Sword Hilt Assignment 1

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I. Problem Definition:

The main problem we are looking to solve with our product is making a cheaper and more accessible, one handed alternative to the classic VR controllers. Currently, the most popular VR controllers take inspiration from console controllers, essentially breaking it into two and placing one side of said controller into each hand of the player. While this current setup works, it has two main issues. The first is that VR controllers can be seen as fairly expensive commodities, with cheaper alternatives deviating entirely from the meta design, or not entirely convincing the consumer. The second is that the design can be improved. Having a classic controller in halves is clearly an idea that works and has stuck in VR spaces while it pertains to gameplay as is. This idea is aimed to meet somewhere in the middle, providing a singular controller, that can aim to do the work of, at times, two separate controllers. The aim of this controller will be to aim to give people a more accessible and ease-of-use experience that is not already on the market. Most of the current solutions aim to either replicate a much cheaper and alternative, but still require two hands, or are a bit too simplified and as a result have a setup that may be easy to understand and get to grips with, but may not necessarily improve the user's experience.

II. Justification:

The VR Gaming industry was an 11 billion dollar industry, as of 2019, with an estimated growth rate of about 30 percent from 2020 to 2027. While this could be a very viable financial product, the reality is that the real reason behind this comes down to inclusion, ease of use and accessibility. VR gaming, as an industry, is still very much in its infancy and with time, there will be many improvements, advancements and solutions created to improve user experience on a whole. But the faster and better we try and experiment with that solution, the closer we can now get to it. We believe that this won't be the kind of industry that will stagnant or get complacent, but rather continue to improve in all aspects and facets and so this can be a solution that at the very least pushes that in the right direction. Gaming on a whole is for everyone, and that is why we believe that this controller can aim to push the envelope and create an alternative and possibly a real solution, to allow all gamers to get involved. According to the World Health Organization, close to 1 billion people experience some form of disability, worldwide and in America and Canada, that number sits at 61 million and 3.6 million, respectively. These are just a few of the number that represent what a problem this can be, whether be motor functionality, a life changing injury or any of the many other visual or hearing disabilities. We can't fix all those issues in one go with our product, but we can look and start to accommodate for those we can, and allow more and more people and gamers on a whole to enjoy and share the same experience with their peers.

III. Product comparison:

-Sayre Gloves (1982) -Capable of monitoring hand gestures using light emitters and photocells. -Probable beginning of gesture recognition

-DataGlove (1985) -Developed by VPL Research Inc. -First

commercially available VR gloves on the market -Design fit to more accurately feel comfortable to the consumer

-Virtual Boy (1995) -While the Virtual Boy by Nintendo was more or less a commercial failure and failed to impress on the market, it became one of the first forays into VR in the home entertainment market -Controller mimicked that of standard consoles

-Gloveone (2015) -Kickstarter campaign to improve on the consumer home entertainment market was successful, marking the first real use of 21st century technology in the VR controller space. -Allowed for interaction with virtual objects in a VR environment

VIVE StreamVR Headset (2016) -Vive releases its first commercial VR headset, setting the standard for controllers in the space -New design use a touchpad in the centre and limited buttons. Better designed for handheld purposes

A. Authors and Affiliations

Hossain Alinaqi and Daye Fubara are the authors. Both are members of Free World Studios.

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