



Project Overview

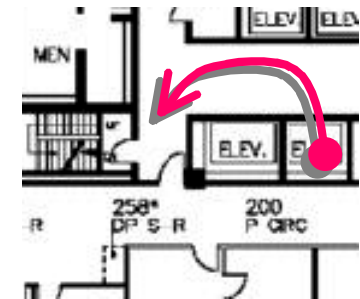
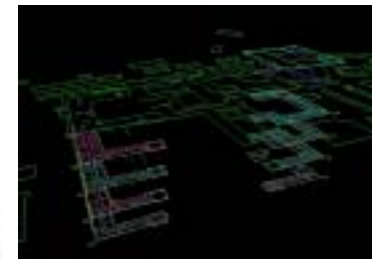
Goals: Support Direct Interaction with the Real World

- 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



Progress Through December 2001

- Egomotion recovery from very long omni-video streams (tens of minutes)
- Collection and parsing of 100+ building outlines, ~900 floorplans from MIT
- Generalized Cricket position infrastructure to support orientation
- Defined driving application for large-scale deployment of Software Compass within extended model





Research Plan for the Next Six Months

- More challenging vision datasets
 - Longer sequences, multi-floor camera excursions
- Continued integration of legacy CAD data
 - Building exteriors, building interiors with doors, windows
- Develop, deploy prototype software compass
 - Hand-held Cricket listener, multiple beacons
- Develop prototype asset tracking application
 - Thousands of objects moving through building
 - Hand-held application allows users to track, find objects