ONLINE EDUCATION THROUGH GAMING SYSTEMS: A PRACTICAL INVESTIGATION
Who am I
Issues with Distance Education Today

- Technology enriched distance education can be frustrating
- Non-Similar systems
- Video Conf. Systems can be costly (Cisco)
- Pixilation
- Processing power
- Bandwidth issues
- Software limitations
- Visualization of faculty, students, classroom, etc...
- Video vs. Audio tradeoff
- Body Language
- Instructor immediacy
How can we address these issues?

• Use a gaming system such as the Xbox & Kinect as the delivery method
• Why?
  • Can store data locally and only transfer small bits over connection
  • Built to handle graphics
  • Accessibility
    • Number of controller options
  • Xbox & Kinect Development Kit already exist
  • Xbox has Kinect chat rooms, etc…
  • Kinect SDK works on Windows, etc…
What I saw to start thinking about solutions

- Kinect
- Avatar Kinect
- Video Kinect
- uDraw
Avatar Kinect
Video Kinect
Is this possible?

• Xbox system is #1 in US
• We virtualize the classroom environment through the Xbox 360 platform. (as one example)
• Robust Graphics
• Virtual Classroom environments can be pre-programmed
• Location of Data is local
• Multiple Cores locally on CPU & GPU - take advantage
• Bulk of data stored locally through DVD and/or download via Xbox Live
How?

• Faculty and students can create an avatar that reflects who they are by using the Kinect system.
How?

• For now – use prefab spaces from Kinect
• Future - Faculty can either pick from a list of prefab classroom designs (rows, round, etc...) or design their own environment.
Virtualized Classroom

• Avatar Kinect --the beginning
• When a student raises their hand, the avatar would raise their hand, etc...
One-on-One?

- Video chat capabilities through the Microsoft Kinect system.
- Also, allows the faculty member to “spot check” students interaction with the class.
- Because of the local file location the only data passed through the Internet would be avatar location/movement and audio - keeping the quality much higher and somewhat akin to games like Halo or Call of Duty.
Student Reactions in discussions

- **Class presentation**
  - Scenario: 25 year old male, working, family, near no major universities, and desire an MBA
  - Schools could offer a digital distance education program
    - Solves geographic, monetary, and time constraints
    - Addresses many current distance education issues
      - Interpersonal, boredom, learning styles, immediate answers/feedback, presentation ability, proctored exams, and accountability

- **Games class discussion**
  - Don’t have Kinect
  - Still too “Clunky”
  - I’d rather come to class

- **Online class discussion**
  - Use it for recordings
  - Too “Clunky”
  - Not going to buy for 1 class
Next Steps

• Should we do this?
• If so, how?
  • 1 to 2 years
  • Project Manager, Developers, Instructional Designer
  • “Different” classroom views.
  • Integrate with LMS
• Students Need:
  • Xbox with Kinect (perhaps subsidized)
  • Internet Connection
  • Xbox Live account
• Is this too much work/cost for the benefit