VIRTUAL REALITY

**Prepared By:
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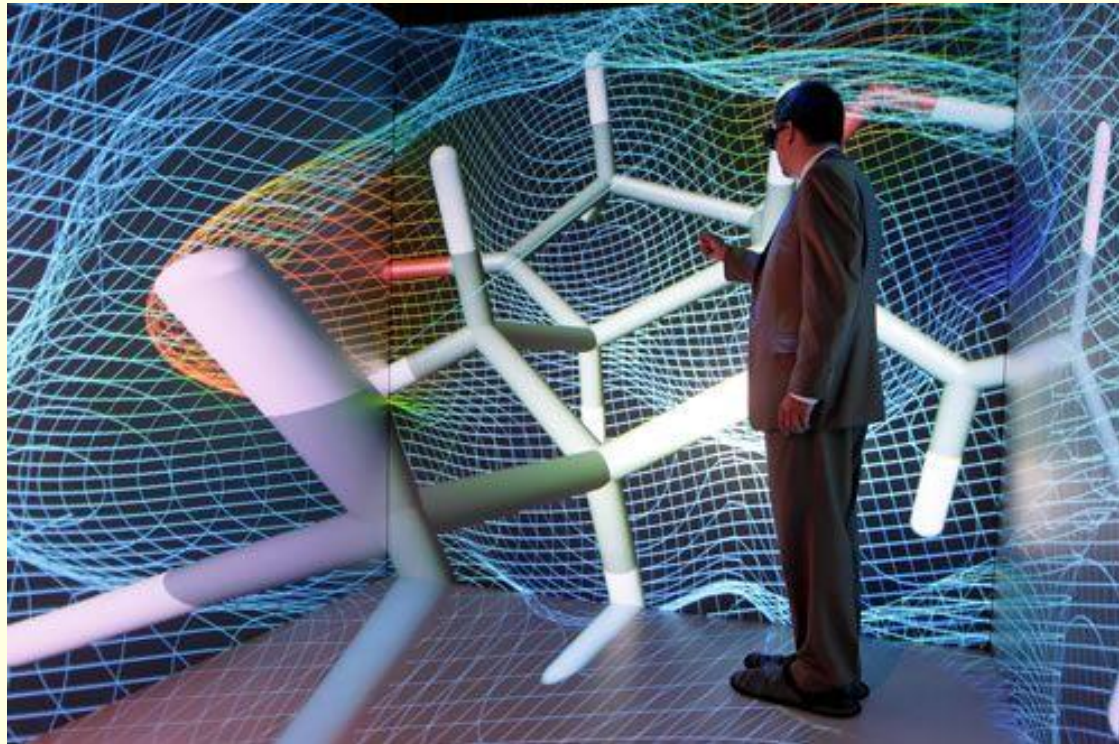## The Day You Discard Your Body: Understanding the Future of Humanity

Content

- What is Virtual Reality?
- Why we need Virtual Reality?
- Virtual reality systems
- Virtual Reality hardware
- Virtual Reality developing tools
- The Future of Virtual Reality

What is Virtual Reality ?

Why Virtual Reality

is needed?
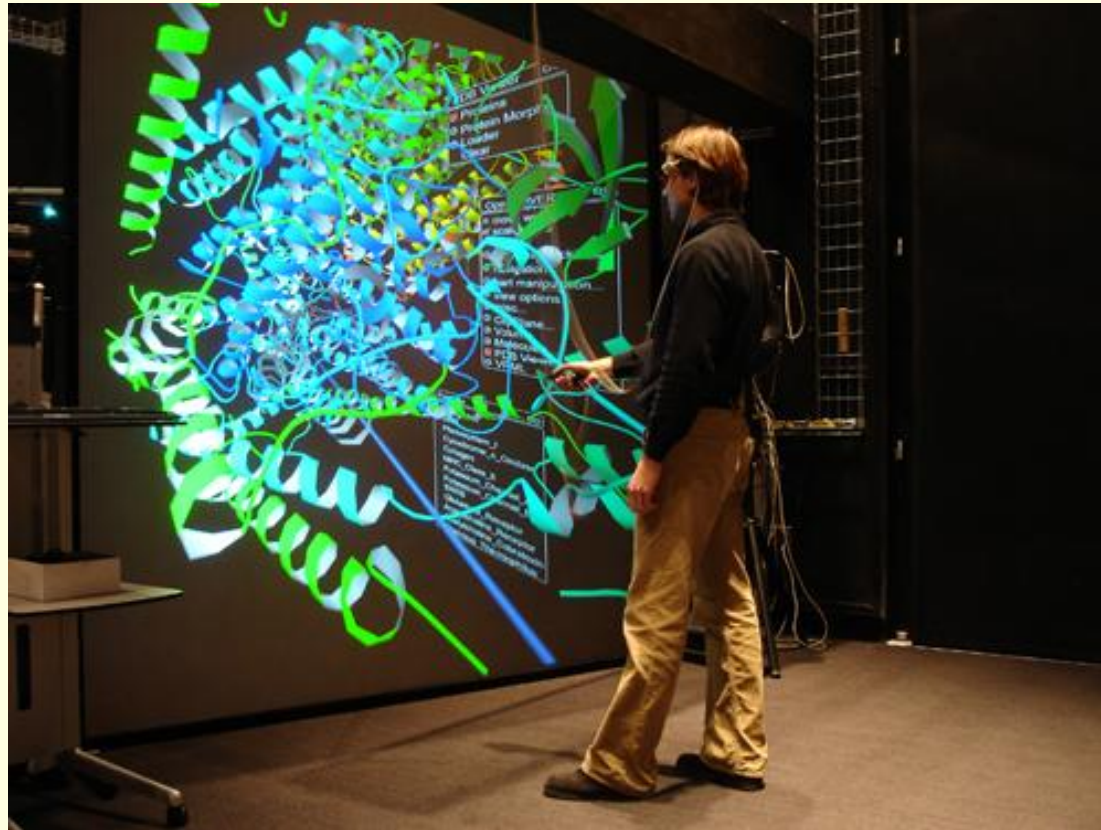
In the future -- Tele-presence

In the future -- Tele-presence

Scientific Visualization

NASA VR Mars navigation simulation

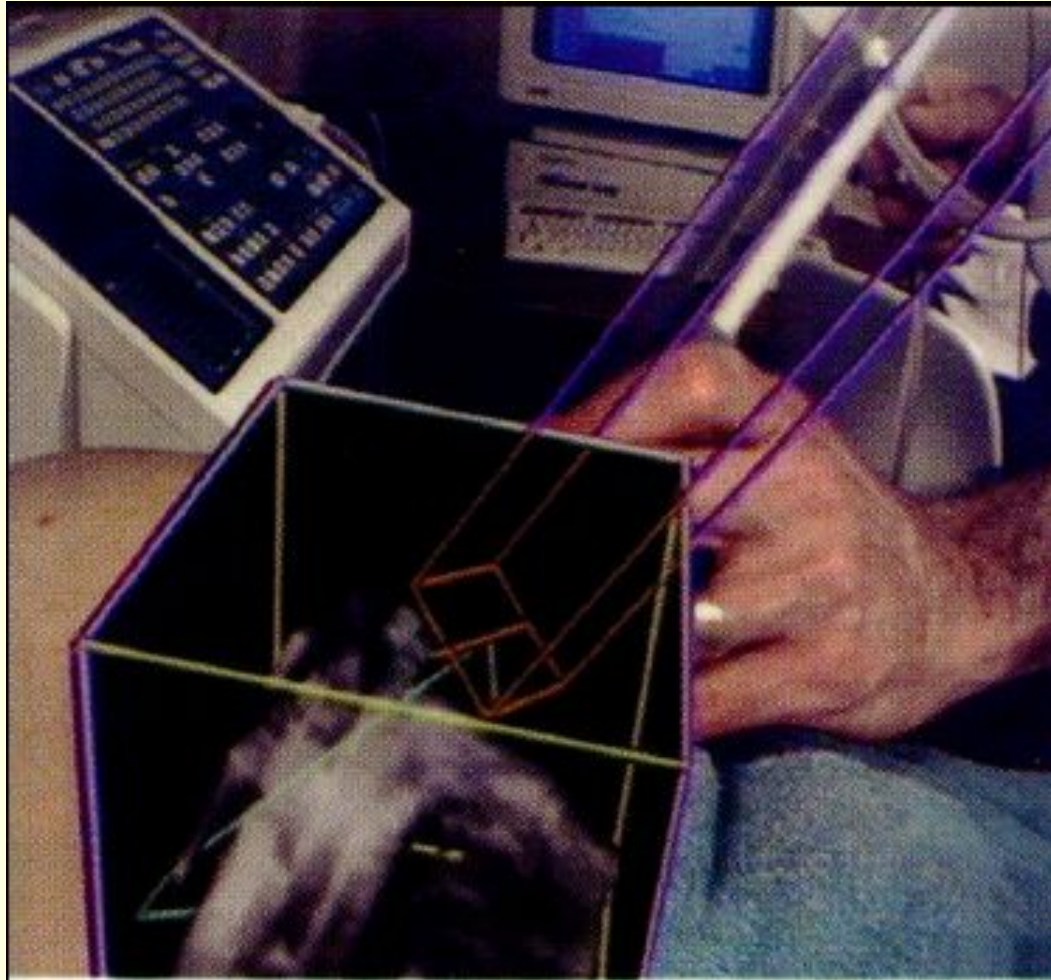**Geologists remotely analyzing the surface of a planet at NASA**

Medicine

Real 3D Ultrasound Experiment

Exposure Therapy For Acrophobia

Virtual Elevator

Education and training

Non-immersive systems

"Through- the - window"

Large display, but doesn't surround the user.

Augmented reality

Stay in real world, but see simulated objects

More Augmented reality

Stay in real world, but see simulated objects

AR Museums

More Augmented reality

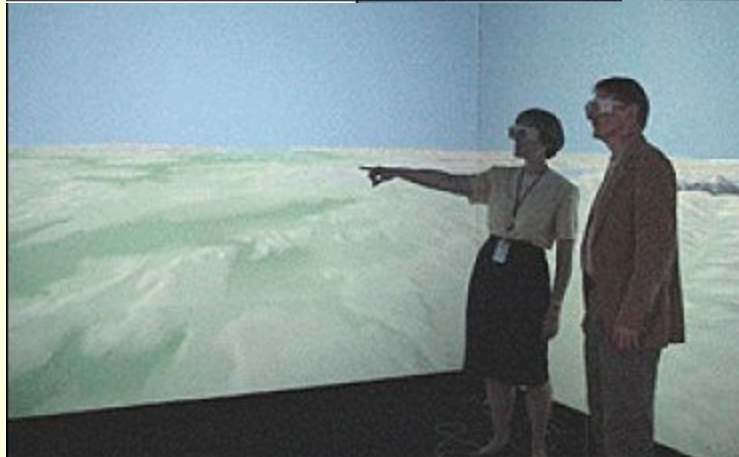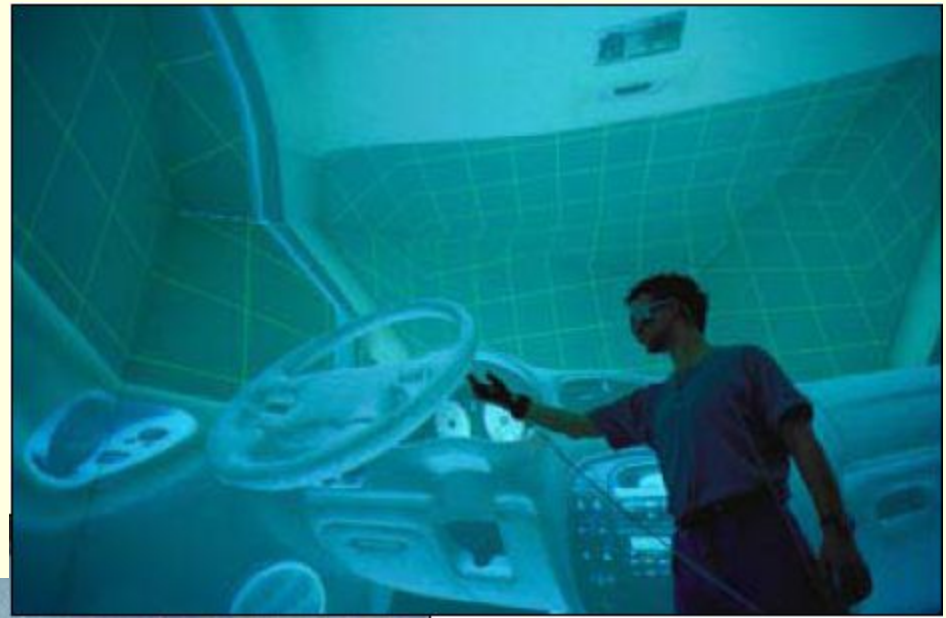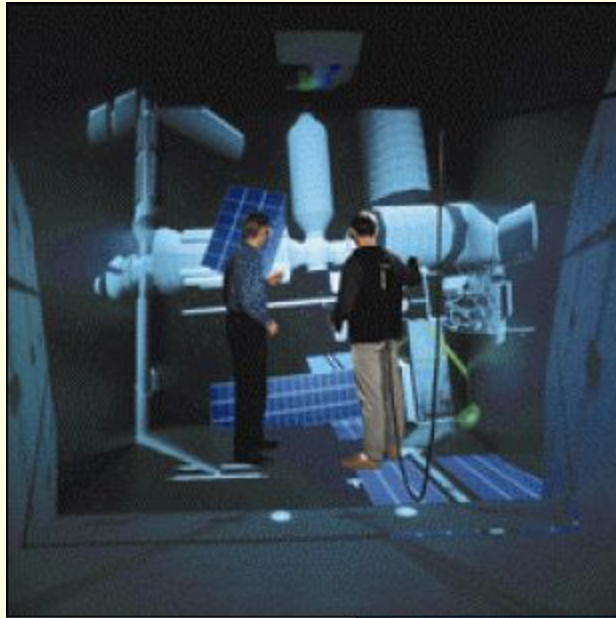*Stay in real world, but see simulated objects*

Augmented Reality can be used for training as well as for assembly purpose

CAVE Pictures

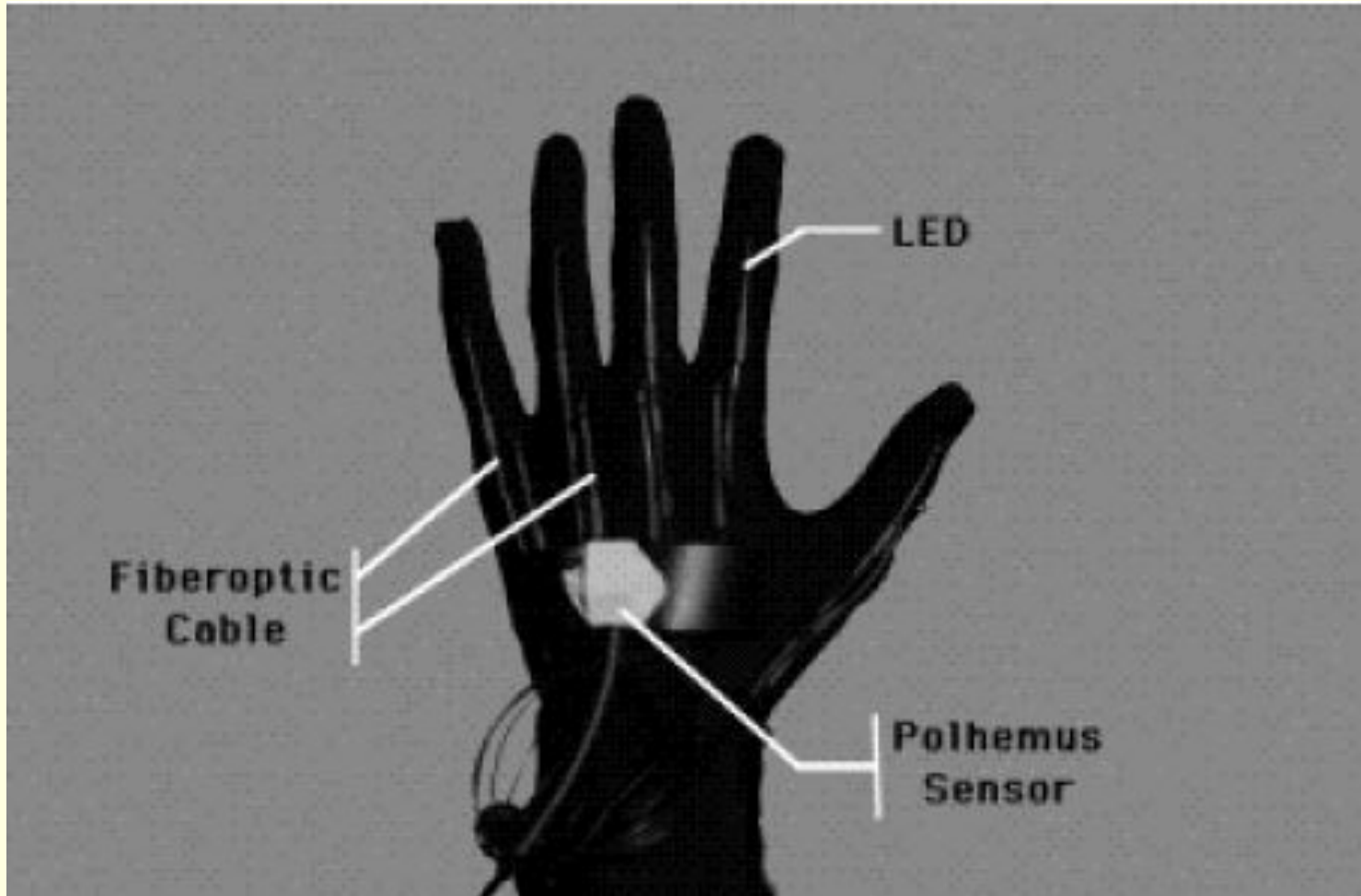*See simulated world and "be" in that simulated world*

Illusions of immersion
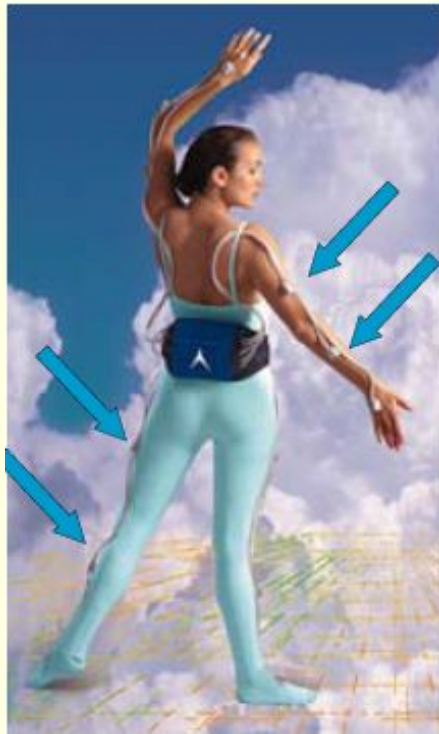
Input Devices (The Data Glove)

Input Devices
(3D Mouse and Space Ball)

Input Devices (Motion Trackers)
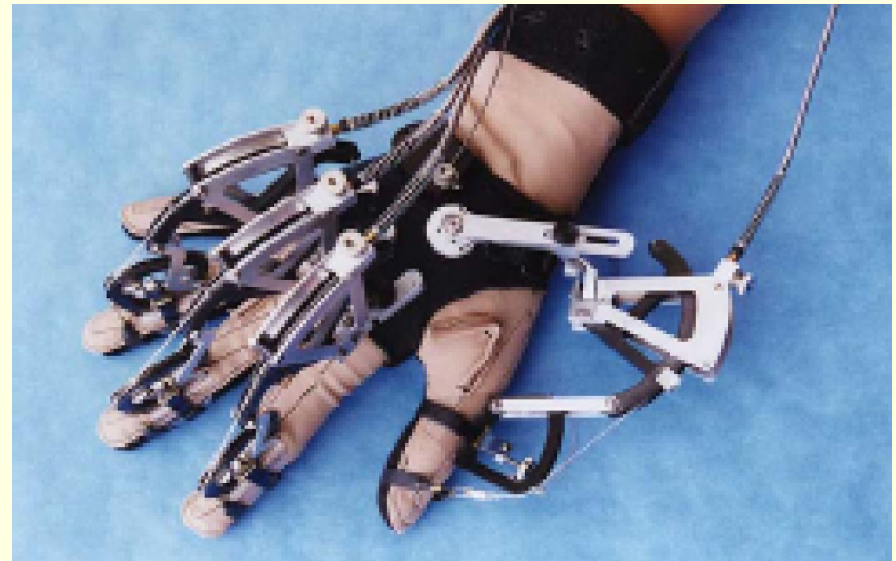
Output Devices
Head-mounted displays (HMDs)

BOOM (Binocular Omni-Orientation Monitor)

Haptic interfaces and tactile feedback for VE applications

CyberGrasp

The Future of Virtual Reality

"So a virtual reality is a synthetic sensory experience which may one day be indistinguishable from the real physical world "

- Kalawsky, R.S. (1993)