

# Virtual Reality

COMPUTER LITERACY

# What is Virtual Reality (VR) ?



**Virtual Reality:** an artificial environment created with computer hardware and software and presented to the user in such a way that it appears and feels like a real environment.

- Why VR?

# Types of VR



- Collaborative
- Non-Immersive
- Fully immersive
- Mixed Reality (Augmented Reality)

# Collaborative



- The idea of sharing an *experience* in a virtual world with other people, often in real time
- Example: Second Life, Minecraft



# Non-Immersive



- A variation of visualizing complete computer generated worlds
- Links remote sensors in the real world with the senses of a human operator.
- Example: realistic flight simulator on home desktop with wide-screen, headphones, and realistic joystick



# Fully immersive



- Equipped with a Head Mounted Display (HMD)
- Completely immerse the user's personal viewpoint inside the virtual 3D world.
- The user has no visual contact with the physical world.





# Mixed Reality (Augmented Reality)



- The seamless merging of real space and virtual space.
- Integrate the computer-generated virtual objects into the physical world which become, in a sense, an equal part of our natural environment
- Example: Pokemon GO



# Types of Virtual Reality Devices

- Oculus Rift
- HTC Vive
- Samsung Gear VR
- Google Cardboard
- Treadmills
- Haptic Gloves





# Applications



- Training simulations for dangerous situations
  - Battlefield
  - Surgery
  - Flying
  - Construction machines
- Entertainment
  - Video games
  - Movies
- Immersive education

