Part 1: Virtual Reality and Video Games

For decades, gamers have seen their favorite games from a variety of perspectives -- from bird’s-eye views to cross-sectional side panoramas. In many ways, the perspectives that game developers implement are related to the type of experience they want players to have. When creating immersive experiences, they will often give players a first-person perspective, whereby the person playing the game sees the view of their character projected onto the screen as if they were witnessing the game directly through the character. Though this can provide considerable immersion, there still remains an inherent degree of sensory separation: namely, directing the movement of the character is done completely through small movements on some sort of controller in the hands of a stationary player. This was the hard-and-fast limit of video game immersion for decades until game developers began experimenting with a technology with the promise of truly putting gamers directly into the experience: virtual reality. By allowing players to experience video games in a never-before-seen way, virtual reality has catalyzed one of the most significant evolutions in the video games industry.

Modern virtual reality works by directly involving the entirety of the user’s body as well as their vision and hearing in the experience. Some of the most sophisticated consumer-level virtual reality products function through a handful of unique devices working together. Perhaps most important is the headset worn by the user that covers the eyes and ears. While wearing the headset, the user’s vision is entirely encompassed by two small screens -- one per eye, with slight differences between them -- to give the illusion of depth perception. Furthermore, such products also provide users with two handheld controllers. In a setup commonly referred to as room-scale VR, infrared cameras placed in corners that
can detect the position of the headset and controllers allow users to walk around and interact with objects in a simulated yet immersive environment. This, combined with directional audio, is what truly differentiates the perspectival experience of virtual reality from simply looking at a screen.

Thanks to the enhanced capabilities that virtual reality provides, gamers find VR experiences to be more engaging than traditional gaming. Many studies conclude similar results; for instance, in an article titled “How Immersion, Presence, Emotion, & Workload Differ in Virtual Reality and Traditional Game Mediums”, researchers found that “those who played in the [virtual reality] condition were happier than when they played in the Xbox condition” (Lum et al. 1477). In some regards, VR appears to be demonstrably superior to the kind of gaming that many people are used to. However, virtual reality is not flawless, as some users tend to experience feelings of disorientation and motion sickness, especially after prolonged use. Even still, the technology powering VR is becoming more user-friendly every day.

As virtual reality becomes more accessible and affordable, games that fully explore the limits of this technology will take up a larger share of gaming culture. Just as there are gaming experiences that are, for example, only possible through an overhead perspective, there are VR experiences that no form of traditional video games can ever match. Tech writer Tony Bradley writes in his article “VR Technology Set to Change the World of Gaming” that VR will “take gaming in a complete new direction, and when it does, it will have few rivals to challenge it” (Bradley). Bradley and many tech and video game developers and enthusiasts believe is inevitable that VR will one day become a major attraction for casual and serious gamers alike.

Virtual reality is a futuristic technology that excites video game enthusiasts like me for its potential to change how we think about games. As someone who has enjoyed the unique experiences only possible through video games since I was young, I have seen numerous evolutions in the medium, though few as significant as virtual reality. VR makes me even more excited about video games in the years to come.
Part 2: Virtual Reality Gaming in the Media

The intersection between virtual reality and video games is featured often in popular culture. Naturally, the hyper-realistic immersive experiences possible through VR are the typical focus of movies and TV shows, but this does not capture the whole of modern VR. The Netflix television anthology series *Black Mirror* depicts an example of the pinnacle of virtual reality possibilities. *Black Mirror* is all about dramatically featuring certain technologies and how they interact with people and society in modern or futuristic contexts. In “Playtest”, the protagonist of a standalone contemporary episode finds out what virtual reality looks like when it gets far too realistic. A fictional game company called SaitoGemu contracts the protagonist for a test of an experimental VR technology that affects the user’s vision directly and can read their thoughts and memories. While the first test starts off harmlessly, the following test of a horror game in an eerie mansion blurs the lines between playing a game and fearing for one’s own life. Nevertheless, many gamers end up with a much more positive experience from the various ways video games can be experienced through virtual reality. The broad field of virtual reality gaming experiences continues to grow as technology progresses, creating both more powerful and more accessible setups with striking positive and negative possibilities.

Though it is available in several distinct power and price tiers, virtual reality for gaming has and continues to become more accessible and affordable to the general public. From sticking your phone into a specialized piece of cardboard to optimizing a beefy desktop PC, there is a VR gaming solution to fit any price point and interest level. In the early days of VR, the experience was incredibly disorienting and exclusive to the most cutting-edge design facilities. Since then, the technology powering VR has come quite far. For most people, the first thing to come to mind when considering VR gaming would likely be the PC-centered products developed by Oculus and HTC. Combined with the price of the hardware needed to fully support these devices, they can easily cost well over $1200, leaving them still out of reach for the average consumer. VR setups running on gaming consoles can cost about half as much in total,
creating a happy middle ground between good quality and a non-intimidating price point. As computer processors and VR technologies advance, previous generations of these devices become easier to come by, however. In many cases, these advancements are spurred on by the numerous technology corporations who have begun developing their own form of virtual reality products to capitalize on the growing industry. Since the inception of virtual reality gaming, the industry has grown tremendously, resulting in the many forms of VR gaming available today.

As virtual reality progresses, the way we experience gaming will become simultaneously more impactful and more disparate from reality. The constant scaling of technology and processing power means VR will become more and more realistic. In the near future, it seems very likely that immersive virtual reality games will become something that anyone can experience from the comfort of their own home for a very reasonable price. Though this is generally regarded as exciting for the medium, shows like Black Mirror have explored the ramifications of hyper-realism when misused. In one episode, game company SaitoGemu consistently shows a disdain for the player’s safety and mental condition, lying to him about the experiment in his most vulnerable state (“Playtest”). Though the questionable treatment of test participants is not unique to VR, this show clearly shows that an unregulated environment can quickly devolve into torture as these games near mirroring the real world. Certainly, if virtual reality was becoming that advanced, measures would have to be put in place to protect players, especially those who are young or otherwise mentally unprepared. While the future of VR is awe-inspiring to gamers today, ethical and safety measures will have to be put in place for the common good.

Virtual reality games have been shown to provide real benefits aside from entertainment, though there are some valid concerns about the theoretical dangers. Just as traditional video games have been studied for their applications in education and therapy, researchers have begun examining the uses of immersive VR experiences in game formats. Dutch researchers found in their study “DEEP: A Biofeedback Virtual Reality Game for Children At-risk for Anxiety” that playing the VR game DEEP
“resulted in a significant decrease in self-reported state-anxiety. [...] This confirms our hypothesis and suggests that DEEP could indeed be an effective intervention for children at-risk for anxiety disorders” (Rooij et al. 1992). If virtual gaming reality could be used in a therapeutic application to treat anxiety, the future of this technology seems promising in far more than pure entertainment. Black Mirror, however, takes a more cautionary stance, particularly to the VR of tomorrow. In the show, the protagonist is left incredibly distressed after having to fight and kill a horrific, photorealistic duplicate of his girlfriend and encountering other situations directly tailored to his deepest fears (“Playtest”). Though the virtual reality technology in the show is impossibly advanced by modern standards, it begs the question of when simulated experiences could become too real. There is an unmistakable potential for VR, if it ever does become nigh-indistinguishable from reality, to deeply affect users in unforeseen ways. Just as virtual reality gaming can affect lives for the better, it could also negatively impact users in extreme cases.

Many shows throughout the past few decades have taken stabs at what they think a virtual world within the real one might look like. Writers like to speculate about how being able to detach oneself at will from reality could affect how people go about living their lives. The virtual reality games of today are still a far cry from the possibilities fantasized in popular culture, but the development of this technology continues to progress at a staggering pace. While hardcore fans can whet their appetite for VR with expensive and powerful computers and hardware, the average player can still find relatively accessible ways to experience their favorite games in virtual reality. With such a remarkable potential in this technology, it is exciting to anticipate how virtual reality games could affect how we learn, better ourselves, and have fun.
Works Cited


