VR Techniques

Tuesday, May 30, 2017   2:00 PM

- Visual auditory and tactile methods
- Visual
  - Users use a headwt to receive the display - use convex lens
  - Problems: Display Lagging
    - Difference between motion of users head and the display in the headset
    - If lag is longer than 20 ms there will be dizziness
  - How to reduce lag
    - Time-crit computing: trades computation time for accuracy
    - Multi processor to parellize
- Auditory
  - Need convincing sound - 3d audio formats
  - Multichannel
    - Loud speakers
    - Each channel is one speaker
    - Sound created by mixing the channels
    - More channels more spacing
  - Object
    - Sound is made by mixing the sound softs?
  - Ambisonics
    - Doesn't rely on speakers or objects
    - Covers sound sources above and below listener
    - Most VR uses it
- Tactile
  - Hand controller
    - Two cameras that capture the diameter of ball
    - Can track motion of ball
    - PS move
  - Gloves
    - Detect a person's presence
    - Record motion of fingers
    - More pressure changes the resistance
- Conclusion
  - Ethical: desensitation
    - Personn no longer affected by extreme acts of behavior or

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- Future Guess
  - Make a dynamic floor that changes the landform based on player's legs
  - No longer rely on buttons