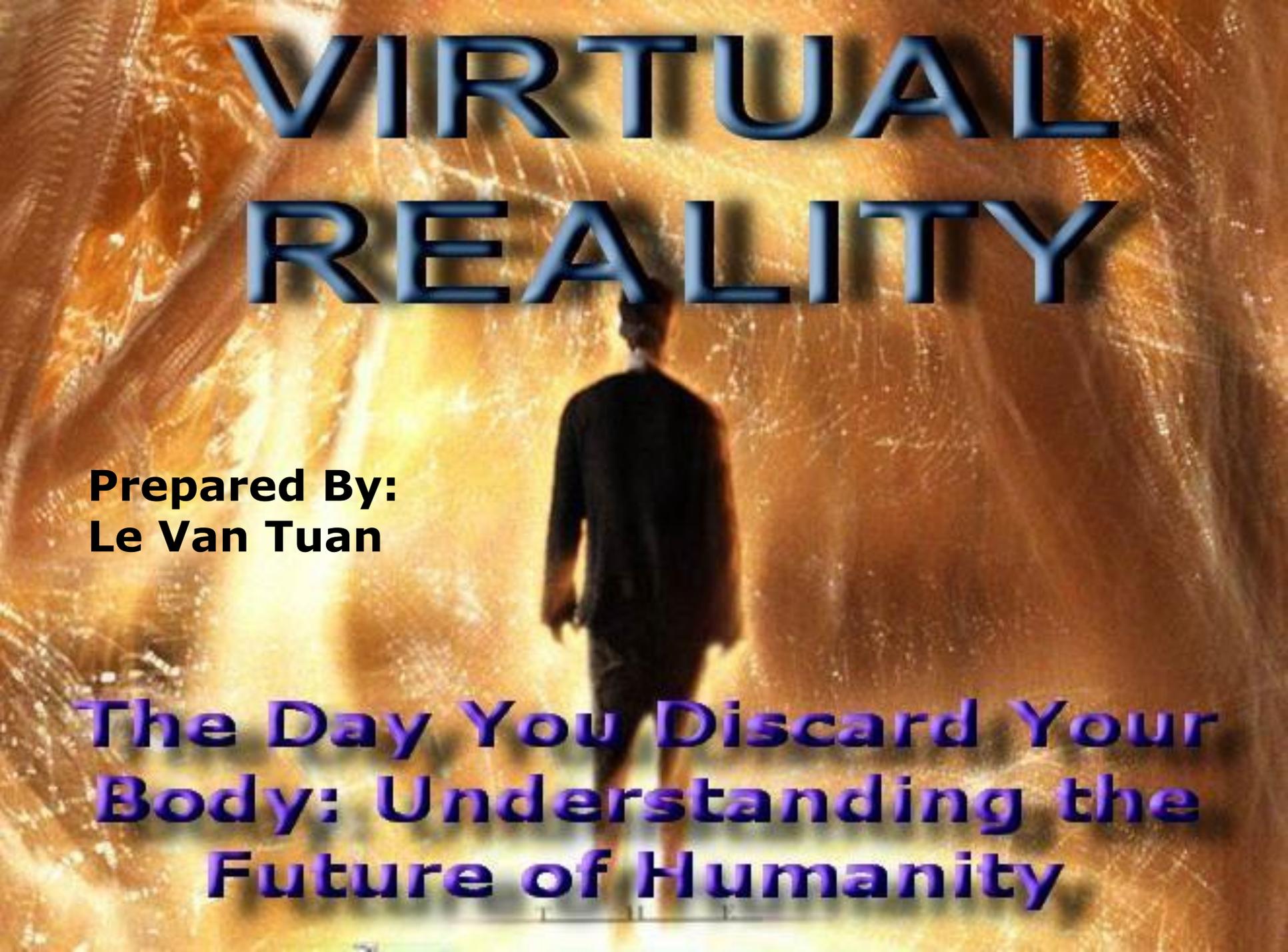


# VIRTUAL REALITY

A person in a dark suit is walking away from the viewer down a glowing, golden, futuristic corridor. The corridor is illuminated by bright, shimmering light, creating a sense of depth and movement. The overall atmosphere is one of mystery and advanced technology.

**Prepared By:  
Le Van Tuan**

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

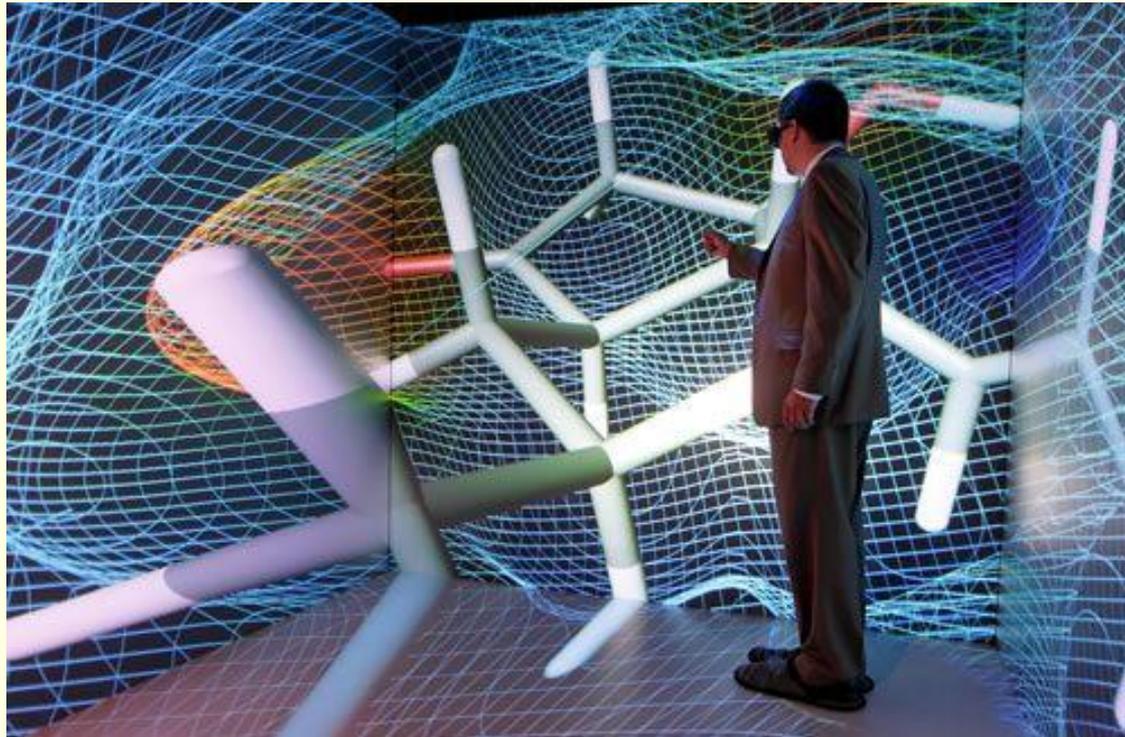
# Content

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- 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 ?

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# **Why Virtual Reality**

## **is needed?**

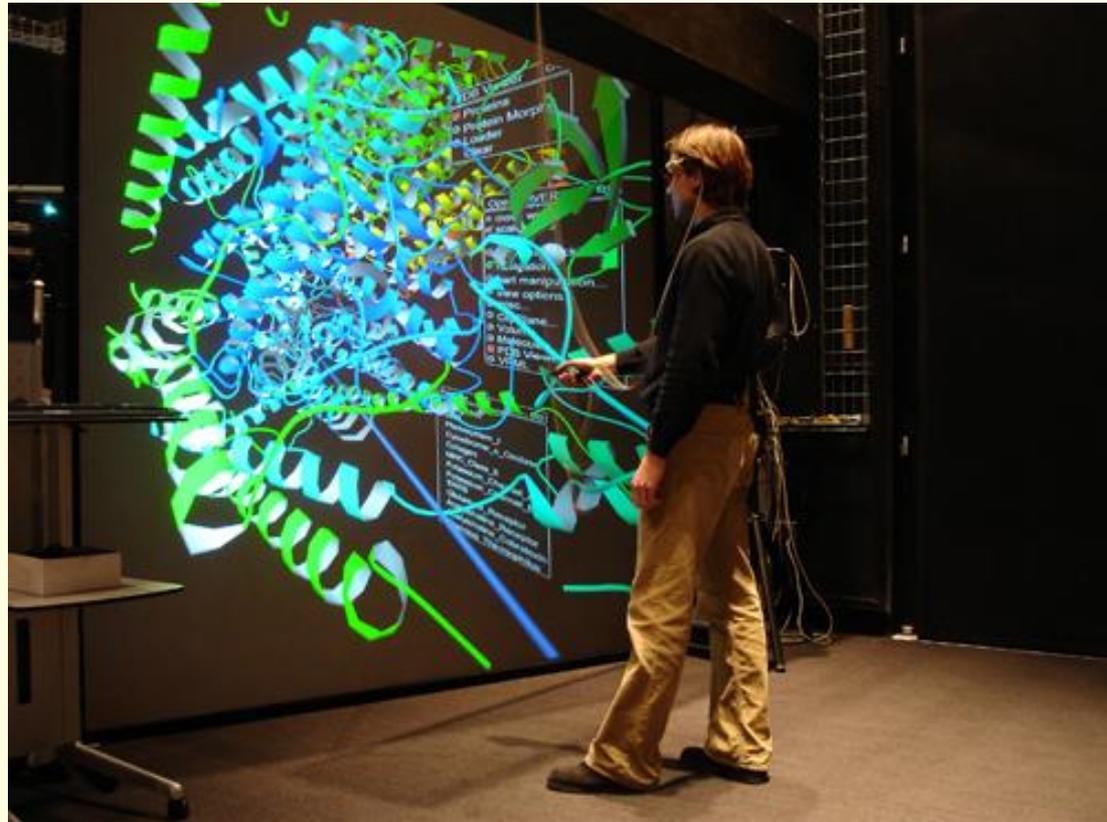
# In the future -- Tele-presence



# In the future -- Tele-presence



# Scientific Visualization



# NASA VR Mars navigation simulation

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

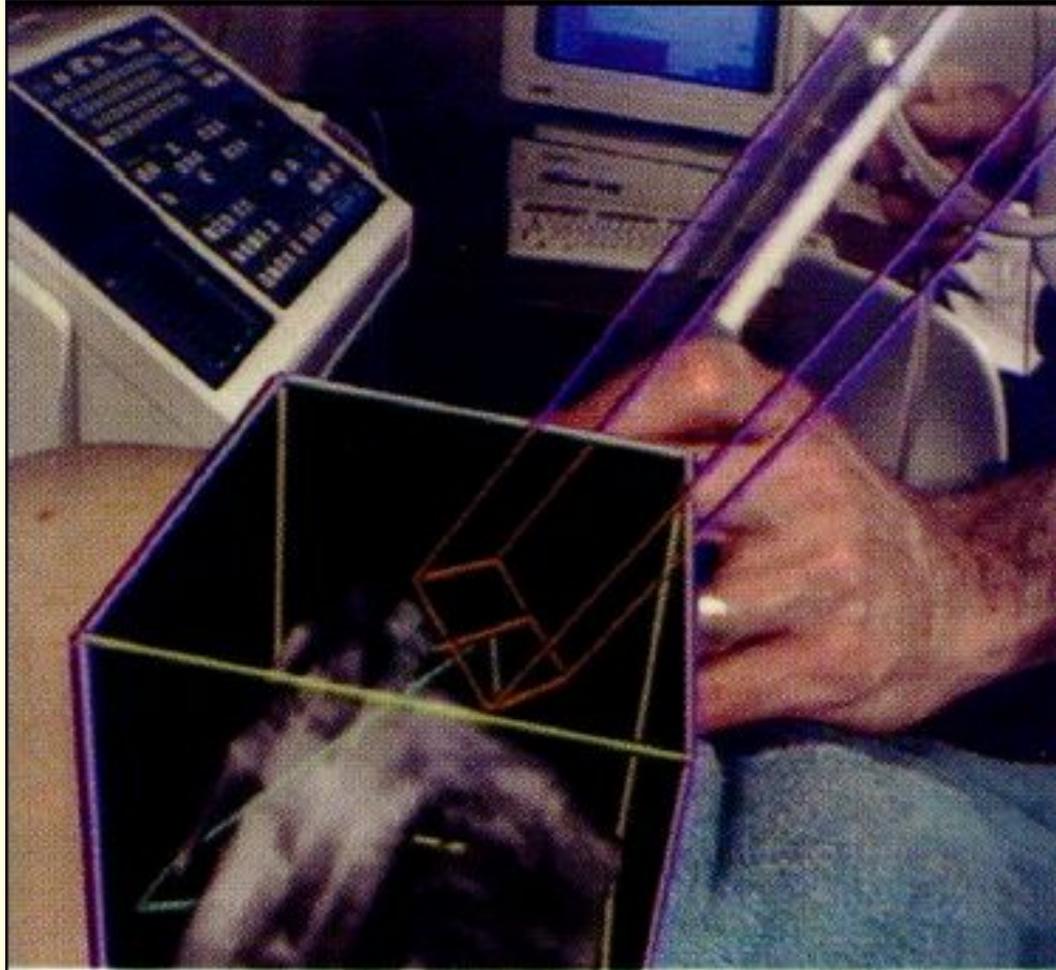
# Medicine

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# Real 3D Ultrasound Experiment

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# Exposure Therapy For Acrophobia

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# Education and training



# Non-immersive systems

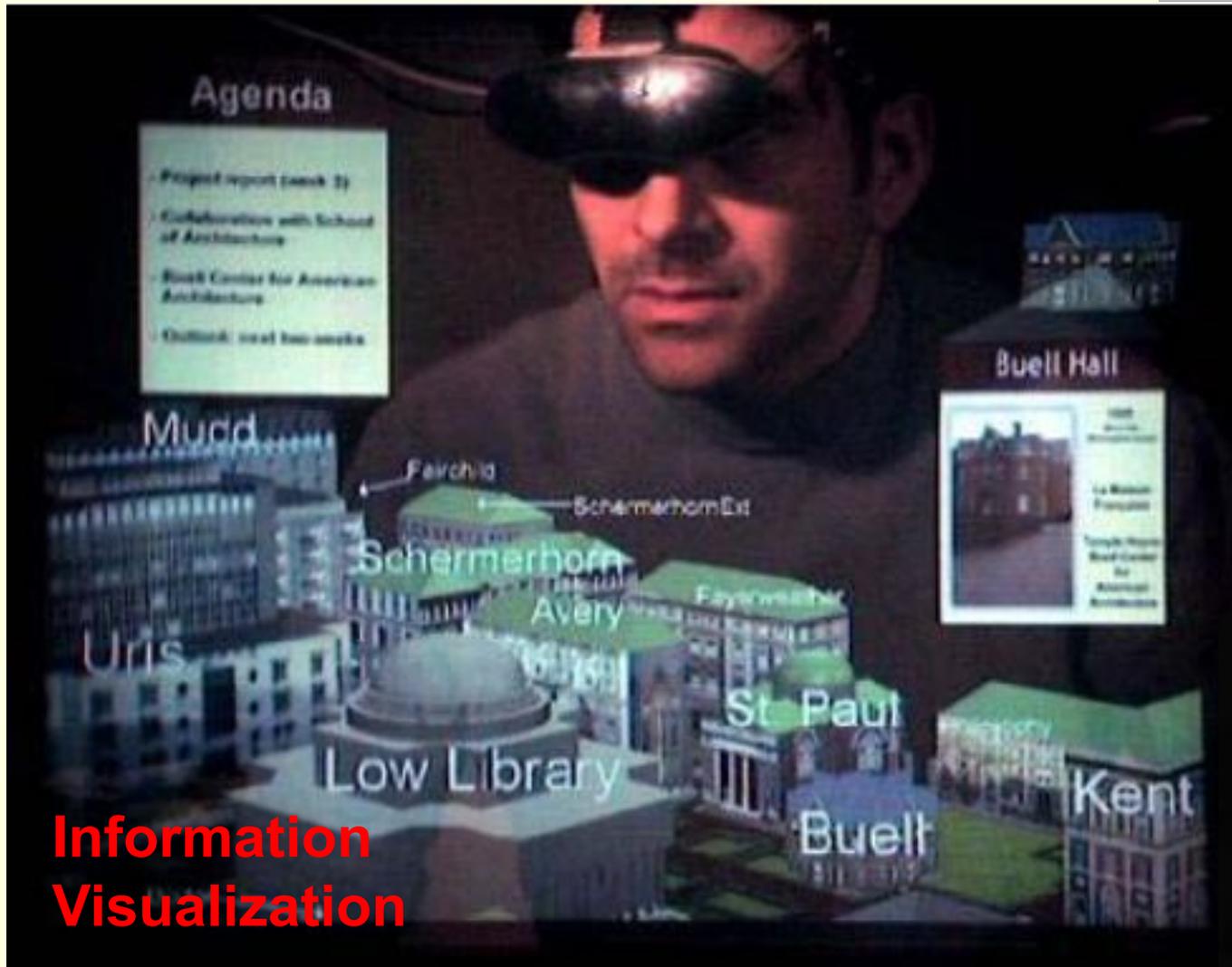
*“Through-the-window”*

**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*



# More Augmented reality

*Stay in real world, but see simulated objects*

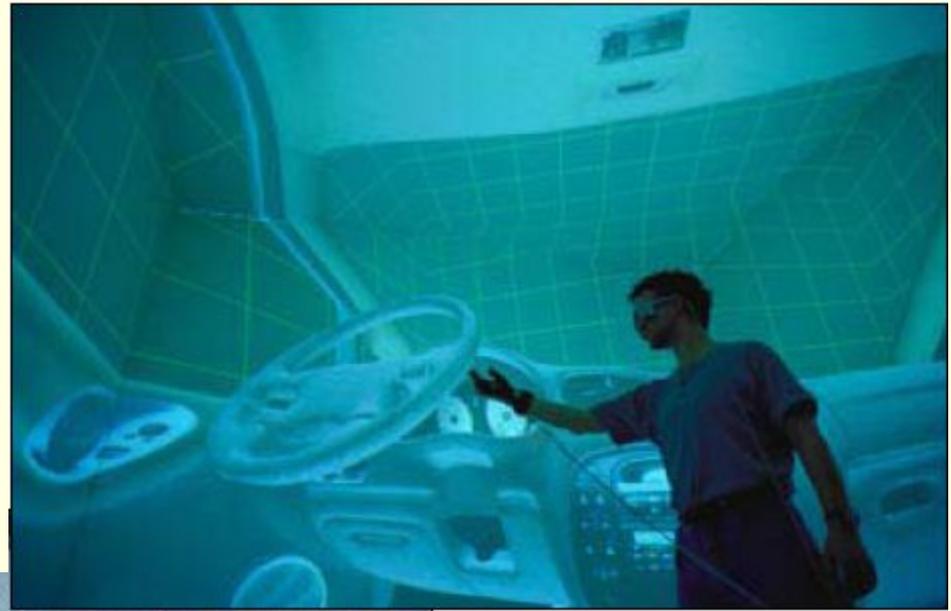


**Augmented Reality can be used for training as well as for assembly purpose**

# CAVE Pictures

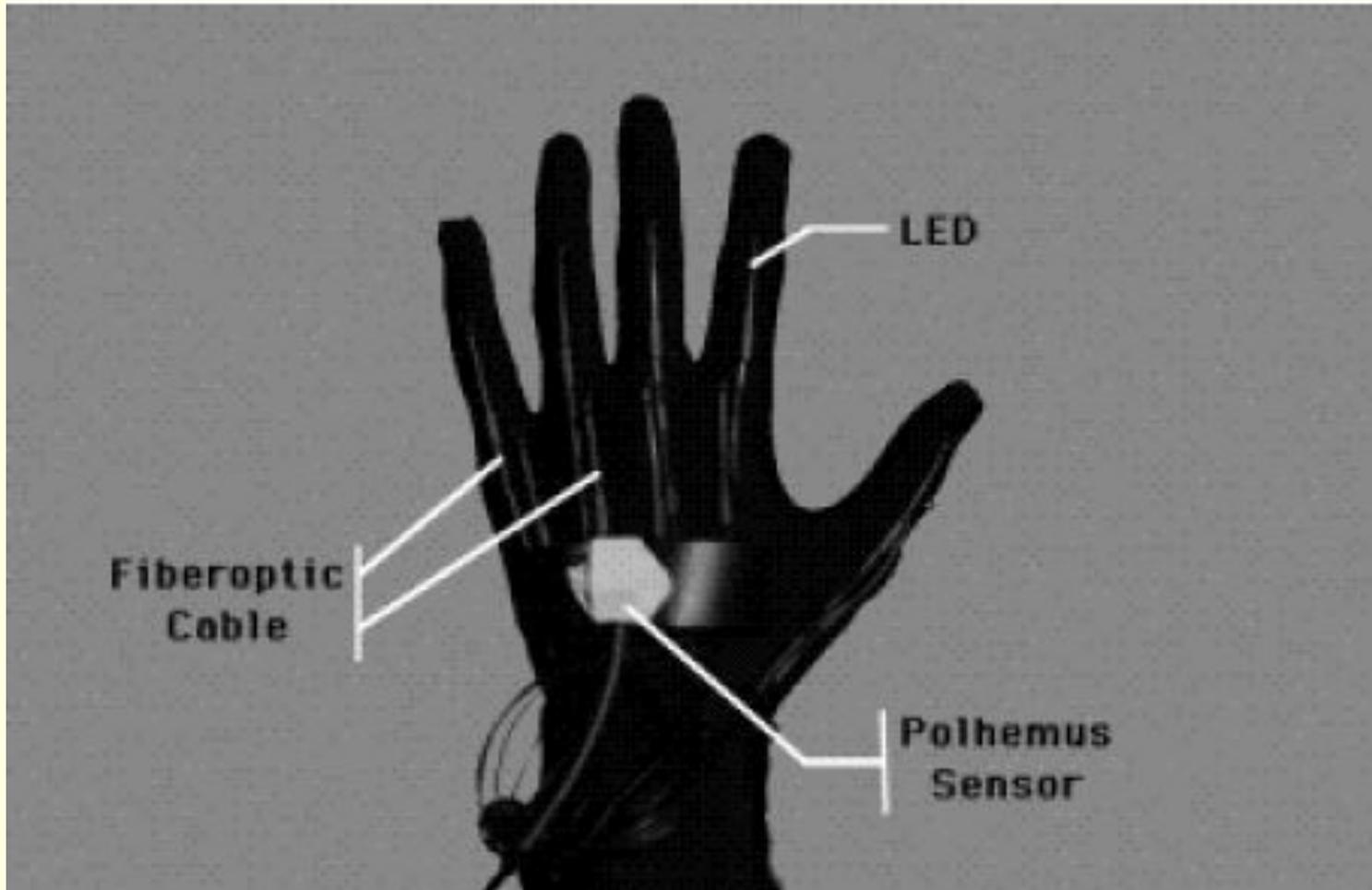
*See simulated world and "be" in that simulated world*

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**Illusions of immersion**

# Input Devices (The Data Glove)



# Input Devices

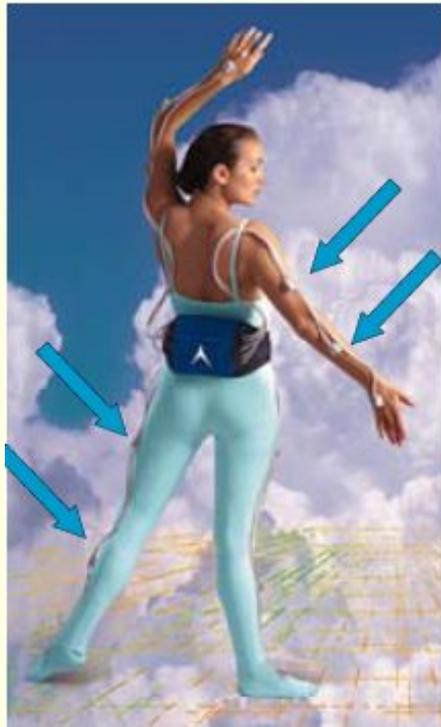
## (3D Mouse and Space Ball)

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# Input Devices (Motion Trackers)

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# Output Devices

## Head-mounted displays (HMDs)

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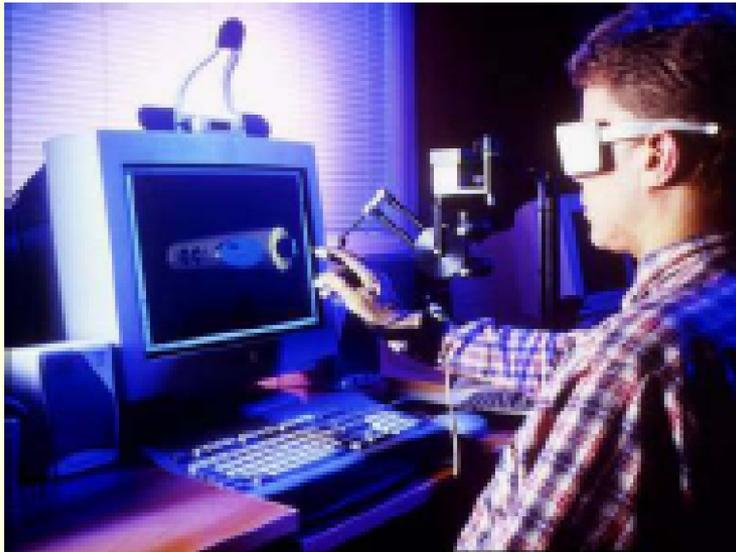
# BOOM (Binocular Omni-Orientation Monitor)



# Haptic interfaces and tactile feedback for VE applications

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## CyberGrasp



# The Future of Virtual Reality

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

**- Kalawsky, R.S. (1993)**