Interactive Cinema:
Engagement and Interaction

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Abstract. Technologies that were initially developed to be applied within the domain of video games are currently being used in experiments to explore their meaning and possibilities for cinema and cinema audiences. In this position paper we examine how narrativity, interactivity and engagement are mutually reshaped within this new domain of media entertainment, addressing both the production and the user experience of new types of interactive cinematography. We work towards research questions that will direct our future studies and introduce the term *lean in* to address the kind of engagement style that applies to users within this new domain.

Keywords: interactive cinema, videogames, user engagement, narrative immersion, Oculus Rift.

1 Introduction

When around 1960 the first videogames were being played on enormous computer machines, probably no one would have guessed that this medium would ever develop in a way that it might come close to the motion pictures that were enjoyed in the cinema theatre. Nowadays, however, videogames and movies as entertainment media have come to a point that they almost seem to merge, from the viewpoint of the audience as well as on the side of production

Technologies that were initially developed to be applied within the domain of video games are currently being used in experiments to explore their meaning and possibilities for cinema and cinema audiences. On one hand game engines can now be used to produce animations that offer new possibilities for the way the user is involved in the entertainment experience. On the other hand, hardware that was initially developed to improve the experience of gameplay, is now being examined for its possibilities to enjoy movie content. However, a virtual reality-device such as the Oculus Rift not only confronts the user with a remarkable immersive experience, but also faces producers of movie content with issues around for instance camera work, set dressing and scriptwriting. In this position paper we propose to examine how narrativity, interactivity and engagement are mutually reshaped within this new domain of media entertainment, addressing both the production and the user experience of new types of interactive cinematography.

In the first part of the paper theoretical backgrounds into the broader field of interactive storytelling will be discussed. The second part will address how the use of new technologies may affect this field, working towards research questions that will be the starting point for our subsequent studies.

1.1   Interactive Storytelling

When discussing interactive storytelling, many scholars have focused on questions concerning the relative freedom the user may have in choosing alternative outcomes for stories (Stern, 2008). This line of research has brought up many interesting ideas and philosophical insights, but also a number of seemingly unresolvable problems. As Andrew Stern noted (2008), any interactive story system must contain vast amounts of story content. Offering the user the possibility to choose alternative routes within a narrative often means that producers are faced with the immense task to pre-produce a multitude of different outcomes. Most users will thereby experience just one single outcome, and possibly miss out on other outcomes that might be more interesting. A solution to this issue, as is also mentioned by Stern (2008), is to work towards adaptive storytelling or real-time generation of story content. Paul, Charles, McNeill and McSherry (2011) and Nack, El Ali, Van Kemenade, Overgoor and Van der Weij (2010) (amongst others) have made promising steps in this direction.

Another option that researchers have explored is to offer some kind of 'fake' possibility for interaction: while users are given the impression that they can actually make choices and influence the outcome of a story, the design of the interaction is set up in such a way that eventually, all users will end up at roughly the same finishing point. Experiments in this field have shown that the actual entertainment experience of a fake interactive story does not differ from the experience of real interaction. In other words: when users feel that they have some kind of agency, they enjoy this experience, whether the agency is real or not (Fendt, Harrison, Ware, Cardona-Rivera and Roberts, 2012). Tanenbaum (2011) has therefore suggested to not always automatically equate interactivity with offering the user the ability to directly affect the plot of the story. For interactive storytelling, the sense of participation in a story or a scene may be just as important as the actual power to influence the outcome. In the current study, we will follow up this suggestion and further explore the concept of audience participation within the field of interactive storytelling.

1.2   Engagement Styles in Games and Movies

Although some aspects of videogames and movies may seem to merge, many classical differences between the two of course remain intact. For one, the procedural rhetoric that is characteristic for videogames is not applicable to cinema (Bogost, 2008). While in movies arguments are made through the construction of words and images, in videogames ideas are conveyed through the persuasive use of processes. These two different rhetoric styles invoke different modes of engagement of its users. While in cinema, the viewer is expected to sit back and experience the argument passively, with videogames, the user is required to actively engage in the process. Within media

studies, movie audiences and computer users have therefore traditionally been said to differ profoundly, based on these engagement styles. The term 'lean back' is used for media that allow the user to sit back, relax, and receive information in a passive manner, such as movies and television. In contrast, the term 'lean forward' is used for media in which the user is able to interact and control the flow of information, as is the case while playing video games (Katz, 2010).

Experiments that focus on the merging of games and film may need to take these different user positions in consideration. Within gameplay, the combination of the two engagement styles is already clear when it comes to cutscenes, also known as event scenes. These are the sequences within a videogame in which the player has no or limited control, but is invited to sit back and watch the narrative unfold. While gamers may appreciate the deepening of the overall narrative experience that cutscenes add to the game, they are often also disturbed by the temporary change of engagement that these sequences imply, having to switch between the modus of lean forward and lean back, and back again. While in recent games the visual differences between the parts of interactive gameplay and the cutscenes have become increasingly less distinct, the merging of these two types of sequences is still mostly linear, and the differences between active and passive user engagement remain intact.

1.3   Themes and Genres within Movies and Games

Marie-Laure Ryan has discussed the characteristics of the three main types of narrative plots, in relation to their possibilities for interactivity (Ryan, 2008). She uses the distinction that was already made by Aristotle between the epic and the dramatic plot, and adds a third kind of narrative that made its appearance in the nineteenth century, the epistemic plot. The epic plot focuses on the physical actions of a solitary hero, as is often the case in archetypical fairy tales. In dramatic narratives the focus is on evolving networks of human relations. The epistemic plot is driven by the desire to know, or to investigate, which is often the main line in a mystery story. According to Ryan (2008), the epic and the epistemic plot are quite well suited to be used within gaming and interactive narratives. While the epic plot is for instance used in shooters and adventure games, the epistemic plot is found in games that offer some kind of mystery that needs to be solved. The dramatic plot, however, is a lot more difficult to implement because of its emphasis on the evolution of interpersonal relationships.

Veugen (2011) has pointed out how videogames and movies are being classified differently into genres. With movies the genre classification is usually based on the content of the movie, such as a western movie, a horror movie or a romantic comedy. With games, however, the classification is based on the gameplay, such as action adventure or role-playing. Some movie genres such as thrillers, adventure movies or detectives can be easily translated to game content but other genres, such as drama and romance, are more difficult to transform towards gameplay. Of course there are games in which romantic storylines are apparent, such as the Japanese game series *Final Fantasy*. But also in these types of games, the romance theme is mostly dealt with within the cutscenes and is no real motivational factor within the gameplay.

In game production there have been several projects in which an existing novel or short story served as basis for a videogame. The themes from the classic children's book *Alice in Wonderland*, for instance, have already inspired several game producers, such as developer American McGee's *Alice Madness* and *Alice Madness Returns*. Also stories by Agatha Christie have been converted into a series of point-and-click third-person adventure games. For classic popular novels such as *Lord of the Rings* and *Harry Potter*, videogames were developed that were based on the movie adaptation. Usually, however, in these games the original text is mostly used as an inspiration for the theme and the atmosphere of the game. In the end, the gameplay may have little to do with the text on which the game is based and it does not offer the true immersive narrative experience that a book can.

The fact that epic and epistemic plots are well suited to be translated to gameplay is still visible in many successful commercial videogames. Even games that are acclaimed to have set new boundaries when it comes to open world storytelling, such as *GTA5* or *Watch Dogs*, consist of a succession of story driven segments and offer no real immersive dramatic development. The genres and themes that are covered within this upper segment of the game market are thereby often limited to action, adventure, crime and violence. However, several authors have discussed various smaller videogame initiatives in which other kinds of themes were included, and other types of stories explored. Ryan (2008), Murray (2011) and Sali and Mateas (2011) have for instance discussed the game *Façade*, in which the gamer can influence the way the relationship between two people evolves. Lankoski and Horttana (2008) discuss a design experiment named *Lies and Seductions*, in which social relations, seduction and tragedy have been included in meaningful gameplay. Quite recently, the stirring game *That Dragon, Cancer,* was created by game producer Ryan Green. The game has been described as an interactive re-enactment of what Green and his wife went through when their four-year-old son Joel was fighting terminal cancer (Samakow, 2013). Examples like these clearly show that new topics are entering the world of game design and interactive experience.

2   New Perspectives

New kinds of interactive experiences lead to new kinds of user engagement, and new ways in which the user may be immersed in these experiences. Both physical devices and narrative techniques may be applied to heighten this engagement. In this section we will first address some of the technological issues that movie producers are faced with, when intending to produce video content that is meant to be watched from all possible angles. We will then proceed to analyze what this point of view might imply for engagement style and how narrative and interaction might be mutually reshaped when content is created in VR. Based on this, we will formulate research questions that will be the starting point of the next phase of our research project that focuses on new forms of interactive cinema and the user experiences of people who engage with it.

2.1   Creating Content in 360'

Since Facebook bought Oculus Rift in March 2014, worldwide fascination for this VR device has skyrocketed. Wired published an intrigued exploration on the topic, stating: *Oculus is awesome for games, but it's the future of movies* (Watercutter, 2014). Indeed, in the first months of 2014, producers all over the world have been pondering the question of how movie content and storylines will be influenced by the fact that the audience no longer just faces a screen on which a film is projected, but watches the content from a 360' point of view.

When creating content that is meant to be watched from a 360' point of view, a producer has several options. One option is to make use of a game engine, in which a virtual reality is created. Another option is to record video content, in which reality is filmed with an actual camera.

The Amsterdam based company WeMakeVR has constructed such a video camera system with which experimental video content that is meant to be watched with Oculus Rift has been realized. As said, the 360' point of view implies several difficulties for the producer. Firstly, it is not possible to work with a traditional film set in which a scene may be recorded. As the camera records the world in 360', everything around the system will be seen. This problem also applies for the floor of the set, and the ceiling. As these angles will also be available for the future viewer, both the floor and the ceiling of the set need to be fully presentable, which means for instance that it is not possible to make use of elaborate lighting systems.

2.2   Video Storytelling from 360'

The use of the 360' camera system has distinct implications for the kind of stories that can be told. While the viewer takes the point of view of the camera, and is able to look around in the scene, he or she is not able to move through the space in which the scene was filmed. The only possible movement is the one that was recorded when shooting the scene. WeMakeVR has created a short VR movie that clearly illustrates this issue. In this experiment the camera has been set up on a boat that travels through the canals of Amsterdam. The viewer, wearing an Oculus, experiences the boat ride from this point of view. He can move his head around and watch the water, look at the streets or the sky above, or check the other boats that are passing by. It is not possible though, to change the direction of the boat or stop it.

Apart from issues concerning movement within a scene, the camera position within a setup like this also has profound impact on the way that stories may be told. A scene that is recorded with the intention to be watched from 360', may take different viewer perspectives into account. For instance, the story could be told in such a way that the camera is not part of the narrative, but just registers the scene like a fly on the wall. Another option however, would be to include the viewer position within the story, and have characters react towards the camera as if it is another character participating in the scene. Experiments like these, in which actors react to a camera, are of course known within traditional cinema as well. With this new technology, however, experiments with new ways of storytelling are imaginable in which the option of the viewer to look around within the scene - and for instance discover pieces of information and new interpretations - could be essential to the way a plot unfolds.

2.3   Scenescapes

Another technological development that has profound implications for the way that movies and video games are coming closer together, are VR engines that were initially meant to be used for game production. Engines such as Blender are currently also being used to create animated movies, offering producers a whole new range of possibilities for movie content that can be viewed either on a classic screen, or with a device such as Oculus Rift.

A scene that is created as a VR experience may offer its viewer a new kind of narrative immersion. Instead of telling a whole story in a linear succession of scenes that together form a plot, in this type of scene - that we propose to call *scenescape* - the viewer may be invited to look around and explore, and instead of affecting the plot, participate in the surroundings that the scene is set in. For certain parts of traditional narratives that thus far have been difficult to capture in motion picture, translation into scenescapes may be an interesting alternative. Experiences such as dreams, memories or hallucinations that are difficult to translate from literary text to movie text, may benefit from this new experience of narrative immersion. This way, the scenescape could be viewed as parallel to the cutscene. While a cutscene in a videogame offers a linear sequence to deepen the story immersion, a scenescape offers an interactive sequence within a movie, with exactly the same objective.

The concept of scenescape fits well into the larger concept of transmedia storytelling, as discussed by Henry Jenkins (2006). In transmedia storytelling, each medium tells that part of a story, background or other kind of information, for which it is best suited, and the parts all together form a storyworld. Adding a scenescape to a storyworld would mean to add a VR experience to a story that may already be spread out over different media such as a movie, a game and a series of websites, offering the user the new perspective to be engaged through interaction.

2.4   Engagement and Interaction

Within the current study, we want to explore whether and how the new technologies that are the topic of this paper impact narrativity, interactivity and engagement within the related media products. This is connected to an important aesthetic goal for interactive narratives, as discussed by Ryan (2008), which is the ability to create narrative immersion. According to Ryan, this immersion can take at least three forms: spatial, temporal and emotional. Taking this partition into account, the connection between engagement and interaction can be further analyzed. Both storytelling and hardware can be seen as strategies that can be used to heighten the immersive experience of the viewer. For instance, watching an adventure movie invites an audience member to lean back without being interactive, and be mostly immersed in a temporal sense, curiously following the succession of actions on the screen. Playing a highly interactive action adventure videogame in lean forward modus, however, elicits temporal immersion but also adds spatial immersion by offering a gameworld that is beautifully designed and enormously detailed. Yet with a movie drama, or an episode of a soap opera, viewers lean back again and will be mostly emotionally immersed, anxious to learn how characters will develop their mutual relationships.

For the new forms of media entertainment that we propose to explore, however, we imagine new combinations of engagement and immersion being possible. A scene-scape, as described in the previous paragraph, may offer the viewer a form of immersion that is both emotional and spatial. On one hand, the story that the scene is set in may invite the user to be immersed through narrative. On the other hand, the physical device that the scene is viewed by may offer additional spatial immersion.

This media form does not offer a lean forward engagement because it is not interactive in the sense that a viewer can't take action in the story. Rather, he is invited to participate in the scene. The experience can not be considered as fully lean back either, as the viewer is given agency into what direction he wants to look at and what part of information he wants to consider and become emotionally involved in. It seems that with this style of media participation, the classic dichotomy between lean back and lean forward media is challenged. We therefore propose to use the term *lean-in media* for this new kind of engagement style.

2.5   Future Research

In this concluding paragraph we want to set out the lines of research that will be the starting point of the next phase of our research project on how movies and video-games as entertainment media have come closer together than ever before. In the media experiments that we intend to design, we will firstly explore the question: How can dramatic plotlines – instead of epic and epistemic plotlines - be translated to interactive content? Second, the concept of scenescape will be the starting point to further explore the question: How can narrative content be adapted towards non-linear forms of engagement, such as scenescapes? And for both inquiries, the sub question will be: can we indeed establish this engagement style that is neither fully lean-back nor lean forward, and that leads to a new kind of interactivity that we may call *lean in*?

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