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**How does Virtual Reality work?**

Virtual Reality simply put is the act of trying to combine the physical real world and the imaginary and making them indistinguishable from each other. The way designers involved in the development of virtual reality systems try to achieve this today is through head-mounted devices providing auditory feedback which may also be used in tandem with haptic systems which give users force feedback and touch interaction. Physical Movements are recorded with 3-D sensory trackers and then the feedback of head, hand and body movement is sent to the screen to make movement feel seamless and real (**GC Burdea 2003**). For 3-D sensory technology to work the environment the user will be using must be tracked and recorded. Most VR headsets only preform rotational tracking, only allowing the user to look around. Some more advanced headsets are capable of emulating movement through space using positional tracking

**Applications of VR**

There is a myriad of applications and uses for virtual reality. It is most commonly used in everyday life for entertainment but can also be used for educational purposes, medical procedures, manufacturing etc. Virtual reality is already used for work related activities in training personnel with equipment where “initial training in a virtual environment can avoid the expense, danger, and problems of monitoring and control associated with training” (**Weiss 1998**) For example it is used in pilot simulation, allows architects to view their design more dynamically, astronaut training etc. Virtual reality has a huge potential in aiding education. First-hand experiences account for most of our activity and learning of the world (**William Winn 1993**). Students will no longer be observers to information but active participants in constructing it themselves. Those studying history will be able to see, feel and hear important events throughout time, engaging them more in the subject then they would’ve been before. Surgeons today are using VR to allow them to visualise problems with intricate organs like hearts and brains to spot problems before the surgery takes place.

**Reference List**

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GC Burdea, P Coiffet - 2003 ‘Virtual Reality Technology’

William Winn A Conceptual Basis for Educational Applications of Virtual Reality 1993