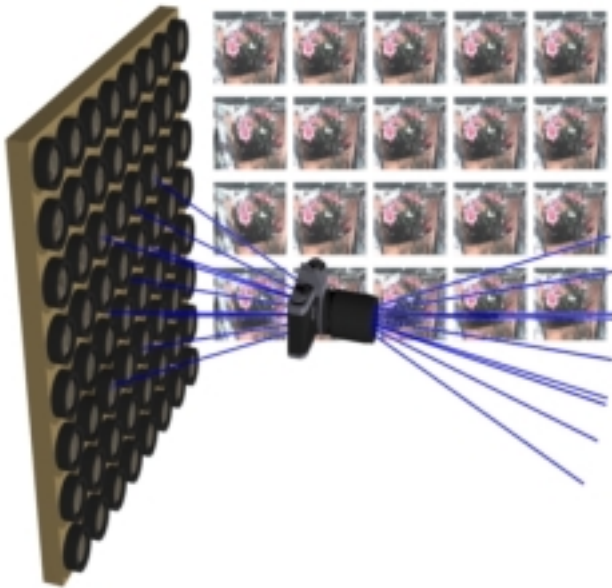




Project Overview

- § **Image-Based Approach to 3-D Computer Graphics**
 - § **Uses an image database as a model**
 - § **Signal reconstruction rather than simulation**



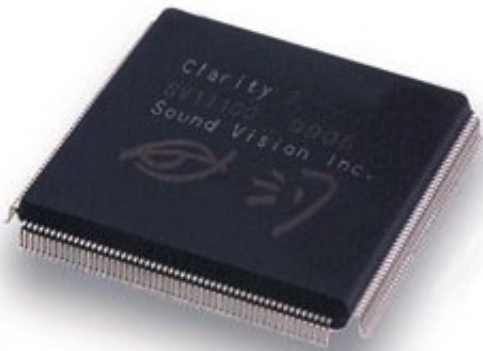
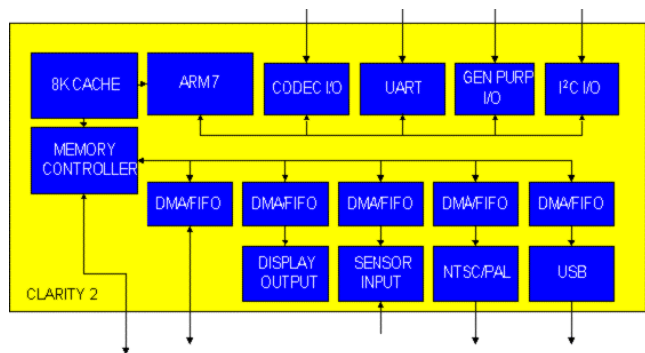
- § **End-to-end Solutions**
 - § **Acquisition devices**
 - § **New rendering algorithms**
 - § **Three-dimensional autostereoscopic displays**

MIT9904-14: Image-Based Synthetic Aperture Rendering

Leonard McMillan and Julie Dorsey



Progress Through December 2000



§ Acquisition Work

- § Prototyped two non-real-time capture systems

- § Partnership with SoundVision

§ Algorithm Work

- § Fast reconstruction via 4D pentahedralization

- § Autostereo 3D Display Work



Research Plan for the Next Six Months

- § Construct hardware prototypes for camera array
- § Firmware development for capture device
- § Demonstrate intelligent camera module
- § Start camera array construction
- § Additional work
 - § Large field-of-view light fields
 - § High dynamic range light fields
 - § Dynamic display device

