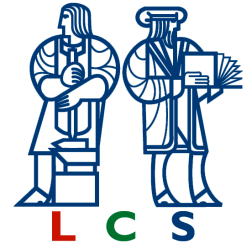


MIT9904-14: A Synthetic-Aperture Camera Array

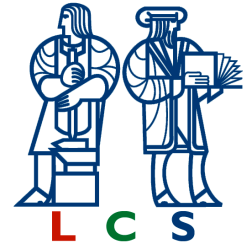
Leonard McMillan and Julie Dorsey



Project Overview



- Our goal is to develop new image based representations for computer graphics
- We are developing systems to
 - Capture these representations
 - Render novel views from these representations
 - Display these novel views in three-dimensions

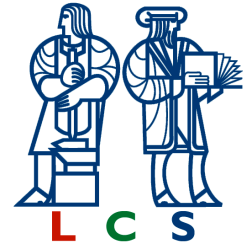


Progress Through December 1999

- Capture
 - Build a low-cost light field scanner camera
 - Designed the sensor pod for real-time camera
- Rendering
 - Implemented interactive hardware renderer using Windows and standard PC graphics cards
- Display
 - Built renderer and display device for creating and showing three dimensional images

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Research Plan for the Next Six Months

- Capture
 - Post-process scanner images for use in light field rendering
 - Manufacture and test a sensor pod for the real time camera
- Rendering
 - Improve the accuracy and memory capacity of the interactive renderer
- Display
 - Improve the quality of or 3D displays