The Reality of Virtual Gaming

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Introduction

The idea of a virtual reality technology is an immersive created experience that is completely computer generated. Virtual Reality is one of the technologies that's making its way through today's entertainment world on a steep rise. Virtual reality gaming, according to the Virtual Reality Society, is defined as a three-dimensional environment in which a person can interact with said environment during the game as an essential part of the game (What is virtual reality gaming, 2017). It is not, however, a new idea. The idea for virtual reality has existed for six decades and is now jumping into prominence. “The use of the term ‘virtual reality,’ however, was first used in the mid-1980s when Jaron Lanier, founder of VPL Research, began to develop the gear, including goggles and gloves, needed to experience what he called ‘virtual reality’” (History of Virtual Reality, 2016, 2).

I will be specifically talking about virtual reality’s application to the video game realm. I for virtual reality to take off, there have to be the early adopters. I believe that the video game world, or “electronic sports” world is full of early adopters, who, whether good or bad, will experience the first innovations this technology has to offer. I will detail the history and background of virtual reality, the current developments in the technology, and predict the future of the technology for the next five to 20 years.

History/Background

Virtual reality as we know it today, and where it is headed, was once an idea placed in science fiction entertainment. In recent years, however, many breakthroughs have been made on the inventions and ideas of the past to bring us a potential, 5-sense immersion into a digitally

created world. The early stages of virtual reality were started and the 1800s with the initial developments of photography. In 1838 The first stereoscope was invented and that eventually developed into the View-Master, patented in 1939, which laid the foundations for today's immersive headsets. In 1956 another breakthrough in the idea of virtual reality was made. Morton Heilig's background as a Hollywood Motion Picture industry worker led him to have interest creating an "in-movie" experience. The Sensorama created a simulated City environment where the user would ride through on a motorcycle. Since that time we have had many other milestones in virtual reality development. In 1960 Heilig patented a head-mounted display device called The Telesphere Mask in which many inventors would build off of. 1965 Ivan Sutherland offered the Ultimate Display which, he suggested, would serve as a window into a virtual world. 70s and 80s also offered many advances in the field. Optical advances coincided with projects that worked on haptic devices and other tools that would allow the user to be mobile in their virtual space. "At NASA Ames Research Center in the mid-80s... the Virtual Interface Environment Workstation (VIEW) system combined a head-mounted device with gloves to enable haptic interaction" (History of Virtual Reality, 2016, 6). Before modern virtual reality existed there were immersive digitized experiences. The roller coaster rides from mall kiosks or arcades were some of the first innovations in this field. Other immersive games like shooting games, racing games, or other adventure games where the user would enter a booth and pay-to-play at these arcades were some of the first inventions in the immersive entertainment industry that helped bring us to where we are today (Wallace, 2018). The main difference between the booths that dominated the 1990s and the early 2000s is the size of the screen.

Current Development / Technology & Industry

The current market for VR gaming is what seems to be keeping the technology alive. It's not being adopted by business, cinema, computing, or any other industry as well as VR gaming.

> Virtual reality has to date disappointed in many areas. Sales of some of the most capable virtual-reality headsets, which put people into an immersive environment, have been somewhat sluggish. Various industries have dabbled with virtual reality — and are still only dabbling. Even Mark Zuckerberg, the chief executive of Facebook, who was a huge proponent of virtual reality and bought Oculus VR for more than $2 billion several years ago, admitted in January that turning the technology into a new computing platform was tougher than he had expected (Parker, 2017, 4).

The June 2017 NYT article by Laura Parker goes on to report, that one of the only industries that VR has entered that isn't disappointing, is gaming. In 2015, worldwide revenue for VR in the gaming industry reached 4.3 billion dollars. This initial date coincides with the earlier production of the Oculus VR and Samsung Gear VR as well as the 2015 HTC Vive headset that included tracking technology (Team, 2019). The market is expected to expand rapidly within the next five years. According to Parker, quoting an IDC study, the projected growth for VR tech is expected to reach over 150 billion dollars by 2020. There are other excellent growths in VR tech, such as digital medicine produced by Akili Interactive. The company "announced that its video game for children with ADHD demonstrated a statistically significant improvement in a randomized, controlled clinical trial. That milestone paves the way for what could be the first prescription video game" (Coravos, 2018, 2).

Much of the market that VR has capitalized on has been dependent on the quality of the tech. The headsets or eyewear screens in modern virtual reality technology is now a fully

immersive digital environment. Headsets are used to not only show the generated image but also completely block out all visual and auditory stimuli from the outside world. This has created an environment was truly puts the user inside the program. There are plenty of current virtual reality developments that are making the market more normalized technology. According to a March 2019 Time article, Nintendo just announced its Nintendo Labo: VR Kit, which is the fourth in the series of Switch accessories, but the first to bring "basic VR tech" to the Switch platform, according to Nintendo. "'This new kit builds on the core tenets of Nintendo Labo – Make, Play and Discover – to introduce virtual reality in a way that's fun and approachable for both kids and kids at heart,' said Doug Bowser, Nintendo of America's Senior Vice President of Sales and Marketing. 'We wanted to design an experience that encourages both virtual and real-world interactions among players through passing around Toy-Con creations'" (Austin, 2019, 3). The market Nintendo is appealing to, as well as many other VR tech producers, is immersive, DIY gaming. The idea that the user can and will belong in the story they are watching. The user will feel more connected by being in physical control of the story's options. "It's like *Paint*, but in virtual reality" (Stark, 2017, 2).

Conclusion/Future Prediction

Beyond the $150+ billion set in 2016 for the 2020 year, VIAR360 sites in a June 2018 article, again IDC, projects $215 billion for the 2021 year. Between $9 in 2017 and 215 just 4 years later is a "118% compound annual growth rate [that] would make VR one of the fastest-growing industries on the planet" (The Future of Virtual Reality and Video Games, 2018, 2). Technology giants have all entered the VR arena, but many consumers are still hesitant to adopt the new products. One of the biggest inhibiting factors for many consumers is the price.

VIAR360 notes the early success of the cheapest of the Sony systems (over 2 million headsets sold in 2017) but alludes to the rise of competition (The Future of Virtual Reality and Video Games, 2018). These competitions for the consumers loyalty will lower prices and make the market more open for the early majority. Samsung, HTC, Google, PlayStation, and Facebook are all battling for dollars. Nintendo has made progress with its LABO: VR kit has six accessories (including the goggles) for $80 and many smaller kits for a reduced cost (Austin, 2019). Making the product economically available will be one of the biggest challenges as well as one of the biggest reasons for its eventual rise to power.

The Innovation and quality of the experience are also going to be one of the largest driving factors for consumers to purchase the new technology. Without a belief that this new gaming platform provides something different, and implicitly better, then there will be a very slow rate of adoption. Tim Wu of the New Yorker outlined the future of Media Tech brilliantly when he said

> Experimental periods are common to new media, and what emerges can sometimes be very surprising. Online computer networks didn't really get far until AOL's infamous chat rooms and e-mail accounts emerged. Broadcasting was a niche, hobbyist product until someone put a boxing game on the radio. One thing, however, can be said about these examples: the new medium usually succeeded not by offering an improved version of what had been done before but by offering something that was profoundly different in an unexpected way (Wu, 2017, 8).

This means that one of the biggest burdens on these technology giants is to provide a service hitherto unexperienced by dedicated gamers and the passive consumers alike. Virtual reality is the next step in video game evolution. What started out as a quarter machine at a

convenience store or coin laundry has made its way through communal arcades eventually into our own homes and now the technology we are using to play video games is a piece of hardware that is on us. But the Improvement does not stop here. Whether it's going to come from the gaming software, the quality of the tech itself, the user interaction that we will have with the game, or more than likely an idea unexplored yet, and idea that does not exist right now is what's going to change this industry within the next 5-20 years. The adoption of media technology has been tracked bell curves for the industry to understand its consumers. We are still in the "innovators and inventors" stage where mainly the only people who have the technology are a few dedicated to getting the first technology made by a corporation and the inventors themselves; and are now overlapping into the first adopters. I believe this growth will be small until we hit the point of intersection between drastically revamped technology and or software and the cost availability for both the dedicated gamer and the passive consumer. When we hit that cross section then the bell curve will hit a steep incline causing the first majority to be a very large number within a very short time. the second majority, however, will not mirror the first majority. It will curve down on a much more conventional looking path. As time passes, less and less people will be buying into the new technology, even as its innovations are introduced because the biggest spike happened right before the first majority section of the bell curve. After that decline ends then the next thing to look for is not the future of virtual reality within video games, but a new platform possibly inter-neural gaming at some point in the future. All technology platforms will be experiencing rapid growth and a fast need for replacement. This is leading to what will eventually become an exponential growth in all technology. The future is uncertain, but by the year 2050, I project that digital dream devices will be available for consumer use. A type of video game that will be nearly identical to human dreams, or possibly better, but with

this, the user gets to decide what story they are in. along the way, we will go from virtual reality in gaming, to augmented reality in daily life. Virtual reality will be the newest domination for gaming just as home consoles have finally done away with the arcades of the past.

References

Austin, P. L. (2019, March 07). Nintendo Just Announced VR Goggles for Its Switch Console. Retrieved April 10, 2019, from http://time.com/5546656/nintendo-cardboard-virtual-reality-goggles-switch/

Coravos, A. (2018, November 26). The Doctor Prescribes Video Games, VR Rehab, and Sensors. Retrieved April 10, 2019, from https://www.wired.com/story/prescription-video-games-and-vr-rehab/

History of Virtual Reality. (2016, November 16). Retrieved April 10, 2019, from https://www.fi.edu/virtual-reality/history-of-virtual-reality

Parker, L. (2017, June 22). Virtual Reality Is a Disappointment? Not in the World of Video Gamers. Retrieved from https://www.nytimes.com/2017/06/22/technology/personaltech/virtual-reality-video-games.html

Stark, H. (2017, July 08). Forget Video Games Virtual Reality Can Be Its Own Entertainment. Retrieved April 10, 2019, from https://www.forbes.com/sites/haroldstark/2017/07/08/forget-video-games-virtual-reality-can-be-its-own-entertainment/#24089b345def

Team, T. (2019, January 29). Virtual Reality in Gaming. Retrieved April 10, 2019, from https://thinkmobiles.com/blog/virtual-reality-gaming/

The Future of Virtual Reality and Video Games. (2018, June 09). Retrieved April 10, 2019, from https://www.viar360.com/future-virtual-reality-video-games/

Wallace, F. (2018, October 15). VR Gaming and the Technology's Impact on the World. Retrieved April 10, 2019, from https://www.headstuff.org/entertainment/gaming/vr-technology-and-the-gaming-world/

What is virtual reality gaming? (2017, June 28). Retrieved April 10, 2019, from https://www.vrs.org.uk/virtual-reality-games/what-is-vr-gaming.html

Wu, T. (2017, June 19). Reality Bites: Learning the Future of V.R. at Sundance. Retrieved April 10, 2019, from https://www.newyorker.com/tech/annals-of-technology/reality-bites-learning-the-future-of-v-r-at-sundance