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VIRTUAL REALITY

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ABSTRACT - Virtual reality (VR) is a powerful and interactive technology that changes our life unlike any other. Virtual reality, which also can be termed as immersive multimedia, is the artwork of simulating a bodily presence for the target target market in locations each actual and imaginary. It typically includes senses particularly sight and sound. The key belongings that outstanding VR from all preceding media kinds is "presence". This dialogue is an try to deliver an outline of the modern-day country of environment-associated VR, with an emphasis on stay VR experiences. The technology, artwork and commercial enterprise of VR are evolving rapidly. The diverse fields of VR are mentioned to get a higher view approximately it.

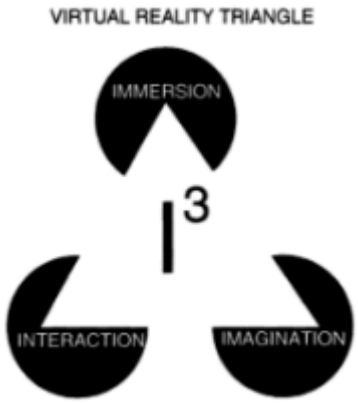
***Key Words*:** Virtual Reality, interactive technology,multimedia

INTRODUCTION

VR is a very high end computer interface that evolves real time simulation and interface through numerous sensorial channels. These sensorial modalities are visual, aural, tangible, smell, taste and other senses. The first traces of virtual reality came from the short story "Pygmalion's Spectacles" in 1935by Stanley G. Weinbaum‟s is recognized as one of the first works of science fiction that see the sights of virtual reality. It describes a goggle-based virtual reality system with holographic demo of fictional experiences including aroma and feel. A very important feature of virtual reality is the environment in which it takes place and must be vigilantly engineered to achieve a realistic experience. For example, if even the least of elements in a virtual reality environment is out of place, the entire experience can be smashed. For the it to be believable, it must achieve at least some height of immersion. Immersion is one of the main goals of virtual reality and when a virtual environment is created, it should be created with a view in the path of immersion. When immersion happens, the factual world can often be forgotten.

BODY

Virtual Reality is both interactive and immersive. These features are the 2 I’s which everyone are familiar with. There is however a third I in VR which a fewer people are aware about which is applications that involve solutions to real problems such as engineering, medicine, etc. These applications are desihned by Virtual Reality Developers.



The first company to sell VR products was VPL Inc., headed by Jaron Lanier. Until its demise in 1992 this company produced the first sensing glove called the DataGlove.

Hand gestures in VR provide an intuitive and immersive way for users to interact with virtual environments, enabling them to manipulate objects and navigate through spaces in a way that feels natural and intuitive. To ensure accurate tracking and interpretation of hand gestures, developers of VR applications may use a variety of techniques, such as machine learning algorithms, to identify and classify different types of hand movements. They may also incorporate haptic feedback, such as vibrations or resistance, to provide users with a more immersive and realistic experience of interacting with virtual objects. As technology continues to evolve, it is likely that hand gestures will become an increasingly important input modality in VR, enabling new forms of interaction and user experience in a wide range of applications.

Object grasp is a key concept in robotics and virtual reality (VR) that refers to the ability of a robot or virtual hand to pick up and hold an object. Object grasp involves both the physical act of gripping the object and the cognitive process of determining the best way to grasp it based on its shape, size, and other factors. An example of object grasp can be seen in a robot arm that is designed to pick up and move objects in a manufacturing setng. The robot arm may be equipped with a gripper tool that can be programmed to grasp objects of different shapes and sizes, using a variety of techniques such as pinch grasping or power grasping. The robot arm may also be equipped with sensors, such as cameras or force sensors, that can help it to determine the best way to grasp the object based on its properties. For example, the robot may use visual recognition algorithms to identify the shape and size of the object and then use

this information to determine the best grasp location and orientation. Once the robot has determined the best grasp for the object, it can then use its gripper tool to pick up the object and move it to a different location. This process of object grasp is critical in manufacturing and other industries where objects need to be moved quickly and efficiently.

The first commertial head mounted displays called eye phones was introduced by VPL in the late 1980's. These HMD's used LCD displays to produce a stereo image, but at extremly low resolution. Other drawbacks were high price and large weight.

There are a variety of tools used in virtual reality (VR) for various purposes such as content creation, development, and testing. Here are a few examples of VR tools:

- Unity: Unity is a popular game engine that is commonly used for VR development. It provides a variety of tools and features for building and testing VR applications, including 3D modeling, physics simulation, and VR camera support.
- Blender: Blender is a 3D modeling software that is commonly used for creating virtual environments and objects in VR. It allows users to create and modify 3D models, as well as animate them for use in VR applications.
- Unreal Engine: Unreal Engine is another popular game engine that provides tools and features for VR development, including 3D modeling, physics simulation, and VR camera support. It is often used for creating high-quality VR experiences for gaming and other applications.
- Tilt Brush: Tilt Brush is a VR painting and modeling tool that allows users to create 3D artwork and models using hand gestures and motion controllers. It is often used for creating virtual environments and objects in VR applications.
- Oculus Medium: Oculus Medium is a 3D sculpting and modeling tool that allows users to create and modify 3D models using hand gestures and motion controllers. It is often used for creating detailed and complex 3D models for use in VR applications.

Two examples of VR tools are Unity and Blender:

1. Unity: Unity is a powerful game engine that is commonly used for VR development. It provides a variety of tools and features for building and testing VR applications, including 3D modeling, physics simulation, and VR camera support. Unity allows users to create virtual environments and objects, as well as animate them for use in VR applications. It also includes support for a variety of VR platforms, including Oculus RiÕ, HTC Vive, and Windows Mixed Reality.

2. Blender: Blender is a free, open-source 3D modeling software that is commonly used for creating virtual environments and objects in VR. It allows users to create and modify 3D models, as well as animate them for use in VR applications. Blender provides a variety of tools and features for creating detailed and complex 3D models, including sculpting, texturing, and rendering. It also includes support for a variety of file formats, making it easy to import and export models for use in VR applications.

Different roles are played by VR technology in film and TV production.

Virtual reality (VR) technology has played a significant role in film and TV production, revolutionizing the way movies and television shows are made and experienced by audiences. Here are some of the ways VR technology has impacted the industry.

Pre-Visualization: VR technology allows filmmakers to pre-visualize the scenes before the actual filming begins. They can create 3D models of sets, characters, and objects and see them in a virtual environment. This helps to save time and money by identifying potential issues before the actual filming.

Realistic Special Effects: VR technology has made it possible to create more realistic special effects. By using VR headsets, filmmakers can place actors into a virtual environment and film them in front of a green screen. This helps to create more realistic and immersive scenes.

Interactive Storytelling: VR technology allows filmmakers to create interactive stories, where viewers can actively participate in the narrative. By wearing a VR headset, viewers can explore the virtual environment and interact with characters and objects in the story.

Location Scouting: VR technology has made location scouting easier and more efficient. Filmmakers can use VR headsets to explore potential filming locations without having to travel to the actual site. This helps to save time and money by identifying suitable locations without physically visiting them.

Immersive Audience Experience: VR technology has enabled audiences to experience movies and TV shows in a more immersive way. By wearing a VR headset, viewers can feel like they are part of the story and experience it from a first-person perspective.

Virtual reality system has the potential to make a difference, to guild learners to new knowledge, to motivate and encourage at every level of education. The following reasons to use virtual reality in education are:

- Providing new forms and methods of visualization: Virtual reality display allows learners to observe visual objects that may not able to do like in the real world.

- Motivating students: Virtual reality system allow learner to interact and work with other learners, which can encourage them to have interests in subject matter.

- Simulating dangerous, expensive situations: Virtual reality system allow learners to experience difficult tasks that hard/expensive to do in real world such as electrical teaching experiments.

- Learning from expert: Virtual reality system allow expert to share their experience to their students such as share their actions during doing a virtual surgery.

CONCLUSIONS

Virtual reality system is very useful technology that could improve educational into the next level as we can see from numerous advance virtual reality systems that use for training people such as virtual neurosurgery simulation and virtual dentist simulation. I think in next 2 years from now, Virtual reality will be wildly use in numerous industry: games, movies, educations. We will see people have their own VR system at home or in any smart phone.

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