



My MQP Interests

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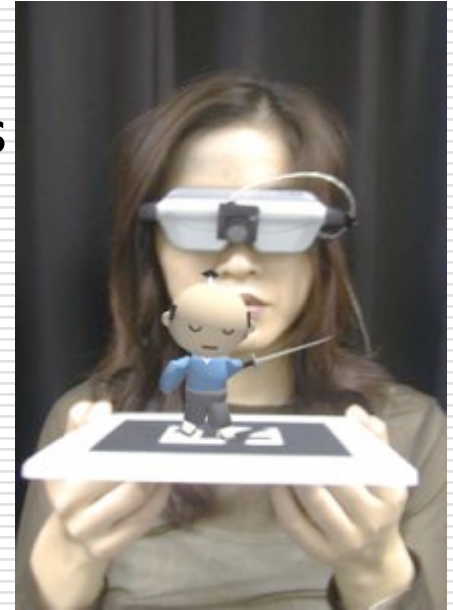
Virtutopia: (with Heineman) Finishing up the Foundation

- What is it?
 - A scalable framework for multiplayer games and virtual reality

- New stuff:
 - Client-side State Updates
 - Server-side State Updates
 - Mobile clients
 - Network topology
 - Level of detail switching
 - Tools for artists

DrummAR: (with Rosenstock) WPI Augmented-Reality Drum Game

- What is it?
 - Like DDR/Guitar Hero/Elite Beat Agents
- Player uses a head-mounted, see-through display to see drums and graphics
- Use AR-Toolkit to track location of drums from player's perspective
- Create an intuitive method to tell player which drum is coming up
- Come up with a way to encode beats into songs



Tele-Presence Installation

- What is it?
 - Allow two (or more) people to interact using more than just visuals and sound
 - Incorporate support for visuals, sound, touch, and wind
- User Output:
 - Head-mounted display, speakers, touch, fan
- User Input:
 - Camera, microphone, touch sensor (contact or pressure), blow sensor
- Determine an application
 - Art piece?
 - Some task?
 - Game?

Virtual Robot Tele-operator Interface

- What is it?
 - Create a virtual robot that has several kinds of robotic sensors and actuators
- Define a system to map sensor data to the robot operator
- Define a system for mapping physical input devices to robot actuation
- Evaluate several alternative operator/robot interfaces

SecondLife Haptic Interface (with Pisan)

□ What is it?

- Incorporate support for my TactaSUIT into a SecondLife client
- Incorporate support for the Wii controller



Generally

- Anything having to do with input devices to VR and games
- User studies