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TECHNOLOGYES AND DEVELOPMENT PROSPECTS OF VIRTUAL REALITY

Last 70 years can be safely called the information era, the era of the birth and computers formation. The current stage of information development and communication technologies is characterized by the expansion of opportunities for everyone to receive information and to pass it and to have free access to the knowledge.

Large computerization has changed the minds of everyone. Increasingly, communication in the real world is replaced by a virtual communication and the process of learning has become remote.

Virtual reality is an artificial environment that is created with software and presented to the user in such a way that the user suspends belief and accepts it as a real environment. On a computer, virtual reality is primarily experienced through two of the five senses: sight and sound. The simplest form of virtual reality is a 3-D image that can be explored interactively at a personal computer, usually by manipulating keys or the mouse so that the content of the image moves in some direction or zooms in or out. More sophisticated efforts involve such approaches as wrap-around display screens, actual rooms augmented with wearable computers, and haptics – devices that let you feel the display images.

Virtual reality can be divided into:
- The simulation of a real environment for training and education.
- The development of an imagined environment for a game or interactive story.

VRML (Virtual Reality Modeling Language) is a language for describing three-dimensional (3-D) image sequences and possible user interactions to go with them. Using VRML, you can build a sequence of visual images into Web settings with which a user can interact by viewing, moving, rotating, and otherwise interacting with an apparently 3-D scene. For example, you can view a room and use controlers to move the room as you would experience it if you were walking through it in real space.

To view a VRML file, you need a VRML viewer or browser, which can be a plug-in for a Web browser you already have. Among viewers you can download for the Windows platforms are blaxxun's CC Pro, Platinum's Cosmo Player orr Fountain in my case Cortona 3D.

360-degree VR (360-degree virtual reality) is an audiovisual simulation of an altered, augmented or substituted environment that surrounds the user, allowing them to look around them in all directions, just as they can in real life.

360-degree VR can be used for many purposes different from entertainment. The virtual reality technology can be used in most kinds of training that involve a physical environment, including pilot and driver training (as well as actual piloting or driving), surgery, and undersea and space exploration via remote-control robots.

There is a number of types of 360-degree VR, including live and previously captured video or real-time, real-time rendered 3D games, and pre-rendered computer graphics imagery (CGI).

Currently available 360-degree VR consumer systems include Oculus Rift, Morpheus, HoloLens and Vive & Gear.

Analyzing the above, we can conclude that science has made great strides forward in the practice of virtual worlds and reached a high level in the development of devices that reproduce them. It can be predicted that the future of virtual reality technology will become an integral part of society and will be used in various fields of human activities.

LITERATURE

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