (Editor), Renata Ramos (Director), Sofia Oliveira (Art Director) and Susana Grilo (Producer) to be made into a short-film as the group’s Final Project for the 2011/2012 Master’s Degree in Sound and Image.

As stated, the original script was later developed by Henrique Sousa and the project’s director, Renata Ramos, over the course of – approximately – nine months, in order to reduce its scale and keep it feasible for production, but also to focus on its strengths while ironing out the story’s weak points. The result of that process was an almost entirely new screenplay with a new title: *Entropia*.

Entropia's story maintained the central theme of the original script, but altered the setting and the scale of the story to fit the short-film's budget. The remaining members of the group, as well as the project's coordinating professor, Professor Carlos Ruiz, approved the screenplay and, as a result, the project started its production phase. *Entropia* was then developed into a 16 minute short-film, starring Cristovão Carvalheiro, Ana Melo and Jaime Monsanto.



Fig. 13 – Captured frame from the short-film *Entropia*²⁹

Entropia's story focuses on a character, Tiago, who has to witness his mother withering away each day, due to her deteriorating mental state. Tiago knows his mother's condition is somehow tied to the events of his father's murder, but he was never able to find enough information to uncover the truth. During a daily conversation with his mother – most of which Tiago recorded, in order to maintain samples of his mother's rare moments of lucidity –, she mentions his father's name and Tiago tries to inquire about him, only to be left in the darkness once more. However, this time his mother drops a small object and a key near him. Upon investigating, he arrives at the attic of his house, his mother's old office. Going through her documents, Tiago reveals more information about his father's past. Tiago finds out about his father's history of violent behavior and subsequent firing from his old job for using excessive force. Increasingly curious, Tiago finds a set of blueprints that seem to depict a device similar to the one his mother gave him. Upon activating the device, he is transported back in time, to witness an event that will forever change his life.

The original screenplay for *Entropia* was the starting point for the creation of this adaptation process, due to its reliance on time-travelling and its potential for a non-linear structure and divergent narrative paths. The fact that the original screenplay was developed specifically for the production of a short-film made it stand out as an obvious choice when it came to create an interactive adaptation of a previously written script.

²⁹ Still frame captured by the author

The final draft of *Entropia* was a production-ready screenplay that spent many weeks being revised by both its writers – Henrique Sousa and Renata Ramos – and the project’s coordinating professor, Carlos Ruiz.

As such, it has gone through the necessary quality and formatting processes that a completely new screenplay would lack. The script was deemed ready for production and was faced with little change over the duration of the short-film’s production, which means that it remains accurate source material and remains a stable base of comparison between the interactive version and the original one.

4.2 Interactive Structure

Entropy was developed as a prototype of an interactive fiction game, in order to effectively study the inherent strengths and weaknesses of video games as a storytelling medium. As previously stated, using a screenplay from a previously developed project was a deliberate choice, seeing that an original screenplay, written specifically for this purpose, wouldn't have gone through the difficult formatting and polishing process that comes with the necessity to create a production-ready script.

Entropia's screenplay, as stated, was developed by both co-screenwriters, with input from the remaining members of the group and the project's coordinator, over a period of nine months. As such, it presents itself as a richer example of a traditional screenplay.

Interactive fiction relies upon mechanics and systems often borrowed from game design to implement player interaction and maintain player agency and activity. *Entropy* is a showcase of recurring tropes and mechanics used in most non-linear video games and interactive fiction titles alike. As such, it presents an opportunity to assess the influence of interactivity and the possibilities that spring from the addition of an active participant to an already established story. As such, we will explore a few of the existing tropes and dynamics present in the prototype.

4.2.1 Multiple Endings

Almost a staple of interactive storytelling, this often-overused trope has become something of an issue in recent games. For example, the game *Mass Effect 3*, as previously mentioned, presents the player with multiple endings through a way that ignores the series' reliance on choice and player agency, presenting the player with a single moment that effectively determines the story's ending without taking into account the past choices that the player has made throughout his/her hundred-hour journey within the game's Universe.

Multiple endings are a recurring element in the majority of interactive fiction titles and their presence is easily understandable. Having an active participant in the story means that he/she is expected to be able to affect the outcome of that story through his/her actions and/or choices. Multiple endings are, therefore, the simplest form with which to convey the actual effects of a player's decision.

In *Entropy*, multiple endings were something of a necessity in order to convey the different outcomes of the story. The main character, Tim, undergoes a series of events that shape how he will/might react during the final scene, therefore having a single ending didn't help cement the fact that the character can react differently depending on the information he has access to. The player is presented with various choices throughout the game and his/her decision will influence the game's outcome. Unlike *Mass Effect 3*, the player isn't able to choose one of the multiple endings from a list of possibilities during the final set piece and must play the game in different ways, in order to achieve different outcomes. However, much like *Gone Home*, the ending and overall interpretation of the story rely upon the player's will to explore the world.

During the first attic scene – one of the pivotal scenes within the overall arc –, the player is able to explore his mother’s old work desk, in order to find more information regarding his family’s past. If the player decides to move on before exploring every compartment, he might not get to know about his father’s severe anger issues or the fact that his mother was a victim of domestic violence. This will shape the character’s path and will lead to wildly different endings. For example, a player who rushes to the end and misses valuable information might witness Tim’s hesitation when he’s confronted with Thomas’s acts of aggression toward Hannah. If the character wasn’t granted access to certain information, he might not have the necessary impetus to act and he might even be overpowered or killed by Thomas.

A player that has been thorough in his/her exploration might have the necessary information and will certainly be presented with a different outcome. If the player knows about the domestic violence charges and Thomas’s violent past, he/she might decide that they need to kill Thomas to save Tim’s mother. Alternatively, they might remember that Hannah started exhibiting symptoms of mental health issues after Thomas’s death and might decide not to kill him, in order to preserve Hannah’s health.

Although recent games have depended a bit too much on multiple endings to convey the idea of the player being in control, these remain as a sort of necessity to allow the story to be shaped by the player’s interaction with it. Multiple endings can be defined in an almost invisible way, by depending on subtle and nuanced elements, actions or events that are present during the game.

4.2.2 Divergent Paths

Entropy follows a modified “foldback” (Adams, 2010, p.174) narrative structure, in which the story branches out, but often converges during inevitable events or set pieces. Although the last act follows a more traditional branching structure, due to the existence of multiple endings, the “foldback” structure allows for more control while building the overall story. This technique allows for the player to experience enough freedom within the game’s story and world, but clearly conveys that there are a few certain moments that are common to every playthrough and play style.

Although some games have tried the branching narrative approach, most ended up abandoning the idea, due to budgetary or even technological limitations (Lebowitz & Klug, 2011, p. 181). Due to the lack of highly advanced artificial intelligence they end up exposing the limitations of that system. As previously stated, the narrative’s designers are required to create a pre-determined number of variations within the story. As such, players will rapidly find the invisible narrative walls that designers have put in to reduce the possibly infinite scale that the project could achieve.

Having certain constant events that clearly convey the evolution of the plot is central to reduce the scale of the project and to give the player a clearer narrative path to follow.

Having a traditional branching structure that folds back to certain main events clearly conveys to the player that there aren’t infinite possibilities within the game’s system, effectively teaching players about the limitations of the game’s world.

In *Entropy*, the player is allowed a few moments of exploration, but will have to go through certain unavoidable events in order to get to the end of the experience.

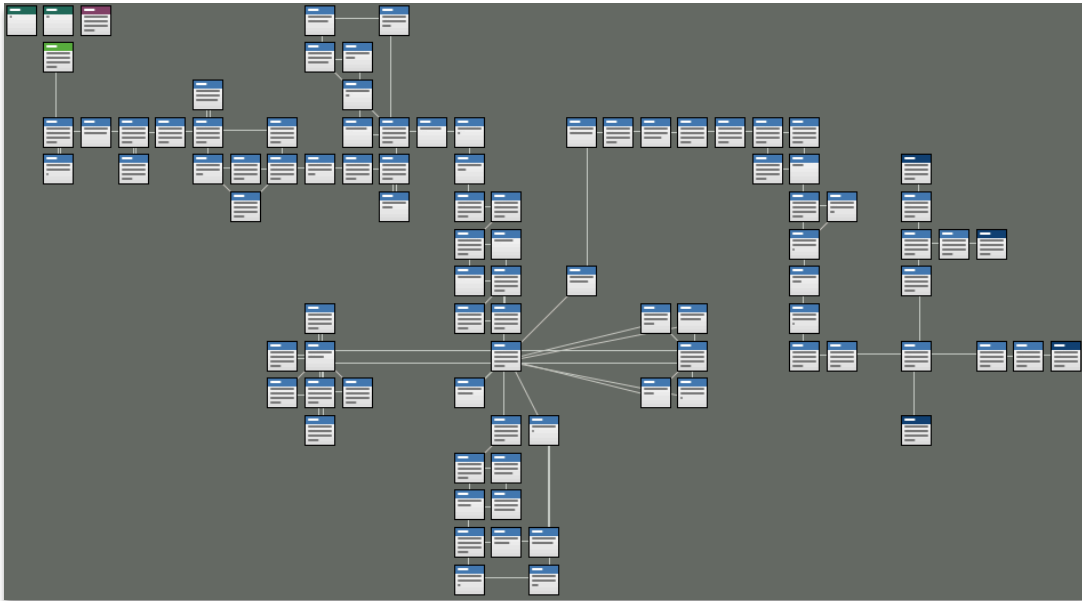


Fig. 14 – *Entropy*'s node-map in Twine³⁰

4.2.3 Innocuous Events

Some events are only present throughout the game to maintain the illusion of choice. During the first attic scene in *Entropy*, the player is presented with two choices: flip the switch or remove the wooden boards from the windows. Both choices have the same result (illuminating the attic) and don't influence the overall story, but the fact that the player has a choice to make helps maintain the illusion of choice throughout less meaningful moments.

Although these moments don't further the game's plot, they help keep the player engaged with the story, and will indulge his/her need to explore. In effect, most interaction throughout the game are merely ways to keep the player suspended in a state of illusion. Too many choices will probably deviate the player's attention from the story to the mechanics and system that sustain it. However, not having enough choices will also become an obstacle to the player's enjoyment of the experience.

Beyond: Two Souls (Quantic Dream, 2013) is a great example of a game that uses completely meaningless actions to keep the player involved and invested in his/her participation, by presenting moments where the player is called upon to perform seemingly meaningless tasks.

³⁰ Screenshot taken by the author



Fig. 15 – Quantic Dream’s *Beyond: Two Souls*³¹

4.2.4 Player Agency

“For many players, the interactivity also helps form a close bond with the characters much more easily than in print and film. Regardless of how much control the player has over the story, during the game he or she does, to a certain extent, become the main character, sharing the hero’s triumphs and failures. With the player taking an active role in the process, the thrill of defeating a powerful foe or the agony of being unable to save a dear friend becomes all the more real.” (Lebowitz & Klug, 2011, p. 43).

As stated, player agency is an important aspect of narrative design in an interactive medium, especially in non-linear video games. The empowering aspect of interactive entertainment is that the player feels like he is actively shaping the outcome of the experience. To sustain that feeling, the experience’s designers need to always keep player agency in mind, therefore creating multiple events where the player is called upon to act.

Player agency, as defined by Ernest Adams, is the player’s “power to change the direction of the plot – the story’s future events” (Adams, 2012, p. 160). Adams claims that a game without player agency can still be considered to have an interactive story, because, even though a game may not give the player complete agency, “a player still feels as if he is interacting with the story even if his actions do not change future events. The player contributes to the sequence of events, and that is what matters” (Adams, 2012, p. 160).

³¹ Image retrieved from [23-11-2013]: < <http://www.therefinedgeek.com.au/index.php/2013/10/25/beyond-two-souls-youre-never-alone/> >

In *Entropy*, player agency is conveyed through the use of a small number of events that let him/her shape the overall progression of the plot and achieve different results by making different choices. Even though the game has a story that can be shaped by the player's actions, player agency isn't a constant element throughout *Entropy* and, as such, the game needs to keep the player engaged and motivated to move the plot forward. That is achieved by using highlighted verbs and objects to convey player's actions. Players have the clear understanding that they're doing/interacting with "something" during the experience.

Although the systems that shift the path of the story in *Entropy* are almost invisible to the player, he/she still feels active due to the results of his/her actions. Exploring the desk during the first attic scene is the main moment where the player is able to contribute to the ending. The variables that are set during that scene refer to the player's knowledge of certain past events. If a player knows all about the gritty past of Tim's father, he will have the opportunity to decide between killing him, or sparing him and sending him to jail. If the character is completely oblivious regarding those events – due to the lack of exploration during the playthrough –, he will be surprised when confronted with the climax, resulting in the unconscious murder of his father or even in his own death.

4.2.5 Dialog

As Scott Rogers states, "freedom of mobility and conversation are important storytelling tools when exploring is the player's goal" (Rogers, 2010, p. 213). We have talked about player agency and exploration, but dialog choices are also an important element of adventure or interactive fiction games, because they allow the player to interact with other characters.

In *Entropy* this element is only featured in a few moments, due to the fact that dialog is not an integral part of the experience. The game focuses more on interacting with the environment rather than with other characters, therefore dialog options are almost vestigial.

4.3 Narrative Design

As viewers, people are often fed information and their only role is to process it. As a player, however, people must first gather information and analyze it depending on the world, systems and mechanics of the game they are experiencing.

Video games present the player with the opportunity to explore spaces and to define their own way of experiencing a story. Although apparently brimming with infinite possibilities, interactive narratives need to be carefully crafted in order to prevent the player from accessing information that would not make sense in a particular moment or place. The story needs to be crafted in such a way that it is able to perfectly convey its intentions to whoever experiences it. The process of defining the story's structure is often called *narrative design* and, much like game design, focuses on defining the mechanics, systems and rules of a piece of interactive storytelling.

Although the original screenplay's plot is based on time travelling and reliving the same moment more than once (and from different perspectives), the story itself is completely linear.

As the process of adapting *Entropia* into an interactive format started, it became clear that the original sequence of events would have to be changed in order to provide a clearer and more intuitive experience to the player.

From the perspective of its main character, *Entropia* follows a non-linear narrative path, with constant jumps between time periods and spaces. This structure introduces obvious problems when trying to create a cohesive interactive story. Seeing that we're writing for an active player and not a (mostly) passive viewer, we need a different way to convey information. In an interactive story, the participant – or player – expects to be in control of, at least, one character. Seeing that *Entropia*'s story follows mostly one main character, it was decided that, in *Entropy*, the player would assume the control of the main character, Tim. To make sure that the game wouldn't jump time without the player being fully aware of it – and, therefore, breaking the connection between character and its controller – the entire narrative structure and sequence of events had to be altered. We needed to make the time jumps clear to the player, so that he/she would know which “version” of Tim (*Entropy*'s equivalent of Tiago) they were controlling.

In this sort of interactive fiction, the player needs to feel like he/she is witnessing the world and its events through their character's eyes. By making sudden time jumps and switching between various different versions of the character, we would risk losing that connection and breaking the illusion of character control, making the player feel like a more passive presence, rather than an active agent within an interactive space.

In order to solve some of these issues, it was decided that the childhood sequences were to be eliminated. They remain in the game as accessible memories that the player can experience at some points throughout the story, by looking or examining specific objects. The game makes it clear that the player is experiencing a memory and not a time jump. However, to keep it in tune with the overarching mechanics of the game, the player is also able to make choices during the childhood sequences, blurring the line between what is a time jump and what is a memory. Those choices will not influence the path of the story, but allow the player to have access to different information and, therefore, make different choices later on.

The first childhood sequence in the original screenplay is of the utmost importance in order for the viewer to know that Tiago was, as a child, somewhat aware of the violent behavior of his father. This information needs to be present within the game, seeing as it is a defining moment in the characterization of Thomas. In an attempt to include that same information, while keeping Thomas's true personality hidden from the player, various clues were distributed throughout the game in the form of documents, newspaper cutouts and journal entries. The player may encounter those clues and piece together the information, creating a clear mental image of the character's father. They can, however, miss that information entirely and come across a completely different outcome.

The sequences between the character's parents were also eliminated but information related to their relationship remains in the game, under the form of photographs, newspaper clippings and reports. It is the player's job to explore the world he/she is in, in order to access that information. Seeing as the player embodies Tim, having him/her jump to a third-person perspective in order to witness a fight between the character's parents would break the illusion of character control.

The overall structure, although not radically different, focuses on the adult Tim instead of changing focus between multiple versions of the character. The player controls the adult Tim and witnesses a clear evolution of the character and the world around him.

5 Closing Thoughts

Interactive storytelling follows the same assumptions as traditional storytelling when it comes to the building blocks of story. The elements of conflict and resolution remain unchanged when switching from one medium to another.

However, the fact that we introduce an active element into the story, presents the need for certain changes to the overall narrative structure. Information must not be transferred passively and must rely on player action to be revealed. Player agency is an essential element to the presentation of an interactive story. Maintaining agency allows the player to become immersed in the story's world and also allows for new and exciting techniques regarding the dynamic adaptation of the story's path to the player's actions.

Due to technical limitations, purely dynamic and non-linear stories are unfeasible in today's games. Game designers create carefully-developed experiences that have only a sample of open-endedness to them. In order to achieve new heights in interactive storytelling, there is a need for *story engines*. These engines will take elements from a pool of themes and will autonomously create new stories by making infinite combinations between themes.

Story engines and procedurally generated content hold much promise for the future of storytelling and certainly seem to be the tools for the creation of tomorrow's games. With access to advanced technology such as the previously mentioned tools will usher in an era where authors provide the building blocks to create living stories that adapt and react to their players, being on constant evolution and adaptation.

Future authors will no longer create single stories. They will create entire universes where those stories will spontaneously emerge.

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APPENDIX A

Original screenplay for *Entropia* (Portuguese version).

Entropia

written by
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2012

1 INT. CASA DE TIAGO (QUARTO DE TIAGO) - NOITE (PASSADO)

Ouvimos o bater regular de um PÊNULO DE NEWTON, já no final do movimento, prestes a perder a força. Começamos, gradualmente, a ouvir SONS DE DISCUSSÃO.

TÍTULO "ENTROPIA"

Vemos um PÊNULO DE NEWTON estático. A mão de uma criança pega numa das esferas na extremidade, reiniciando o seu movimento regular.

A criança senta-se no chão. À sua frente, vemos um conjunto de BLOCOS DE CONSTRUÇÃO, com algumas peças já encaixadas.

Vemos as mãos de uma criança a colocar uma peça que alicerça a construção. Hesita.

Vemos a expressão de angústia da criança, que reage aos barulhos no exterior. Continua a construir.

Vemos as mãos da criança a colocar uma peça que se assemelha a um telhado, revelando uma casa.

Enquanto continuamos a ouvir SONS DE DISCUSSÃO, o PÊNULO DE NEWTON pára, agora sem força.

INSERT - SALA

TOMÁS (homem de cerca de 30 anos, vestido de forma simples) ameaça Mariana (mulher de 30 anos, vestida com roupas de trabalho).

VOLTA À CENA

Ouvimos o SOM DE UMA PORTA FECHAR VIOLENTAMENTE. A mão da criança embate na construção e esta rui.

A criança olha, assustada, para a porta.

Vemos a casa de blocos destruída no chão do quarto.

TIAGO (criança de 7 anos) olha atemorizado na direção da porta.

FADE TO BLACK

2 INT. CASA DE TIAGO (HALL DE ENTRADA) - DIA (PRESENTE)

Ouvimos PASSOS. Vemos uma fechadura. Ouvimos o som da fechadura a DESTRANCAR.

A porta abre-se e, por ela, entra TIAGO, um homem de 30 anos, vestido de forma aprumada. Tiago fecha a porta de entrada e percorre o corredor.

2.

Vemos uma taça que contém um conjunto de chaves. Vemos a mão de Tiago que deixa cair a chave na taça, avançando sem parar.

3 INT. CASA DE TIAGO (SALA) - DIA (PRESENTE)

Tiago sobe para o piso superior da habitação. Começamos a ouvir o som de uma TELEVISÃO. Tiago pára no vão da porta.

Vemos, sentada numa cadeira, MARIANA, uma mulher de 60 anos, com um ar envelhecido.

Tiago esboça um sorriso. Com a mão direita, bate três vezes na porta.

Mariana olha em direcção a Tiago e sorri.

Tiago entra, fecha a porta e dirige-se para o centro da sala. Enquanto solta o nó da gravata, puxa uma pequena cadeira e senta-se em frente a Mariana.

TIAGO

Bom dia, mãe.

Mariana não reage, ficando a olhar fixamente para a televisão. A sua cara é iluminada pelo ecrã. Ouvimos, como ruído de fundo, algumas VOZES e SONS vindos da televisão. Tiago aproxima-se dela e toca-lhe no ombro, acariciando-a.

TIAGO

Mãe...

Mariana reconhece a presença de Tiago, olhando directamente para ele. Esboça um breve sorriso. Tiago volta a encostar as suas costas na cadeira.

TIAGO

Como estás?

Mariana desvia o olhar para a parede da sala. Num tom débil, responde.

MARIANA

Fui dar uma volta ao parque.
Aproveitei que o Tomás não está em casa.

A cabeça de Mariana inclina-se ligeiramente até que fica a olhar directamente para o chão.

Olha de novo para Tiago, que se encontra inclinado na direcção da sua mochila aberta. Tira de lá de dentro uma espécie de garrafa de água e coloca-a sobre a mesa.

Mariana reage com estranheza àquela acção. Levanta-se e fica parada em frente à janela, olhando lá para fora.

(CONTINUED)

CONTINUED:

3.

MARIANA

(cont'd)

Quis mostrar-lhe aquele jardim
onde costumávamos brincar quando
éramos miúdas.

Tiago pára de vasculhar o interior da mochila e olha na direção da mãe. O semblante de Tiago está carregado, em sinal de confusão.

Tiago pousa um GRAVADOR no tampo da mesa e pressiona na tecla REC.

MARIANA

(cont'd)

Mas o Tiago esteve o tempo todo
calado... Pós-me a pensar.

O sorriso de Mariana desaparece e esta fica pensativa.

Senta-se de novo no sofá, desta feita, no lugar mais perto de Tiago.

MARIANA

(cont'd)

Ele agora raramente fala. Tens
notado?

Tiago, visivelmente desconfortável, volta a aproximar-se de Mariana.

De forma terna, coloca a mão sobre a sua mão.

TIAGO

Mãe, sou eu, o Tiago.

Mariana olha-o nos olhos e esboça um sorriso nervoso.

Afasta a sua mão da de Tiago, apertando as suas próprias mãos uma contra a outra.

MARIANA

Como está o Tiago?

Tiago olha para o chão, esfregando a cabeça com ambas as mãos. Endireita-se de novo na cadeira.

TIAGO

Está bem...

Mariana levanta-se, sem olhar para Tiago. Tiago segue a mãe com o olhar.

Mariana aproxima-se de um móvel onde se encontram dispostas duas molduras, uma com uma fotografia de Tiago, outra de Mariana. As suas costas estão voltadas para Tiago.

(CONTINUED)

CONTINUED:

4.

Nas mãos de Mariana encontra-se um relógio que esta manipula de forma quase obsessiva.

Tiago acompanha o movimento da mãe, confuso.

MARIANA

Tens tomado conta dele?

Tiago volta a encostar-se na cadeira. Desvia o olhar na direção oposta.

TIAGO

Tenho... Tem-se alimentado bem.

Mariana encara Tiago, guardando o relógio no bolso. Tiago olha agora para o chão, cansado.

A expressão de Mariana muda abruptamente e esta torna a virar-se na direção do móvel, evitando o olhar de Tiago. Retira de dentro de uma gaveta três pratos e três copos.

MARIANA

Ótimo! Nunca posso contar com o Tomás para essas coisas.

Os movimentos de Mariana são erráticos enquanto esta se aproxima da mesa de jantar e começa a colocar os três pratos na mesa.

Tiago hesita levantar-se, transtornado.

Mariana começa agora a colocar três copos no tampo da mesa.

Transtornado, Tiago avança na sua direção. Coloca-lhe a mão no ombro. Mariana liberta-se e continua a sua movimentação errática.

TIAGO

**Ouve... Eu-... O Tiago está bem.
Tem tudo que precisa.**

Tiago hesita. Num tom de voz baixo, continua.

TIAGO

Sente a tua falta, só isso.

Mariana vira-se repentinamente para Tiago.

MARIANA

Porquê? Ele comentou alguma coisa?

TIAGO

(confuso)
Sobre quê...?

(CONTINUED)

CONTINUED:

5.

Mariana fica nervosa e evasiva. Larga o que está a fazer e avança para o sofá.

TIAGO

Mãe...

Tiago hesita. Segue-a em direção ao sofá e senta-se perto de Mariana.

TIAGO

(cont'd)

Mariana, de que é que estás a falar?

Mariana agarra o seu pulso direito com a mão esquerda, afastando-o e escondendo-o de Tiago.

MARIANA

(nervosa)

Já é a terceira vez esta semana. Um dos amigos do Tomás foi condecorado na segunda-feira.

Mariana pausa, tentando conter as suas emoções.

MARIANA

(cont'd)

E se ele perguntar coisas acerca do pai? Que é que eu lhe digo?

Tiago fixa o olhar em Mariana. Aproxima-se dela. Mariana desvia o seu olhar.

TIAGO

Mãe, não queres ir descansar um bocadinho?

Mariana continua de olhar vazio. Espera um momento e depois, então, olha na direção de Tiago e o seu semblante fica, de repente, carregado.

Mariana protege com a mão esquerda o pulso da mão direita.

Tiago aproxima-se dela e tenta pôr-lhe a mão no ombro. Mariana assusta-se, recuando no sofá.

Protege, com a mão esquerda, o pulso da mão direita, puxando a camisa para baixo, como que protegendo uma ferida.

MARIANA

Não é preciso. Estou bem.

TIAGO

Mas fazia-te bem descansar...

Mariana, nervosa e repentinamente agressiva, eleva o tom de voz e levanta-se do sofá.

(CONTINUED)

CONTINUED:

6.

MARIANA

Não me ouviste?! Já disse que não preciso!

Tiago mantém-se sentado, olhando-a, perplexo.

A expressão violenta de Mariana relaxa repentinamente, estando agora visivelmente confusa, no centro da ampla sala. Coloca rapidamente a mão no bolso.

Tiago levanta-se.

Mariana sorri levemente quando Tiago se levanta e a olha nos olhos. Faz-lhe uma festa na cara e logo se afasta, dirigindo-se para o quarto.

Tiago segue-a com o olhar, algo confuso.

À porta da sala, Mariana pára para acertar um relógio que marca "15:47". Pega nele, vira-o ao contrário e acerta-o para as "21:33". Mariana segue para a porta.

Mariana pára no vão da porta.

MARIANA

Tomas conta do Tiago enquanto eu me vou deitar um bocado?

Tiago olha agora na direção do relógio que marca agora 21h33. Tiago encontra-se frustrado, mas acede.

TIAGO

Não te preocupes.

Tiago acompanha com o olhar o movimento de Mariana, que sai da sala.

Tiago torna a olhar na direção do relógio da sala que marca 21h33.

Olha para o seu próprio relógio que marca "15:47".

Tiago torna a olhar na direção do relógio da sala.

Ao lado deste encontra-se o relógio de bolso de aspeto antigo que Mariana deixou neste móvel.

Tiago pega no relógio de bolso e observa-o atentamente.

Presa à corrente do relógio, vemos uma chave de aspecto antigo.

CUT TO

7.

4 INT. CASA DE TIAGO (ESCRITÓRIO) - DIA (PRESENTE)

Ouvimos o barulho de uma fechadura a DESTRANCAR.

Tiago entra no escritório. Na sua mão, encontra-se o relógio de bolso com a chave antiga. Tiago olha à sua volta. Tiago fixa o olhar no fundo da divisão.

A divisão encontra-se mal iluminada. Lençóis cobrem a mobília. Tiago aproxima-se de um dos móveis.

Retira de cima dele um enorme lençol, revelando uma secretária de aspeto antigo.

5 INT. CASA DE TIAGO (ESCRITÓRIO) - DIA (PRESENTE)

Tiago encontra-se sentado em frente à secretária. Na sua frente, vemos recortes de jornal, relatórios, documentos, fotografias espalhados pelo tampo.

Nos recortes de jornais, conseguimos ler "AGENTE DA POLÍCIA CRIMINAL BALEADO DURANTE INVASÃO DE DOMICÍLIO". Junto do título, conseguimos ler "AGENTE ASSASSINADO DURANTE ASSALTO". Vemos a DATA DO JORNAL.

Tiago coloca o recorte de jornal de lado, revelando, sobre os papéis, uma MEDALHA.

6 INT. CASA DE TIAGO (SALA) - NOITE (PRESENTE)

Tiago encontra-se sentado no sofá, olhando a MEDALHA, pensativo.

FLASHBACK TO:

7 INT. CASA DE TIAGO (SALA) - NOITE (PASSADO)

Em primeiro plano, vemos TOMÁS sentado numa poltrona com uma garrafa de vinho quase vazia a balouçar na sua mão. Ao fundo, vemos Mariana a entrar na sala.

FIM DE FLASHBACK

8 INT. CASA DE TIAGO (SALA) - NOITE (PRESENTE)

Mariana regressa do quarto, dirigindo-se para o centro da sala.

MARIANA

Estás aí..!

Tiago endireita-se, guardando a MEDALHA no seu bolso.

Levanta-se para auxiliar Mariana.

(CONTINUED)

CONTINUED:

8.

TIAGO

Conseguiste descansar?

Tiago ajuda Mariana a sentar-se no sofá.

MARIANA

Consegui, filho, obrigada.

Tiago vai buscar um *blister* de um medicamento e enche um copo com água. As suas costas encontram-se voltadas para Mariana.

TIAGO

Mãe... já não falamos do pai há bastante tempo.

Tiago aproxima-se de Mariana com o copo de água e o medicamento.

Mariana pausa durante uns segundos. Olha na direção oposta da de Tiago.

MARIANA

Que queres saber?

Mariana, nervosa e evasiva, esconde o seu pulso direito com a mão esquerda.

Tiago olha na direção dela, sentado no sofá ao seu lado.

Mariana continua obsessivamente a esconder o seu pulso direito com a mão esquerda.

Tiago, desiludido, retira o relógio do seu bolso e coloca-o junto ao GRAVADOR. Estende a sua mão, pronto a desligá-lo.

CUT TO

9 INT. CASA DE TIAGO (ESCRITÓRIO) - NOITE (PRESENTE)

A secretária encontra-se repleta de relatórios, fotografias e recortes de jornais. Junto a esses relatórios, podemos ver alguns documentos onde se pode ler "PROCESSO DISCIPLINAR".

Nesses documentos, junto à fotografia e nome de Tomás, encontram-se as palavras "USO EXCESSIVO DE VIOLÊNCIA".

Tiago inclina-se para trás, olhando, frustrado, para todos os documentos que se encontram dispostos na sua secretária.

POV de Tiago

que vê, através de uma gaveta entreaberta, um GRAVADOR.

(CONTINUED)

CONTINUED:

9.

FIM DE POV

Tiago pega no GRAVADOR.

Carrega no botão FASTFORWARD e, posteriormente, no botão PLAY.

TIAGO (V.O)
Mãe... já não falamos do pai há bastante tempo.

MARIANA (V.O.)
Que queres saber?

O semblante de Tiago fica carregado, sem reacção. Percorre alguns documentos de forma errática, como que procurando algo. Pára de repente.

Tiago tem na mão um documento onde podemos ler "Hora da morte: 21h33".

Tiago retira o relógio de Mariana do bolso e examina-o minuciosamente.

No mostrador, os ponteiros marcam 21h33. Ao tentar alterar a disposição dos ponteiros, verifica que estes estão bloqueados.

Continua a examinar o relógio. Ao passar a mão por uma parte do relógio, este começa a funcionar. Ouvimos o BARULHO dos ponteiros a mexer.

Tiago reage com estranheza. Ouvimos um TIRO. Tiago olha na direção da porta.

10 EXT. CASA DE TIAGO (SALA) - NOITE (PASSADO)

Estranhando as alterações do ambiente que o rodeia, Tiago desce as escadas a correr em direção à origem do som.

Tiago desce as escadas. Ouvimos um TIRO. Tiago assusta-se.

Esconde-se junto ao vão da porta. Amedrontado, Tiago espreita na direção do chão.

POV DE TIAGO

Vemos, no chão, uma sombra ténue e a parede parece vibrar entre duas formas.

FIM DE POV

Ouvimos um SOM AGUDO. Tiago tira o relógio do bolso.

Vemos a mão de Tiago agarrando o relógio. Ambos vibram.

(CONTINUED)

CONTINUED:

10.

Vemos a expressão de Tiago, assustado e confuso. Olha para o interior da sala.

Tiago encontra-se no vão da porta. Em primeiro plano, vemos uma versão mais velha de Tiago, que olha na direção do chão.

POV DE TIAGO (1)

Vemos o corpo de Mariana inanimado no chão, enquanto Tiago (2) - em primeiro plano - olha na sua direção.

FIM DE POV - SEQUÊNCIA DE PLANOS

Tiago (2) encontra-se a olhar para baixo, inquieto.

O semblante de Tiago (1) agrava-se de repente, traduzindo o seu choque.

Tiago (2) continua olhar para o chão, transtornado.

Vemos uma ARMA na mão de Tiago (2). No seu braço, vemos um estranho DISPOSITIVO.

Vemos Tomás estendido no chão, com manchas de sangue no seu peito.

Chocado, Tiago (1) recua, até chegar de novo ao vão da porta.

Tiago recua para o corredor, em estado de choque.

Vemos a mão de Tiago, que aperta o relógio com força.

Tiago ganha coragem para avançar para o interior da sala.

CORTE NO MOVIMENTO PARA

11 INT. CASA DE TIAGO (ESCRITÓRIO) - NOITE (PRESENTE)

Tiago encontra-se no centro do seu escritório. A sua respiração encontra-se ofegante. Olha à sua volta de forma errática. Pára. Larga violentamente o relógio, transtornado.

Vemos o relógio cair e danificar-se.

Tiago senta-se e pousa a cabeça nas suas mãos, a chorar.

FADE TO BLACK

11.

12 INT. CASA DE TIAGO (HALL DE ENTRADA) - DIA (PRESENTE)

Vemos uma fechadura. Ouvimos o som da fechadura a DESTRANCAR.

A porta abre-se e, por ela, entra Tiago. Encontra-se visivelmente mais velho e desgastado. A sua expressão revela tristeza. Tem vestido um fato e gravata pretos. Tiago fecha a porta de entrada pesarosamente.

Vemos uma taça que contém um conjunto de chaves. Vemos a mão de Tiago que lança as chaves, caindo fora da taça onde se encontram as restantes chaves.

13 INT. CASA DE TIAGO (SALA) - DIA (PRESENTE)

Tiago sobe as escadas e chega à porta da sala.

Tiago bate três vezes na porta e olha em direcção ao centro da sala.

Vemos a sala. Tiago, à porta, olha para a cadeira vazia de Mariana. Tiago dirige-se para o sofá.

Tiago senta-se junto à cadeira da sua mãe.

Pega no GRAVADOR que se encontra na superfície da pequena mesa. Com o polegar carrega no botão PLAY.

CUT TO

14 INT. CASA DE TIAGO (ESCRITÓRIO) - DIA (PRESENTE)

No escritório, vemos Tiago a observar toda a pesquisa. O GRAVADOR encontra-se pousado sobre a secretária, com o botão PLAY premido.

MARIANA (V.O.)

Já não sei do que é que estava a falar há pouco. Sei que era do teu pai, mas...

Tiago olha na direcção de um painel de cortiça com os documentos que antes estavam sobre a mesa, organizados. Assumido uma posição central, vemos os projetos com a planificação do relógio de Mariana, feitos de papel e revelando a assinatura "MARIANA VILLA". Outros, claramente modernos e digitais, revelam o nome "TIAGO VILLA", e consistem no modelo de um NOVO DISPOSITIVO.

INSERT - INT. CASA DE TIAGO (SALA)

Vemos Tiago com a mão colocada na direcção do GRAVADOR, hesitando. Ao fundo, vemos Mariana pegar no relógio e começar a manuseá-lo obsessivamente. O relógio marca 21h33.

(CONTINUED)

CONTINUED:

12.

TIAGO

Falaste no que ele te fazia. Como
ele te tratava.

VOLTA À CENA

Tiago olha na direção do GRAVADOR.

Vemos uma mesa repleta de ferramentas, sobre a qual se
encontra o NOVO DISPOSITIVO. Tiago pega no NOVO
DISPOSITIVO.

Tiago coloca-o no seu braço.

Inserir uma hora - 21h29. Ao fundo, vemos a porta do
escritório.

Tiago desaparece num FLASH DE LUZ.

CUT TO

15 INT. CASA DE TIAGO (SALA) - NOITE (PASSADO)

Vemos Mariana a entrar na sala com o passo apressado. Está
vestida com roupas formais, como se tivesse chegado do
trabalho. Traz consigo um conjunto de pratos e o seu pulso
direito encontra-se envolto em ligaduras. Em primeiro
plano, Tomás encontra-se sentado num sofá, com a garrafa a
balouçar na sua mão.

TOMÁS

Hoje vieste cedo...!

Mariana aproxima-se, cumprimentando-o com um beijo rápido.
Dirige-se para a mesa da sala.

Sobre a mesa, coloca os pratos e os copos.

Mariana dirige-se para a porta da sala. Em primeiro plano,
Tomás levanta-se. Vemos a garrafa de vinho vazia que este
deixa no chão.

TOMÁS

Que foi? Ainda agora chegaste e
já te vais embora?

Mariana pára e olha para trás, na direção de Tomás que se
aproxima.

16 INT. CASA DE TIAGO (SALA) - NOITE (PRESENTE)

Antes sentada no sofá, Mariana dirige-se para o móvel.

Nervosa, abre as gavetas do móvel, como que procurando
algo.

(CONTINUED)

CONTINUED:

13.

Tiago olha na sua direção e levanta-se.

Mariana está agora, em frente à cômoda, a chorar. Tiago tenta contê-la num abraço. Mariana evade-se e regressa ao sofá, enquanto Tiago a acompanha com o olhar.

TIAGO

Mãe--

17 INT. CASA DE TIAGO (SALA) - NOITE (PASSADO)

Mariana responde, a medo.

MARIANA (V.O.)

Querias que fosse?

Tomás caminha calmamente em direção a Mariana.

TOMÁS

(sarcástico)

Não, claro que não. O Tiago passa o dia todo a perguntar pela mãe. Pela "mamã". Não sou suficiente para ele... Sou para ti? Suficiente?

Mariana estranha mas tenta desvalorizar.

TOMÁS

Com todo o tempo que passas fora, tenho que perguntar.

Tomás encontra-se agora junto a Mariana que o olha amedrontada.

CUT TO

18 INT. CASA DE TIAGO (SALA) - NOITE (PRESENTE)

Tiago encontra-se em frente a Mariana. Senta-se no sofá perto dela.

Mariana fica visivelmente emocionada. Nas suas mãos, encontra-se o relógio, que ela manipula obsessivamente.

Tiago tenta conter a mão da mariana.

Mariana fica ainda mais nervosa, evasiva. Os seus movimentos são erráticos. Vira a cabeça evitando o olhar de Tiago. Este procura o olhar da mãe, olha-a nos olhos e põe-lhe uma madeixa de cabelo atrás da orelha.

CUT TO

14.

19 INT. CASA DE TIAGO (SALA) - NOITE (PASSADO)

Tomás aproxima-se de Mariana. Pega numa madeixa do seu cabelo e coloca-a atrás da orelha.

TOMÁS

Porque é que me fazes isto? Sabes
que eu não queria ter que te
fazer mal...!

CUT TO

20 INT. CASA DE TIAGO (SALA) - NOITE (PRESENTE)

Mariana afasta-se de Tiago, nervosa.

Começa a mexer no seu pulso direito obsessivamente.

Levanta-se e aproxima-se novamente da cómoda, como que procurando algo.

CUT TO

21 INT. CASA DE TIAGO (SALA) - NOITE (PASSADO)

Mariana evade-se do abraço de Tomás.

MARIANA

Deixa-te disso. Vamos jantar.

Mariana segue para a porta.

MARIANA

Vou chamar o Tiago.

Vemos a mão de Mariana a pressionar a porta para sair da sala.

CUT TO

22 INT. CASA DE TIAGO (SALA) - NOITE (PRESENTE)

Mariana procura algo de forma errática e obsessiva.

Vendo Mariana nervosa, Tiago tenta acalmá-la, agarrando o seu braço.

Mariana fica mais nervosa, tentando libertar-se de Tiago.

Mariana consegue abrir uma última gaveta, revelando uma ARMA.

CUT TO

15.

- 23 INT. CASA DE TIAGO (ESCADAS) - NOITE (PASSADO)
Tiago desce as escadas. Ouve-se barulho de DISCUSSÃO.
CUT TO
- 24 INT. CASA DE TIAGO (SALA) - NOITE (PASSADO)
Mariana tenta sair da sala, mas a mão de Tomás trava-a violentamente.
- 25 INT. CASA DE TIAGO (QUARTO) - NOITE (PASSADO)
Ouvimos o SOM DE UMA PORTA FECHAR VIOLENTAMENTE.
O jovem Tiago olha atemorizado na direção da porta, sem saber o que fazer.
Tiago segue na direção da porta, lentamente e a medo, deixando a CASA DE BLOCOS destruída no chão.
Ouvimos o SOM DE PASSOS a descerem apressadamente as escadas.
- 26 INT. CASA DE TIAGO (ESCADAS) - NOITE (PASSADO)
Vemos Tiago (2). Desce a escadaria de forma apressada.
- 27 INT. CASA DE TIAGO (QUARTO) - NOITE (PASSADO)
O jovem Tiago esconde-se ao lado da porta. A sua expressão revela terror.
- 28 INT. CASA DE TIAGO (SALA) - NOITE (PASSADO)
Tomás aperta o pulso de Mariana e afasta-a da porta com violência, empurrando-a contra um móvel da sala.
CUT TO
- 29 INT. CASA DE TIAGO (QUARTO DE TIAGO) - NOITE (PASSADO)
O jovem Tiago afasta-se da porta, assustado. Deita-se apressadamente na cama, de olhos fixos no pêndulo. Tiago apressa-se a colocar as esferas do PÊNDULO DE NEWTON em movimento, de olhos fixos no brinquedo.
Ouvimos o SOM DO PÊNDULO DE NEWTON.
CUT TO

- 30 INT. CASA DE TIAGO (ENTRADA DA SALA) - NOITE (PASSADO)
- Tiago (2) encontra-se finalmente em frente à porta da sala. Continuamos a ouvir o BATER REGULAR DO PÊNDBULO DE NEWTON. Deparando-se com uma porta fechada, abre-a violentamente.
- 31 INT. CASA DE TIAGO (SALA) - NOITE (PASSADO)
- Vemos Tomás, que olha perplexo para Tiago.
- Vemos Tomás, que olha para Tiago. No vão da porta, Tiago olha na direção do chão.
- Vemos Mariana, estendida no chão.
- Ouvimos o BATER REGULAR DO PÊNDBULO DE NEWTON.
- Tiago aproxima-se lentamente na direção do pai.
- Tiago tira a ARMA do bolso, apontando-a na direção de Tomás.
- Tomás recua, amedrontado.
- Vemos Tiago olhar o pai, enquanto ouvimos o BATER REGULAR DO PÊNDBULO DE NEWTON.
- Tiago está com a arma apontada na direção de Tomás, prestes a premir o gatilho.
- 32 INT. CASA DE TIAGO (QUARTO DE TIAGO) - NOITE (PASSADO)
- Vemos as esferas do PÊNDBULO DE NEWTON chocarem uma última vez, perdendo finalmente a força.
- Ouvimos o som de um DISPARO DE UMA ARMA. Tiago está deitado em posição fetal, pressionando os joelhos contra o peito. Aterrorizado, Tiago cerra os olhos.
- Os SONS/ECOS DE DISCUSSÃO crescem e Tiago vira-se de costas voltadas para o pêndulo, pressionando os joelhos contra o peito, deitado na cama. Continuamos a ouvir SONS/ECOS DE DISCUSSÃO.
- INSERT - PENSAMENTO DE CRIANÇA
- Vemos a silhueta de dois corpos a lutarem.
- VOLTA À CENA
- Vemos a expressão de terror do jovem Tiago, com os olhos cerrados.
- INSERT - PENSAMENTO DE CRIANÇA

(CONTINUED)

CONTINUED:

17.

Vemos a silhueta de dois corpos a lutarem. Com um movimento brusco, o corpo feminino cai.

CUT TO

33 INT. CASA DE TIAGO (SALA) - NOITE (PASSADO)

Vemos Tiago adulto pousar a arma e seguir na direção da mãe, debruçando-se sobre o seu corpo inanimado.

INSERT - PENSAMENTO DE CRIANÇA

Vemos o corpo de Mariana cair suavemente sobre um relvado.

VOLTA À CENA

Vemos Tiago (2) deitar a mãe no sofá da sala.

Ao deitar a mãe, ela olha-o nos olhos e adormece de novo quase imediatamente.

INSERT - PENSAMENTO DE CRIANÇA

Vemos Mariana deitada no relvado. Lentamente, abre os olhos, sorrindo.

VOLTA À CENA

Ouvimos o SOM DE SIRENES intensificar-se. Tiago (2) afasta-se na direção da porta.

34 INT. CASA DE TIAGO (QUARTO) - NOITE (PASSADO)

Vemos o jovem Tiago deitado na cama, enquanto ouvimos SONS/ECOS DE DISCUSSÃO crescentes.

35 INT. CASA DE TIAGO (ESCRITÓRIO) - NOITE (PASSADO)

Ouvimos SONS DE PASSOS APRESSADOS, e vemos a mão de Tiago (2) deixar o GRAVADOR numa das gavetas do escritório da mãe.

36 INT. CASA DE TIAGO (QUARTO) - NOITE (PASSADO)

Ouvimos o som crescente do bater do PÊNDULO DE NEWTON. Ainda deitado na cama, o jovem Tiago cerra os olhos, amedrontado.

APPENDIX B

The author has included a DVD with this dissertation, which provides a digital version of the original screenplay for *Entropia* and the final version of *Entropy*, the interactive adaptation of that same screenplay.