Team Hermit Crab
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Our project

• Two games (Block Stack, Keep up) that incorporate Kinect motion sensor technology with virtual reality to create immersive and naturally intuitive experiences
Refusing to compromise on immersion

• VR lacks intuitive input
• Kinect lacks visual/audial immersion
Immersive, motion-dependent VR games

• List of VR games that require motion input in a fully immersive setting
  – Interact with 360 surrounding, different depths, etc
• The user feel completely inside the game and will be able to interact with surroundings in all directions
• Experiences only possible with VR + Kinect
Our Strategy/Attempt

• Kinect for full-body tracking, intuitive input
• Gear VR for 3D environment
• Combine them to create a 3D environment with which you intuitively interact
• Intuitive reflex based gameplay - basic and natural gestures
The Brass Tacks - Kinect

• Keep Up: mapping specific body parts with the Kinect and porting that info to the headset
• We chose to map certain joints to primitive objects displayed in the headset
The Brass Tacks - VR

• Block stack: recognizing certain key gestures that induces the least lag. Jump detection worked pretty well!
Improving Immersion (1)

- Simple graphics can give points of reference (shadows, detail)
- Positional sound with logarithmic fall off
- Clouds give illusion of height
Improving Immersion (2)

-The closer we got to full body representation, the easier it was to find faults.

-Simpler representation is more fun, gets over disbelief barrier.
Things we’d like to fix/address

• Occasional lag in Block Stack - Kinect doesn’t recognize player movement 100%
• Ball physics are a little strange and don’t completely mirror the behavior of a real ball
Future goals

• Networked and multiplayer games
  – Kinect is capable of recognizing six people but can only track two at a time

• Incorporate a game that involves more nuanced body tracking
  – Initial stretch goal was Dodgeball, which would require hand/finger tracking