

Virtual Reality

Evolution of Virtual Reality

- 1. Virtual Reality dates to the 1950s with Ivan Sutherland and his quote “make that (virtual) world in the window look real sound real, feel real, and respond realistically to the viewer’s actions”.
 - 2. In 1957 the Sensorama Machine was invented by Myron Kruger.
 - 3. In the 1960s the first HMD was produced called the Sword of Damocles made by Ivan Sutherland.
 - 4. In the 1970s Myron Kruger invented the VIDEOPLACE. It was conceptual world with no existence.
- The VIDEOPLACE gave the opportunity to manipulate the environment when before we could only see it.
- 5. Another device built in the 1970s is the DataGlove. The first version was made by Daniel J.Sandin and Thomas Defanti and was later improved in 1982 by Thomas G.Zimmerman and Jaron Lanier. It gave an effective method to manipulate the surroundings of a virtual world.



The Sensorama and the Sword of Damocles

- 6. In the 1980s Thomas Furness made the VCASS. It was a virtual flight simulator which was used to train pilots. A few years later Thomas developed the Super cockpit. Furness described it as a system where you “put on a magic helmet, a magic flight suit and then magic gloves”.
- 7. VPL was later established by Jaron Lanier in 1984 and was the first company to make virtual reality devices commercially available.
- 8. Then in the 1990s SEGA released their own virtual reality device to monopolize the market. However, it failed as testers were developing headaches. A few years later in 1995 the Nintendo released the virtual Boy. However, it failed, as it never delivered on its promises.
- 9. Early 2000s popularity for virtual reality only increased after the release of the movie “The Matrix”.
- 10. Virtual reality reached its peak during the 2010s after the release of the Oculus Rift and the Oculus Quest 2. They provided affordable virtual reality consoles to the public. The Oculus Quest 2 has been renowned to be the best console in its price range.



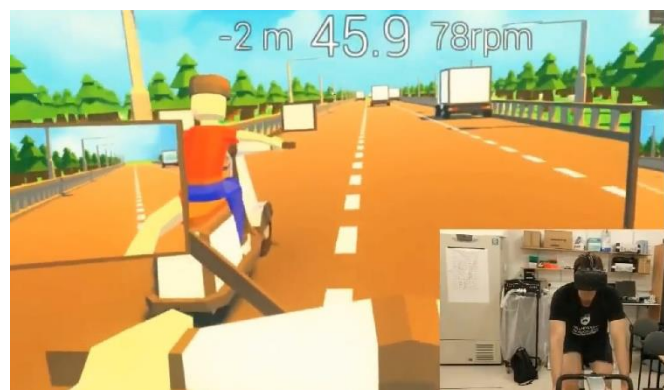
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Sega VR



INTRODUCTION

Virtual Reality is an immersive environment displayed by a head mounted display. It brings the user into an augmented reality where they can manipulate their surroundings. It requires body movements, facial features and hand gestures to interact with the surroundings. Being put into an advanced human-computer interface that simulates a realistic environment almost sounds as if it were in the world of fiction. “People always want more”. Instead of watching a screen people wanted to step into the world that was in front of them.

The term virtual reality was coined by Jaron Lanier.



An example of an exergame(University of Bath, 2020)

Impacts of Virtual Reality

Entertainment

Virtual reality can be used for entertainment purposes. It was its original function to display stereoscopic 3D games to the user. It provides an immersive gaming experience far unique from traditional gaming. Some popular games include Beat Saber and Superhot. Other examples include a virtual reality simulator which lets you experience the thrill of being on a roller coaster.

It is also possible to watch virtual reality movies.



Healthcare

It is predicted that VR will have an enormous impact on healthcare in the future. Right now, VR is being used to detect glaucoma, schizophrenia, and Alzheimer’s disease. Due to Virtual Reality being in the complete control of the user it can also be used to put people in a comfortable place which can help to treat PTSD, anxiety, and other mental disorders. This is known as virtual reality exposure therapy. Virtual reality is being considered to train healthcare professionals. This is due to virtual reality being a safe environment to learn and reflect since there are no real-life implications.

Physical activity

Exergaming is a term used for video games that are also a form of exercise. Early examples include Nintendo’s Wii fit and Pokémon Go. The rise in popularity in virtual reality has caused a rise in exergaming. This is because playing in virtual reality requires dynamic body movements. They support weight loss and increased motivation and fitness. The immersion played a big role in the enjoyability of the games and many participants exclaimed having a better time while being less tired. Exergames made something a lot of people hated into something they have always loved.

