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Video Games, Virtual Reality, and the Progression of the Cinema of Interactions

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Introduction and the Cinema of Attractions

If a person were to walk in to almost any amusement park, they could surely find some sort of mixed reality experience. Often these consist of a combination of moving seating and 3D projection. While rides like these may seem futuristic and involving cutting-edge technology, their ideology actually traces back to the very beginning of cinema itself. See, one of the first known depictions of camera movement in cinema was used to display the movement of a train in *Départ de Jérusalem en chemin de fer* (Leaving Jerusalem by Railway, Alexandre Promio, 1897). This was a phantom ride, a genre of early film that simply captured motion and relayed it back to the audience in the cinema. The term *phantom* comes from the fact that the train was not shown in the film, as the display of the ride and geography was the main purpose of the footage. The phantom ride can be thought of as a sub-genre of sorts of a form of cinema that dominated the medium during its first ten or so years. Films from this era were what film theorist Tom Gunning brilliantly defined as the Cinema of Attractions. This form was not as concerned with its narrative means so much as it was in its ability to show something, what Gunning describes as “less as a way of telling stories than as a way of presenting a series of views to an audience, fascinating because of their illusory power” (Gunning, 64). The “illusory power” that Gunning mentions is not so much discussing the content of the images as it is their direct presentation to the audience. This power applies in equal sense to something seemingly realistic, such as Promio’s train ride, and something more fantastical like the titular journey in Georges Méliès’s *Le Voyage dans la Lune* (A Trip to the Moon, Méliès, 1902). Once narrative film became the most popular form of film, Gunning states that the Cinema of Attractions mostly went underground and into avant-garde. I believe, however, that the Cinema of Attractions has seen a further development in the last few years with the creation and release of virtual reality. VR has

closely followed in the footsteps of its cinematic predecessor with an exhibitionist style of early distribution and content that revolved around its presentation to the audience. While Gunning sought to dissect films from over 100 years ago, he may have inadvertently developed a theory of the direction of VR technology of the future.

In an attempt to evolve the Cinema of Attractions, I define a new term for interactable artwork, which I call the Cinema of Interactions. This is similar to Gunning's cinematic term, but it positions the interaction between the spectator and the art as the main attraction. To further develop this idea, I have created a virtual reality application of my own. It combines some of the best elements from both VR and console-based games to create something new. The application in question is a rhythm-matching game inspired by *Beat Saber* and *Audiosurf*. It utilizes gameplay akin to *Beat Saber* while implementing an audio analysis system similar to the one seen in *Audiosurf*. In doing this, it creates an adaptable world and experience that feels unique to each individual music preferences and playthroughs.

Virtual Reality in the Cinema of Attractions

The creation and distribution of cinema and virtual reality have more in common than one may initially realize. Before home theaters existed, and before traditional theaters even existed, cinema was mostly available to people through roadshows and fairgrounds. Even the first versions of theaters were extremely focused on the experience of watching rather than what the audience was watching. The design of theaters and their attitude toward film more closely resembled modern 4D theater/ride hybrids that can be seen populating amusement parks, because Thomas Edison wanted to design the theaters to emulate to the audience the feeling of being on the actual ride, or whatever was being shown. This incorporated external effects and movement to create a theme park ride sensation. This is not dissimilar to how consumers experienced virtual reality before traditional at-home headsets existed. At electronic conventions that were often open to the public, companies would showcase the technology they are working on but have not released yet, which included VR in recent years. This would frequently consist of a makeshift booth where viewers would line up to watch a short show then move on to something else. I personally was able to experience this at a show about two years before the release of any of the major VR systems. I was excited to try out the headset, as I had only read about the technology at the time, but was a little underwhelmed by the result. When I put on the head mount display, the only thing I witnessed was a display of lightning emitting from my standpoint. There seemed to be infinite possibility in that device, yet all that was being used for was just another way to display fascinating scenery.

Some of the first few widely released virtual reality projects have mostly consisted of extended attractions that bear a resemblance to early cinema. One of the more successful early titles, *Resident Evil 7: Biohazard*, is a great example of this. *Resident Evil* works as an attraction

because it drops the spectator into a dangerous and fantastical setting where one can be killed with the simplest of mistakes, yet it requires little input from the player to function. The game is not as much concerned with the reasoning and narrative of its situation as it is with atmosphere and presentation. The player does not need to know what created the monsters or the meaning behind each individual piece of artwork to accept and be astonished by the world. In fact, *Resident Evil*, and many other games like it, take a “less is more” approach because it usually is much more effective, meaning that sometimes what is left unseen is better at instilling fear in the players than levels of exposition. Since it is a survival-horror game, *Resident Evil* limits control and input almost entirely to movement. This presents the spectator with an exciting situation, one where they will be treated as if they were on the verge of being killed but know in reality that they are safe within their home. The game acknowledges the spectators are safe but encourages them to act as if they were in the dangerous world. This parallels the Cinema of Attractions in the way that films of that form seemed to acknowledge and even revel in the fact that they were being observed by someone from the outside, in a way that encourages observation. While it did this, it simultaneously knew that the audience was not a part of the world and could not participate in the action onscreen, which added further to the excitement of its presentation.

Even as virtual reality headsets have become more readily available to people, the exhibitionist format is still present. Many VR arcades and theme parks have started to open up, which are a collection of booths where each person pays to experience a short VR ride or show. This is very much a modern-day Cinema of Attractions. The exhibitionist style is nearly the same as it was in early cinema, it is just being displayed in a different format. The content of the shows of both eras is quite similar. As previously mentioned, one of the more popular concepts

to display in the Cinema of Attractions was the idea of motion. Many films would be presented from the viewpoint of a passenger. In VR arcades, one of the most common attractions are virtual roller coasters. This is where someone watches a virtual roller coaster ride in first person through the head mount display while sitting on a platform that may occasionally move to simulate the motion effects of the ride they are viewing. Virtual rides like these are basically utilizing modern day technology to fully realize Edison's early ideas for the cinema. However, not a lot of arcades have done much else with virtual reality other than rides like this. With the technology available with virtual reality, I believe it has the opportunity to move beyond a modernized version of Cinema of Attractions, where it emphasizes the ability for the audience to control the action, thus creating the Cinema of Interactions

Beat Saber and the Cinema of Interactions

The Cinema of Interactions is an idea that has been investigated before with the rise of digital content. For instance, in a 2006 piece by film theorist and media scholar Richard Grusin called “DVDs, Video Games, and the Cinema of Interactions, he uses the notion as an umbrella term of sorts to discuss the new widespread reach of cinema and media as it converts to a digital format. Grusin argues that cinema is changing from the traditional theater-viewing experience into what he sees as a “hybrid network of media forms and practices” (Grusin, 69). While he made some intriguing observations about the transition to digital media, especially considering how things have only seemed to become more connected since 2006 with the increasing presence of the internet, I feel as though Grusin could have been a bit more clear as to what he saw as the Cinema of Interactions instead of using it to blend together all forms of digital distribution. I seek to use this term in a specific way that both respects Tom Gunning’s groundbreaking analysis of early cinema and realizes a new participatory form of cinema that is possible with modern technology. My Cinema of Interactions describes art and cinema that solicits the attention of the audience in order to interact with what they see to create their own spectacle. Contrasting where Cinema of Attractions’ purpose was to entice the audience to view moving images, the Cinema of Interactions will allure the viewer to manipulate the image before them, thus transforming into new images and experiences that are unique to each person’s choices. Rather than thinking about this as a more abstract idea of digital multimedia, I see this definition of the Cinema of Interactions as a natural progression of Tom Gunning’s Cinema of Attractions, since in the most basic sense it refocuses the spectator’s interaction with the artwork as the attraction. Another reason I see this as an evolution of Gunning’s term is because of how he notes its connection to vaudeville and its relationship to the audience, when he illustrates that

“the spectator at the variety theater feels directly addressed by the spectacle and joins in, singing along, heckling the comedians” (Gunning, 66). Where this relationship served as a circulation of energy between the performers and the audience to keep the show’s momentum, the Cinema of Interactions will have a similar bond, but this time the spectator is responsible for direction of the display. The audience will be explicitly addressed and the action will not continue until they have decided how it should unfold, which constructs the spectator as the new creator. This also calls into question what qualifies as cinema. For the purposes of this project, I see artwork that revolves around the control of the audience, such as video games and VR applications, as fitting into the Cinema of Interactions, and artwork that are primarily motion pictures as traditional cinema.

What Richard Grusin accurately observed was that with growing amount of digital content, there started to be a greater importance of user interaction. Some video games that were created before the VR explosion reflected this change in direction and started to pave the way toward my definition of the Cinema of Interactions. One game that was particularly emblematic of this change is Nintendo’s *Super Smash Bros.* series. The brainchild of Masahiro Sakurai that began in the late 90s, *Super Smash Bros.* is a game that brings together video game characters from various franchises to fight in grand, and sometimes quite eccentric, multiplayer battles. The first iteration of *Smash Bros.* initially only included Nintendo owned characters, but has since gone on to feature well-known faces of the gaming industry such as Pac-Man, Sonic the Hedgehog, and *Metal Gear Solid*’s Snake, whose personality is about as far from a Nintendo character as one can get. Sakurai is keenly aware of the fact there is not a coherent story in the video game world or real world that would ever put any of these characters together, much less have them fight each other. Rather than focusing on a scripted story, he designed the game to put the

spotlight on the player and the narratives they build from their own gameplay. Video game journalist Derek Halm points out that instead of transpiring as linear path to the audience, the world of the *Smash Bros.* “becomes a game for the player to manipulate and change, ultimately urging the player to think imaginatively about what they are experiencing” (Halm). The opening of the first two *Super Smash Bros.* titles features an arm reaching for action figures of all the featured characters and then re-arranging them in a battle formation. This is a direct message from Sakurai himself, telling the player that he is giving them a toybox of all their favorite characters, and wants the player to go create their own stories with them. He is allowing the audience to “move the fictional characters away from their own worlds and into a new play pen of the player's own design” (Halm). For instance, if someone ever wanted to see Bowser finally defeat Mario and successfully kidnap Princess Peach, they could do it in this game. On the other hand, if they wanted someone like Pikachu to step in last minute to save them both, then that is something they can also create. *Super Smash Bros.* thoroughly belongs to the Cinema of Interactions because it presents the audience with an adaptable dreamscape and the tools to create a seemingly infinite amount of unique experiences. Sakurai gives the player everything they need to express themselves creatively, they just have to pick up the controller.

As virtual reality has progressed, applications and games have started to shift their attention from display to user interaction. One game that epitomizes this progression is *Beat Saber*, a VR rhythm-based game. In *Beat Saber*, the player is given two lightsabers, one for each hand, that they must use to slice incoming block targets in sync with music. The game provides a score based on how closely the player matches the beat of the song and how many targets they have successfully hit in a row without missing. *Beat Saber* is an impressive balance of interaction and display, as it presents a signature surreal neon-noir environment that evokes a

moody, *Tron*-like atmosphere. While it has a dazzling visual style, the main focus of the game remains on the player's engagement with the gameplay and music. The visuals reflect this attitude, as they never overpower the gameplay and even react and change as the player accurately hits targets that match the beat. This design choice allows the player to create what is arguably the greatest spectacle seen in the game, as the lights start to move in a unique fractal design as the player gets closer to perfectly matching the rhythm. *Beat Saber*'s choice to focus on user interaction has seemed to work in its favor and resonate with players, as it is currently the most popular virtual reality title and has remained on top of Steam's VR sale charts for a year now. The small Czech studio behind the game, Beat Games, has even been bought out by Facebook in their attempt to break into the VR market. With its increasing popularity, however, there has been a growing desire for deeper customization within the game. People continuously create unofficial modifications to allow for more customization. The main reason for this is that the game only includes ten songs to begin with, all of which were composed in-house specifically for it. With a game centered around music, people would naturally want to play to their favorite songs and artists. This element of *Beat Saber* acts as both a restriction and a challenge to innovate. It has a solid foundation with captivating rhythm-matching gameplay in virtual reality, but it can be taken a step further to give the player a stronger voice in the game they are playing.

My Project and Evolving the Cinema of Interactions

Beat Saber is an application full of imagination and a step in the right direction toward the Cinema of Interactions, but I believe there are still areas of opportunity to improve within the framework of the game. This is where my project comes in. With my game, I aim to combine the rhythm-matching elements of *Beat Saber* and the player choice and control that can be seen in a game like *Super Smash Bros*. Whereas in latter, Masahiro Sakurai was giving players a toybox of their favorite characters to create stories out of, I am providing the audience with a jukebox of their favorite music to craft unique experiences out of. In doing this, I am creating a fun and not too unfamiliar user interaction that puts a stronger emphasis on the distinctive individual playthrough that comes with choosing one's own music.

The first element of rhythm games like *Beat Saber* and *Rock Band* that can be improved is something that might at first seem trivial, but in actuality is one of the most important aspects of any console or VR game: the geometry. When in virtual reality, the player should feel that they were literally transported to a new space, free to look and play in any direction. However, the blocks that the player needs to slice in *Beat Saber* only move toward them from the Z-axis, forcing them to play in just one direction. This is a problem with multiple games and applications other than just *Beat Saber*: the VR headset gives the player an infinite sense of space, but then they are restricted to only look and interact in their immediate forward direction. VR should not just attempt to imitate reality, it should construct one. In the real world, one is required to look and move in many different directions, and in the virtual world, one should have to behave similarly. To enforce something like this, I designed the targets to come toward them from a much larger depth of field, utilizing the players' full peripherals. This may present more of a challenge to the player, as they will have to now look up, down, left, and right, in addition to

their forward direction because the targets will spawn from all around them. While this is a more demanding design choice, it also takes full advantage of the capabilities of virtual reality. If a player is put into a new reactionary world, then it should act like an actual world and not just a series of objects that they need to hit.

The next element that I am integrating in my game, which is most likely what will set it apart the most from other virtual reality applications, is the way in which it incorporates the player's music. Almost all rhythm games have a predetermined track list for gameplay. This means that the developers have selected certain music to include for their game and have gone through and made levels specifically for each individual song. While this is a good approach for having exact precision in gameplay, it can be limiting in other terms. Specifically, I became somewhat frustrated that VR rhythm games seem to consist almost entirely of modern pop and electronic dance music. Given the futuristic-techno aesthetic of most of these games, these are fitting to the designs, but limiting to fans of different genres of music.

One game series, however, frees the player from the restriction of a predetermined song list. This is Dylan Fitterer's *Audiosurf* series. The way *Audiosurf* works is that the user provides the game with song files from their computer, and the game then analyzes those files and creates levels out of them. The levels play similar to *Rock Band* and other rhythm games; the player controls a ship that must surf a track set to the music, catching orbs that are in sync with the beats and avoiding obstacles along the way. What is unique about *Audiosurf*, other than the unlimited music library, is that not only does it provide strong beat-matching gameplay, but it also alters the design of the world and level based on elements of the chosen song. For instance, the shape and elevation of the track itself changes based on the momentum of the song, so the track will be on an incline during the buildup of a song and a decline during the release. The

speed will also alter based on the moments of intensity of the song, meaning the ship will speed up and slow down according to the current energy levels. While design choices like these may just seem like nice little effects to most, they actually utilize the audio analysis to craft a special and distinctive ride for each chosen song, and thus each player's experience. This puts *Audiosurf* into the Cinema of Interactions alongside *Smash Bros.* because the world is created according to the player's unique interaction and choices they have made. This engineering and attitude towards its players create truly adaptable gameplay that changes to, and even celebrates, a diverse musical pallet.

The robust analysis offered by *Audiosurf* gave me an idea of how to break from the limitation of a prearranged song list seen in most other rhythm games. I am evolving from this by implementing a system that takes in any audio file that a player provides and analyzes it to create the gameplay based around their chosen music. While this is a fun and exciting gameplay feature, it carries much more meaning than just fascination. The ability to use whatever song a player chooses is a key contribution to the Cinema of Interactions. Allowing any song to be played gives the power of creation back to the audience, which is something that may not have been possible during the Cinema of Attractions but should have more focus today. It makes the experience more accessible to a wider audience by allowing all preferences in music to be played. It goes even further than simply allowing different music by reconstructing the world distinctly with each song, such as adjusting the speed in accordance with the energy levels like in *Audiosurf*. It also illuminates the scene with the changes in frequencies of the audio signal. When the audience chooses the music they want to play with, they are choosing how their story will unfold before the show even starts. The audio analysis system is there to help construct a narrative that felt tailor-made for each individual person, one that they had a voice in creating

and feel positioned around. This makes them essential, and even the focus, of the newly created attraction.

The word *interaction* implies reciprocal action between multiple people or things. To have a game, or any artwork for that matter, be truly interactable, it must communicate back to its player or spectator. There are many different ways for a game to effectively communicate with its audience, whether it is through dialog choices like in role-playing games, a short celebration for the winner as seen in *Super Smash Bros.* or Nintendo's *Mario Kart* series, or a score that increases with a better performance. A scoring system is the form of communication that is most often used in rhythm-matching games, since it is able to quickly congratulate players for staying on beat while not distracting them for long to avoid pulling them out of rhythm. To communicate back to the players, my game will be utilizing a scoring system similar to those of other rhythm games. The closer the player is to matching the beat, the higher their score will be. It encourages and requires them to put in energy and focus to play the game correctly. At the same time, however, it acknowledges and rewards the sometimes hard work it can take from the player to achieve a higher score, successfully forming a two-way interaction between the player and the game world.

Conclusion

Some may argue that virtual reality and the digital age are contributing to the death of traditional cinema. Even acclaimed auteur Martin Scorsese has given his input, arguing that Marvel Studio's dominance at the box office has turned the modern theater experience into an amusement park ride. While cinema is certainly different now than it was in Scorsese's prime, I would argue that virtual reality is not attempting to take its place. Instead, I believe VR will become a form all of its own, a piece of the Cinema of Interactions. Traditional cinema was always a collective experience, part of the enjoyment of watching the film came from viewing the projection together as an audience. For the most part, virtual reality is all about the relationship between the singular player and the world they are thrown in to. It is a very individual experience, and by focusing on the individualism it creates, VR can open up an enormous amount of possibilities. I personally sought out to create an application that revolves around people's distinctive choices and preferences. Instead of thrusting the player into a predesigned world, it creates it dynamically to the player's music taste. It keeps in communication with the player by rewarding them for successfully matching the rhythm of their music. My application will hopefully inspire others to create more projects to further expand the concept of the Cinema of Interactions.

Works Cited

Audiosurf. Fitterer, Dylan. Audiosurf, LLC, 16 Feb. 2008.

Beat Saber. Beat Games, 21 May 2019.

Grusin, Richard. "DVDs, Video Games, and the Cinema of Interactions." *Ilha Do Desterro A Journal of English Language, Literatures in English and Cultural Studies*, no. 51, 2006

Gunning, Tom. "Cinema of Attractions: Early Film, Its Spectator and the Avant-Garde." *Early Cinema: Space, Frame, Narrative*, 1990, pp. 63–70.

Halm, Derek. "The Appealing Abstraction of Masahiro Sakurai." *PopMatters*, 17 Dec. 2008, www.popmatters.com/65506-the-appealing-abstraction-of-masahiro-sakurai-2496104520.html.

Resident Evil 7: Biohazard. VR version, Capcom, 24 Jan. 2017.

Super Smash Bros. Sakurai, Masahiro. Nintendo, Jan. 1999 – Dec. 2018.