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STORYTELLING IN VIDEO GAME

– Creating a narrative for management game

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STORYTELLING IN VIDEO GAMES

This thesis deals with storytelling in video games. The frame of reference as well as theoretical basis for the report is based on Interactive Storytelling-course offered by University of Turku as well as ICIDS-research papers (International Conference on Interactive Digital Storytelling).

This study focuses on the importance of storytelling and narrative immersion in video games. It first covers the principals and narrative structure of storytelling in a way that the reader gains a clear overview of most common narrative structures.

In the second chapter most common narrative methods are introduced and examined. The chapter will also contain a brief history of narrative storytelling.

The third part deals with describing past video game storytelling methods. The purpose of this section is to explain the current trends that affect video game storytelling compared to past games in order to offer a brief summary of how storytelling has evolved.

Fourth section goes deeper into storytelling and video games. The current methods of storytelling are discussed and the reader is familiarized with what immersion and agency are and how they affect storytelling in video games.

The final chapter deals with the writer's own experience as a gamer and game designer. The case study that is in development by the writer will be introduced and the background of the project will be summarized. After the synopsis the storyline and narrative experience of the video game will be described and evaluated.

In the summary the writer will provide a overview of the thesis as well as analyze the future implementations of storytelling in video games and how advances in technology may affect the future of storytelling in games.

Jarkko Hurme

TARINANKERRONTA VIDEOPELEISSÄ

Opinnäytetyön tavoitteena oli tutkia ja analysoida tarinankerrontaa videopeleissä. Työn viitekehyksenä sekä teoreettisena pohjana käytettiin Interactive Storytelling -kurssia sekä ICIDS-tutkielmia(International Conference on Interactive Digital Storytelling).

Opinnäytetyössä käsitellään narratiivisen tarinankerronnan merkittävyyttä ja immersiota videopeleissä sekä tutkitaan tarinankerronnan tärkeyttä verrattaessa sitä pelaajan immersioon.

Työssä tarkastellaan tarinankerronnan perusteita sekä narratiivistä hierarkiaa niin, että lukijalla tulee selkeä käsitys narratiivisen tarinankerronnan rakenteista, osa-alueista sekä siitä miten ne vaikuttavat videopeleihin tarkastelemalla sekä selvittämällä nykyisten videopelien trendejä. Tämän jälkeen niitä tarkastellaan aiemmin luotujen pelien tarinankerrontaan verraten täten havainnollistetaan miten videopelien tarinankerronnan historia on kehittynyt sekä esitellään nykyisiä narratiivisia menetelmiä ja pohditaan miten kerrontaa voidaan tulevassa kehittää.

Työn käytännön osuutena esitellään videopeli, jonka teossa hyödynnettiin niin kirjoittajan omia kokemuksia videopelien suunnittelijana kuin myös narratiivistä tarinankerrontaa. Yhteenvedossa kirjoittaja antaa tiivistelmän opinnäytetyön aihealueesta sekä kertoo oman näkemyksensä videopelien tarinankerronnan tulevaisuudesta.

CONTENT

PICTURES

FIGURES

TABLES

LIST OF ABBREVIATIONS (OR) SYMBOLS

Agency	Agency is the level of control that a player feels they have in a game world. If their choice has impact on the world or not.
Chibi	In English the term chibi has mostly been conflated with the super deformed style of drawing characters with oversized heads or it can be used to describe child versions of characters.
Gameplay	Gameplay is a term used to define the way players interact with video games. It is further characterized as the way the game is played, including the rules, the plot, the objectives and how to conquer them, as well as a player's overall experience.
ICIDS	International Conference on Interactive Digital Storytelling
Immersion	In the context of video games, the term immersion is used to describe the users' emotional reaction to the game world in terms of feeling as if they are actually a part of the virtual world.
Ludonarrative dissonance	Refers to conflicts between a video game's narrative and its gameplay.
Player-driven storytelling	Form of interactive storytelling in which the player is allowed to make one or more decisions that affect the main plot itself.
Role-playing game	Is a video game in which player assumes the roles of character in a fictional setting. Players take responsibility for acting out these roles within a narrative, either through decision-making or character development
Unity 3D	Is a flexible and powerful development platform for creating multiplatform 3D and 2D games and interactive experiences.

1 INTRODUCTION

The interactive entertainment industry is conquering the world, and the whole industry is growing at an impressive rate. Video games have been the fastest-growing branch in entertainment media since the beginning of this century.

According to Nielsen, the average U.S. gamer spent 6.3 hours a week playing video games in year 2013 (Aarmoth 2014.) It is clear that gaming has transformed from a niche activity to one of most favorite pastimes.

There are numerous reasons why the popularity of video games has increased. They have shown to be beneficial to the people who play them be it by fortifying cognitive skills or affecting the player's mood in a positive way (Bowen 2014, 10.) The entertainment value that video games offer has grown as technological advances allow more complex games to be designed thus attracting a wider customer base. They also offer a unique way of telling interactive stories compared to other entertainment media because they are based on the relationship of player interactivity and the media.

Despite the advances in technology and increase in popularity, most stories constructed by game designers remain linear in nature, and player actions often have limited impact on the main story.

Another frequent criticism of interactive narrative in videogames is that it disrupts interactivity and undermines the player's experience. For example, watching a cutscene in a videogame can create negative emotions if the player does not feel that their own action has somehow triggered this event, or that he or she has affected this outcome (Hancock 2002.)

This is one of the many challenges of the game industry, how to resolve this clash between the interactive freedom expected by the players and the authorial demand for narrative structure?

The aim of this thesis is to evaluate as well as analyze the impact and importance of storytelling in video games as well as examine the linearity of narrative structure and how the player's choices affect the narrative experience.

The frame of reference for this thesis consists of theory about interactive storytelling as well as narrative structure. After addressing the theory portion of these two subjects, the thesis deals with their mutual relationship in video games by exploring past games and their storytelling as well as looking at the current trends and how they affect the narrative of video games.

The fourth chapter delves deeper into the differences of story and storytelling in video games, immersion and how the structure of a storyline can be altered with choices and agency.

After this section the focus will be shifted toward pondering the future of storytelling and narrative immersion in games.

In the final chapter before conclusion the writer's personal experience about creating a narrative video game are discussed. The case will be introduced and the project background will be explained then the narrative and storyline will be described and evaluated. These design choices will be analyzed and dissected to showcase how to create an immersive narrative to a video game genre that most often contains no narrative.

2 PASTIME STORIES

Stories are an essential part of our society and culture. Their influence can be seen in all aspects of our life, be it in our work or in our free time, stories are all around us. They affect our culture, entertainment, art and even news media.

Although the methods of telling stories has evolved, the desire to tell and experience stories has remained unchanged, and still has an impact on the audience, be it emotional, educational, or both. But why is that?

As stated in the article by Professor Paul J. Zak there is a neuroscientific reason for the behavior (Zak 2014). When we are being told a story, not only the language processing parts of our brain become activated but all the other related areas in our brain that are related to the events of the story become active as well. If someone tells us how delicious certain foods are, the sensory cortex becomes activated (Murphy Paul 2012). For this reason it is possible to affect the thoughts and emotions of the receiver of the story.

The logical explanation why the format of the story, where events unfold one after another, has such an impact on our brain is because a story, if broken down into the simplest form, is a connection of cause and effect. This cause and effect relationship is similar to how our brain processes all information. (Sapolsky 2010).

When the individual experiences a story, they relate it to one of their own existing experiences thus activating the part of the brain that is called insula, which aids us to relate to similar experiences for example to feel sorrow or joy depending on the story, which is displayed in figure 1.
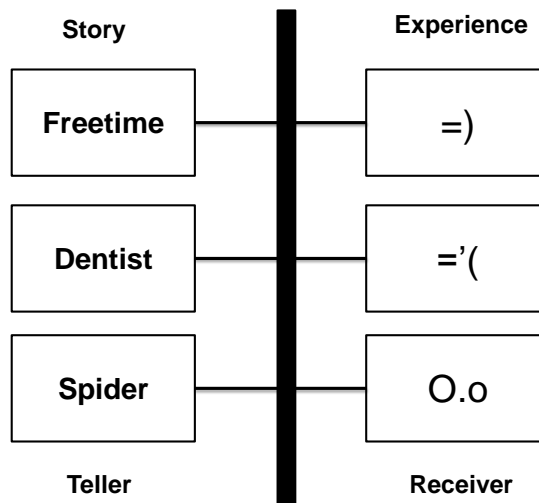
Figure 1. Example how insula processes information.

This is the reason why it is possible to convey feelings to other people trough story or to affect their behavior. These findings on the neurobiology of storytelling are relevant to understanding how a story affects the receiver and how stories have managed to captivate human minds and souls for centuries.

But, what is a story and how is it related to narrative? There are numerous definitions for the word though all the definitions share similarities and can be summarized as.

Story is the telling of an event, either true or fictional, in such a way that the receiver experiences or learns from the story. It is a means of transferring information, experience or emotion (Rebrović 2014). Narrative is the chronological sequence of stories, the order in which the events occurs (Dictionary 2016.) It can be made from several of these interrelated events added, subtracted or reordered together to form a structure, which is presented in figure 2.
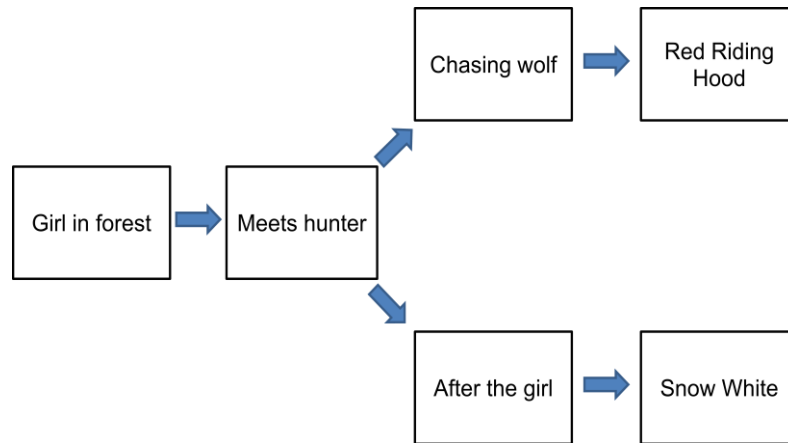
Figure 2. Narrative structure and events.

2.1 Origin of storytelling

Storytelling has existed long before recorded history; it is the oldest form of narrative communication known to man. Before language was invented primitive people conveyed messages with images, signs and sounds. They were telling stories by using these methods.

The earliest form of storytelling that has been unearthed was discovered by a group of children in the Pyrenees Mountains in 1940. The discovery consisted of a series of cave paintings that carbon date back to somewhere between 15000 and 13000 B.C. These cave paintings portrayed over 2.000 figures, containing extinct animals as well as common animals, which can be recognized, including bison, bear and one image of a human being. Scientists and folklorists who have reviewed these paintings say that, certain paintings found in the cave have all the elements of a narrative. These paintings tell of rituals performed and hunting practices. They tell a story (The History of Ancient Storytelling 2013).

The subsequent evidence of storytelling comes from ancient Mesopotamia. The first narrative the Epic of Gilgamesh was engraved on clay tablets around 700 B.C. These stories were additionally carved to stone pillars ensuing that all

could experience them, which spread the stories of Gilgamesh at a rapid pace. (Sparknotes 2013a).

In the 200 B.C Aesop's fables were written down. Aesop is known for telling stories and fables that have lived until modern times. While Aesop lived around 500 B.C, his stories were not recorded until 200 B.C. The stories were so mesmerizing that they were passed down by word of mouth for three hundred years and they still continue to be reinterpreted in different forms of media like cartoons, which is presented in picture 1 (Mozoho 2012a).

Picture 1. Tortoise and Hare Aesop's tales in modern media (Mozoho 2012b.)

Another example of stories that have survived to modern times is Homer's epics. These stories were originally told passed down by oral tradition till around 700 B.C when Greeks developed their written language. Their culture was affected by storytelling. It was the first culture, which not only wrote stories, portrayed them in art but also studied storytelling and affected the structure of narrative.

It was Aristotle that created first playwriting manual. This manual was a set of observations on the key elements of the most successful tragedies produced. These observations were the basis for the Plot Diagram(Bio. 2015). However, then came the Roman poet Horace who developed a set of hard-and-fast rules for narrative. Horace declared that The Five Act Structure is the only legitimate

form of drama. This belief dominated narrative storytelling all the way through the classical period.

These structures continued to act as a base for research on narrative as well as advanced the research of not only narrative structure but all the aspects of stories.

2.2   Narrative structure

Stories have many forms; each form has its own unique structure. When trying to understand stories and their narrative, it is important to understand their underlying hierarchy. The types of narrative structures come in numerous forms. This thesis will concenrate on the following literary elements and their structures:

- Novels
- Poems
- Drama
- Playwriting
- Short Stories
- Fairytales
- Folktales

Novels and short stories incorporate the narrative structure of three or five parts. This narrative structure, which was developed by Aristotle and modified by Gustav Freytag, is commonly known as Plot Diagram. This diagram is the foundation of many other structures and it is the most used narrative structure. It can also be applied to other forms of narrative media, like movies or television series.

A similar diagram can be utilized for drama and playwriting. This diagram is known as the The Five Act Structure. It is comparable to the modified Plot Diagram as both contain five elements though the amount of segments differs.

The narrative pattern that is most common in fairytales and folktales is called Hero's Journey though not every fairytail will fit this pattern.

It should be noted that most narrative forms have a clear linear structure however, there are exceptions. There are narratives that can't be adapted to contain a linear structure. These kind of narratives are called nonlinear.

2.2.1 Plot Diagram

The Plot Diagram is an organizational tool that allows readers to understand the key features of the story. The diagrams triangle-shaped structure represents the pivotal segments of the story thus providing a common framework for analyzing and understanding narrative (readwritethink 2016.) The climax is the pinnacle of the triangle, the introduction is the start base and the rising and falling action are the rise and downward sloping sides, followed by the resolution being the last base. These elements are numbered in figure 3, which focuses on the story of Cinderella.
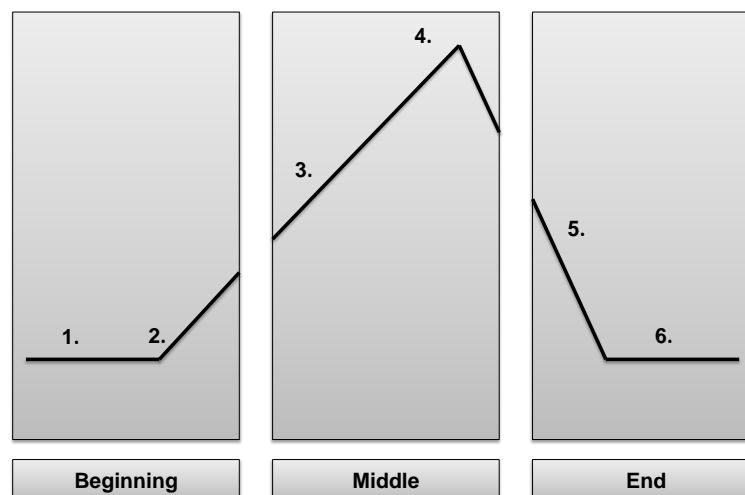

Figure 3. Plot diagram of Cinderella with all the elements.

1. The exposition. This portion introduces background information; the character's backgrounds, events occurring before the story and describes the setting.

When Cinderella was very young, she had a happy life. Then, one day, her mother died. Soon after, Cinderella's father married a woman who had two daughters of her own. Cinderella's stepmother and stepsisters were not very kind (Annenberg Learners 2014.)

2. The conflict. This part establishes the problem in the narrative. In most Plot Diagrams this is included in the exposition or rising action.

Cinderella's father dies and leaves her at the mercy of her stepmother and stepsisters. They are cruel to her and treat her as if she were their servant (Annenberg Learners 2014.)

3. The rising action. It is where the suspense builds and the issue gets worse and becomes more complicated. There are often multiple steps or parts in the rising action.

One day a letter arrives, inviting all young maidens in the land to attend a ball at the prince's castle. Cinderella wants to attend the ball, but her cruel stepmother and stepsisters try to prevent her. With the help of her fairy godmother, Cinderella attends the ball. She flees the castle at midnight as the spell ends, leaving one of her glass slippers behind. The prince finds the slipper and vows to marry the girl whom the slipper fits (Annenberg Learners 2014.)

4. The climax. This portion is the turning point in the story. It is usually the most exciting part in the story.

The prince arrives at Cinderella's house. Cinderella asks the prince if she would be able to try on the slipper. The prince slips the slipper onto Cinderella's foot and it fits (Annenberg Learners 2014.)

5. The falling action. It is the events that happen after the climax has been reached and the conflict has been resolved.

Cinderella and the prince are married and they move to the castle. (Annenberg Learners 2014.)

6. The resolution. This part is the outcome of the story. It is the final closing and serves as clarification for the narrative.

....and they lived happily ever after (Annenberg Learners 2014.)

2.2.2 The Five Act Structure

The Five Act Structure is used to analyze plays and classical dramas. The structure utilises the same five elements as the Plot Diagram however; it does this with five acts. This form of narrative structure is popular on classical plays as well as on Shakespeare's works like Romeo and Juliet, which narrative structure is detailed and analyzed in figure 4.
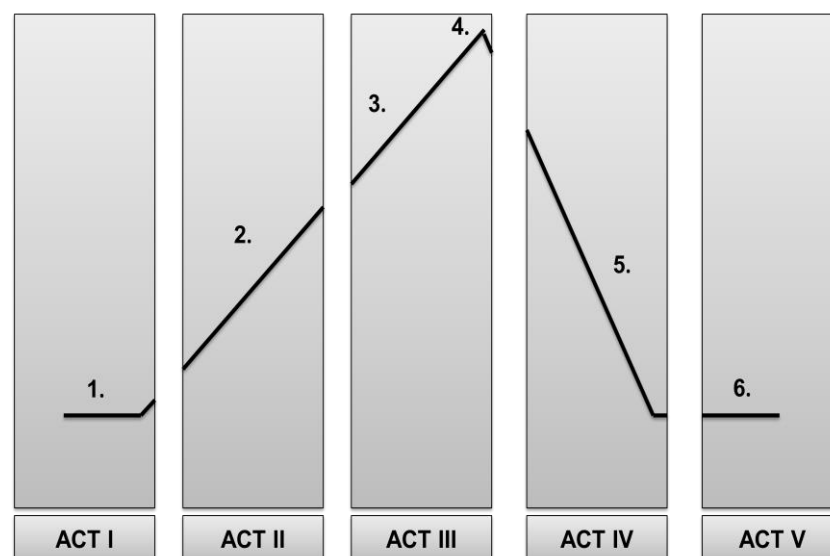

Figure 4. The Five Act Structure of Romeo and Juliet.

1. The exposition. The Prologue briefly gives the setting and theme of the play while it prepares the viewer for drama in which the destiny of two lovers is determined by fate (Sparknotes 2013b.)

2. The rising action. Romeo and Juliet meet, fall in love, and get married with the aid of the friar and the nurse. The feud escalates due to Romeo's intrusion of the Capulet feast (Sparknotes 2013b.)

3. The climax in Romeo and Juliet begins at the point where Tybalt and Romeo face each other. Tybalt kills Romeo's friend Mercutio and Romeo seeks revenge by slaying Tybalt and is banished due to the murder he committed. Romeo returns to Verona after hearing rumours about the death of Juliet and confronts Paris at Juliet's tomb, and slays him before taking his own life. (Sparknotes 2013b.)

4. The falling action. Juliet awakens from her sleep only to see that Romeo has committed suicide. She takes his dagger and kills herself (Sparknotes 2013b.)

5. The resolution. The Friar and the Nurse explain to the Capulet and Montague families that the two lovers were married in secret. In their sorrow they vow to end their feud (Sparknotes 2013b.)

2.2.3 A Hero's Journey

Related to both linear and nonlinear structure, the hero's journey is a recurring narrative pattern that many heroes undergo over the course of their stories. This pattern was identified by American scholar Joseph Campbell. In his research Campbell discovered many common structures running through stories from around the world that almost all hero–quests goes through. Campbell named this structure as Monomyth. The concept of monomyth has gained much praise and consideration in most medias. Classic literature narratives such as Hercules as well as modern day Hollywood blockbusters like Batman follow this pattern. The basic version of monomyth contains 12–steps, while more detailed versions can have 17–steps (Smed 2012).

The 12–step Hero's Journey is showcased in picture 2. with a step–by–step example of a famous film, that according to the creator of the saga became famous for the use of monomyth.
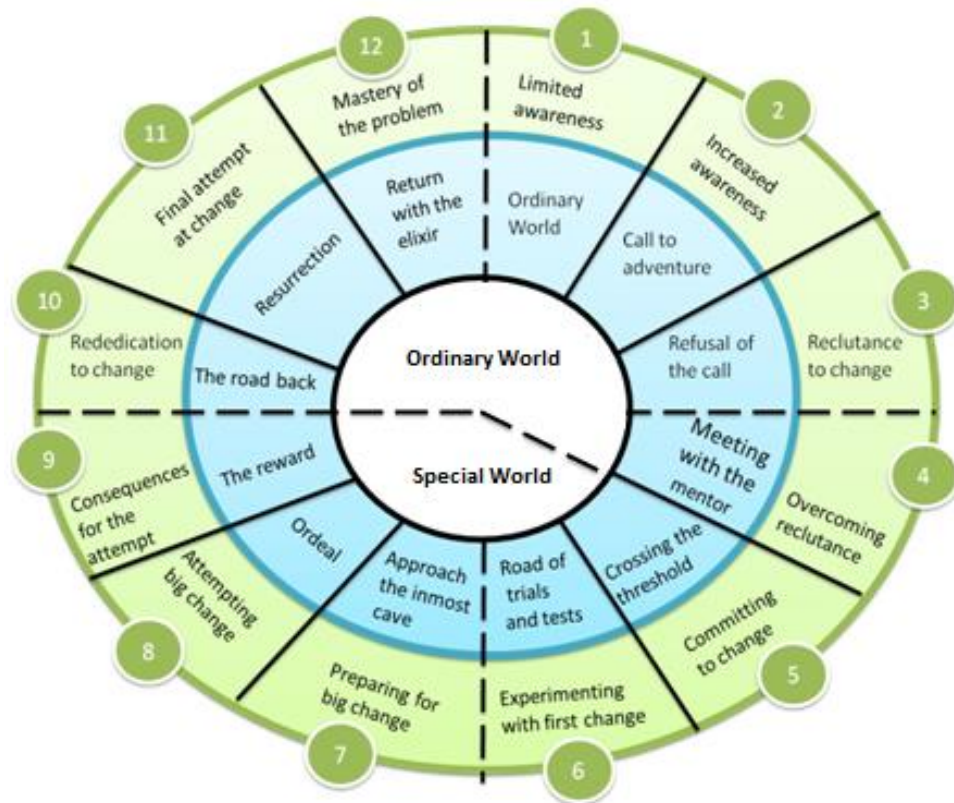
Picture 2. George Lucas utilized monomyth as a tool when writing Star Wars (Saltlakecomicon 2014).

1. The Ordinary World. The hero is introduced to the audience so they can identify with the hero and the situation. This step refers most commonly to the hero's normal life at the start of the story as well as the state of the world, before the adventure begins (Starwars Origins).

The Empire oppresses the galaxy. On Tatooine Luke Skywalker dreams of joining the academy but feels he is going nowhere on his uncle's farm.

2. Call To Adventure. The Hero's adventure begins when they receive the call to action. It can be a direct threat to their safety, their family, or their way of life. The incident disrupts the comfort of the Hero's Ordinary World and presents a task that must be undertaken (Starwars Origins).

R2D2 plays a portion of princess Leia's call for aid. Luke wants to aid the princess.

3. Refusal of the Call. The Hero has fears and doubts that need to be vanquished before they will accept the call. This will result with the hero refusing and as a result their safety, their family, or their way of life may suffer. The refusal of the call –step also affects the viewers or listeners bond that they have with the reluctant hero as declining the task and leaving the comfort of the home is an event that most can relate to (Starwars Origins).

Luke refuses to follow Obi-Wan-Kenobi because his obligation to aid his uncle at the farm.

4. Meeting with the Mentor. The hero encounters someone who can give him advice, equipment and ready him for the journey ahead (Starwars Origins).

Obi-Wan-Kenobi tells Luke about his heritage and gives him his father's lightsaber. Luke wants to know more about his father and aid the rebels.

5. Crossing the First Threshold. The hero leaves his Ordinary World for the first time and crosses the threshold into adventure (Starwars Origins).

Luke's aunt and unclde are killed. He travels with Obi- Wan-Kenobi to Mos Eisley to hire a ship.

6. Road of Trials and Tests. The hero learns the basic rules of this new world. During this stage, they will endure tests of strength and of will, meets companions, and face foes (Starwars Origins).

In the cantina Obi-Wan-Kenobi saves Luke by the use of force. They hire Han Solo and Chewbacca who become their companions and escape Tatooine while evading Empire's forces.

7. Approach the inmost Cave. The hero and newfound allies have a setback. They have to try new approach or adopt new ideas (Starwars Origins).

Luke learns about the force. Their ship is captured by the Empire and they find themselves in enemy stronghold.

8. Ordeal. Near the middle of the story the hero experiences a major hurdle or obstacle, such as confronting death or facing their fears (Starwars Origins).

They dress as the enemy and attempt to rescue the princess. They are discovered and engage their foes.

9. Reward Seizing the Sword. The hero earns their reward or accomplishes their goal by facing death though threat may still loom over the hero. (Starwars Origins).

Luke is rescued by his friends who are beginning to work together as a team.

10. Road Back. The hero begins their journey back to Ordinary World ensuring the treasure is brought home (Starwars Origins).

Obi- Wan- Kenobi sacrifices himself to allow them to flee. Luke joins the Rebel's attack on the Death Star.

11. Resurrection. At the climax , the hero faces a final test where everything is at stake and he must use everything he has learned (Starwars Origins).

In final battle Luke hears Obi- Wan – Kenobi's voice and uses the force to make a shot that destroys the Death Star.

12. Return with the Elixir. The hero brings his knowledge or the "elixir" back to the ordinary world, which has the power to transform the world as the hero has been transformed (Starwars Origins).

The Death Star is destroyed. The team members are honored in their role on the destruction of the Empire's base.

2.2.4 Nonlinear Narrative

Nonlinear narrative has existed as long as linear narrative but has often been considered defective when compared to linear narrative due to the difficulty of following the narrative, their structural differences can be examined in figure 5.

A	B	C	D
Beginning	Middle		End

D	A	B	C
End	Beginning	Middle	
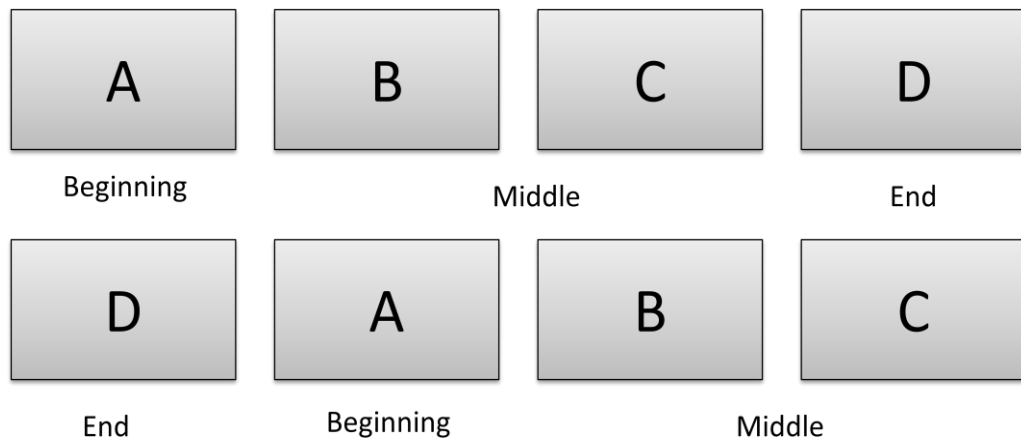
Figure 5. The differences of linear and nonlinear.

In nonlinear narratives, the story is about more than just a beginning, middle and end. Events are often portrayed, for example out of chronological order, or structured in a way that the narrative does not follow the linear structure. They can be used to portray the minds of characters who have unusual methods of reason or whose ability to process information is hindered.

For this reason nonlinear narrative has gained fame in television series and video games. In video games nonlinear refers to a game that can contain multiple storylines and ends. This is typical solution for numerous role-playing games, where player can decide how they want their avatar to act in different situations. In certain video games the narrative can be chronologically distorted similar to movies in which this effect is used to portray the main characters ability to process information.

3 TO BRIDGE THE PAST WITH THE PRESENT

For humans telling stories comes naturally. The ability to recount our experiences or to use our imagination to experiment without risk is a trait that defines us. Humans tell stories through words, art, music and dance. They write them on paper, paint them on canvas, and record them on film (Choi 2015.)

Video games have changed this. They are the reason why humans can now interact with stories. Video games have turned humans from mere passive observers to active participants in the story as it unfolds. Although video games utilize narrative elements from traditional works of art and portray stories, they are seen different due to their interactivity.

In a sense video games presents narrative storytelling in a different way to what people are used to when compared to other storytelling medias like film and literature still at their core video games are just as effective at telling these stories as any other medium. The interactivity of video games encourages rather than inhibits the evolution of narrative thus video games should be seen as a new branch of narrative storytelling that utilizes and merges the familiar structures and elements of traditional narratives.

3.1 Stories they told

Video game narratives have notably evolved since their debut in the 1980s. Before Mario was renamed to Mario, he was known as Jumpman. And when the world first encountered him in arcades in 1981, his friend a gorilla named Donkey Kong had betrayed Jumpman and kidnapped his girlfriend Pauline. The player was tasked to aid Jumpman and rescue Pauline, by coordinating his leaps from beam to beam while navigating a construction site and dodging obstacles, which can be seen in picture 3.

Picture 3. Donkey Kong is part of video game history (Nintendo 1981).

This game would not only be the foundation for a global franchise and a character that would appear in over 200 video games but it was also a milestone in video game history due to the narrative. Donkey Kong was one of the first games to have a substantial narrative, along with goofy graphics and a sense of humor (Paumgarten 2010.) The success of Donkey Kong would not only influence Nintendo's role as a video game creator but it would also usher a new age of gaming.

It was in the late 1980s and early 1990s, when attitude toward narrative in video games began to shift toward more story focused atmosphere. Stories started to become an increasingly important aspect of game design. Whereas many of the earlier games had sustained themselves primarily on elements of action, role playing games such as Final Fantasy not only placed a stronger emphasis on the story but also used character development as their primary game mechanic. Characters in role playing games are commonly portrayed as having numerous skills that develop through the course of the journey (Kalata 2016.) This concept is similar to the monomyth structure, which not only contains a journey that has to be achieved but also contains an inner journey that changes the hero from a

novice into a specialized hero. In the case of Final Fantasy, its sequels would each tell different stories while employing similar gameplay structure, displaying a preference toward the importance of narrative. Not all video games would follow this trend of increasing narrative complexity though. Early first person shooters placed little emphasis on narrative. These games provided a setting, a line or two of exposition and send the player on their way (Kushner 2004, 120). With time, first person shooters started to adapt narrative elements and explore the use of complex stories.

Nowadays, the video game industry is a multilayered ecosystem consisting of AAA video game developers, small video game companies, and indie developers that are always looking at ways to improve the way narratives are presented, which include narratives that allow the player themselves to decide how the story advances based on their decisions.

At the same time you have games that focus on mechanics and therefore they do not need to use narrative or they utilize it in a completely different manner. The rise of casual gaming has meant that not everyone wants a narrative experience to play through, which has lead to that narrative is removed all together from certain games in favor of game mechanics. This has resulted in that not only is the games industry trying to improve narratives, developers from around the world are branching out from the traditional storytelling narrative seen in film and books, and using them to complement and interweave with the games theme, style and mechanics.

3.2 Storytelling trends of today

Modern video game narratives can be divided into two categories. They are linear and nonlinear. The linear storytelling follows typically either the Plot Diagram or The Five Act Structure where the story can be broken down into a clear beginning, middle and end. In linear narrative the player advances through the narrative by proceeding from one predetermined point to another. These points are set in linear fashion, which results in that the player has a single path

to follow till the end similar to movies. Nonlinear narratives extend the benefits of linear narratives.

In nonlinear narrative the player has numerous paths, which to select from. Nonlinear narrative can also alter the story as well as the potential endings based not only on the choices the player has made, but also on other factors such as player performance, timing, or similar variables. This enchants the player's experience and gives them an opportunity to identify and bond with their avatar, creating an emotional investment toward the character and the setting. The reason for why nonlinear narrative is not more utilized in video games is because producing nonlinear games is expensive and difficult. From development perspective, the more options you give the player, the more time and resources it takes for the game to be developed thus the cost often outweighs the benefits. Nonlinear narrative is also technically more demanding. The branching structure of nonlinear narrative affects the amount of variables as well as the amount of code. With each branch there will be an additional line of code and numerous variables to keep track of, which results in that there will be hundreds if not thousands of variables to manage.

Due to the many challenges of creating nonlinear games developers often opt to simply incorporate small nonlinear elements to a linear game to make the game "feel" more nonlinear than it actually is. This method is called parallel narrative and it it is displayed in figure 6 (Schreiber 2009.)
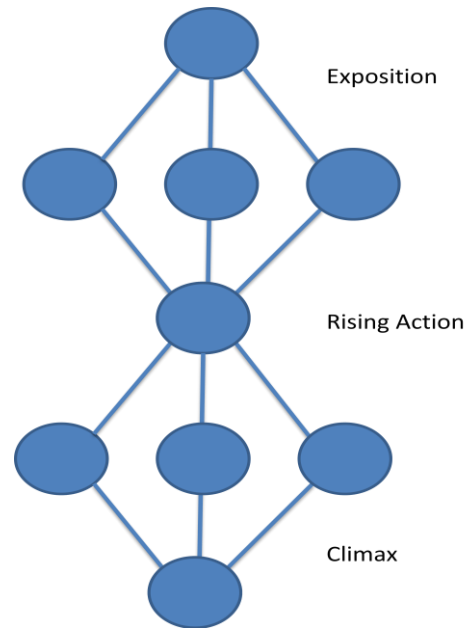
Figure 6. The parallel narrative where all choices lead to same result.

While this method has proven to be successful, it is not a true nonlinear narrative that allows the player to dictate how the story unfolds and thus does not offer similar emotional investment or narrative experience to the player. For this reason many critically acclaimed titles remain linear in their narrative. Still certain developers have been able to successfully create nonlinear games by addressing these challenges or evading them by pursuing procedurally generated levels and artificial intelligence solutions that merge the logic of storytelling with the logic of the game. This approach has worked somewhat but it is not without disadvantages. The most common setback is that there is a rift between the vision of the developers and the practicalities of procedural generation. As technology advances it is feasible to design more complex nonlinear and linear narratives, which will allow the player to not only become emotionally invested and immersed but to tailor the narrative experience for them.

4 STORYTELLING AND VIDEO GAMES

The most common complaint about narrative in video games is that it disrupts interactivity, undermines the player's experience and resets their emotional investment. When a player watches a cutscene, it can affect the player's experience if the player does not feel that their own action has somehow triggered this event, or that they have affected this outcome. It is similar to how the player may feel alienated from a video game if the control is removed from the player at each major decision point. This is known as ludonarrative dissonance, and it refers to the conflict between narrative and gameplay. (Hocking 2007). On the other hand there are games that focus on interactivity and gameplay instead of narrative. These sandbox games are satisfying to the player because of their depth, extent of the world and the freedom of choices. But when there are no real consequences to the player's actions, the random carnage and destruction may entertain the player briefly, but in the end it will frustrate the player's narrative expectations.

Developers have tried to solve this clash between interactive freedom that is expected by the players and the authorial narrative structure. Still, it remains as one of the numerous challenges in video game industry. This is one of the reasons why developers have often avoided this problem altogether by using non interactive cutscene to advance the narrative content, isolating them from player interaction (Bycer 2013.) One solution that gives the player certain amount of interactive freedom is to offer them branching structures which offer a controlled set of options that the author has anticipated. Meanwhile numerous game developers have started to research options about how they can overcome this challenge. They are investigating if proper balance be found with the aid of agency and how it should be handled in video games as well as exploring different methods of interactivity.

4.1 Gameplay and immersion

In books, depth comes from your imagination while films tend to rely on sensory experience. Video games differ from these methods as they utilize interactivity. This is displayed in figure 7.
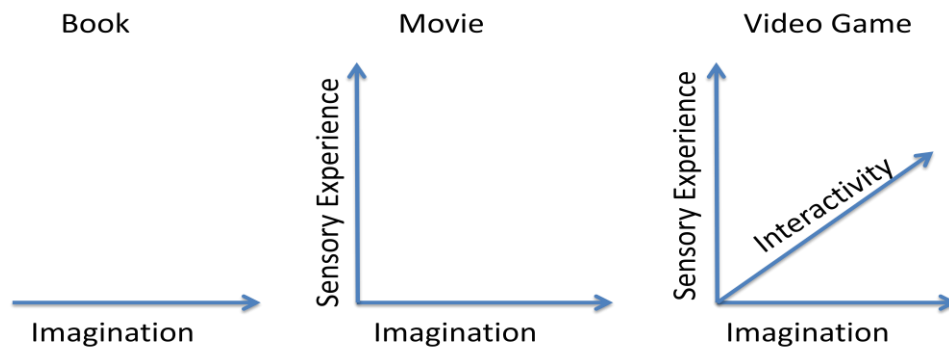

Figure 7. The most common methods of immersion in different medias.

When the player controls the protagonist, they not only take their motivation and emotions but also hear and see what their avatar experiences. It could be said that video games communicate depth of narrative and immersion with interactivity and experientially, whereas movies do it with visual methods.

However, video games often suffer from narrative dissonance that affects the player immersion. This is most often present in cutscenes, where one moment the player is in control of the avatar and in the next moment the avatar interacts without their control, which can severely diminish the player experience because the narrative structure does not allow the player to affect the narrative experience.

To counter this dissonance between immersion and gameplay developers have started to research other narrative methods. Show, don't tell is a writing method that enables the reader to experience the story through action, thoughts, and feelings rather than through the author's description. The technique can be

used to convey that a character is strong without describing the characters strength but instead it is portrayed with action, which could be employed in similar fashion on video games. Instead of displaying a pre-rendered cinematic of the character, it would allow the player to interact with the scene and how the narrative experience unfolds.

This conversion of character development into personal development is called agency and it is a method for immersive storytelling in video games.

4.1.1 Agency and video games

At the first international conference on Interactive Digital Storytelling Andrew Stern, co–creator of Façade listed the essential requirements of what makes an interactive story interactive (Knoller 2010).

According to Stern one of the main requirements for every interactive story should be to provide the user with the feeling of achieving agency (Knoller 2010). Agency is the satisfying realization that we can take a meaningful action and see the results of our decisions and choices, if the definition is examined closely, it can be concluded that for the player to truly experience agency, the user has to be given a choice. Also, the user has to have the intention of pursing a particular course of action over another (Figueiredo & Paiva 2010.) Though, allowing the user to simply choose among different options does not necessarily guarantee that they will experience an agency. This can happen in the situations where each time the player is given the opportunity to choose between different courses of action, they will always choose randomly without giving any thought to the choice.

Reason for this behaviour could be that the player does not understand the difference of the choices or that the player is uninterested in the story. In that case, even if the player's action shapes the development of the story, it will look random to the player as the user did not have any expectations at the time of performing the selection (Figueiredo & Paiva 2010). Thus the time prior to making a particular choice is as critical for the player as the choice itself, so that

the player can achieve the feeling of agency. It is at that time the player forms the expectations, if they are fulfilled, will result in the player achieving agency with their choice (Figueiredo & Paiva 2010). For the player to achieve agency they need to be able and motivated to understand and evaluate the context as well as the message, which is relevant to the choice that the player has to do.

However, what if the player does not have enough motivation to consider the choices because they could save the game and try each of the choices until they select the one they like therefore avoiding the consequences of their choices. It is also possible that the player does not understand the context or they do not have enough information about the consequences related to the choices thus they cannot decide, which option to choose. Some of these issues can be countered with technology. There are video games that allow one automatic save file thus preventing player from evading consequences of their choices although it remains uncertain if these artificial boundaries and restrictions alienate the player from the storyline, or aid the player to achieve agency.

4.1.2 The fragile immersion

Immersion can affect if the player will achieve agency. It increases the emotional investment, which the player has toward the game world as well as influences the player's motivation. There are numerous methods to increase player immersion though utilizing these methods can be challenging and costly. Furthermore there are numerous elements that can break immersion. These can be categorized as broken presentation of the game world, inconsistent behaviour in the game world, incongruous visual cues in the game world, and non-interactivity in the game world (Magidan 2010).

The most common of these is broken presentation of the game world, which includes cutscenes. Although cutscenes provide a solid option to steer the narrative in a game filled with numerous options player, it does that at the expense of immersion. Each time the game changes from gameplay to a cutscene, loading screen or a menu the player's emotional investment toward

the game world becomes detached (Magidan 2010). Another large issue is inconsistent behavior in video game. This can be as simple as non-player characters repeating the same sentence or characters, and creatures in the game world not behaving as the player would expect them. Consistent experience will keep the player immersed in gameplay and narrative while inconsistency can affect the player motivation and immersion.

Incongruous visual cues in the game world include interface, damage numbers, trophy notifications, and the like. They can affect the immersion with convoluted menus or head-up displays that block half of the screen.

Interactivity in the game world is a way of giving the player feedback on actions and a sense of consistency between various parts of the environment. This can include interaction with environment or characters. If this interactivity is removed the environment will have no impact on the player actions thus lowering immersion as well as player expectations.

Naturally, players themselves also affect how immersed they can get in a video game. They can affect their immersion with spatial ability, which allows them to build mental models of game worlds more readily and perceive them as more vibrant or they can require less confirmatory information or consistency to be immersed.

4.2 The future of video games

The video game industry is constantly growing and changing. This has resulted that almost everyone has an opinion about the future of video games. There are developers who perceive the game industry being on a collision course with the film industry while others expect games to undergo a series of graphic reinterpretations. Naturally there are also those who assume the future of the industry is in virtual reality or mobile games.

It is certain that the evolution of video game industry will be synchronized to the evolution of the display devices, whether it be television, portable devices or other forms of available display technology. This is because game developers

are restrained by available technology, the potential of video games will grow as the limits of technology are released not only in video game industry but in display technology.

Though as video game industry continues to grow and change it is certain that other industries will take notice of their potential. As more 18-to 35 year-olds check out of network television and check into gaming, corporations and marketers will focus their attention toward video game industry as they follow that valuable consumer demographic. This may result in that product placement will become abundant in video games as well as lead to different cross-promotions with music and film industries. Due to the increased focus on online components, social media integration and customer experience it is feasible that in the future there will be must-see events and special competitions related to video games that lure and engage more players.

While technological advances can enhance video game development and display technology, they can be utilized to improve the narrative experience as well. This kind of improvement means that the developers are not restrained into creating linear narrative experiences instead they can concentrate on large open words with nonlinear narrative for the players to explore (Fung 2015). Open world video games offer the player a kind of freedom that they cannot achieve in a linear video game. They focus on emergent content and player-driven storytelling, which can be summarized as the player's personal experience (Lebowitz & Klug 2011, 285).

As the player advances through the game their experience, interaction and immersion work together to create a different kind of narrative experience separated from the video game narrative. This player story is deeply felt by the player, because it contains all their firsthand experience. If the video game manages to merge the elements contained in the narrative with the player story in a way that they reinforce each other, then the player is more likely to achieve agency. As developers experiment with narrative methods there will be developers that will shift their focus toward player-driven storytelling instead of traditional video game narrative (Lebowitz & Klug 2011, 290-291).

Advanced technology will also lead to improved artificial intelligence that can be utilized to improve immersion, interaction as well as consistent behavior of the game world and its inhabitants. This will not only affect the gameplay by introducing new intriguing mechanics to video games but also affect narrative storytelling by allowing designers to to design the narrative in a way that best suit their vion and needs (Lebowitz & Klug 2011, 290-291).

Video games are still a young medium of entertainment. Literature has been around for millennia. Cinema has been around for a century. But video games became popular only few decades ago. For this reason developers have yet not realized all the benefits contained in video game narrative nor how they can be utilized to their maximum potential, and instead they resort to the use of narrative structures that have been successful in other forms of media.

As the players who made gaming part of the mainstream continue to play video games in their 40s and 50s, developers will realize that traditional narrative structures, which work for other entertainment media cannot be adapted to fill the narrative expectancies of this aged player base. Instead video game industry has to mature alongside the player base adapting to different narrative expectancies.

5 UNDERWORLD KITCHEN

Underworld's Kitchen is a story focused restaurant management simulation game that also has elements generally found in role playing games. Management simulation games are also known as tycoon games, they are video games that focus on the management of economic processes most commonly in the form of a businesses. The game differentiates itself from other management simulation games due to the fantasy setting as well as narrative focus, which is an ununusual feature on management simulations.

Inspiration for the concept and the game comes from numerous sources, which include Hell's Kitchen, Yakitate!! Japan, and Harvest Moon.

The title is targeted towards the teen market focusing on people who are most likely to buy a management simulation game, those who enjoy similar indie titles like Game Dev Tycoon and Punch Club . Although the title has a set age rating that follows the theme of the game, it has also market appeal outside of its own genre. The title will contain role-playing game elements as well as over the top humorous narrative. The combination of genres and the unique game setting will appeal to casual gamers as well as gamers who enjoy management simulation games.

Underworld Kitchen's concept builds on the popularity of games like Disgaea, and Pizza Tycoon. The game will be full of comical over the top situations that are typical to anime and manga but at same time be a full-fledged restaurant management simulation.

5.1 Aspects of Underworld Kitchen

The graphical style in Underworld Kitchen consist of chibi style sprite art. It is a calculated decision to use chibi based art style to differentiate it from other pixel art based games as well as push the cuteness of the characters. Chibi style focuses on malformed body portions and large heads, which allows us to bring out the personality of the characters by utilizing more complex facial impressions for them, this style is presented in picture 4.

© Underworld Kitchen

Picture 4. Example of the chibi–style in Underworld Kitchen.

This will result in that the non-player-characters look fun, interesting and have personality. The game will also feature visual conventions, that will be used to create humour and convey emotions similar to how they are used often in manga or anime. This design philosophy is reflected in the enviroment as well. There will be subtle changes to the environment as seasons pass. These changes will include seasonal furniture and restaurant themes and chsnged to the background.

The interface will merge the graphical style and the fantasy theme further together. The main screen contains a hourglass as well as calendar on the upper right corner of the screen. While on the left upper portion of the screen there is money, fame and restaurant condition. On the bottom left the player has the main icon, when pressed it will open a hotbar across the bottom of the screen. If the symbol is pressed again the hotbar will vanish from screen. This will allow the player to hide the hotbar when it is not needed. In picture 5. is a mock up of the main screen, which displays the hotbar.
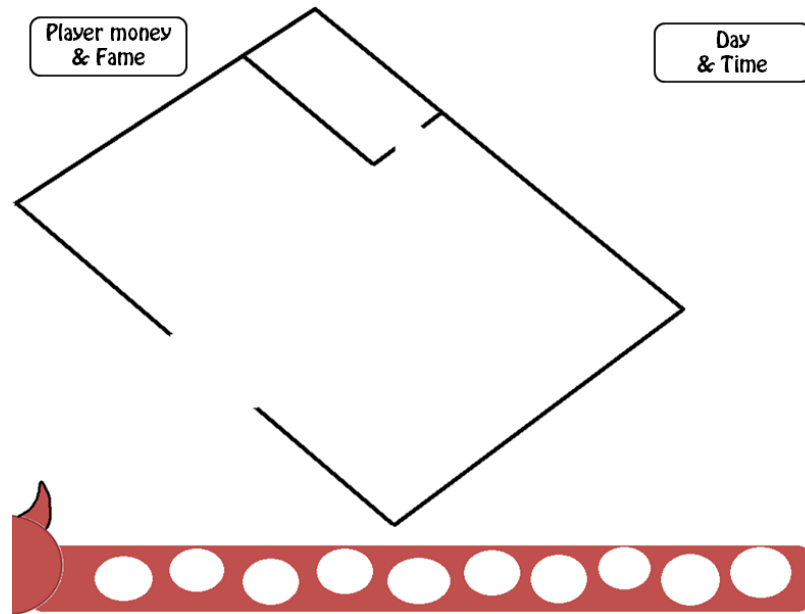
Picture 5. Mock up picture of the interface.

The graphical theme of the interface follows the overall graphical style as can be seen from the main menu. The hotbar buttons are created to suit the overall style and are designed to be a Underworld variant of what a human world version would look like as can be reviewed from picture 6, which is Recipes-icon.

© Underworld Kitchen

Picture 6. Recipe-icon from Underworld Kitchen.

The gameplay consists of the player assuming the role of Beelze. The player has a time limit of one year to gain enough currency to pay off all the debts, if the player fails at the task Beelze has to close the restaurant. The gameplay

entails the player managing all aspects of the restaurant. The day in Underworld Kitchen can be divided into four segments, which are:

- Morning
- Afternoon
- Evening
- Night

In the morning the player has approximately two hours in game time, which is about five minutes in real life, to order the staff their roles and tasks. The player can also start to prepare ingredients, which can later be used to cook food.

After the two hours has passed and if the player has opened the restaurant customers will start to pour in. These customers all have different randomized preferences about the food, atmosphere as well as if they are seated near a race they dislike. If the player manages to fulfill these preference, they will gain fame, which equals more customers and more income in the future.

This segment will last approximately ten minutes. In that time the player can take a hands on approach or concentrate on management. If the player is interested they can utilize Beelze to deliver orders to the customers or cook food. The player can also spend the time to manage the staff and their skills and affect the customers or participate in random and non random events that may occur in the restaurant.

Afternoon and evening are identical to the morning though depending on how well stocked the player is, there may be dishes in the menu that can't be created anymore because of running out of ingredients. The player can counter this by creating a replacement menu or by sending staff members to black market in hope of that they can purchase more ingredients.

The shortage of ingredients isn't the only issue at the restaurant. The random events may cause issues that affect the staff, customers or the condition of the restaurant, if it reaches zero the restaurant is out of business for two days.

The customers can cause issues as well. The customers have patience that will deteriote by the second. Player and staff abilities, the restaurant atmoshpere and numerous other features can affect how fast or slow the customers patience and mood deteriorate. If the customer causes a scene it will have a negative effect on player fame.

Night is different from the other timeslots and it allows the player to strategize and manage the restaurant and prepare for the next day. Player can order ingredients, decide on menu as well as spend action points to improve certain aspects of the restaurant, staff or Beelze. These points will be returned each night so the player can concentrate on one and same or experiment with different aspects.

Underworld Kitchen will also offer a fresh take on restaurant management simulation by introducing role-playing game elements to the genre. These elements include the previously mentioned skill and action point system.

The skill system will allow the player to increase the abilities of Beelze and the staff by performing specific actions. Once Beelze or the staff has accuired enough experience from these actions their skill rank will increase, each rank will unlock new abilities that the player can utilize. The following table 1. displays Beelze's Chef skill ranks.

Exp.	Skill – Affect cooking minigame speed & Food quality
250	• Rank C
	Patience cost owered by 5 points
1000	• Rank B
	Patience cost lowered by 5 points
	Beelze gains Power Food

2500	• Rank A
	Patience cost lowered by 5 points
5000	• Rank S
	Patience cost lowered by 5
	Beelze gains Is going to live forever

Table 1. The Chef-skill and ability table for Beelze.

The game will be developed with Unity 3D, which is an engine used for video games and the game is aimed initially for Windows and Mac – platforms. If the title is successful with the initial market segment the development team will start to prepare for mobile port, which will also support cross play with the computer versions.

5.2 The story of a small demon and you

Immersion is what differentiates the fun-but-forgettable video games from the classic video games. While there are numerous different methods to increase immersion in video game, it comes down mainly to one feature. Video game should always offer player choices that have consequences.

For players to be fully immersed in a game, they have to be able to make choices about their character, their preferred play style and the progression of the narrative. These choices are most often offered to players with play-it-your-way design, which allows player to select between different play approaches and allows the narrative to be affected by the player made choices.

Underworld Kitchen utilizes this design philosophy and allows the player to affect their experience with choices, which alter the narrative branches the player will experience. Underworld Kitchen consists of a main narrative arc, which can branch out at certain key points due to player choices and actions.

This is presented in picture 7, which is a small dissected portion of the first season narrative structure.
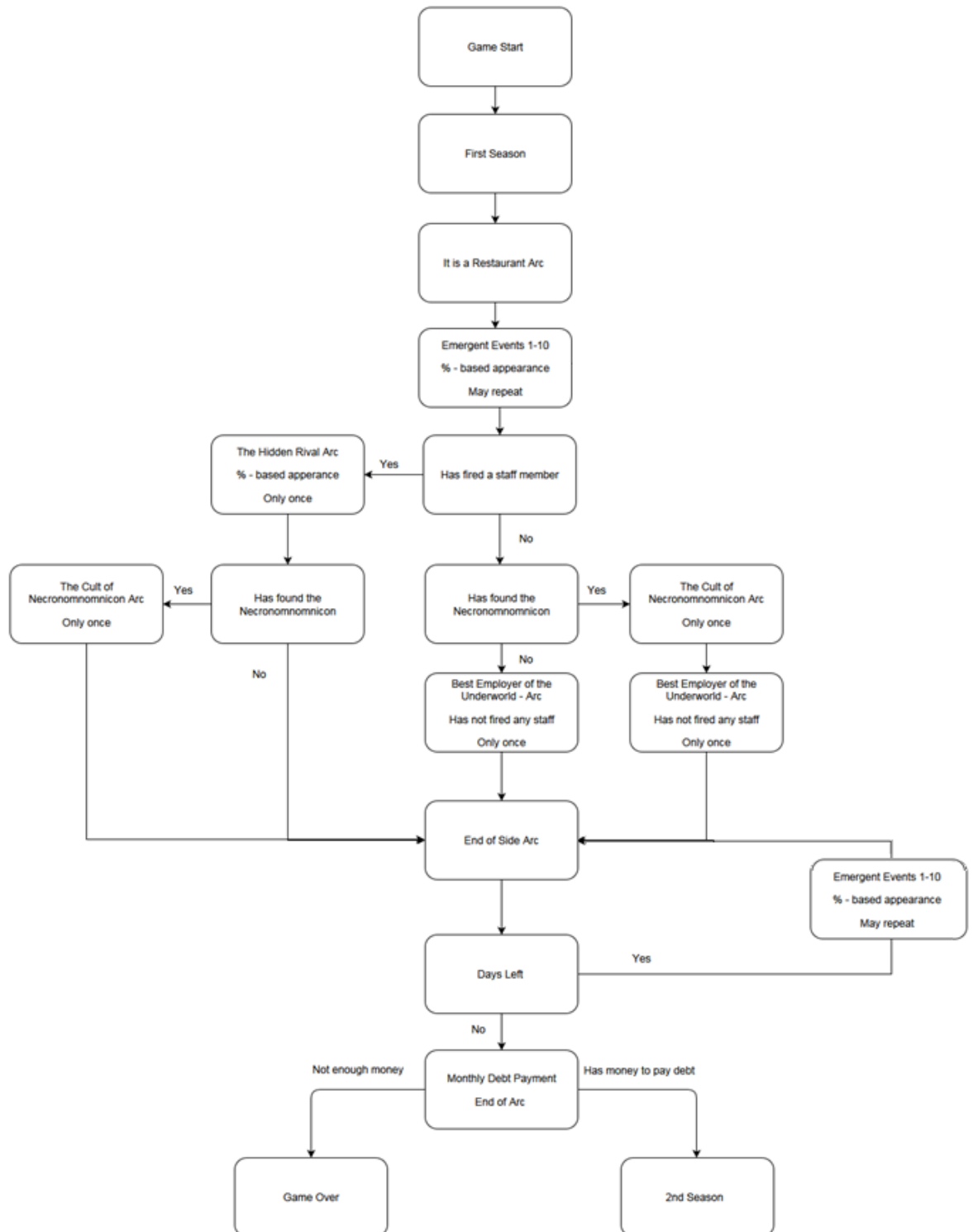
Picure 7. Bareboned and simplified version of first season narrative arcs.

This branch-like structure not only has an positive effect on immersion but also promotes replay value as the player is locked out of certain branches due to their choices. It should be noted that branch-like narrative and player made choices are not the only methods to increase immersion. It can also be raised with character development.

Underworld Kitchen has a colourful cast of characters and a protagonist, which has been designed to be engaging to most target demographics.

5.2.1 The protagonist of the game

The player assumes the role of Beelze. Beelze is a bit naïve and gullible demon, who believes in the good in everyone. This can lead to some troublesome situations like taking a massive loan from a suspicious stranger and setting up a restaurant, which is specialised in serving human food in Underworld.

The design of Beelze can be divided into appearance and personality. Beelze is designed to be cute and simple design, which is displayed in picture 8.

Picture 8. The protagonist of Underworld Kitchen.

Beelze is a small demon compared to most of the demons in Underworld. It could be said that Beelze resembles more of an imp than a demon. This design choice was made not only to boost the appeal of the character but also to affect how the player identifies with Beelze. This is further enhanced with the graphical style, which allows Beelze to have more complex facial impressions.

Beelze is designed in super deformed style placing emphasis on large eyes and small nose with a round face.

These design choices together have a psychological effect in humans, which is called Kindchenschema. Ethologist Konrad Lorenz who studied this effect believes that features of juvenility trigger innate mechanisms for affection and nurturing in adults. When we see a living creature with babyish features, we feel an automatic surge of disarming tenderness (Gould 1980). This schema is used in numerous Disney movies.

Inspiration for the personality of Beelze comes from numerous sources though the main inspiration is Walt Disney's Donald Duck. Both Beelze and Donald share common personal qualities, which include their underdog status. This underdog status is the main reason why Donald is popular (Jacoby 2015). People can relate to him because they can find those same underdog elements in themselves. Beelze is the underdog of the game, who has dreams of becoming a renowned chef even if those dreams are against the status quo of the world. Other elements of Beelzes personality consist of gullible honest nature, and childlike innocence, which is enhanced with the use of large eyes and super deformed style making Beelze look more childlike.

5.2.2 The narrative of Underworld Kitchen

Underworld Kitchen consists of main narrative arc and numerous smaller emergent stories, which can be divided into four different classes based on the effect they will have. These categories are:

- Scene
- Character
- Primary
- Secondary

Scene will contain narrative arcs that affect the restaurant atmosphere, condition or finances.

Character is about the special non-player characters as well as staff.

Primary is narrative stories related to the main branch.

Secondary consists of stories that do not fit the other classes. These include narratives that contain popular culture references.

Although these narrative arcs are divided in different classes they can interfere and affect each other. Player choices made in narrative as well as other choices like how the player has treated the staff, replies to events and so forth may affect the outcome of an arc.

It should be noted that considering the numerous amount of narratives only a limited number of branches will affect each other this is due to resource and hardware limitations. More than half of these narrative choices will be yes-no-choices, which can alter the outcome of a later narrative. In certain cases there are three to five different branch choices that affect the arc. These are special cases mostly related to primary narrative and Picture 9. displays a small example of one multibranched structure.
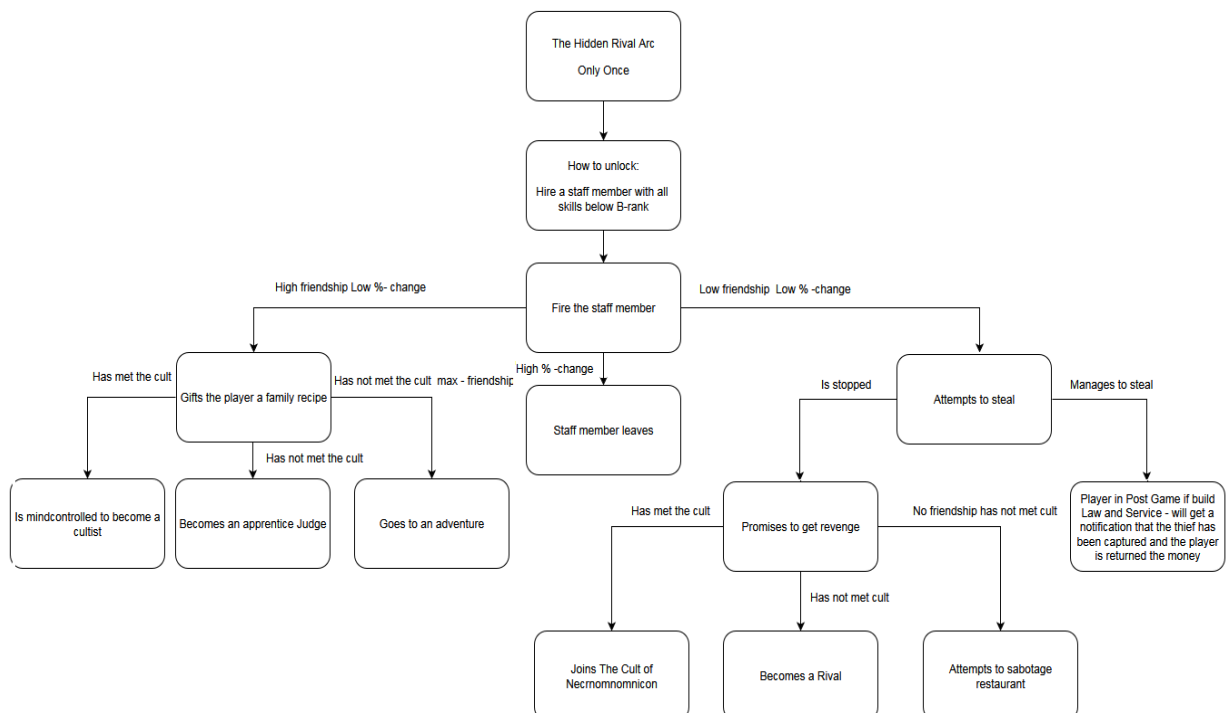
Picture 9. Simplified dissection of Hidden Rival Arc.

The trigger for branch and how they are activated differ from each other. They can be related to numerical values, which the player has to achieve or require a specific object. Certain narratives are randomized and it is possible that the player will never see them without a second playthrough.

There will also be short events that do not affect the narrative though some of these events can act as a trigger for narrative arc.

The narrative style in Underworld Kitchen is written with zest, the characters are well-delineated and show personality, and the narrative contains a humorous tone through the game. The humorous tone, which is inspired by Discworld–franchise, is an important part of the whole design. It is displayed on character design, the interface as well as lore. It is the element that binds all the aspects together. This narrative style is presented in figure 8, which is a draft for Underworld Kitchen start-scene.

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Start Scene

Close up on Underworld Zoo – a mock up of Jurassic Park Sign - Maybe Cerberus skeleton -sign (Jurassic
Park –style music)

Scene moves to Beelze and his co-worker/friend as they are doing mundane tasks, feeding different
creatures so forth.

Close up of a sign saying don't feed the Cerberus or call it a doggy-woggy.

Beelze and his co-worker next to Cerberus -cage, the sign is turned over, and a white feather can be
seen in the ground.

Pedigree: How are you today – you little cute doggy-woggy.

Beelze turns toward Pedigree though only a cartoon style dot lines are present where he stood.

Beelze gets question marks over his head.

From the sky falls the employee badge of Pedigree to the ground.

Beelze looks upwards and closes his eyes.

Scene Shift –Beelze placing his letter of resignation on a collapsed building that used to be the
manager building. Scene Shift as he moves to the gate sign that is now half destroyed. Scene Shift as
he walks past a Mysterious Stranger

Mysterious Stranger: Hey you

Beelze: ?!

Mysterious Stranger:   Yes I am talking to you

Mysterious Stranger:   You are the one who survived that catastrophic event aren't you?

Mysterious Stranger: Perfect - You are just the type of a demon I was looking for.
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Mysterious Stranger rubs his hands together.

Mysterious Stranger:   Would you be interested in this vacant premise.

Mysterious Stranger:   It could be yours for only …a moment if you may

Mysterious Stranger looks at the cash amount on Beelze

Mysterious Stranger:   …yes this special offer is valid only for you and only today ! For measly
900.000 you can own this ransac  erm.. charismatic and rustic location.

Mysterious Stranger:   What you only have 500.000

Mysterious Stranger:   Well I am sure we can come to an agreement ... yes I am sure this arrangement
will benefit us both.

Mysterious Stranger:    MUAHAHA…cough erm.. My apology had something stuck on my throat for a moment.

Mysterious Stranger takes Beelze's money

Mysterious Stranger:  This is the down payment.

Beelze's money from inventory goes to 5000.

Mysterious Stranger: I will be in contact with you about the other payments.

Mysterious Stranger vanishes in light pillar – as he vanishes a white feather gently drifts across the
screen.

Beelze stands there for moment then shrugs his shoulders and goes inside the premise.
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Scene shift to premise and in game – tumbleweed sweeps by, the place is fully ransacked and destroyed.

Shift to Beelze who is visioning a grand restaurant instead of the destruction, Beelze turns toward
camera and makes a victory sign with his fingers.

Tutorial Starts
```

Figure 8. Text example of the narrative introduction.

6 CONCLUSIONS

This thesis concentrates on several aspects of narrative storytelling, in order to construct a detailed overview of the basic elements of narrative storytelling in video games as well as reviews the characteristics that separate video game narrative from other narrative forms.

The focus of this thesis is to cover the main aspects of video game narrative thus laying the foundation for further study of narrative in video games. Hopefully, this work has demonstrated the benefits of narrative storytelling as well as the common pitfalls that authorial narrative can contain.

In the case example the narrative storyline utilizes a branching structure, which allows the player to interact and affect the main story and side quests with their actions. These actions, which can vary from yes-to-no answer to reaching a threshold, will allow the player to affect the narrative thus the story will be shaped by the player choices. Underworld Kitchen also contains a colorful cast of zany personnel that the player can interact with.

Players will also be able to advance the relationship of these characters and affect their personal development. This further strengthens the player's agency by allowing their choices to affect the character evolution.

Immersion on the other hand is increased with the graphical style that not only includes the environment and characters but the interface as well. The chibi art style has a nostalgic value that affects the customers as well as allows the developers to utilize a wide variety of facial impressions on the characters, which will bring out their zany personalities.

This has been verified by performing qualitative research about the overall design of Underworld Kitchen. The research was performed as part of Boost Startup Journey–program, which is an entrepreneurship accelerator. Boost Startup Journey was organized over the course of three month period. In this time numerous A/B–tests were performed on the participants as well as their coaches whom are experts of different fields from marketing to video game

design. The focus group consisted of 80+ people varying from 18-to 50 from different backgrounds.

These tests included different kind of narrative pitches to verify which narrative style performed better and was more popular as well as feedback and oral interviews about the graphical style and gameplay features of Underworld Kitchen. The comments were evaluated and changes were made on the design based on the feedback as an example the narrative style was changed from slight comical style to more humorous narrative, which focuses on pop culture references and the world of Underworld Kitchen.

The concept of Underworld Kitchen has been influenced by small screen, literature and video games. The graphical style and isometric perspective as well as certain mechanics are inspired by Harvest Moon, which is a farm management video game and one of the first management simulation games for consoles. The cooking aspect as well as the whole underworld-theme was inspired by Hell's Kitchen, which is a reality television show hosted by celebrity chef Gordon Ramsay. The narrative style is affected by the Discworld-series, which was created by Terry Pratchett. All these sources of inspiration have blended together to form the core of Underworld Kitchen.

The writing process of this thesis has been tedious and slow. This is mainly due to the reason that this project is still on development phase. Numerous features mentioned in this thesis have not yet been implemented and there may be changes to the design. There is the possibility that the narrative system will affect the stability and performance of the game. This can be verified only after the narrative system is constructed and tested thoroughly. The system will be initially tested with the aid of UML–based software testing. Unified Modeling Language is an open method used to specify, visualize, construct and document the elements of an object–oriented software–intensive system under development (Hurme 2011.)

By utilizing UML–based software testing it is possible to create test cases before the system is constructed, which will allow the developer to verify if the system is viable at an early development stage.

In case this writing process would have to be started over again, I would delay it, until the narrative system would have been constructed and the product would be launch ready as it would have made the writing process simpler and more straightforward.

Naturally there are certain advantages to this approach as well. These benefits vary from a better understanding of what kind of interactivity player will expect from the game to designing a more robust attribute system that will allow the player to have more choices.

Even though video game narrative does share narrative similarities with other forms of media, it should be noted that video games differentiate from those narrative structures with interactivity and agency.

Interactivity and agency in video games depends not only on the developer but also on the hardware, software, and cultural constraints that determine what is accepted in society.

These constraints are often intertwined, which results in a generation of similar games. Though certain developers manage to break these restraints and create video games that are not defined or constrained by these limits. These video games tend to be most often indie titles. They concentrate on innovation to overcome their limited resources.

Although maturing, the video game industry is still young when compared to other narrative media. This has resulted in that narrative storytelling in video games relies on structures that are proven to be successful in other forms of narrative media. As a result this has segmented the video game industry into different design philosophies about interactivity, immersion and narrative.

Though naturally there are also hindrances that may affect the evolution of video game industry. With new technological advances comes a steep learning

curve as well as increased expenses. This will affect small game development studios as the cost to enter the industry grows. Another issue for the industry is the casualisation of video games. This trend has started to increase since the boom of mobile games. Due to this video games are tailored for the masses at the expense of immersion, interactivity, and narrative.

Although new technologies can be a hindrance to the industry, they can also advance it. As new technological advances loom on the horizon, developers are starting to realize the potential of taking advantage of not only one design philosophy but merging them together. Though this is not the only advance technology can offer. It can be utilized to create new narrative experiences that focus on immersion.

As video game industry continues mature, it is possible that the innovative games of today will be utilized as an example narrative structure for future games.

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