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## **VIRTUAL REALITY: A BRIEF OVERVIEW**

In just a few decades technologies have advanced rapidly. Drawings, sculpting, storytelling and even films are some of the different ways that people have tried to recreate reality. In the last few years, researches have allowed creating a technological and psychological phenomenon which is called a virtual reality (VR).

Virtual reality is a simulated 3D environment that enables users to explore and interact with a virtual surrounding in a way that approximates reality, as it is perceived through the users' senses. The environment is created with computer hardware and software, although users might also need to wear devices such as helmets or goggles to interact with the environment.

There are three main categories of virtual reality: augmented reality, extended reality, and mixed reality.

With augmented reality, virtual simulations are overlaid onto real-world environments in order to enhance or augment those environments. For example, a furniture retailer might provide an app that enables users to point their phones at a room and visualize what a new chair or table might look like in that setting.

Mixed reality blends the physical and virtual worlds into a single space. Like augmented reality, however, it is more often considered a separate but related field. In fact, there's been a growing consensus to group virtual reality, augmented reality and mixed reality under the umbrella term "extended reality", which provides a handy way to reference all three, while still distinguishing among them [3].

Although, some may be familiar with the term by gaming, virtual reality is used in a lot of areas. There are many uses of virtual reality for healthcare practitioners, researchers and patients. Imagine using virtual reality to help patients with disorders such as anxiety or anorexia. It would be invaluable in medical school to help students learn how to deal with situations that may arise when they become doctors (empathy training, for example). Virtual reality is already in use for surgical training [4].

Virtual reality is already a valuable tool in simulations for combat, confrontations and the like. It can replace expensive and sometimes dangerous real-life exercises. Simulators use sophisticated computer models to replicate a vehicle's capabilities and limitations within a stationary -- and safe -- computer station. The ability to change scenarios makes it attractive for all branches of the military and the defense industry [2].

An essential branch of virtual reality usage is astronauts' trainings. Johnson Space Center's VR Lab doggedly worked on ways to better train astronauts for one of the most dangerous excursions of their lives. The crux of NASA's expansive Virtual Reality laboratory is to train astronauts in the aspect of spacewalking. Spacewalking is a maneuver in which the astronaut leaves the environment of a spaceship and ventures out into space to perform a required action, such a replacing a faulty module on the spacecraft. Virtual reality has matured and developed into a mission-critical training tool. NASA has pushed a number of different technologies to their limits to pull it off [1].

In conclusion, it is obvious that establishment of virtual reality technology was a significant progress in providing realistic sensory engagement and shows promise for business use in a number of industries. As advanced VR equipment becomes more affordable, it's going to reach more and more people. Virtual reality is going to completely change the way we see our world and we will even be able to control reality for our own benefits.

Although, it still has far to go before realizing its vision of a totally immersive environment that enables users to engage multiple sensations in a way that approximates reality.

#### **References**

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