Magic Show: Themed Experiences Utilizing Animation

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MAGIC SHOW: THEMED EXPERIENCES UTILIZING ANIMATION

by

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A thesis submitted in partial fulfillment of the requirements for the degree of Master of Fine Arts in the School of Visual Arts and Design in the College of Arts and Humanities at the University of Central Florida Orlando, Florida

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ABSTRACT

Magic Show is an animated short film created in the Unity game engine that follows a mischievous fairy named Faye, who attempts to deceive her human audience, the viewer, into believing she can do magic. My goal in the program was to create a themed entertainment experience. I created a point-of-view animated film as an alternative to traditional theme park 3D/4D attractions that typically take place in a theatrical setting with large audiences. This allows for a more intimate experience and accessibility in the absence of a physical theater. The storyline itself is a study of imposter syndrome. Instead of embracing who she is, Faye tries to convince the outside world that she can do magic like a typical fairy. Her feelings reflect my own experiences and the shared experiences of my peers as females in male-dominated fields where similar emotions arise.

Please view the film here: https://shorturl.at/beGHR
For Mom, Dad, Annabelle & Ben

For Gio
ACKNOWLEDGMENTS

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People have used film as a therapeutic device since its popularity exploded in the early 1900s. While the Great Depression was in full swing, movie theaters stayed full ("Historical Context: Movies in the Great Depression"). Movies allow people to travel to places they have never been, meet people they have never met, and experience things they never have and might never be able to experience within the safety of their seats. Films provide an escape from current worries, as we are freed from speech or thoughts irrelevant to the film for two hours at a time and allow a safe space to explore fears, emotional connections, and human experiences (Gabriel).

Theme parks, like film, are also used as a place to escape the inconveniences of life. When Disneyland opened in 1955, the stresses of the average American were plentiful. World War II was still fresh on the minds of many Americans, and the threat of the Cold War intensified (Heimler). Despite the current political climate, with the help of an influx of counterfeit tickets, nearly double the expected number of people arrived on Disneyland's opening day (Taylor). Founder of the theme park and entertainer Walt Disney said, "If people would think more of fairies, they would soon forget the atom bomb." (Fiskwick 187)

However, as time passes and people are privy to the behind-the-scenes process and creation of their favorite entertainment, it becomes more difficult to buy into the fantasy. The illusion is shattered when it suddenly seems apparent that the actor is not flying but hanging from a wire, or the fire is mere lights and a smoke machine. How do
we keep audiences engaged and invested in the immersion of storytelling? As technology and visual effects evolve, new ways exist to engage audiences. Theme park attractions are advancing exponentially. The contest is always on to make something more immersive and a more memorable experience.

With today's technology, the opportunity exists to combine the limitless space that comes from film, the creative freedom that exists in animation, and the physical space of a theme park to make an experience that is truly immersive, realistic, and fulfills the escapist need. This thesis will explore using an animated film as a themed entertainment experience with the intention of developing further into a virtual reality film in the future.
CHAPTER TWO: INFLUENCES

Theme Park Influences

3D and 4D shows are already prevalent inside theme parks, and I was inspired by these experiences to create one of my own. When I visited theme parks, I was always delighted by the experience of having the film enhanced by smells or spraying water. There was a charm about having the effect of the 3D characters speaking and reaching out just to you. I also noted how my fellow audience members would delight in these moments. These kinds of shows give a personalized experience compared to typical attractions because it gives the illusion through 3D that the character is speaking directly to the audience.

One such example of this show is Muppet Vision 3D inside Disney's Hollywood Studios at Walt Disney World Resort in Orlando, Florida. In the film, the Muppets create a comedy routine centering around using the 3D technology they have just installed in their studio and testing the new technology with silly gags. Their machine creates a new 3D character out of this technology, which is the show's star. He interacts heavily with the audience and demonstrates the full impact of having a 3D character through visual gags. There is one line where he says, "All these people think I'm talking to them, but really, I'm talking to you!" and reaches his nose out to almost touch you in your seat - or so it appears through the 3D glasses.

Using 3D gags to personalize the experience for the audience is a familiar concept to those who have experienced 3D. Even sans 3D, interactive shows where
actors single out audience members often delight crowds. The idea of personalized interaction, in particular, influenced my project. In *Magic Show*, Faye speaks directly to the audience the entire time. This novelty is accentuated during the experience by Faye’s comments throughout the show. For example, after initially surveying her audience, Faye says, "That's it? Only one human?" pointing out the sparse audience. Viewing in a VR headset would amplify this personalization since there is only one viewer at a time.

**Artistic Influences**

*Magic Show*'s set and contextual elements are heavily influenced by classic fairy tales with a timeless feeling. I particularly enjoy stories rooted in traditional fairy tales but include unexpected twists on the originals or occur in the modern world. Starting with the environment, it should feel immediately familiar. Thus, I pulled inspiration from the enchanted forest of *Once Upon a Time*. In the television series *Once Upon a Time*, the enchanted forest is the background for many plots and characters rooted in various fairy tales. Snow White, Cinderella, Robin Hood, and other traditional fairytales simultaneously occur in this same forest. None seem out of place (Gonzalez, 2012). In *Magic Show*, similar thick, vibrant green foliage to the show is seen in the environment.

The character of Faye pulls much inspiration from the Walt Disney version of Tinkerbell from *Peter Pan*. She is spunky and sassy, even without speaking a single word throughout the film. Her movements and body type are highly feminine and
Virtual Reality Influences

Virtual reality is a simulated three-dimensional, computer-generated environment that allows users to explore and interact with a virtual environment in a way that approximates reality (Virtual Reality Society). The first virtual reality experience dates back to 1956, with the Sensorama invented by Morton Heilig. The Sensorama was a booth that could fit several people that showed 3D film footage combined with audio, vibrations, smells, and atmospheric effects. Heilig believed that his invention and this type of immersion into a film were the future of cinema. Throughout the 1980s, virtual reality progressed enough to be used for training for pilots and astronauts. In the 1990s, it became more mainstream as arcade games that used virtual reality headsets.
premiered. Modern VR came to fruition in the mid-2010s, with Facebook, Sony, Google, and Samsung all developing their headsets (Bernard).

During this time, in the late 2010s, I had the opportunity to experience an experimental virtual reality activity at a place called The Void. Upon arrival, visitors donned a virtual reality helmet and a backpack that carried the necessary hardware to power the headset (Hamilton). I traveled through a physical set of connecting rooms in a small group.

The physical set aligned with what I saw inside my headset view in virtual space. For example, a point in the virtual environment showed a keypad. If I reached out my hand, I could feel the keypad buttons. The Void played with the user's senses. If we saw lava in our virtual world, a rush of heat would radiate, and the scent of smoke would fill the room. In the headset, water sprayed, so in reality, water sprayed. Adding the physical effects also helped sell the reality of the experience ("Star Wars: Secrets of the Empire - ILMxLAB and The VOID - Immersive Entertainment Experience"). In the end, when I could remove the headset and see what was in the physical space, I realized throughout the experience we had been traveling through plain, gray, empty rooms that occasionally had interactive set pieces.

The Void initially inspired my project because it showed how virtual reality could suit a fully immersive themed experience without building elaborate sets. Everything was built virtually, but the minimal set decorations, effects, and interactive pieces helped elevate the experience substantially. It was exhilarating, even though I watched an animation while walking around an empty, gray room (Di Pancrazio). I decided to use a
theater setting to apply the basic concepts of this to my film. This way, a physical chair in a room could match a chair’s placement in the headset environment, and the remainder of the set would be virtually generated, just as how The Void used simple set pieces in their experience.
CHAPTER THREE: CREATIVE DECISIONS

Experience

My initial interest in animation and this program stemmed from my involvement and lifetime fascination with the themed entertainment industry (i.e., Theme Parks). Specifically, I was interested in attraction and experience design. As I learned more about this career path and spoke to others currently doing what I wanted to do for a career, I learned that animation and computer visual effects are highly prevalent and sought-after industries in the theme park business.

Thus, my project started as a full-ride experience. I wanted the viewer to feel like they were on a first-person point-of-view roller coaster. However, my early investigations down this path led me to revise the project's scope. At the suggestion of my professors, I then transitioned it into a pre-show format. These are typically short films shown at the start of an attraction to add context to the story of the ride you are about to experience.

Ultimately, I realized that animation could be an experience in itself. Since my goal was to learn about the attraction-building process, I wanted to complete the program with something that could be an attraction. Therefore, I developed my project as an encapsulated experience by designing a show. I decided to manage the thesis program's constraints and mirror existing attraction types similar to contemporary 3D/4D shows, like the previously mentioned Muppet Vision 3D. The idea is unique from the existing attractions in that it is an independent experience not bound by physical space.
constraints, such as the look or design of the show building or even having a physical building.

Genre

In a TED talk by Elizabeth Chaplin entitled Why Fantasy Matters, Chaplin discusses how fantasy allows people to be more accepting of things they do not understand ("Why Fantasy Matters"). This point seems valid when considering the abundance of moral lessons in fairytales and fantasy stories. While the story of the Three Little Pigs seems to be a silly tale of pigs outsmarting a wolf, the real lesson is to put effort and care into personal actions. They teach difficult lessons in a digestible and memorable way. To elaborate on this point, psychologist Dr. Kevin Brown says, "Most fairy tales and fantasy stories often have morals embedded within them, and entire societies benefit from instilling these in children from a young age." (Thorton)

In Magic Show, the story’s core theme is overcoming imposter syndrome. This concept can be challenging to understand if it has never been felt. Focusing on a fairy that cannot do magic simplifies the intense feelings of imposter syndrome. It is easier to understand complex topics when presented in an animated fantasy story format. However, this idea does not just apply to children. A recent Harvard University study of graduate students found that "...reading fiction is strongly correlated with higher levels of emotional intelligence, including empathy, understanding of others, and deep thinking." (Seifert and Clayton).

Fantasy stories and mystical worlds are also the peaks of escapism. In the article, The Psychology of Fantasy, two psychologists, Dr. Christine Gockman and Dr.
Kevin Brown, discuss why so many people are drawn to fantasy. They mention that as children, we tend to be drawn to fantasy because it is easier to participate in a world without logic. As adults, when creativity is often stifled in the day-to-day routine, having an outlet through fantasy can be healthy and fun (Thornton).

**Story Decisions**

One struggle in my personal life that I have had as I have grown older is dealing with imposter syndrome. As defined by Psychology Today, someone with imposter syndrome feels "... that they are not as competent or intelligent as others might think—and that soon enough, people will discover the truth about them." ("Imposter Syndrome").

In my personal experience, I often felt like my work could be better. Even when I get accolades, I convince myself they did not realize how simple the task was that I completed. Similarly, I had these feelings as a student. I came into the program with a very different background and experience than other students, and often felt that I did not deserve to be a part of it. Furthermore, there is a restricting feeling of needing to live up to expectations.

Throughout the past few years in school and work, I have bonded with other women with the same feelings. It is so common that nearly every woman I encounter has mentioned dealing with it. A study by the Klynveld Peat Marwick Goerdeler Women's Summit found that imposter syndrome disproportionately affects women, with 75% of executive women across all industries reporting that they experience imposter syndrome (Kawasaki).
These overwhelming feelings and the seeming epidemic amongst women inspired the plot of *Magic Show*. Faye is a woman whose internal struggle is put on display quite literally on a stage with the spotlight on her. She is a fairy, and the immediate assumption upon seeing a fairy is that she can do magic. Faye embodies one of the symptoms of imposter syndrome: the feeling of not living up to expectations (Rice and Reynolds). She cannot do magic, or at least has been led to believe she cannot, so she puts on a magic show of silly magic tricks that even a human could achieve.

One combating mechanism of imposter syndrome is to decide to be confident (Elliot), which is Faye's route. She is over-confident and showy. However, as she does her tricks, the imposter syndrome resurfaces. She says self-deprecating words after each of her tricks before finally breaking down and admitting to the audience that she cannot do anything correctly. Only after this moment of vulnerability does Faye's raw power come through, and she creates magic by her emotions surging lightning through the sky. After this realization, she is proud and happy with herself. She learns that her fear of failure and worry about incompetence was impeding her abilities.

This climax comes from another way to overcome imposter syndrome: owning your accomplishments ("Impostor Syndrome: What It Is and How To Overcome It"). A significant catalyst of imposter syndrome is chalking accomplishments up to luck or coincidence. In my personal experience, instead of saying, "I am fortunate this happened to me," or downplaying my accomplishments, I have started simply giving thanks at compliments or acknowledgment of my hard work. In the end, Faye does this
as well. This story aims to simplify overcoming imposter syndrome in a digestible and entertaining way but still has the lesson attached.

Character Decisions

As discussed in the previous section, personality decisions regarding Faye’s confidence were a manifestation of one way to deal with imposter syndrome. Additionally, Faye is hot-tempered and gets rather angry at the viewer throughout the show. Insecurity often pairs with anger (Leino), so Faye also displays these intense emotions, even though she tries to hide them by quickly moving on or justifying them.

As for her character design, she has a bright, flashy look. Her coloring is very bright, from her hair down to her shoes. Her design illustrates that imposter syndrome
can and does affect everyone, even people that look incredibly confident. Tinkerbell, Walt Disney's angry, insecure fairy, inspired Faye's design. Tinkerbell wears a short green dress, as Faye does in the figure above. Green is representative of nature and forest, which is Faye's home environment. It can also represent rebirth and progress, which is also appropriate for Faye's journey throughout as she progresses through the story (Przybyla). The pops of color on her belt, shoes, and hair are green's complementary color, purple. Purple is often associated with fantasy in popular culture (Adobe), with magic often represented with purple, such as Maleficent's magic in *Sleeping Beauty*.

**Setting Decisions**

The enchanted forest is a commonly used setting inside fairytale stories. This is often because it depicts what is outside our familiar comforts of home and serves as a new environment to explore and learn ("Fairy Tale Settings: The Forest"). The protagonist typically enters the forest innocently and emerges with lessons learned. An example is Hansel and Gretel, who head into the forest naive and unprepared, but leave knowing how to better navigate the world (Spelman). This is the journey that the audience goes through in the *Magic Show*. They enter this forest world without knowing what to expect and leave having learned new lessons from Faye.

The show is inside a meadow within this enchanted forest. The meadow provides a feeling of safety in this unknown world since this story is not meant to be scary. Fair showgrounds, where audiences gather outside to watch open-air performances, inspired the stage and seating setup. As mentioned in previous chapters, a theater
setup was chosen to practically lend itself to a virtual attraction with minimal set pieces, and to spotlight Faye’s struggle and insecurities. A more organic look to fit in with the scenery was achieved by designing the seats as tree stumps, and the stage covered in vines and flowers.

Figure 3: Overhead view of the tree trunk seating and stage in Magic Show. Created by the author - 2020
Figure 4: Overhead view of the entire environment to demonstrate the meadow space that the stage is in compared to the thick vegetation. Created by author - 2020
CHAPTER FOUR: TECHNICAL DECISIONS

Unity

The majority of *Magic Show*'s development took place inside the Unity platform. Unity is a game engine, meaning it was originally intended for video game development. However, game engines are expanding and proving helpful in more industries, including animation production.

Several studios and projects, such as Disney Television Animation with their show Baymax Dreams (Smith), are experimenting with their entire production pipeline streamlined into a game engine. There are many benefits to this process. For one, it allows for real-time creation. Real-time means that the current state of the production is viewable at all times since renderings are happening so quickly that it is almost instant (Failes). Lighting, camera, and textures are all seen in their present iteration without needing to export and render. This pipeline is an advantage over the traditional animation pipeline, where typically, all elements are united in a compositing program; therefore, you would only see the final result once each part is complete.

There were many other advantages to using Unity, making it an all-encompassing tool for *Magic Show*'s production. Visual effects were created procedurally entirely inside Unity, using the particle system already in the game engine. I have a computer science and coding background, and Unity proved very developer-friendly. I could open an integrated developer environment (IDE), by directly clicking on the effect that needed editing. One effect created this way in *Magic Show* is the firefly
lighting, with random ideation and appearances in size, speed, location in the space, and slight color variations. The random generation allowed for variances and interest in the environment. Other effects created this way are atmospheric fog present throughout the entirety of the film and a tornado effect that was ultimately cut from the film.

Lighting was likewise entirely controlled in engine. High dynamic range images (HDRIs) were used to create and adjust environmental lighting. Individual lights, such as the spotlight on Faye, were also easily added and adjusted in three-dimensional space.

Unity provides a built-in editor that allows adjustments to be made as the project progresses. Access to the current animatic was readily available at all times. There is a recorder plug-in that allows for output from a camera that is in the virtual space.

Figure 5: Work in progress Unity window showing the editing timeline. Created by author - 2023
In *Magic Show*, a camera is in the stationary front seat row of the audience facing the stage. The static method allows control of the audience's perspective since a stationary camera restricts the orientation and positions the viewer towards the front while still allowing visual exploration of the environment and effects. A stationary camera lends itself to the theater environment since, in a typical theater setting, the audience would be generally confined to a seat to watch a show. A stationary camera also simplifies technical challenges since the view of the audience is going to be the same at all times.

Additionally, Unity provides access to a large library of public assets that can be loaded directly via the game engine user interface. I took advantage of the library to save time on creating my environment by using the basic preloaded trees, plants, grass, and other assets and placing them throughout my scene to get the environment looking as desired quickly.

**Motion Capture**

In *Magic Show*, Faye's animation was accomplished entirely with motion capture, with minor clean-ups after the process. The initial footage was captured in a motion capture studio using a body suit covered in markers. Professor Cheryl Briggs assisted with capturing the footage and cleaning up the initial movements. We connected the body suit to a generic 3D character inside AutoDesk Motion Builder. After the clean up, we applied the movements to Faye's basic rig inside Maya. Inside Maya, the next step was cleaning up minor clipping or awkward movements that resulted from reapplying the animation to the final character model.
Throughout that process, the current character iteration could be continuously exported into Unity to allow the most up-to-date animation inside the engine. I solidified a pipeline by initially exporting the geometry and rig of the character into Unity without the animation as a Filmbox (FBX) file format. After an update was made on the FBX file, I selected the geometry and rigs with the animation baked in. Using an animator controller, this new FBX could be applied to the model already inside Unity. The animation controller also allows for adjustments to the animation directly inside Unity.

*Figure 6: Emma Cuitino (author and Faye actor) in motion capture studio on day of filming - 2021*
Motion capture also allowed for a significant decrease in time spent in the animation process. The film's main animation was finished in a few hours, with only a minor clean-up completed after the session. The quick turnaround contrasts the typical weeks-long process of animating by hand. Artistically, the motion capture also empowered the character’s personality to come through in the movements. Faye is humanoid, so her movements did not need to be greatly exaggerated outside the typical human range. Thus, having an actor portrayal through motion capture led to natural and realistic movements.
CHAPTER FIVE: CONCLUSION

Using animation can lead to more creativity and opportunity for theme park experiences. *Magic Show* demonstrates an immersive storytelling experience created entirely with animation that blends into the world of theme parks, being comparable to existing three-dimensional show attractions present around the world. Using game engine technology like Unity, motion capture, and a solid pipeline also allows for the iteration of an experience like this to be more realistically completed and implemented.

With the growing need to create immersive and unique experiences, *Magic Show* demonstrates how traditional storytelling can be incorporated into these experiences. Time-honored storytelling techniques can be applied to create meaningful and exciting experiences that resonate with wide ranges of audiences. *Magic Show*’s plot touches on my experience and struggles with imposter syndrome in an approachable fairytale format to convey the experience to viewers. Similarly to how Faye realizes that she had the ability to do magic inside her despite her fears and doubts, through completion of this project I learned that I was capable of things that I doubted myself to be able to do.
REFERENCES:

"Historical Context: Movies in the Great Depression." Virginia.Edu, xroads.virginia.edu/~ug03/comedy/historicalcontext.html#text=Throughout%20most%20of%20the%20Depression,one%20social%20event%20available%20to..


"Why Do People LOVE DISNEY PARKS?" YouTube, uploaded by Heimler’s History, 18 Jul. 2019, www.youtube.com/watch?v=SMJfExY1-hQ&ab_channel=Heimler%27sHistory.


