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First person vs Third person

→ Subjects have first person Experiences

→ Observers have third person experiences

→. Switching back & forth between subjects & observers is **bad idea**

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→ Idle → Jump

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Synthetic vs. Captured

→ Synthetic world can be programmed which is completely invented from geometric primitives & simulated physics.

→ World may be captured using modern imaging techniques
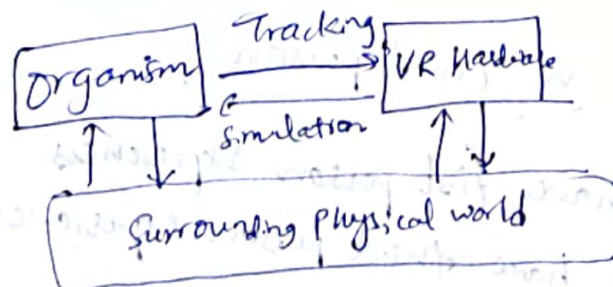
Factors affecting captured:

→ What happens when user changes her head position and viewpoint?

→ First step towards feeling like we are somewhere else is capturing a panoromic view of environment

Interactivity

Open loop   Closed loop

12/10/22

Organism →Tracking→ VR Hardware
←Simulation

Surrounding physical world

DOF (Degree of Freedom) →
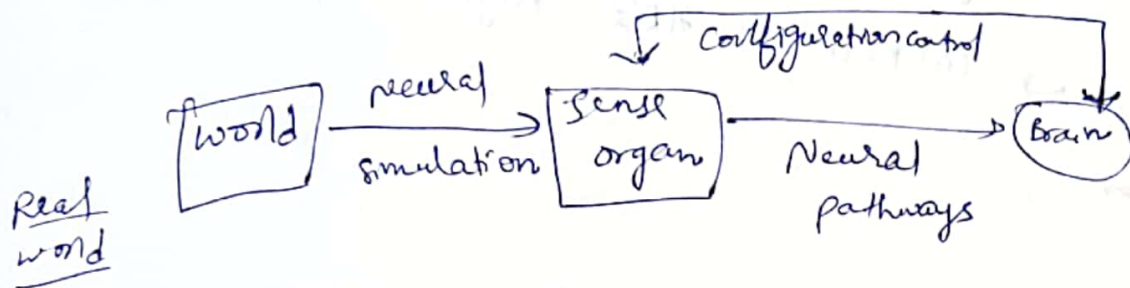
→ A typical rigid body has 6 Dof

We have 6 DOF's (Human beings)

3 DOF's (linear)

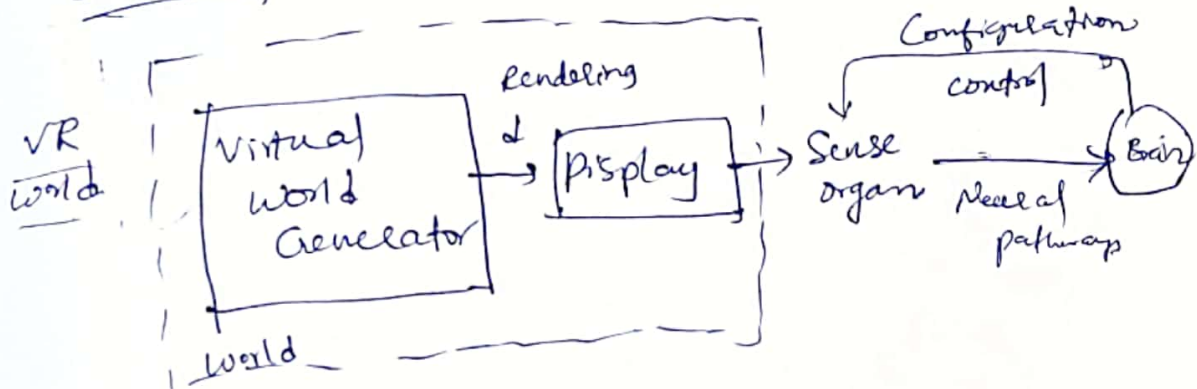→ Front / Back
→ Left / Right
→ Sit / Get up

3 DOF's (Angular / non-linear)

→ Rotate left / right
→ Bend up & down
→ Bend diagonally left & right

Real world

World → neural simulation → Sense organ → Configuration control → Brain, Neural pathways

Sensors & Sense organs

VR world

Virtual world Generator → Rendering & → Display → Sense organ → Configuration control → Brain, Neural pathways

World

Artificial stimulation

Interactive

Types of VR :

Desktop VR

- Ordinary screen
- mouse or keyboard control
→ Steering wheel
→ Joystick

Immerse VR

→ Helmet / goggles
→ Body Suit / Trampoline

Physical world / VR mixed