

INTERACTIVE STORYTELLING IN ENTERTAINING

Mate Tomin

Jaden Liu

ABSTRACT

Traditional storytelling is mainly based on linearity, while interactive storytelling uses the great advantage of computers - the interactivity - and allows people experience an entirely new virtual world. Therefore in our paper we are looking for promising attempts of interactive storytelling. We will analyze games, a film and a virtual reality by searching the main features of interactive storytelling in them which have been defined by us based on the research papers. At the end of our paper we will satisfyingly conclude that the interactive storytelling has few promising examples.

KEYWORDS: *Interactivity, promising examples.*

1. INTRODUCTION

Storytelling is an ancient device of communication and information flow between people. However in our modern life various media can tell stories to people such as books, films or games. Nevertheless, the vast majority of people may get bored of reading, watching and playing the same stories, games because most of the plots are based on the same scripts and thus follow the same story line. Moreover, traditional storytelling does not allow people to interact or alter the plot according to their desires. However there is a new medium which tends to overcome this problem because it makes possible for people to be able to immerse and participate in the stories. It is called interactive storytelling which utilizes the greatest strength of computers - interactivity - while drawing on the traditions of classic storytelling. Interactive storytelling provides all the drama and emotional complexity which are expected from a good story by people [Crawford, 2005]. Furthermore it also enables people to make their own decisions about the evolution of the plot and thus experience the virtual world as they have never done it before. However, many researchers agree upon that interactive storytelling is still in its infancy [Cavazza, Charles, Mead, 2003]. Brenda Laurel says that it can only be imagined but it has not been entirely captured yet [Ryan, 2005]. Furthermore Chris Crawford who is one of the most famous researchers of interactive storytelling considers that not a single interactive story world has been created so far. Basically, there are two reasons for not having a developed interactive storytelling according to Ryan's paper. First of all, she holds the technical limitations of recent technologies responsible. Secondly, she thinks that game designers, directors tend to focus on the visualization and disregard the story part. [Ryan, 2005] Furthermore there are also other issues of interactive storytelling which have to be overcome to have a perfectly working story: the question may arise whether one can have a story without fixed sequences at all because if the plot is altered then that will become a different story. Moreover there is an inconsistency between storytelling and interactivity. Too much interactivity would give no control of the storyteller whilst narrative would not let the spectator to interact. [Ryan, 2005] Therefore this two must be balanced out well. Nevertheless, in our opinion there are plenty of promising attempts in entertaining which tend to apply interactive storytelling despite the opinion of researchers. Thus our paper will mainly focus on proving the following research question: whether there are any good examples of interactive storytelling in existing games, films or virtual realities. For being able to answer this question, first of all we have to go

through few things such as what sort of abilities people need to enjoy a story or how interactivity appeared in storytelling. In the second part of our paper, at first the disadvantages of fix points in stories will be described. After that, the main characteristics of interactive storytelling will be defined by us based on research papers which deal with interactive storytelling. Furthermore these characteristics also will be searched in games, a film and a virtual reality. However, there are slight differences between approaches and purposes of these areas. Finally, we will tell our results of our research discuss it and also make a conclusion.

2. INTERACTIVE STORYTELLING

2.1. Traditional Storytelling

Storytelling is a familiar and ubiquitous part of everyday lives of people. It is a form of communication and shared experience. Stories can serve social, cognitive, emotional and expressive functions. [Roussou, 2003] Furthermore, storytelling is an ancient art of transporting real or fictitious events in words, images, and sounds, such as history, legend, myth etc. The earliest recorded stories, such as the tales of Gilgamesh, Beowulf, and the Greek and Norse myths, were the first oral tales in the human history [Thompson, 1946]. In addition storytelling also has a great benefit of preserving culture, heritage and entertaining as well. People possess three very special abilities that make it possible for them to enjoy listening to a story.

1. Focus: The ability to focus the attention on that is the most interesting at a given moment. This combination of unconscious desire and conscious will motivates our every action.

2. Empathy – The ability which helps to place one’s self in the place of another. It can be conscious or unconscious as well. Furthermore this ability is one of the cornerstones of human communication. One’s happiness can make us happy whilst we can be sad because of one’s sadness as well. Empathy is greatly used by entertainers who build up a story-world that way we feel ourselves a part of it.

3. Imagination – The ability to visualize alternate realities. We would think that we only use our imagination for creativity or fantasy. However, the truth is that we use it even for the most trivial choice as well such as “a tea with or without sugar?” Therefore, our imagination is almost always at work to help us experience the alternate realities that either choice would provide. Skilled entertainers know very well how to give people the right information which seems both real and compelling. [Schell, 2005]

The above mentioned three abilities of people have to be influenced positively in order to have a great and successful story. This is known by creators of games, films and virtual realities as well therefore they know well how to make a good story.

2.2. Interactive in Storytelling

The medium which tells the story to people have been continuously changing due to the technical development. A hundred years ago books or people were the storyteller whilst nowadays television, games, etc. convey the stories. Therefore characters and story structures are not entirely new concepts for the interactive media. Interactivity in storytelling tends to change its linear and non-interactive feature with giving the possibility to people to interact the story. An extremely good example is the success of the TV show called Sesame Street where children were learning through stories. While they are watching the show and being entertained, various questions arise which make them interact and think. [Frank van Gills, 2005]. Thus we can clearly see that having interactivity in storytelling opens new possibilities in storytelling. However, it has not been perfectly exploited yet because of the limitations of technologies and due to the focus on other parts of applications such as graphics or visual effects. Therefore interesting and exciting stories were pushed into the background and replaced by linear and tedious plots.

3. INTERACTIVE STORYTELLING IN GAMES, FILMS AND VIRTUAL REALITIES

In this section we are going to indicate a usual schema of films and games which was already mentioned in a former section. People may often face this sort of story lines since most of the films and games without interactivity usually use this script to make a story. Therefore in linear stories which have fix

points people can anticipate what will happen which absolutely ruins the joy of playing or watching a game or a film. However, having interactive storytelling in applications tends to give more freedom and joy to the players because the storyline may be altered.

Furthermore there is also another ongoing argument between game designers. Games which only aim at high sales without considering the wishes of players - who mostly play the games for good stories - tend to build only on high quality graphics and almost entirely disregard the story part of the game. According to Chris Crawford who is one of the oldest researchers of interactive storytelling most of the game designers consider storytelling just as important as sound effects, animation or music. However, the hardware development has its limits, thus when graphics cannot improve anymore, game designers have to start researching other areas such as making good stories [Ryan, 2005]. It is more or less the same with films, the directors try to build on the visual effects rather than give an interesting story to their audiences.

There is a book about that how to use fixed points in a storyline. It greatly describes step by step how the story of a hero is supposed to evolve. In our opinion, the listed points will be familiar to anybody who has ever seen a film or played a game. It will clearly show the main difference between fixed and not fixed storyline. However, some of the steps can be ignored by the director or the game designers.

The 12 points will be analyzed here to point out the handicap of fixed points in stories and hereupon the benefits of interactive storytelling as well. Vogler describes the hero's journey as follows: [Rollings & Adams, 2003]

3.1. Scheme for Creating Story with Fixed Points in Games and Films

1. The ordinary world: In general, stories start at the beginning, thus the ordinary world of the hero is used to set up the story. Here, one meets the hero and also gets to know his background.

2. The call to adventure: This is the first sign that the hero is going to be leaving his secure ordinary world in order to enter the special world of the adventure ahead.

3. The refusal of the call: After the call, the next stage is the refusal. This is the representation of the hero rejecting the offer to leave his ordinary world behind himself.

4. The meeting with the mentor: Meeting with the mentor gives impact and also the needed information for the adventure to the hero.

5. Crossing the first threshold: After the hero has accepted the call to adventure and discovered everything what needs to be done then he still has to make the first step and commit the adventure.

6. Tests, allies, and enemies: The crossing of the threshold is the first test. In this phase, which is often the longest one of a story, many more similar tests are thrown at the hero. He meets many of the character archetypes (allies, tricksters, etc.) on the journey. The main purpose of this phase is to test and prepare the hero for the grand ordeal that lies ahead. Here, the hero is expected to learn unfamiliar rules and customs of the special world.

7. The approach to the innermost cave: After the succession of tests, the hero approaches the innermost cave. This is the core of the story, where the hero will find the reward he seeks.

8. The ordeal: The part of the game is the fight with the nemesis. Here the story reaches its peak point because so far the player might have dealt with few serious tests but at this point the stakes are the highest in the game.

9. The reward: The reward has many sorts of forms, and finally it can be claimed, after overcoming the nemesis.

10. The road back: This part of the story may not be found in all stories. Here the hero with the rewards is ready to leave back to his ordinary world. However, the experience which has been gained during the game by the hero has changed him thus he might find difficult to integrate back to his ordinary world.

11. The resurrection: This is the final set of tests the hero faces before he could enjoy the hard-earned reward. In certain stories, this is the last-moment plot twist when audiences think that the story is over and suddenly a surprising twist takes place.

12. The return with the reward: The story is finally over and the hero returns to his ordinary world to continue his normal life there.

As we could see here, the fixed storyline is quite tedious and can be anticipated as well. Interactivity may be given to the story which tends to overcome the previously mentioned issues.

3.2. *Characteristics of Interactive Storytelling*

In this section we are going to define the main features of interactive storytelling which give its benefit over traditional storytelling. Of course these are slightly diverse in games, films and virtual realities. However, we have to stress that these features are our own guidelines which are strictly based on the research papers [Schell, Ryan, Roussou, Cavazza et al.]. Having the main characteristics of interactive storytelling defined will help us to determine easier to what extent games, films and virtual realities use the benefits of interactive storytelling.

1. Unlimited Freedom: it is important to provide the possibility for players to freely explore the virtual world. The actions available to the user should be more diverse than standard repertory of computer games such as fighting enemies, achieving missions, etc. Furthermore, the balance should be kept between narrative and interactivity during the game because in case of too much interactivity, players will be deprived some of the main sources of narrative pleasure such as suspense, curiosity or surprise. While, excessive narrative will not allow player to alter the story in accordance with his mood [Ryan, 2005].

2. Various goals: The story gives a goal, reason to the players in order to participate in the experience. Furthermore, players can set up goals for their pleasure which can be achieved by several ways. When the players are focused on achieving the goal then their interest level is high [Schell, 2005]. However, diversity of players, participants such as different skills, ages, gender, etc. should also be considered here.

3. Originality and variety of the story lines: The story should not be based on the usual scripts where players can anticipate the plot. Furthermore, player should follow diverse storylines. The story should avoid repetition which would make the story tedious [Ryan, 2005]. Variety of storylines also gives a long-last appealing feature to the game since the game can be re-played many times without receiving the same story.

4. Deeper immersion: The player must be entertained which may be achieved several ways. The main goal is to keep the suspending of disbelief which is one of the key aspects of narrative engagement and perhaps the most central goal of an immersive virtual environment [Roussou, 2001]. Of course, this is the most difficult since only a little not ordinary thing may make the player lose the suspension of disbelief.

3.3. *Games*

Here we have chosen three entirely different games such as *Façade*, *Grand Theft Auto IV* and *The Sims*. In our opinion, these games are the best example of interactive storytelling. Therefore we are going to analyse each of them in a table with providing how the game achieves the four features of interactive storytelling which have been defined by us. This will also help to answer our research question. However, we have to stress that the quality of graphics has been disregarded by us because it does not contribute to the experience of game play directly regarding the interactive storytelling which is being examined here.

3.3.1. *Façade*

Façade is a freeware game which has not been made according to recent requirements of games on the market where the only goal is high sales. The creators say that they intend to make something for the movie-and-theatre-going public. Therefore it does not focus on rescuing the princess or killing monsters, it rather offers a fantastic interactive drama to the players. The story is the following: the player has been invited to the place of his long time no see friends. During the evening the player becomes the spectator of a conflict between the couple while the argument gets worse and worse.

Table 3.1: Façade

	<i>Unlimited Freedom</i>	<i>Various goals</i>	<i>Originality and variety of story</i>	<i>Deeper immersion</i>
Positive Example	Player can look around in the apartment, pick or drop the objects and tell anything to his hosts.	Various endings make the player re-play the drama.	In each play of the game dialogues always take places differently.	No confusing and superabundant branch point selections on the screen.
Negative Example	Parser knows certain amount of word and acts are also restricted.	Game does not offer any direct goal – no reward.	Each run of the game uses 30% of the total available material.	The parser interprets our text incorrectly which causes doubtful situations.

The main strength of the game is the “type what you want” feature. It gives reason to the player to play this game over and over again because conversations take place always different way. However, it is not perfectly developed yet because of the limitations of natural language processing.

3.3.2. *Grand Theft Auto IV*

Grand Theft Auto IV is a sandbox style (nonlinear storyline) action-adventure game which is one of the highest rated games of all time. The player controls an avatar called Nico who is an immigrant from Eastern Europe. He goes to the US to find his fortune and also to see his long time no see cousin Roman. The story builds up itself as the player gets further in the game, more and more things of Nico’s background will reveal.

Table 3.2: Grand Theft Auto IV

	<i>Unlimited Freedom</i>	<i>Various goals</i>	<i>Originality and variety of story</i>	<i>Deeper immersion</i>
Positive Example	Players can explore Liberty city for their own pleasure without any force to follow the storyline.	Players may set up their own goals such as winning in pool or in the casino.	Different storylines according to who will be made as the friends or the enemies of the player.	Narrative and interactivity may occur simultaneously, which are so seamless and organic that the players do not even notice it.
Negative Example	Players cannot make a real conversation with people like in Façade.	No example has been found	The game has only two endings.	No example has been found

GTA IV represents everything what a player can expect from a game. Before this game, players have never had such an unlimited freedom. The game has a very detailed city. There the player can almost interact with everything.

3.3.3. *The Sims*

The Sims is a strategic life simulation game which has many expansion packs and also a second part, moreover, the sequel will release soon. The game has an emergent story line which means that the story is not pre-planned by the designer but takes shape as a result of the interaction between the user and the system. [Ryan, 2005] Basically, players control their Sims in god-fashioned mode in a virtual world which is inhabited by Sims. The user has to take care of one or more Sims and complete their daily activities such as sleeping, eating and bathing.

Table 3.3: The Sims

	<i>Unlimited Freedom</i>	<i>Various goals</i>	<i>Originality and variety of story</i>	<i>Deeper immersion</i>
Positive Example	Story is not pre-planned but it takes shape as a result of the interaction between the user and the system.	Long-term: purchasing luxuries short-term: satisfying physical needs medium-term: writing a novel but of course the player may set up his own goals as well.	Random events may occur such as death or moving out of neighbours which makes the story original and various as well-	Almost a perfect reproduction of our real world with allowing players to interact and control the Sims.
Negative Example	No example has been found.	There is no end of the game.	There is no narrative which could provide fix storyline.	Waste of time: players have to wait for Sims to do their needs such as sleeping. Torture of Sims by players without being punished such as making them starve.

The Sims series are a very good example of interactive storytelling since it represents almost all its main features. The best part of the game is that the player can create his own story. However, there are few issues: having never-ending story could be tedious after a while. Furthermore, there is no storyline at all what the player could follow.

In our opinion, Grand Theft Auto IV is the game which applies the most of the characteristic of interactive storytelling. However, it is still far to be perfect because it has many things to borrow from the other two games. For instance, Façade could lend its “type what you want” feature or The Sims its all physical needs must be satisfied the entire time and own story creation feature as well. Therefore we could say that the mixture of these three games would perfectly represent the characteristic of the interactive storytelling.

3.4. Interactive Movies

Fully interactive movies do not really exist nowadays, however, there is a great movie which is based on the structure of „choose you own adventure” juvenile books. The website introduces its film as the first fully interactive, live-action movie which uses a multi-linear narrative structure.

[<http://www.17lifefables.com/pages/1.html>]. The spectator can make decisions according to what the protagonist should do. The movie freezes after every couple of minutes and gives two options to the user then the spectator may choose which he would prefer.

Table 3.4: Interactive movies

	<i>Unlimited Freedom</i>	<i>Various goals</i>	<i>Originality and variety of story</i>	<i>Deeper immersion</i>
Positive Example	The film rather has fairly limited freedom with giving two different options	Watching all the possible endings.	The spectator may end up with 16 various endings in compliance with his choices.	Interaction with scenes may give deeper immersion than normal films would.
Negative	Only two options are given to the spectators.	The spectator cannot set up	The movie will not be able to renew after all the	The interaction does not happen seamlessly as it would

Example		his own goals.	endings have been watched.	be expected. (film freezes in every two minutes)
---------	--	----------------	----------------------------	--

The defined features of interactive storytelling cannot be found so large extent in this interactive film due to the fact that films have to have more narratives than games. Furthermore films are mainly made for other purposes: in general the spectators do not have intention towards interacting in the films because films have strict structures (sequence of events) for the story while games rather require interactivity.

3.5. Virtual Reality

Virtual environments are designed in such a way that the user is literally placed in the scene and actively engaged with the surrounding environment. The development of systems such as the CAVE presents one of the better examples in this direction [Roussou, 2001]. The virtual reality applications tend to achieve high degree of interactivity. However, the first virtual reality experiences have become similar to simple walkthroughs of realistic reproduction of architectural worlds without any interactivity or narrative. In Roussou’s paper we can get acquainted with The Thing Growing which engages the user in interactivity through constant “conversation” with a virtual character [http://www2.ccr.buffalo.edu/anstey/VDRAMA/THING/index.html].

Table 3.5: The Thing Growing

	<i>Unlimited Freedom</i>	<i>Various goals</i>	<i>Originality and variety of story</i>	<i>Deeper immersion</i>
Positive Example	The user can dance, move and select objects or performs actions.	No example has been found.	Story is rich in the changing of emotional states.	A strong sense of immersion is achieved by the virtual presence.
Negative Example	The user can only do the above mentioned acts on the requests of the system in order to make the story go on otherwise it will be ignored.	Basically one goal exists: to interact with the system.	Short story which has only few branch points.	Its visual and aesthetic form is very simple

The Thing Growing is a simple example of virtual realities. However it works well and tends to make people interact in its virtual environment. Furthermore the virtual reality technology is increasingly being considered and supported for the new possibilities. More developed systems could be used not only for entertaining: it could offer systems to cultural heritage representation and education as well. However in that case the main features of the interactive storytelling would change because the main focus would be on conveyance knowledge to people. Therefore, for instance, freedom would have to be limited.

4. RESULTS AND DISCUSSION

To sum up with, we have found few examples which are able to portray the characteristic of interactive storytelling well, despite the opinion of few researchers such as Chris Crawford. However, we have to admit that they all are still far to be perfect. It is mainly due to technical limitations of many fields of the artificial intelligence such as natural language processing, speech generation, etc. These first have to be explored in order to successfully simulate a perceptual, cognitive or emotional level that may produce consistent and coherent narrative [Roussou, 2001]. For instance, consider the case of the chat robots such as Eliza, their technology could be greatly used in interactive storytelling. However, they are still not developed enough despite the long time research of this area. It is proven by the Turing test which can be passed if the judges cannot decide if they talk to a robot or a human being. [http://www.fil.ion.ucl.ac.uk/~asaygin/tt/ttest.html#intro]

In our opinion, the games are the most developed in the interactive storytelling area such as GTA IV, The Sims or Façade. Therefore other fields such as interactive films or virtual realities could borrow and learn many things from them about interactive storytelling. However, our research was mainly based on limited amount of literature and applications. Thus there might be games, films or virtual realities on the market which represent the benefits of interactive storytelling better. Moreover, our research does not contain the educational or cultural representations areas of interactive storytelling either where good examples may be found as well because we only focused on entertaining.

5. CONCLUSION

Overall, as we have seen there are existent examples in the entertaining field of interactive storytelling. According to our prediction, soon, most of the entertaining applications such as games, films will be based on this technology since it tends to entirely change one' experience: people can follow their own desire with use of interactive storytelling instead of that everything will be told. Furthermore this technology also can be used in non-entertaining areas such as education. It could teach and convey knowledge and cultural values to people interactively instead of the old traditional methods. However, that has to be approached differently because of the diversity of the purposes of the two areas. For instance, education must entirely focus on teaching and cannot allow people to move away from it.

6. REFERENCES

- Crawford, C. (2004). *Chris Crawford on Interactive Storytelling*. New Riders Games, Indianapolis, IN.
- Cavazza, M., Charles, F. and Mead, S. J. (2003). Interactive Storytelling: From AI Experiment to New Media. *In Proceedings of the Second International Conference on Entertainment Computing*, pages 1-8.
- Roussou, M. (2001). The interplay between form, story and history: The use of narrative in cultural and educational VR. *In: Balet, O., Subsol, G., Torguet, P. (Eds.): Virtual Storytelling: Using Virtual Reality Technologies for Storytelling*. Springer-Verlag, Berlin, 2001, pages 181-190.
- Thompson, S. (1946). *The folktale*. Berkeley: University of California Press.
- Ryan, M.L. (2005). Narrative and the Split Condition of Digital Textuality, *in Videogame, Player, Text Bary Atkins and Tahya Krzywinska eds*. Manchester University Press.
- Schell, J. (2005). Understanding Entertainment: Story and Gameplay are One, *In ACM Computers in Entertainment (January 2005), vol. 3. 1*. Carnegie Mellon University, PA.
- Mateas, M. (2001). A Preliminary Poetics for Interactive Drama and Games. *Digital Creativity, vol 12.3. 2001*, pages 140-152.
- Van Gils, F. (2005). Potential applications of digital storytelling in education (Tech. Rep.). University of Twente, Department of Electrical Engineering, Mathematics and Computer Science.
- Rollings, A. & Adams, E. (2003). *On Game Design*. Indianapolis: New Riders Publishing
- The things growing. (2008). Retrieved December 30, 2008, from <http://www2.ccr.buffalo.edu/anstey/VDRAMA/THING/index.html>
- The seventeen life fables. (2007). Retrieved December 30, 2008, from <http://www.17lifefables.com/pages/1.html>