# Virtual Reality

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Virtual reality offers us the means of observing and understanding how things work and enable us to interact with this new and previously unimaginable domain inhabited by molecules and atoms.

The term Virtual Reality (VR) is applied to a collection of technologies, which together form an interface between humans and computers, which is more intuitive to use.

Typically (but not exclusively) this is achieved by real-time interaction with three-dimensional computer generated imagery (CGI). In some cases, exploring and interacting with the CGI requires the use of special peripheral devices to create a sense of 'presence' or 'immersion' within the virtual environment.

VR is a convergence of technologies from a much wider range of disciplines -human factors, telerobotics / telepresence, multimedia, computer-aided design (CAD), process simulation, ergonomics simulation (including mannequin tools) and computer-generated imagery (CGI -games, animation).

One of the emerging strengths of VR is that it enables objects and their behavior to be more accessible and understandable to the human user. This is particularly in cases where objects or processes exist in reality, but are not visible to the naked eye, as is the case with Nan technology.

Virtual reality is the simulation of a real or imagined environment that can be experienced visually in the three dimensions of width, height, and depth and that may additionally provide an interactive experience visually in full real-time motion with sound and possibly with tactile and other forms of feedback.

Computer simulation, of a real 3-dimensional world, often supplemented by sound effects. People often associate virtual reality with a body suit and headgear that includes an internal screen.

The suit measures your body's movements and displays them on the screen. These computerized images can be simulated in any environment making you feel like you're really there.

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.

Most of these images require installing a plug-in for your browser. As the images become larger and interactive controls more complex, the perception of "reality" increases. More sophisticated efforts involve such approaches as wrap-around display screens, actual rooms augmented with wearable computers, and joystick devices that let you feel the display images.

## Virtual reality can be divided into

• The simulation of real environments such as the interior of a building or a spaceship often with the purpose of training or education.

• The development of an imagined environment, typically for a game or educational adventure.

Popular products for creating virtual reality effects on personal computers include, Dream Studio, true space, 3D Studio MAX, and Visual Reality.

The Virtual Reality Modeling Language VRML allows the creator to specify images and the rules for their display and interaction using textual language statements.



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