

Future of Virtual Learning Technology: (Net World to the Next World)

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Abstract—Virtual reality looks like a science fiction come to life. It gives the sensation to our nerves of being there. It creates an intuitive connection to the events unfolding in front of the viewer. This paper explores about the prediction which supposed to be happen in virtual reality (VR) and what possible amendments can be done to make it more real. Secondly various industries which make use of VR and solving number of big technical problems. Then how the blending of Mixed Reality and Virtual reality can make wonders and get the physical and digital worlds together. And finally what if this technology gives the power to communicate within the virtual boundaries then it proves to be a height of immersion in virtual environment. The future of VR is tangled to the future of Augmented Reality, and this will influence all parts of life. The achievement of both technologies will also be determined by on having better connectivity, faster processors and of course A.I is at the basic of it too.

“Actually immersive experiences are magical, elating the spirit and convincing users to want more”.

KEYWORDS: VIRTUAL REALITY (VR), HEAD MOUNTED DEVICES (HMD), AUGMENTED REALITY (A.R), ARTIFICIAL INTELLIGENCE (A.I), MIXED REALITY (M.R).

1. INTRODUCTION

The technology which have extends the frontier of visual computing, by harnessing other sensory channels, an immersive multimodal display can further enhance a user’s experience in a virtual world. VR has a new way to look out the world. VR is something which allows everyone to experience the impossible because in virtual world we are in the environment of pure information which creates an illusion which makes us see, hear and touch which have actually never happened. The concept of virtual world significantly predates computers. The foremost dream is to merge the authentic world and virtual world together. Now a days the world is acknowledging and accepting the concept of VR *but the scope and the uses of this technology is unexplored and unknown*

by many. Imagine taking lectures in a hall sitting in your room or watching a game of your favorite sport from your home. Ever wish to travel in a vessel from corner to corner outer space? All this is possible because of VR. **VR is magic born from the womb of the expertise and technology** which has tantalizing possibilities and a promise for a future bright and smart. Substituting the input our senses receive with computer-created information, or simulations, tricks the brain into believing that we are in a completely different environment. The end product is what we call a “Virtual Reality”.



Fig. 1: A person working without physical laptops

2. AUGMENTED REALITY V/S VIRTUAL REALITY

While virtual reality is about engaging you in an entirely virtual world, viewed through the screen in your headset, the real world outer you aren’t part of that knowledge –at least not until you trip over the cat or accidentally knock out your child while being immersed elsewhere. But augmented reality, as the name suggest, is about augmenting or *adding to reality* reality. You might be looking at your dog or up your street, but there could be digital characters and content put over on them.

They both are different from each other

Because of the following reasons:

Purpose: Augmented reality enhances the experience as a new layer of interaction with the real world by using various virtual components like digital images and graphics and many more. On the other side virtual reality creates its own reality that is totally computer created and driven.

Delivery method: In virtual reality we make use of HMD which led the user to the virtual reality, and allows navigating their actions in an environment meant to pretend as a real world. *Virtual reality and augmented reality are reverse reflections of one in another, regarding what each technology wants to finish. Augmented reality overlaps virtual elements in the real world, while virtual reality digitally recreates a real-life situation.*

3. THE PRODUCT OF BLENDING AUGMENTED REALITY AND MIXED REALITY:



Fig. 2 shows mixture of augmented technology and mixed technology.

Virtual reality constructs fascinating experience for any user - even though they are work together with their digital environment in real, it creates real-life replications. To be more superficial, virtual reality creates a virtual world for the users but is formed in a way where the difference between real and virtual world is quite tough to tell. A computer created, artificial simulation or reformation of some real life situation is what virtual reality is. Vision and hearing of the user are simulated mainly, immersing them in a totally different world.

On the other hand, AR is the mixture of virtual and real life reality, where designers create such an environment within the app that it mixes with the real world contents, but the variance can be noticed between the two. It also needs both the software and the hardware to work just like the VR. Many Hollywood movies have already depicted AR. Now a days various Companies like Microsoft, Google and Oculus are creating it a reality with Holo Lens, Google Glass, and Oculus Rift.

So in the near future it wouldn't be surprising if not only astronauts, but anyone with the right devices could experience the surface of Mars or any other planet through these technologies. Now Mixed Reality is a mixture of both these technologies in a way that the user with MR stays in the real world like AR but has more difficult and richer overlaps.

4. BENEFITS OF VR IN ALL SECTORS

- 1. Military-** Virtual Reality has been adopted by Military – Army, Navy and Air Force to train the soldiers where they efficiently and practically learn to survive and react in the appropriate manner. For combat and survival without putting them in any real damage. VR training has given the whole training process a facelift with many dangerous settings
- 2. Entertainment-** Entertainment as such has come a long way in every sphere be it the special effects and VRF in movies or the Hi-tech gaming consoles. VR can be successfully applied to both of them as **VR theatres** and studios have already been initiated and many major names are set to launch their **VR headsets** for gaming and for an overall entertaining experience. Instead of games and movies VR can also be used to construct VR galleries and VR theme parks.
- 3. Business and Marketing-** Many businesses are implementing VR in a cost effective way to construct prototypes which enables them to test the product without having to develop several builds and versions. VR in marketing is being used to let the customers know better of a product or a service. VR will be the new face of advertisement where a user will be able to test a product or service before actually buying or investing their money in.
- 4. Journalism-** VR has also found its way in journalism where audiences can visit the sites in the VR and catch the whole action and news on any topic.
- 5. Science -** VR can be employed to practice emergency responses in VR. It can help in a lot of new discoveries in science. **VR can be used in Medicine, Physics, Chemistry, Biology and Engineering.** Doctors can plan difficult and critical surgeries in VR.
- 6. Medical Science-** VR has one best use for the overall benefit of civilization through medical science by training students through VR. Medical students could be prepared for any kind of surgical procedure or treatment through Virtual Reality. It can also be used to cure post-traumatic stress disorders instead of therapies.
- 7. Investigating a Crime Scene-** The investigative agencies and the police across the world could effectively employ VR to investigate a crime scene by revisiting it. Even the jury could use VR to visit the crime scene during a evidence before ruling out in any party's favor.

5. WHAT VR HOLDS FOR US FOR OUR FUTURE?

In 2019 I think we'll see a lot of interesting things. First of all, **prices will continue to drop** (especially the ones of Vive and of the MS headsets) and this will make **the sales of VR headsets to grow**, even if they'll be lower than the ones of untied headsets. **PSVR will still be the trailblazer in the market**, thanks to its cheap price and its ability to work out of the box with every PS4 (and there are 70+ million in the world). I'd also bet that Microsoft will make its move and will announce that **its VR headsets can work with its Xbox console**.



6. NANOTECH VR: WHICH WE CAN MAKE USE OF IN FUTURE

Using nanotechnology as a means of allowing us to enter in the world which is beyond the reach of human body. It not only work on senses but also make us feel like we are actually at that place. You would turn into one with the virtual environment. Your intelligence would be uploaded into a computer system so you're your nerves messages can be transformed into actions This we will know in our near future and few amendments which can be done so that VR become the one which may be used and become that need of hour for the users. Firstly, its structure should be slim enough so that this makes a good impression and also attract way more people in coming years. Secondly the quality of eye tracking through VR technology so that it can react according to the ball of an eye.

“Virtual reality is a new leap for the technological domain although it's not a new concept but the jump it has took from 2016-17 and ahead also it is making wonders and making us believe which we can't even think of and helping us in an extraordinary way.”

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