

Virtual World Development

JUST WHAT IS VIRTUAL REALITY ANYWAY?

What are the defining characteristics of virtual reality, of a virtual reality system? Suggest techniques for "measuring" each characteristic.

Develop a taxonomy (hierarchy, state space) of partial and complete VR systems.

- computer-generated, television or live image?
- inclusion or partial immersion or watching 3D?
- wearing a computer?
- how many dimensions? multisensory?
- input and output bandwidth?
- available system resources?
- responsiveness and timeliness?
- physical/virtual mixture?
- degree of presence and physical remoteness?
- occlusive, overlay or annotated?

Consider (some of) these issues:

- bandwidth
- sensory modality
- degree of coupling and feedback
- input and sensor types
- output and display types
- interactivity
- realtime responsiveness
- meaning
- human physiology
- presence
- telepresence
- dimensionality
- realism
- autonomy
- formality
- anthropomorphism

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Classify (some of) the following systems in your taxonomy:

Dataglove
Heads-up display
Inclusive display
flight simulator
computer animation
stereo sound
Nintendo games
SIMNET
computer aided design (CAD)
Landsat database
remote controlled robot
voice recognition
holographs
email
command line computer interfaces
desktop metaphor (WIMP) computer interfaces
electron microscope
the physical world
television
telephone
automobiles
drawings
sculpture
thinking
meditation
dreaming
books and reading
photographs
movies
Disneyland
this assignment
[add your own]