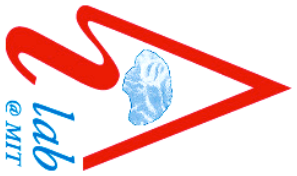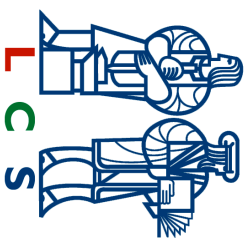Seth Teller

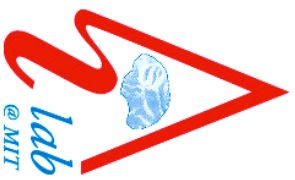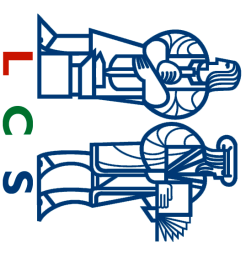# Project Overview

**Goals:** **Support Direct Interaction with the Real World**

- Develop rapid model capture capability using computer vision and legacy CAD data

- Develop pervasive location/orientation capability, indoors, without using GPS

- Combine to produce new devices and applications: software compass, marker, flashlight
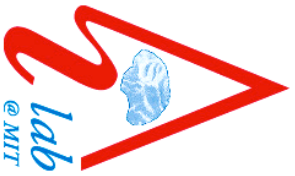
Seth Teller

Progress Through June 2002

- Egomotion recovery from omni-video over *multiple floors and stairwells*

- Merging of MIT basemap, topographic map, and 800+ floorplans with LODs

- Prototype "software flashlight" with position, orientation, range, projector

- Initial API for location-aware network service (geometry, spaces, resources)
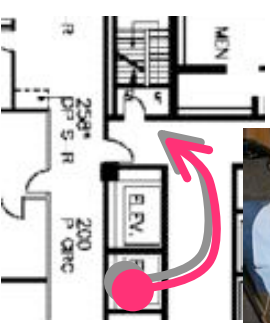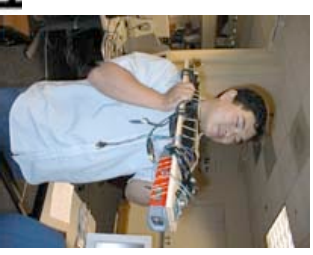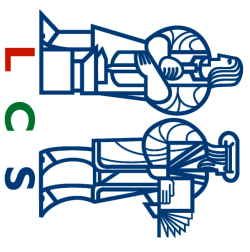
Seth Teller

Research Plan for the Next Six Months

— "Atlas" creation from omni-directional video

- Accurate local maps, connected by uncertain transformations
- Multiple floors and stairwells; repeated visits to several areas

— Continued integration of legacy CAD data

- Full campus processing; indoor/outdoor space classification

— Continue to improve Cricket device performance

- Accuracy; precision; channel efficiency; power usage

— Continue to develop "software flashlight" application

- Demonstrate deployment in large room, multiple surfaces