

VIRTUAL REALITY

Morton Heilig(invented VR Technology in 1957)

Virtual reality (VR) refers to a computer-generated simulation in which a person can interact within an artificial three-dimensional environment which may be realistic or imaginary, macroscopic or microscopic and based on realistic physical laws of dynamics or on imaginary dynamics using electronic devices.

In VR there are many types of VR implementations and below we have listed 4 common setups:

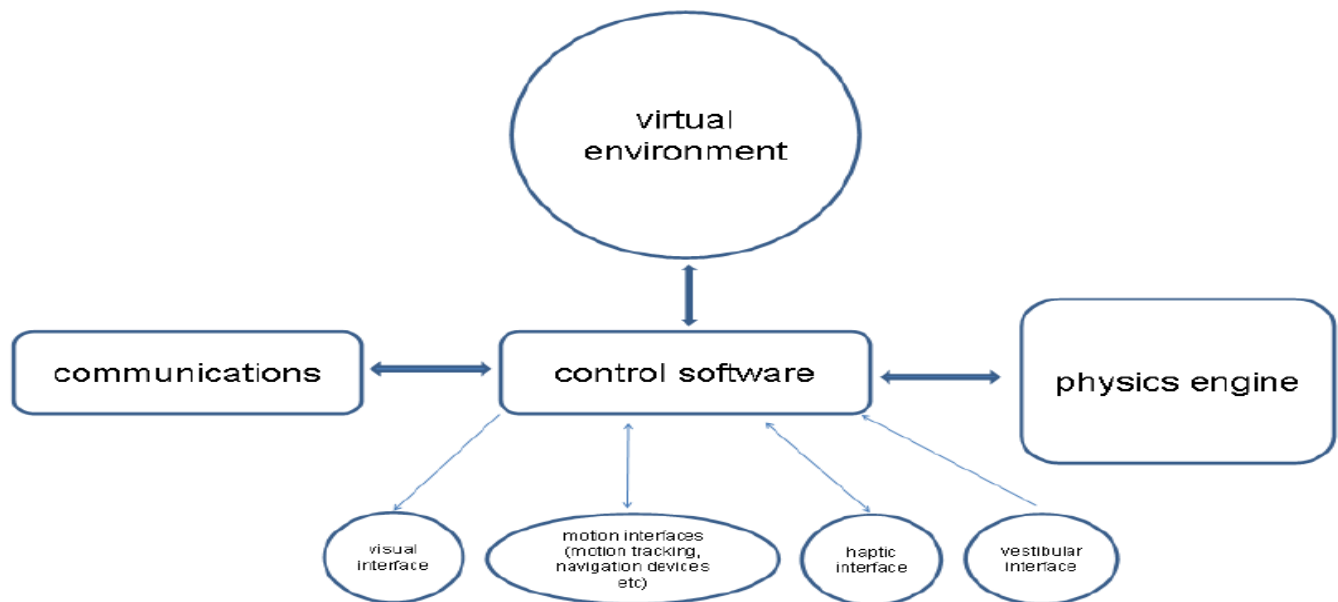
1. Desktop VR (Monoscopic or Stereoscopic)
2. Immersive VR (HMD, CAVE, wide screen)
3. Collaborative Systems
4. Mixed or Augmented Reality



How VR work ?

The technology behind virtual reality and the basic terminology surrounding the development of a simulated ecosystem for a head-mounted display (VR headset).

The primary subject of virtual reality is simulating the vision. Every headset aims to perfect their approach to creating an immersive 3D environment. Each VR headset puts up a screen (or two – one for each eye) in front of eyes thus, eliminating any interaction with the real world. Two autofocus lenses are generally placed between the screen and the eyes that adjust based on individual eye movement and positioning.



A schematic view of a VR system.

APPLICATIONS OF VR IN EDUCATION:

The multi-sensory, interactive, nature of VR has made it a popular with many researchers in education, rehabilitation and in cognitive neuroscience. This is because the virtual environment is more 'controllable' than the real world. Virtual reality can be used to enhance student learning and engagement. VR education can transform the way educational content is delivered; it works on the premise of creating a virtual world and allows users not only see it but also interact with it. Now according to educational application areas of VR may be categorized into 3 different types:

1. Application in schools and colleges to enhance core curriculum subjects.
2. Applications for museums, 'edutainment' and demonstrations.
3. Utilization for training (children or adults).