Motion Capture System on an FPGA

Lauren Gresko
Elliott Williams
Motion Capture enables art
Motion Capture enhances immersion
Motion Capture improves telepresence
“Mo’ Cap, Mo’ Problems”

The issues with current technology
  o Expensive equipment
  o Special Software
  o Trained Technicians
The user interface is simple.
The Overall System
Motion Detection

Diagram:
- Video Decoder (camera to HSV)
- Point Detection
- Center of Mass Detection

Arrows indicate flow from Video Decoder to Point Detection to Center of Mass Detection.
3D Mapping
3D Model Generator
Frame Rendering

![Diagram of Frame Rendering Process]

- Vertexes
  - Color
  - Pixel Data

- Frame Buffer
  - Pixel Data

- VGA Controller

- Display
Advantages of Our system

- Low Cost
- Simple interface
- Easy setup
Conclusion

Our system will make the power of motion capture widely available, ushering in a new era of innovation in both everyday technology and independent art.