

Director's Statement

When I sit down to watch a movie for the first time, I want to get lost in the story that it is telling. I want to cheer for the triumphs, groan at the losses, and become engrossed in the tales of all its characters. Sometimes, as a bonus, I even come away feeling as if I've learned something valuable about life itself. To be honest, most of the films I watch are purely for entertainment, whether it is the latest summer blockbuster, or a black-and-white classic film from Hollywood's Golden Age. I usually do not watch movies intending to deconstruct its artistic choices and careful composition. I am no film critic, but I am a lover of films.

A couple years ago, I took my love of films one step further by watching videos describing the process of making many of the films I took for granted. I had watched interviews of cast members and sometimes directors many times before, but rarely had I ever gone so far as to watch the technical process of actually producing a film. The amount of artistry, innovation, manpower, and sheer computing it took to produce even the most straightforward of films astonished me. Surely film production was not this difficult and convoluted? I now looked with new eyes at the films which I had watched before with mere enjoyment. It began to seem unjust to me that the film's actors, directors, and producers reaped a disproportionate amount of the their film's success, both financially and socially, while countless visual effects artists found themselves unemployed after their production houses closed up shop and moved on to the next filming location.^{1,2} And yet, despite the myriad problems plaguing the visual effects industry, I could not help but be drawn into this new world of film production and visual effects that I had unwittingly uncovered.



Figure 2: Still from *King Kong*



Figure 1: Still from *The Invisible Man* (1933)

Visual effects refer to the process of combining imagery that has been created off-camera with live-action film, most often in post-production. The effects we have seen in film in the past thirty years would not be possible without the aid of computers. Prior to this, more traditional techniques such as miniature models, puppetry, matte painting, and stop-motion animation took center-stage in movies such as *The Invisible Man* (1933) and *King Kong* (1933). A selection of more recent films such as *Jurassic Park* (1993), *Ghostbusters* (1984), and the *Lord of the Rings* trilogy (2001) have used such traditional techniques. Today, even films which do not immediately seem to have visual effects have been retouched in some way. These effects are often integral to the movie's success and appeal. *Transformers* (2007) would not have been the same with mere puppet models of the titular robots in place of the computer-generated models used in the film. And although Robert Downey Jr. was the soul of *Iron Man* (2008), audiences would not have been satisfied with merely watching him strut around conventions for the entire film. Visual effects do not only make films more appealing to watch – they also enable them, often for a fraction of the cost. Obviously, *Star Wars*, *Avatar*, *Alice in*

¹ Verrier, Richard. "Generating Stunning Visual Effects, but Not Enough Revenue." *Los Angeles Times*. N.p., 24 Mar. 2013. Web. 1 May 2013.

² Watercutter, Angela. "Green Scream: The Decay of the Hollywood Special Effects Industry." *Wired*. N.p., 01 Mar. 2013. Web. 01 May 2013.

Wonderland, the *Lord of the Rings* trilogy, and countless other films could not have been filmed on-location.

The technology that is available today to even the amateur filmmaker is leaps and bounds beyond what was available to professional film studios thirty years ago. Sometimes the relative ease of creating and integrating special effects can get in the way of telling a truly compelling story. Movie critics widely panned *Transformers 2: Revenge of the Fallen*, dismissing it as “computer generated hash”³ for its gratuitous usage of flashy effects and large explosions rather than focusing on a coherent story.⁴ Similarly, *Avatar*, which was widely praised for its groundbreaking use of motion capture technology and 3D pre-visualization techniques, was equally attacked for its derivative story.^{5,6} Even today, in an age where it is possible to simulate battles in outer space and enormous floating aircraft with a high degree of realism, a film cannot succeed on the strength of its visuals alone.

I mentioned before that I loved films for their stories more than for their art. After I became aware of the challenges of film production, I began to notice the art more and more. I could no longer simply enjoy a film for the story it told. Instead, I challenged myself to think more about the movie while watching it. Since a great number of people had carefully chosen the images and audio passing before my senses in that moment, surely I could derive something more from the film experience than the story alone. I still watched movies primarily for purposes of entertainment, but I began to take note of the movies that were truly good, rather than merely enjoyable. In particular, I paid attention to movies that were able to use current technology well, with “current technology” referring to visual effects. I loved finding movies that, despite being filled with obvious special effects, were so enthralling that the technology behind them just melted away. To me, those movies were magical. How could I forget the fact that there are no such things as house-elves, or hobbits, or starships? There came a point when I could no longer be satisfied with watching films. I had to start making them.

The Space Between is my senior capstone project for my Arts, Humanities, and Social Sciences concentration in Film & Animation. It tells the story of Roger and Jane, a college-aged couple who find themselves drifting apart in a time when virtual reality glasses have become common-place. These glasses, called the Spectacle-Projectors, (Spec-Tors for short) allow the user to see the world around them as anything they desire, though the user is limited by his or her physical surroundings. Roger and Jane start out with differing attitudes towards technology, and the contrast between their attitudes is only exacerbated with the arrival of the Spec-Tors Unlimited, which allows users to upload their minds to an entirely digital virtual reality.

The concept of escapism is a major driving force behind the entertainment and recreation industry. Whether it is achieved through reading novels, watching television shows, playing video games, or even adventuring into the great outdoors, people have displayed



Figure 3: Google Glass (top) is an augmented reality technology soon to be offered by Google. Oculus Rift (bottom) is a virtual reality headset with innovative head-tracking and close to 180 degree fields of view.

³ Edelstein, David. "Review." Rev. of *Transformers: Revenge of the Fallen*. *New York Magazine* n.d.: n. pag. *New York Magazine*. 2009. Web. 01 May 2013.

⁴ Barnes, Brookes. "'Transformers' Sequel Scores Big Win." *New York Times*. N.p., 28 June 2009. Web. 14 Apr. 2013

⁵ Dargis, Manohla. "James Cameron Creates a New World, Both Cosmic and Cinematic." *New York Times*. N.p., 17 Dec. 2009. Web. 14 Apr. 2013.

⁶ Itzkoff, Dave. "Opening Pandora's Box: The Arguments Over *Avatar*." *New York Times*. N.p., 22 Dec. 2009. Web. 14 Apr. 2013.

tendencies towards wanting to escape their own lives, if only for a little while. The recent hype around Google Glasses⁷ and Oculus Rift⁸ show that people cannot wait for the next Big Thing in technology. In previous years, smartphones, tablets, and Web 2.0 were words on everyone’s lips. In the future, those words may very well be VR glasses. Society today has already begun to show the effects of this new technology. It is increasingly rare for young children in the first-world to be without a cellphone, iPod, tablet, Facebook, Twitter, or the latest gaming console. Countless articles have been written bemoaning the recession of face-to-face contact and the uptick in useless multi-tasking.⁹ However, for every perceived disadvantage of new technology, there are many benefits. Never before has the average person been so able to share and receive news from someone completely geographically, culturally, and socioeconomically removed from himself. Never before has the average person had such broad access to freely available information. We live in an age when Twitter-enabled grassroots relief efforts can arrive much more quickly than federal ones to disaster-stricken zones, a supercomputer can be surpassed three years later by its predecessors, and anyone with an Internet connection can watch the Mars Rover landing 200 million miles away. In short, there is no right answer on whether technological innovation will be the destruction or salvation of society.

An issue that does hit closer to home is the question of how human relationships will change in the face of technological advancement. Previous media have explored this question in different ways. In the novel *MetaGame*, society has essentially been “gamified” to the point where people refer to themselves by their usernames and clan designations, earn points for their ability to kill other players, and all the world’s a game. *Snow Crash* by Neal Stephenson envisions a world where status in the Metaverse, the successor to the Internet, is determined by the sharpness of one’s avatar. The Metaverse is alternately a grittier and sleeker version of real life, depending on one’s technical acumen. *The Guild*, a web series revolving around the interactions of people who meet each other after playing an online Massively-Multiplayer Online Role-Playing Game (MMORGP) takes a more comedic stance on how the characters’ reliance on technology has either made them more socially dysfunctional or merely amplified their more awkward personality traits. *Sight* (2012), a short film made by students at the Bezalel Academy of Arts, is based around retinal implants which give the user vast and sometimes unrestricted access to information and other services. The conclusion to this particular short film brings up questions of privacy, ownership, and what happens when an amazing technology is taken too far. Finally, *Surrogates* (2009) presents a world in which people can upload

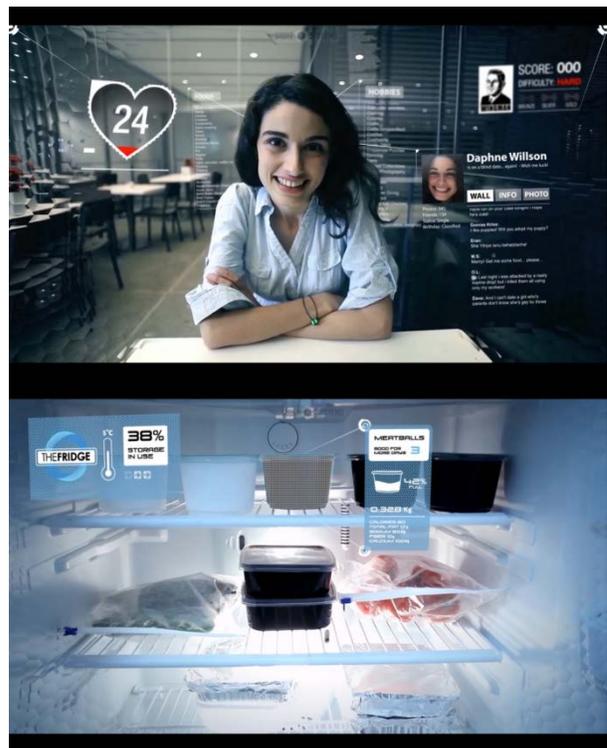


Figure 4: Stills from *Sight* (2012), a short film by students at the Bezalel Academy of Arts

⁷ Goldman, David, “Google Glasses are \$1500 – and you can’t have them,” *CNNMoney*, 27 June 2012. Web. 14 Apr 2013.

⁸ Kain, Erik. "Some Early Reactions To The 'Oculus Rift' Virtual Reality Headset." *Forbes*. Forbes Magazine, 18 Jan. 2013. Web. 14 Apr. 2013.

⁹ Wallis, Claudia, “genM: The Multitasking Generation,” *Time Magazine*. 27 March 2006. Web. 14 April 2013.

their minds into and control perfect mechanical replicas of themselves, essentially removing the “indignity” of growing old and infirm in the public eye. The introduction of this technology splits society into two camps – those who wholeheartedly embrace the possibilities that it offers, and those who shun its users as unnatural, even to the point of violence, since the victims are not “real people” anyway.

There are countless other examples of novels, movies, television shows, and other forms of media which explore the concept of virtual reality, projections of the self, and overwhelming technological advancements. Many of them take a hopeless sort of attitude towards human reactions to technology. It is rare to find a society which has adapted well to having unlimited access to technology in any fiction work. For my film, I chose to take a more optimistic view of the society that could develop as a result of having access to virtual reality technology. In fact, it is a dream of mine to someday work on a virtual reality room, not unlike the holodeck, which is featured in the *Star Trek* series. However, how can we all best moderate ourselves and others in our ever-growing quest for instant gratification, especially as technological advancement continues to chip away at existing limitations?

The Space Between explores the concept of limitless technology, bounded only by one’s imagination. Ask yourself, if you had the ability to create anything, to live in any moment, to be in any place, with whomever you desired, and it all felt real, would you ever leave? Perhaps you would say “yes” right now, since you know what reality feels like and you have obligations to fulfill. Imagine if you had experienced something frustrating, frightening, or merely uncomfortable in the real world, but you could re-experience it in the best possible light whenever you put these glasses on. Suddenly the thought of escaping would seem a bit more appealing. I can think of countless times when I felt embarrassed, incompetent, lost, or frightened that I wouldn’t mind re-writing, even if only in my own mind. Although my personal experiences define who I am as a person, they also have a tendency to chain me to my past, and make it difficult at times to move forward. I personally would jump at the chance to re-invent myself for the hour into an astronaut exploring the surface of an alien planet, or a barbarian warrior waging war on another clan, or something equally amazing. If only such technology were available at this very moment! However - I could not guarantee that I would not become addicted to it.

The Space Between also explores the duality of passion and obsession. I present Roger as an earnest young journalist interested in what he views as the important issues of the world – politics, poverty, war, and the fate of society. In contrast, Jane, as a beta tester for the Spec-Tors, enthusiastically immerses herself in augmented and virtual reality, to the point where she starts to drift away from her relationship with Roger, though in small ways. It may be easy to sympathize with Roger – after all, he is the only one who has not fallen prey to the pastime that’s taking over the nation, and as a result feels like an outsider wherever he goes. It is important to realize, though, that Roger is also obsessed. Although his obsession with news is not quite as life-threatening as Jane’s becomes, it causes him to shun the company of those he does not respect. While others are plugging in to their Spec-Tors, Roger is sitting down before his television set, and while others are intently watching events unfolding a few feet away from them in virtual space, he is intently watching events unfolding hundreds of miles away. It was never my intent to present either Jane or Roger as the better person. It would be impossible for me to make that judgment. I did intend, however, to show that where Jane is plugged in, Roger is tuned out, and where Roger is addicted to the world news, Jane is addicted to her own news. They are more alike than they realize, yet they judge each other more harshly than they do themselves. But really, what else is new?

The production of this film has been an interesting, fun, and often frustrating process. I was not, of course, intending to make a Hollywood-level film. I simply did not have the crew, training, or raw computer power. I barely had the right equipment, and then only because Michael Maloney, a

professional photographer and videographer who works with Olin, was able to loan me his equipment, studio, and time. The mentorship, advice, and training which I have received from him are most of the reasons why the special effects sequences of my film are even possible. Despite these many limitations, though, I wanted to see how far I could get on my own. Armed with a camera, tripod, sound recorder, shotgun microphone, green screen, and a one-year subscription to Vue xStream, I set out to produce a 15-minute short film about virtual reality.

Since my goal was to make a combined animated and live-action short film, I put some conscious limitations on my filming style from the beginning. I decided to keep my shots mostly still, especially for the scenes featuring the one animated character in the film, both to emphasize the stagnant nature of the main characters' relationship as well as to minimize the amount of camera tracking I would have to do in post-production to match the animated sequences with the live-action footage. I favored quick cuts over long clips in the editing process and filmed each scene from multiple angles to give myself as many footage choices as possible. Finally, I chose to film all of the live action scenes at Olin in conventional college settings – dorm rooms, libraries, lounges, parking lots, etc. – to minimize the amount of transportation for myself, my actors, and my equipment.

A huge benefit of using visual effects in my film, however, is that I am able to place my story in vastly different areas which would otherwise be inaccessible. When Roger first enters the Spec-Tor, he begins to think about what it would be like to stand on the Presidential debate stage, and quickly finds it materializing before his eyes. When Roger finds Jane in the Spec-Tors Unlimited, he realizes that he has come upon a city once devastated by a nuclear strike. These environments would be impossible for me to film in real life, to say the least, and yet through visual effects, I can create fairly good approximations to use as backdrops for those scenes. They are not breathtakingly real, by any means, but I did not intend for them to distract from the dialogue between Roger and Jane anyway. I intended to use visual effects as a tool, not as the focus of my film. One film which I feel was able to use visual effects in a more subtle way than most is *Forrest Gump*¹⁰, a film starring Tom Hanks released in 1994 about the remarkable events that have occurred in the life of a mentally disabled man during the later half of the 20th century. The visual effects artists of this film were able to insert Hanks into actual newsreels featuring people such as John F. Kennedy, Elvis Presley, Harry Truman, etc. in an extremely convincing manner, as well as turn an otherwise healthy actor into an amputee and Hanks into an impossible ping pong genius. However, these effects were not done in an extremely flashy way. The filmmakers were able to maintain a



Figure 5: A still from *Forrest Gump* in which Forrest, played by Tom Hanks, meets JFK.

¹⁰ *Forrest Gump*, dir. Robert Zemeckis, Perf. Tom Hanks and Robin Wright, Paramount Pictures, 1994

consistent focus on the plotline and characters of *Forrest Gump*, even as they used visual effects to achieve impossible scenarios.

On the opposite end of the spectrum, in terms of flashy visual effects, is the 1998 film *What Dreams May Come*¹¹, starring Robin Williams, Cuba Gooding Jr., and Annabella Sciorra. *What Dreams May Come* tells the story of a man's death – and the afterlife that follows. It features gorgeous scenery reminiscent of oil paintings of many styles, obviously computer generated, but very fitting for the subject material. The colors used are vibrant, casting us into a surreal mood as soon as Williams' character discovers himself in the afterlife – and its limitless nature. Since the subject matter itself is fantastic to begin with, it is somewhat easier to suspend one's disbelief of the visuals presented and to follow along with the story.



Figure 6: Robin Williams beams as he discovers himself in an impossible afterlife in *What Dreams May Come* (1998)

The last piece of the visual effects in my short film has to do with its smallest character. V.R.E.N. is the artificial intelligence who “lives” in Jane’s computers and runs her Spec-Tor simulations. He takes the form of a small, round robot with glowing blue eyes. I intentionally kept his model simple so as not to distract from the rest of the film, as well as to cut down on rendering time. As a result, he shows emotion primarily through his eyes, voice, and movements. When designing



Figure 8: EVE, one of the main characters of *WALL-E* (2008), a 3D animated Disney film.



Figure 7: Wheatley, an artificial intelligence who aids the player throughout *Portal 2*.

him, I was particularly inspired by the designs of both EVE from *WALL-E*¹² (2008) and Wheatley from *Portal 2*¹³ (2011). EVE is a

robot sent back to a polluted Earth to investigate its suitability for human life, while Wheatley is an artificial intelligence entity with access to a small part of the testing facility that forms the setting for *Portal 2*. EVE communicates through beeps and other digital noises while Wheatley can speak and expresses his personality in a comical way. Though they do not have human features such as eyes, lips, or teeth, they are both able to convey a wide range of emotion through their lights and physically manipulating some of their parts. I wanted to combine the simplicity of EVE's design with the personalities of Wheatley and Jarvis, another AI character, this time from *Iron Man* (2008), to create V.R.E.N.

I described V.R.E.N. to his voice actor, as a pre-packaged AI who had over the years learned to imitate his human operator, but who had never quite gotten rid of his more formal demeanor. I decided that I did not want V.R.E.N. to look “realistic,” by any definition of the word. There was no way that I could achieve such an aesthetic, nor did I want to. After all, if children's films were able to strike chords within

¹¹ *What Dreams May Come*, Dir. Vincent Ward, Perf. Robin Williams, Cuba Gooding Jr., and Annabella Sciorra, Polygram Filmed Entertainment, 1998.

¹² *WALL-E*. Dir. Andrew Stanton. Walt Disney, 2008.

¹³ *Portal 2*. Bellevue, WA: Valve, 2011. Computer software

their viewers with such non-humanoids as fish (*Finding Nemo*, 2003), cars (*Cars*, 2006), and even toasters, (*The Brave Little Toaster*, 1987), then surely that proved that audiences could relate to an expressive robot such as V.R.E.N. Indeed, V.R.E.N. could provide a bit of silliness that the film otherwise lacked. I could use V.R.E.N. to inject a touch of humor and levity into the situation, as Roger sat brooding with his newspapers and Jane studiously ignored reality. I thought it would be funny if the artificial intelligence, the only one without any grasp of what reality was, were the one to bring the two together and heal their relationship even more than either of them was able.

After five long months of frantic writing, storyboarding, casting, filming, lighting, animating, rigging, texturing, editing, and rendering, I am pleased to present my short film, *The Space Between*. I can no longer watch any films, videos, or television episodes without attempting to dissect its motivation, and I have fallen irrevocably in love with the process of telling a visual story. My film may not be the most polished specimen of animation or live-action film, but it is my own, and it tells a story dear to my heart. *The Space Between* represents the life that I aspire towards – an existence free of judgment, a space between extremes, and the area that exists between the lines defined for us by our surroundings. I hope that it comes to mean something to you as well.

- Lillian Tseng