Immersion and Interactivity in FMVs:

Where Movies and Videogames Become One

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Abstract— This paper will look upon FMVs as a narrative technique in creating full-motion video games or interactive movies and how it will affect the players and moviegoers at the same time. It will discuss how interactivity and Immersion as crucial components of videogame design and movie creation will help designers create a new experience for the movie and videogame audience.

Keywords— Interactivity, Immersion, Interactive Movies, Full-motion Videogames, Roland Barthes, Marie Laure Ryan, Wolfgang Iser.

I. INTRODUCTION

A full-motion video (FMV) is at the older definition a style of narration to provide information to a gamer while playing; in some aspect, it is a cutscene, but the difference lay in the fact that instead of using ٣D models to narrate the scene the game will use prerecorded video scenes. Later on, this narration technique evolves into a video game genre called by the same name full-motion videogame. In this light, the name refers to a narrative-based game using video instead of ٣D models to narrate its story. It is here that video games and movies become almost inseparable; that is why this kind of game is also called an interactive movie. It is essential to remember that while we are dealing with a game, FMV enjoys full characteristics of a movie, such as real actors and scenes accompanied by a video game's characteristics such as the ability to control the characters. However, how it starts?

A. The History of FMVs

In popularity, the FMVs' journey has many ups and downs, but thanks to the advancement of technology, in the past, decade FMVs are getting more attention. According to the Museum Game website, the first game which used full-motion video was Nintendo's ١٩٧٤ arcade light. In the gun shooter game Wild Gunman, the game used a movie taken by a ١٦ mm camera to show the gamers a live-action cowboy on the screen, which they could shoot. Another early example was an arcade game called The Driver, a racing game released by Kasco (Kansai Seiki Seisakusho Co.) using the same technique as Nintendo did; it allowed the player to use their steering wheel, gas pedal, and brakes to control a video recorded car.

In the ٨٠s and with the invention of laserdiscs, FMVs started to gain more attention because the more space on laserdiscs meant more time for the game. For a while, the FMVs were popular, particularly with North American consumers. For many, it was the promise of a great future in video gaming, but soon it was evident that most FMV games failed to succeed. A pre-rendered video cannot easily be manipulated; in compare to a game made by traditional game design methods, it was challenging for the player to interact with the game's surrounding environment.

Then the niche market of videogame started to bloom, and by ١٩٩٤ its two-and-a-half times' growth compared to Hollywood took the attention of the movie makers. The result was Sony's *Johnny Mnemonic*, the first video game created by a film studio. The competition did not wait long, and Electronic Arts followed Sony and created an FMV with Hollywood talents, including Mark Hamill, Tom Wilson, and John Spencer. EA titles Wing Commander III and IV paved the way for greater collaboration between the movie and video game industries. However, due to its limitation in gameplay soon FMV lost its place. By the time Xbox and PlayStation ٢ were released, the FMVs were distinct. During the past decade, games like L.A. Noire and Heavy Rain using the same premise of FMVs in design, get gamers' attention, making the game designers think about FMVs again. With the advancement of technology, any barriers that FMVs faced in the past, now are possible to remove. The result is creating games such as Erika, The Infectious Madness of Doctor Dekker, Bunker, and so many other titles available on Xbox One and PlayStation ٤ alongside Netflix attempt of FMV called Black Mirror.

With this brief introduction to what FMVs are and their history, it is time to discuss Immersion and interactivity in movies and video games.

II. THEORY

A. Immersion

Immersion is a vital aspect of any literary work; without Immersion, the literary works cannot affect or satisfy its audience. It is important to remember that a movie or a narrative-based video game are practically works of literature because they do not exist without a narration. That is why we need to study Immersion in the first place. immersive

affective experiences absorb a broad audience, as the audience needs Immersion to temporarily escape the stresses of his/her life or enjoy the fate of fictional heroes and villains as a cure to everyday life's mundanity. (States, ٢٥). According to Murray in Hamlet on the holodeck: The future of narrative in cyberspace, "Immersion is a metaphorical term derived from the physical experience of being submerged in water. We seek the same feeling from a psychologically immersive experience that we do from a plunge in the ocean or swimming pool: the sensation of being surrounded by a completely other reality, as different as water is from the air, that takes over all of our attention, our whole perceptual apparatus." (٢٠) However, unlike submerging in water, being immersed in a narration does not necessarily mean that we need all our physicality to emerge. Even when we are reading a book, we are experiencing Immersion. This level of Immersion is close to the term involvement defined by Witmer and Singer as when the player is caught up in the world of the game's story (in the diegetic level). (٢٦). Ermi and Mäyrä discuss the importance of narration in helping the audience achieve a higher Immersion level with the term Imaginative immersion (٥٠). It can be practiced by readers and gamers, and moviegoers on the same level because this level of Immersion is fictional and the product of the audience's mind. Narration solely is responsible for the experience of the audience.

According to Ryan's narrative immersion theory, in three-level, the audience is immersed in the narration. First temporal Immersion, meaning the audience is curious to unfold the story and focuses on the cause and effect relation between different parts of the story. Second is emotional Immersion, which is achieved when the audience is emotionally invested in the narration's characters, feeling empathy, and on the third level, spatial Immersion, which means the space in which the narration unfolds should be plausible (٢٠٠١,٢٥,٧٣,٨٧). It is essential to mention that because movies are using real-live video to narrate their story, they are more influential toward the human brain, and connecting to a movie because of this characterization is simpler than connecting to animation or videogame if all three medium enjoys the same narration.

Viewers of a movie usually feel a combination of emotions (Hemenover & Schimmack): when the hero kills a villain, the viewers feel pain for the villain and happiness for the hero at the same time. Tan mentions a type of emotion regarding the viewers, which can help us define spatial and psychological Immersion more. The emotion is created as an illusion of being physically present in the fictional world due to psychological Immersion by witnessing the fictional world's events. Spatial Immersion here helps the audience accept fictional events as reality, resulting in provoking strong emotions. All of this will result in the mental absorption of the audience in the narrative. In an experiment by Valentijn T. Visch, It was proven that the more immersed viewer would experience a higher state of emotions. (٥). Up till now, what has been discussed focused on emotional, psychological Immersion. However, according to Brown and Cohen, the degree of Immersion depends on the narration's

power to keep the audience's attention and involvement of their senses and decision-making faculties. (٥).

B. Interactivity

McMahan points out that sensory Immersion can be reached by controlling the audience's senses to be focused only on the subject of interest (٢٥). Ermi and Mäyrä Gameplay experience model (sensory, challenge-based, and imaginative immersion model or SCI model) talk about using a big screen and loud audio to overpower all external stimuli and keep the audience's attention only on the subject of interest. This will result in the audience's psychological Immersion as his/her connection to the world outside of game or movie has been severed. With visually and auditorily Immersion accompanied by temporal and emotional Immersion, a movie goer's experience has been completed.

However, what about the gamer's experience? A player experiences includes all the aspects mentioned earlier but have one more aspect to explore the game's interaction aspect. In interactivity, Adam and Rollings define Immersion concerning challenges as strategic Immersion and tactical Immersion. (٦٤) The first one happens when a player is involved in strategizing, calculating, and making choices. However, the second one talks about the player's involvement in the task that physically challenges him/her. It refers to when the player interacts with the controller and is absorbed in completing the task at hand. According to Barthes's idea and Fazel's experiment, even an illusion of power over the narration makes the experience of interacting with a narration more satisfying (Fazel, ٨٠). A situation in which the audience is a slave to the writer following the path writer dictated to him/her is less satisfying compare to a situation in which the audience can manipulate and change the narration according to his/her desire. Even if this change is limited to the specific parts of the narration. (Fazel,٥٠). So, the interactivity works toward deepening the immersion experience of a narration.

III.   DISCUSSION

According to what has been stated, FMVs as a medium and a combination of a video game and a movie provide the audience with Immersion's utmost experience because it enjoys both mediums immersive means. As explained in the introduction, FMV is a videogame that enjoys prerecorded video instead of ٣D models to narrate a story. In simpler words, FMV is a movie that a viewer can control. There is no doubt that all those who watch movies experience moments in which they wanted to watch the story go in another direction. A moment in which the main character is facing a decision, and the writer made that decision guiding the story in one direction. Simultaneously, the audience wanted to change that decision and explore a part of the story that is not unfolding in the movie.

In a classic movie, the viewers do not have any power over the course of the story and are like the audience of a

lecture. They sit on their chairs and listen to whatever the lecturer says. Of course, temporal Immersion, emotional Immersion, and sensory Immersion are still achieved by the audiences in a classic movie. Iser In The Act of Reading (١٩٧٨) mentioned blanks or gaps in a text that challenges the reader to use their imagination. "Whenever the flow is interrupted, and we are led off in an unexpected direction, the opportunity is given to us to bring into play our faculty for establishing connections for filling in the gaps left by the text itself" (١٥٩). When a movie go into the unexpected direction (according to its viewer) the viewer is robed of the opportunity to follow his/her mental schema, but still can imagine what would happen. In this moment if the scheme and what movie presented are against each other the movie can loose the audience. As the audience can lean forward his/her own schema rather than following the movie on the screen. Iser's idea points to the parts of the story that are not shown or written in a classic movie. The amount of satisfaction the readers get while filling the blanks, according to Iser in a story, has an importance in the Barthes' ideas of readerly/writerly text and pleasure/bliss.

Ronald Barthes, in article S/Z, a close study of Sarasin by Balzac, shows how the satisfaction of the reader connects her/him to the text. He mentions how a challenging story can be a more valuable and desirable experience for the reader because it brings ecstasy. Later in The Pleasure of the Text he talks about the concept of plaisir and jouissance respectively translated as pleasure and bliss (orgasm), These concepts based on his definition of the lisible text and scriptable text, meaning "readerly" and "writerly" define how a reader can enjoy different types of narration. He believed that writerly text is more valuable than readerly text, and the bliss is more important than joy.

It can then be said that an interactive narrative because of its form and the room that it presents to the viewer to shape the narration creates a deeper sense of satisfaction or bliss and creates a more desirable and valuable experience for the audience. These ideas show that for a more profound emotional, psychological experience, we need interactivity. In an interactive game like Heavy Rain, whenever the game asks the gamer to choose to determine how the story will unfold, the gamer uses the knowledge given to him by the game while using his/her imagination to take action. The pleasure of Immersion in an interactive game comes from human power to make decisions and see the result of that choice.

This opens the discussion to the idea of strategic Immersion and tactical Immersion in FMVs. As mentioned in the theory section of this paper, making choices and then practicing them on the narration course is deepening the experience of Immersion in the audience. Ryan points out that for a narration to be immersive, it must construct the setting suitable for the action (٢٠٠١,٨٧) to make it believable for the audience. An FMV using real-life images provides this for the audience. Nevertheless, according to Barthes and Iser's ideas of writerly text and blanks, if the outcome of narration goes against the audience's will, the result would be dissatisfaction. In this sense, the ability to control the narration provided by the game aspect of FMV helps the

audience stay immersed in the movie/game and feel the satisfaction of steering the narration in the direction s/he desires.

So an FMV, while giving the audience the real-life experience s/he can relate to emotionally and temporally, opens the door to strategic and tactical Immersion. In research previously conducted by the author, it was proven that the audience prefers the interactive narrative to linear narration; the research was conducted on books and videogames (Fazel,٨٠), but theoretically, interactivity is more desirable to readers and gamers, so it can be assumed that an FMV should be more desirable than a traditional movie.

However, there is an opposing view that says interaction while creates a room for the audience to satisfy the needs to know more, at the same time by giving choices to the viewer will ruin the control of the movie creator over the movie and his/her intended message could be lost in the process of changing the narrative. I cannot entirely agree with such a view because even though the viewer is presented with choices to manipulate the narration, s/he is not free. As mentioned earlier here we have an illusion of freedom from the text. The creator still can choose how many choices s/he is going to give the viewer or if they are going against his/her intended message or not. The next section of this paper is going to show how what theoretically stated is practiced in FMVs by continuing the discussion with ٣ examples. Showing how choices are presented to viewers/gamer in an FMV.

Erika (٢٠١٩) is a Sony Entertainment release and developed by Flavourworks. It is an FMV about a young girl who lost her father in childhood; now she understands that there is a secret cult behind the murder of her father, and she is more involved in the case than she thought. In the first step, the movie/game choices one of the most famous narration genres, a mystery, to narrates its story. The mystery is based on cause and effect in its core connecting to the human psyche significantly, and that is why the mystery genre is among the top three bestselling genres of literature (a recent survey done by Amazon Good Readers shows these results). FMV opens by asking the viewer/gamer to install a mobile app that accompanies the game as a controller. Players can play with a regular PS٤ controller touchpad, but the mobile screen provides easier control for the gamer. The movie enjoys two levels of interactivity. First, the interaction with the story as the player can decide how to change the course of the narration, and second, the small acts that can be carried to give the audience a more profound sense of control and help him/her to immerse more in the narration tactically and temporally, picture ١ and ٢ show these two types of interaction.
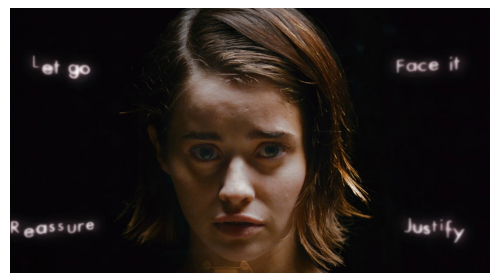
Picture ١ taken by author from Erika (٢٠١٩) gameplay on PS٤ ake decisions at the turning points of the narration. Each choice then creates a separate line of the story, and the player cannot change the choices until complete one course of the story. The movie provides the gamer with limited time for each choice, so this limitation won't allow the player to lose attention or make decisions against what s/he feels in the moment and ruin the immersive experience. This limitation may make some first-time players frustrated as they have less time to react to the game, let the more experienced players keep a pace in which they are moving similar to the average pace of a typical movie.

In this interactivity level, the viewer/gamer experience immersion in the FMV through the temporal, imaginative, emotional, strategical, and sensory Immersion. As mentioned earlier, temporal Immersion refers to the curiosity of the audience to unfold the story here by giving a choice to the viewer; the movie/game creates an excellent opportunity for gamer to satisfy his/her need and, in the process by increasing satisfaction creates a more attractive storyline for the player. This interest in attention then increases the Immersion as Immersion and attention are working on the same axis. As Valentijn T. Visch stated increase in Immersion would intensify the emotions (٥), which later again, according to Ryan, will result in more emotional investment in the character of the game and again increase the emotional Immersion.

On the second level, interactivity happens in the game by manipulating the objects in the game environments.
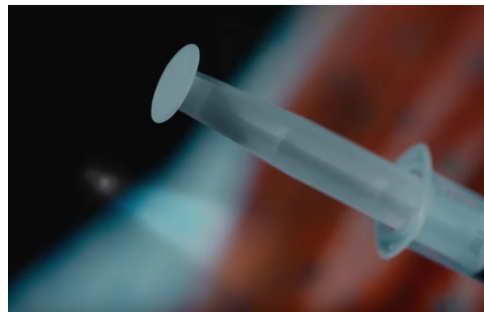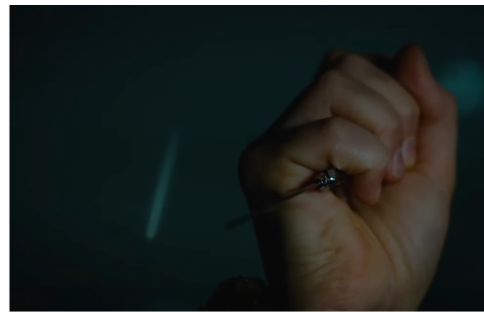
Picture ٢ taken by author from Erika (٢٠١٩) gameplay on PS٤

As shown in picture ٢, the player can open the bow by dragging his/her fingers in opposite directions on the mobile phone screen. An act that exactly mimics the opening of a bow in real life, the speed of opening the bow is in control of the gamer and can be done either fast or slow. This provides a unique opportunity for the viewer to experience tactical Immersion alongside temporal and spatial Immersion, an experience which is very rare in other mediums. At this point, while looking at the screen to follow the path of the character who is invested in, a gamer allowed physically to feel what that character feels partially in the moment. It lets the viewer immerse in the movie's fictional world deeper than the time s/he watches a classic movie.

This kind of interactivity in the plot's main points adds to the excitement of the player while pushing him/her more into the game's fictional world. At these intense moments, the human brain trying to make correct decisions according to the previous information, will lose its connection to real time and space. Simultaneously, game designers intelligently use these moments, adding physical interaction to make the player lose the connection to reality even deeper and immerse more profoundly into the game. (two of these moments can be seen in pictures ٣ and ٤).

The moments captured in pictures ٣ and ٤ happens right after a turning point in the story. Erika has chosen a vial of a drug that will either save her friend or kill her and now must inject it directly into her heart.

Picture ٣ and ٤ taken by author from Erika (٢٠١٩) gameplay on PS٤

The player's involvement in this moment of intensity of the story works well with the player's temporal Immersion. As an example of an FMV, Erika, both concerning cinematic experience and videogame experience, is thriving.

The next example, which will briefly mention here, is closer to the world of movies than videogames. ٢٠١٨ product of Netflix Black Mirror is an interactive movie playable on the smart TV. In the first step making the movie playable on a TV allow Black Mirror to be more appealing to movie lovers as they do not need a console. The movie in mechanism is like Erika, a game of choices. However, it does not give the viewers the luxury of physical interaction with the movie because of its platform limitations. In this example, the creators invested more in emotional Immersion, creating more choices for the viewers that do not change the course of the story but make the main character customizable to the taste of the audience. Choices such as: which music the main character should listen to or what cereal should eat

for breakfast. In some moments of intensity, the main character would sense the viewer's presence and directly ask him/her who you are and what you want? With this, the creators try to make up for the lack of tactical Immersion and increase the temporal and imaginative Immersion.

In both examples mentioned here, the viewer is addressed as a third person while providing a better view of the surrounding; it is less immersive in the area of being one with the main character. For the last example, this paper will go to an example that runs in the first person and uses a different medium to immerse the player in the movie.

The Infectious Madness of Doctor Dekker was developed and published by D'Avekki Studios in ٢٠١٨ for PS٤. The game starts with the player replacing Dr. Dekker, a psychiatrist who committed suicide. Player is employed to take care of Dr. Dekker's patients. The secretary mentions that Dr. Dekker did not commit suicide, and police suspected of foul play. As the new doctor, while you are treating Dr. Dekker's patients, you are looking for his killer. The game's point of view is the first person that lets the viewer immersed in the fictional world easier, there are numbers of occasions that the player can interact with the game environment, but the game is more concerned with temporal Immersion. It is a text-based game while the doctor can choose the questions from several questions provided by the game, s/he also can type in his/her own questions as well. While this may sound fascinating on paper, it is the movie's source of the problem; if the viewer sticks to predetermined questions, s/he can enjoy an immersive experience on temporal, sensory, and strategical levels. However, if s/he decides to explore more, although it will help him/her feel a more in-depth immersion, the game's limited data bank will result in many moments of dissatisfaction, facing the characters answering they could not understand the question. Also, typing on a controller is not very easy, and if the player does not own a keyboard, it will make him/her frustrated with the game. (in picture ٥, you can see a view of the game)
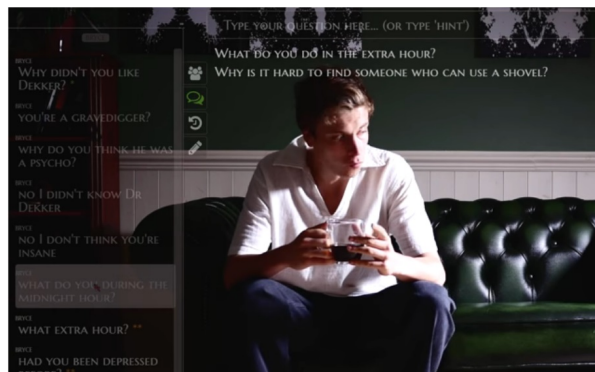
Picture ٥ taken by author from The Infectious Madness of Doctor Dekker (٢٠١٨) gameplay on PS٤

There are other examples of FMVs on PlayStation and Xbox played by gamers around the globe as a relatively new medium in modern shape FMV is the place that cinema and videogame industry join forces to create a market that keeps both their audience happy and provide for them a new experience like no other before.

IV. CONCLUSION

In this paper, I tried to discuss the FMVs and its place in the cinema and video game industry, showing that this medium is important, with its capacity can connect the customers of the two industries to gather and, as a result, created a new market. Creating a novelty experience is always one of each industry's main aims, and the game and cinema industries are not different. Noting the enhanced immersive possibilities of full-motion videogames, in addition to fiction's complicated possibilities for Immersion, future FMVs will easily enable the audience to experience where self-consciousness is lost, and our perception of time becomes distorted, and attention becomes so intensified in the FMV that fully absorbs us.

In Iran, narrative-based games are not very popular as playing them first needs knowledge of the language and second interest in literature. Moreover, most narrative-based games on platforms such as PlayStation and Xbox do not have physical copies or cracked, making them even less appealing to the Iranian audience. However, observing Iran's market shows that Iranian gamers' average age is getting closer to the universal one. An older audience for the game industry means more detailed narration and new experiences. I believe that an Iranian FMV can create a novelty experience for the audience and create a new market that can help literature get more attention and cinema a new boost in the time of the pandemic.

Moreover, an FMV can be used to transfer cultural codes to its audience, either Iranian or foreign, without resistance that educators get when practicing traditional education methods. Because of its immersive nature, the flow of learning happens unconsciously and more effective. This will make FMV a perfect vehicle for serious gaming to educate the audience about important subjects such as following social codes, following the moral codes, or… the same messages that movies and literature through history tried to transfer, this time with a more effective platform. Even in education, it can help the younger generation learn in an immersive environment. Immersion and attention have a direct relation. Learning indirectly by being immersed in a world that has been designed to improve the focus of the viewers on a specific subject can help the education system.

There is no doubt that creating an FMV is not easy as it both needs technological advancement and, at the same time, a well-written narration, but creating new experiences always is a challenging task to complete.

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