Ligature:
Gesture-based Configuration of the E21 Intelligent Environment

Mark A. Foltz
MIT AI Lab
July 16, 2001

mfoltz@ai.mit.edu

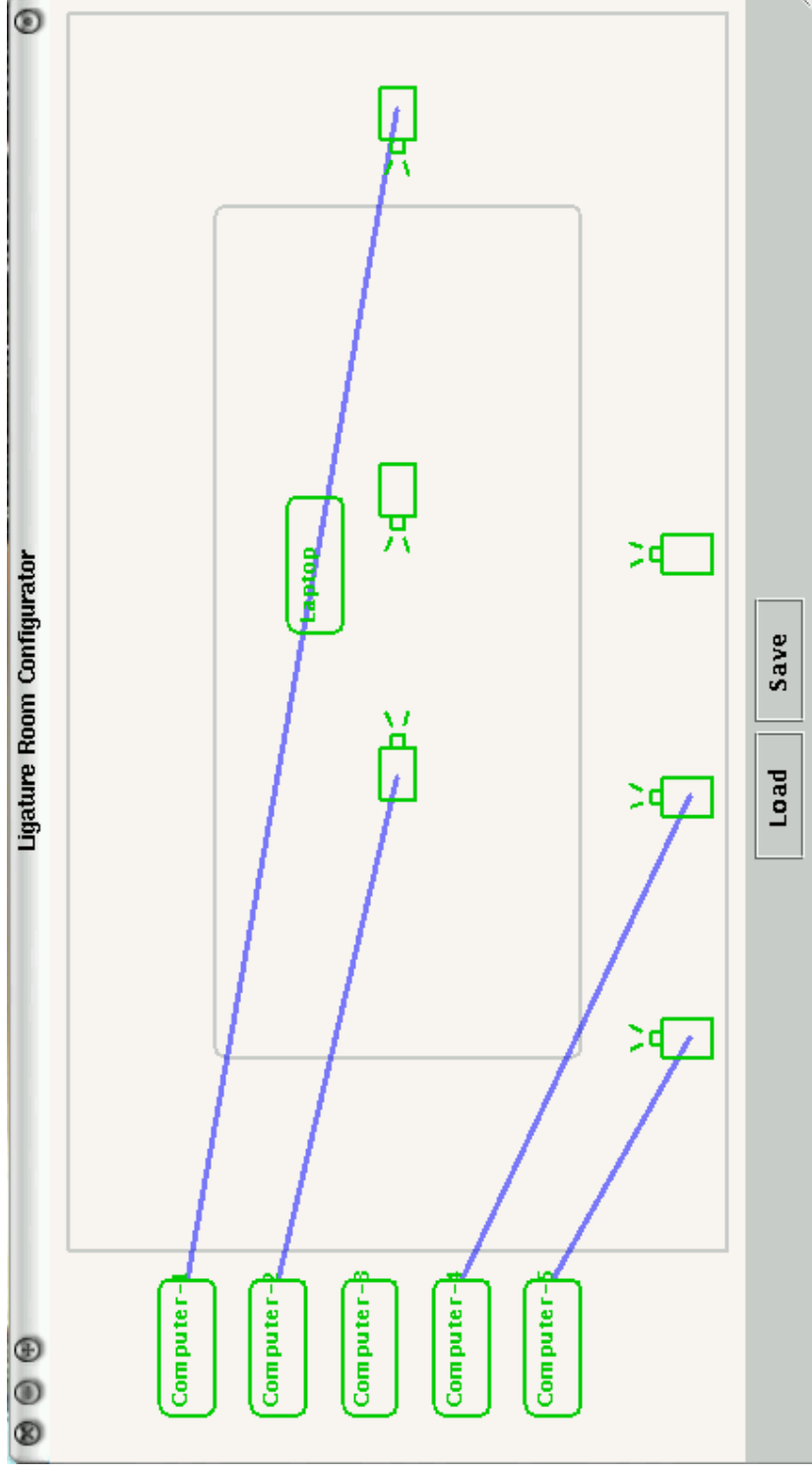The Intelligent Room

Ligature

Ligature Room Configurator

Load Save
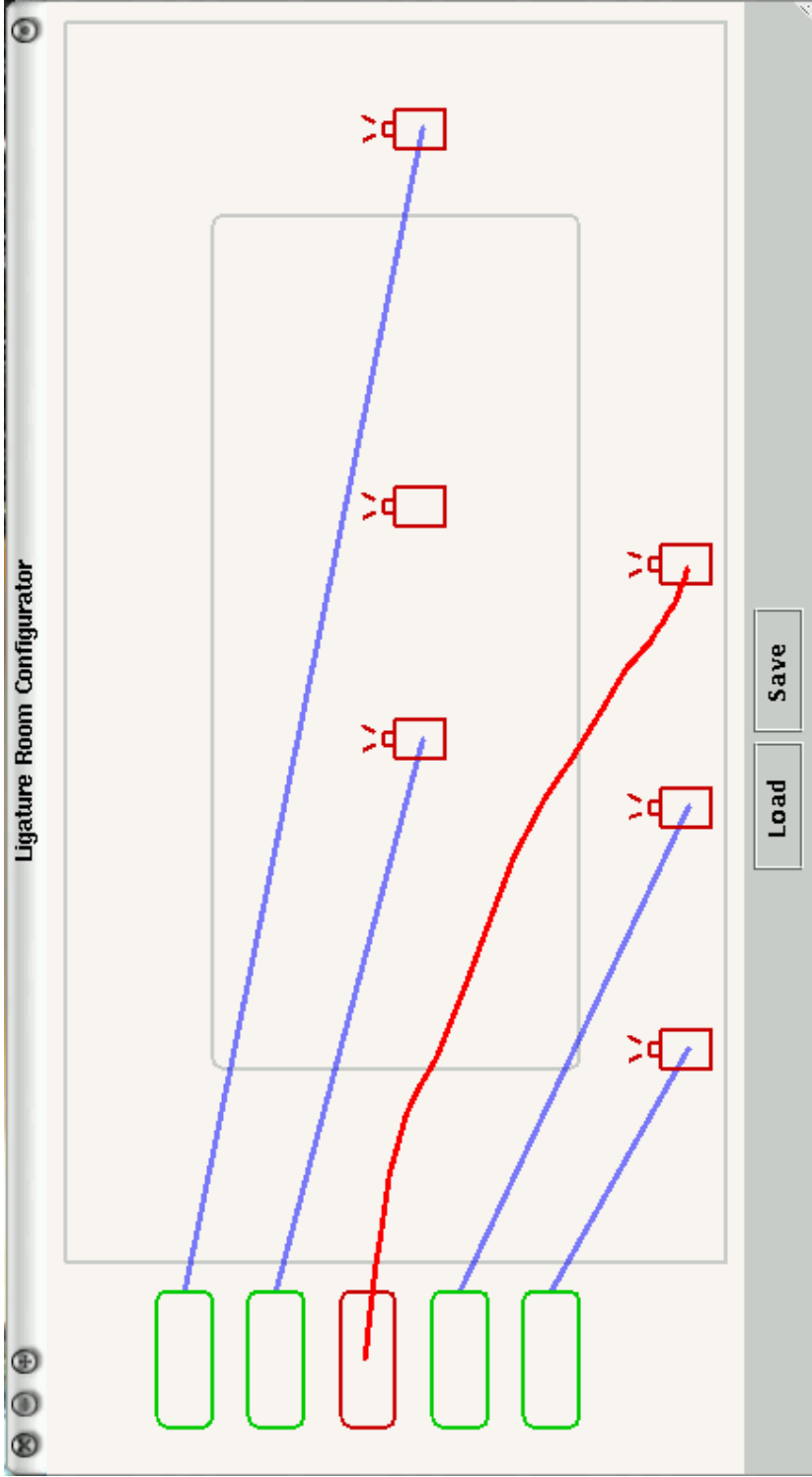
Why Ligature?
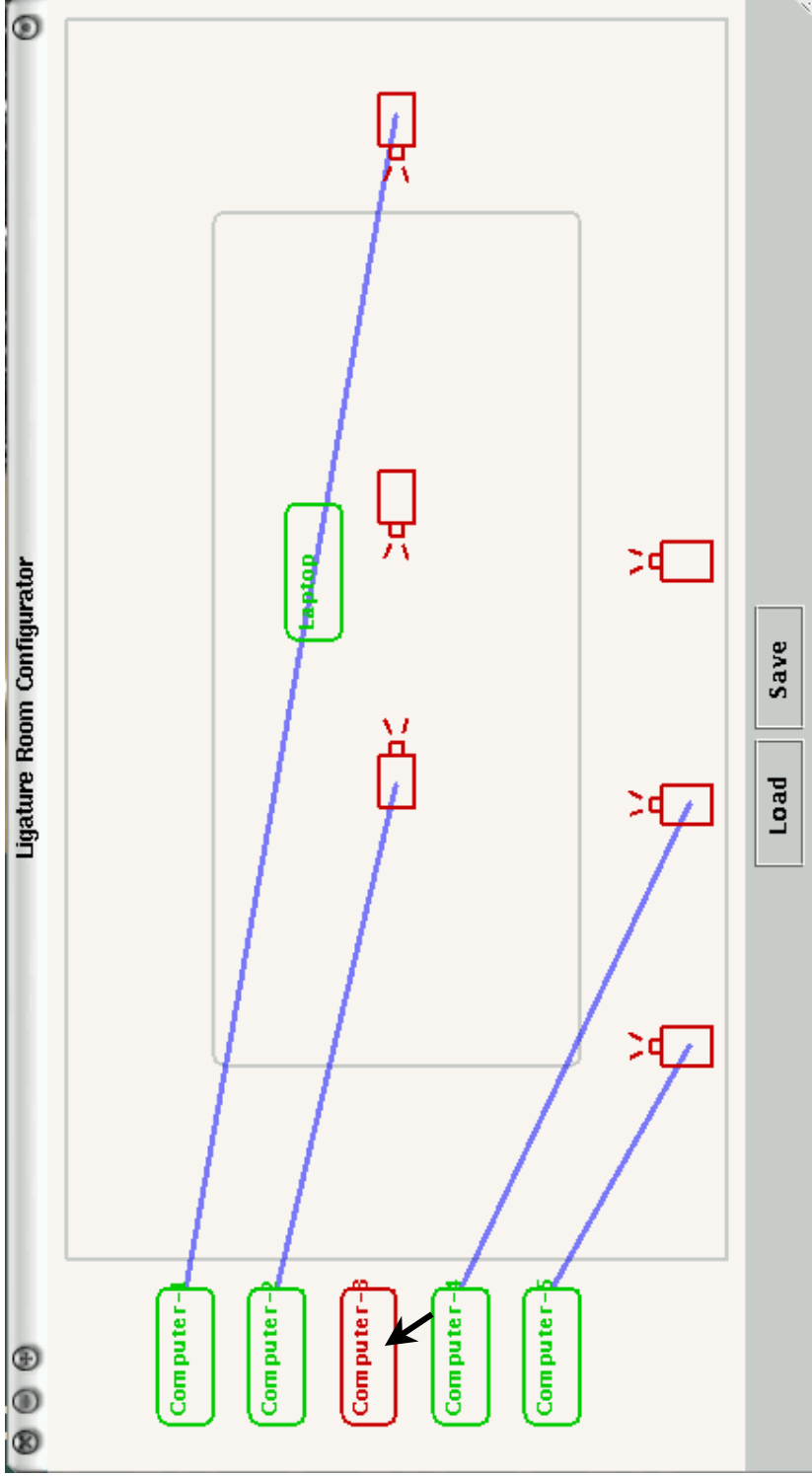
- Need for user customization of environment

- Make current state visible

- Single-stroke gestures to control
  - Consistent
  - Direct-manipulation

- Saving and restoring preferences
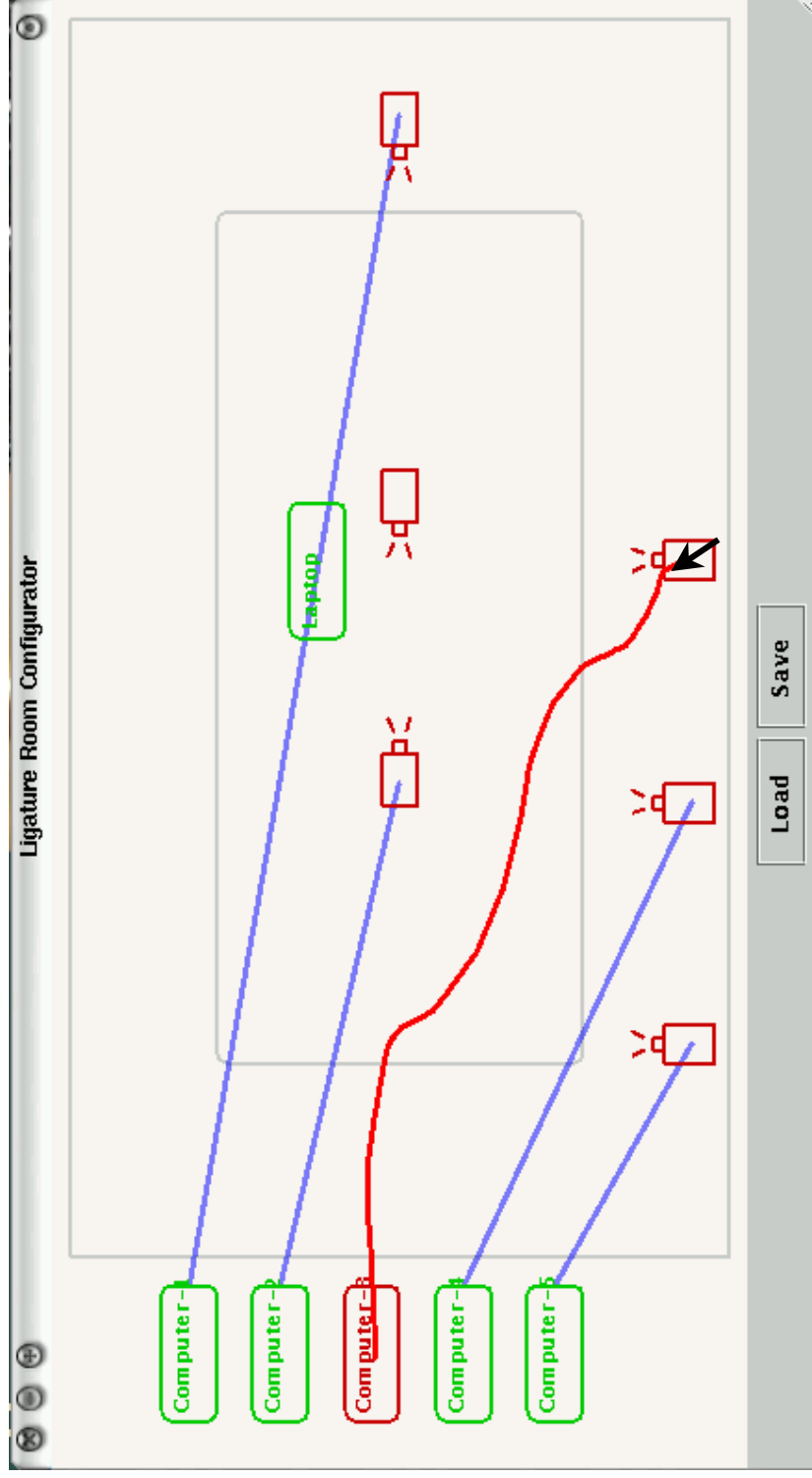
Visualizing the state of the environment

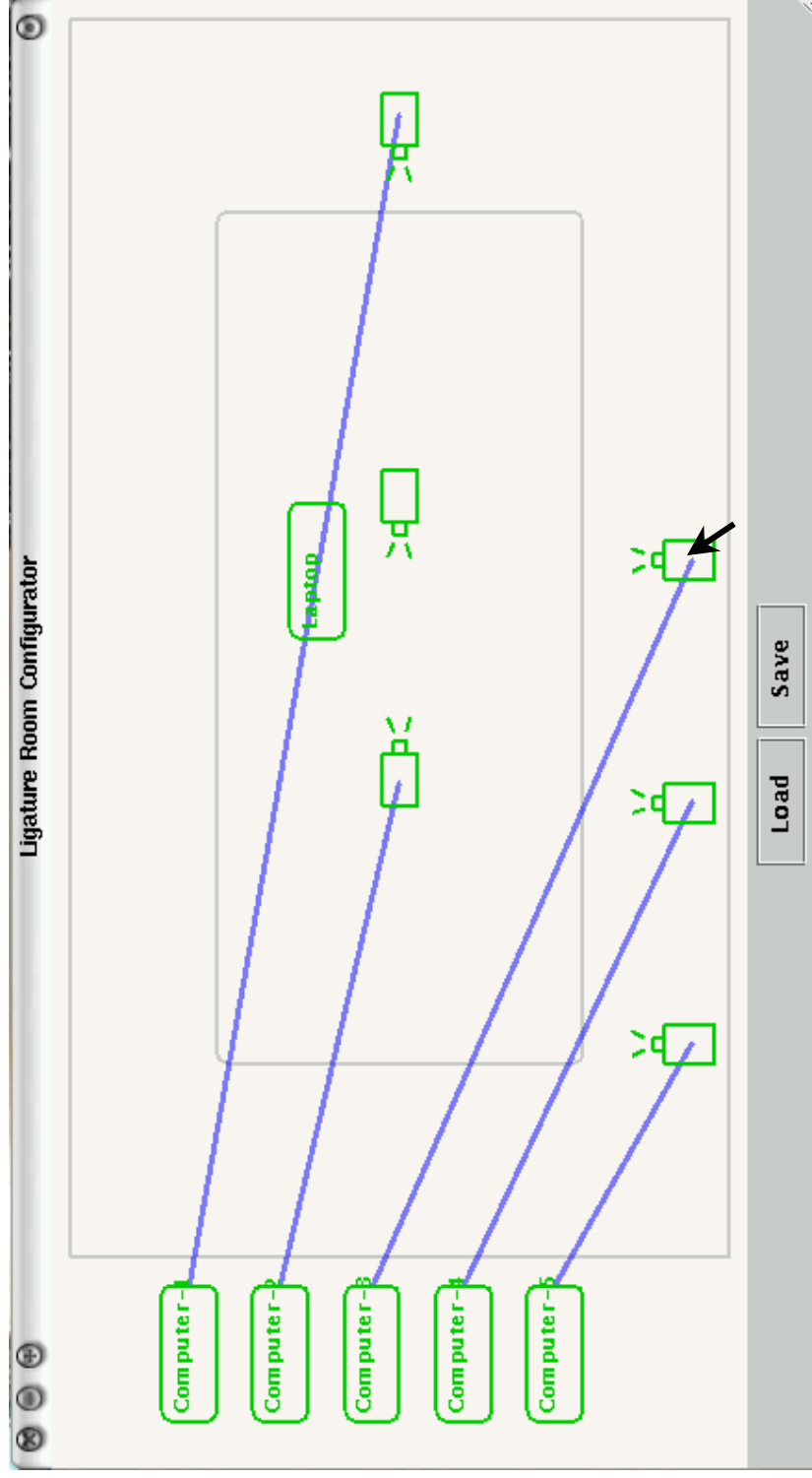

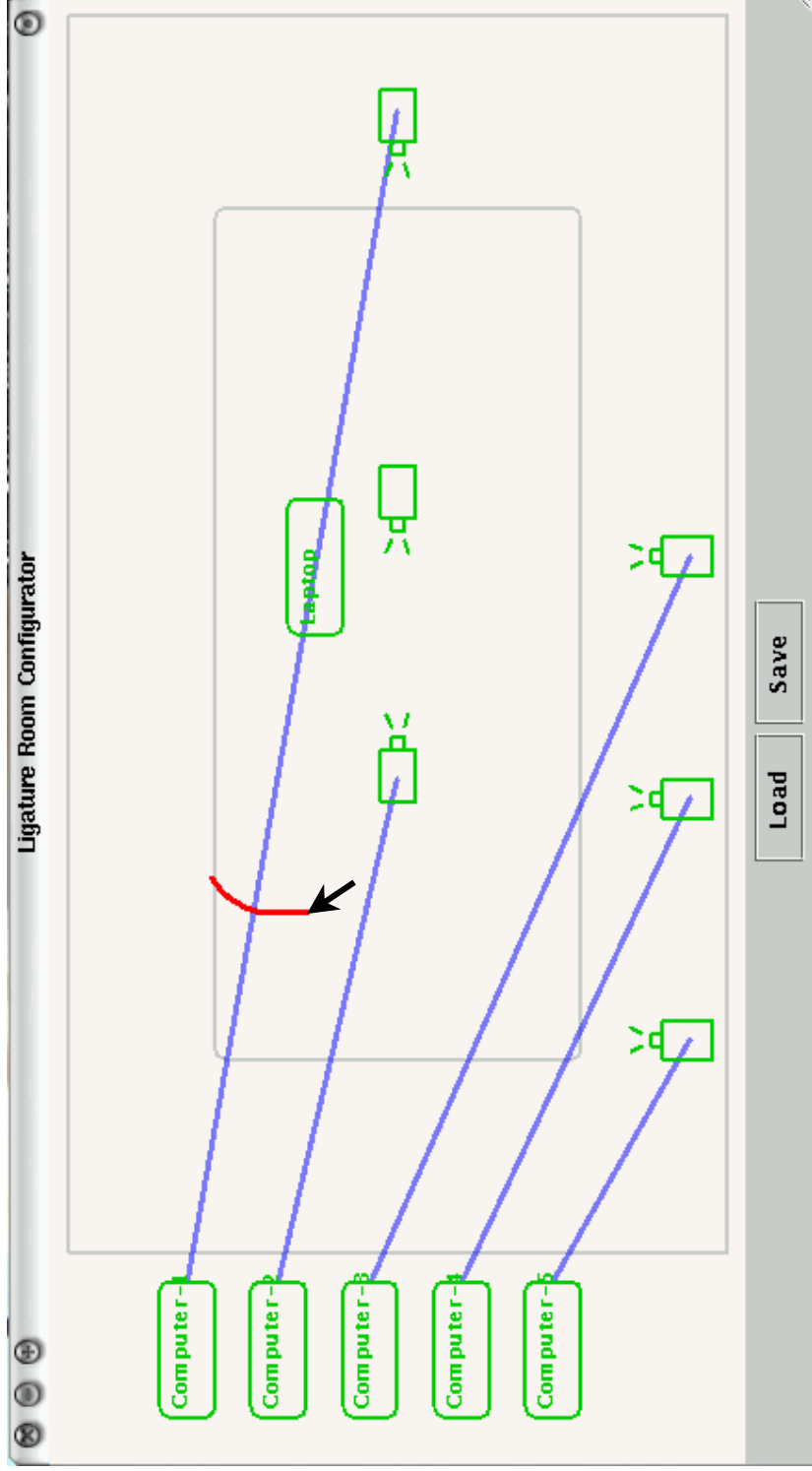Devices are sources and sinks of signals of various types
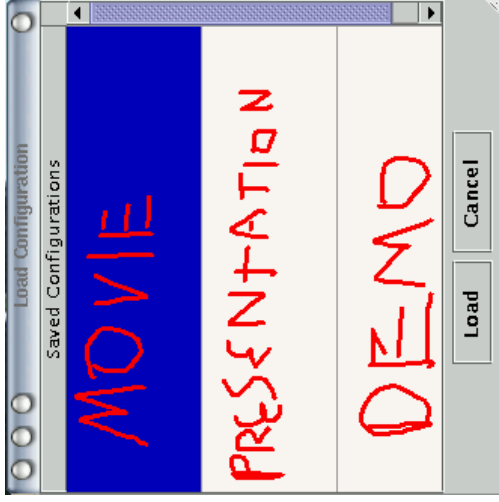
Selection

Making a Connection

Ligature Room Configurator

Laptop

Computer-
Computer-
Computer-
Computer-
Computer-

Load   Save

Making a Connection

Ligature Room Configurator

Load   Save

Computer-
Computer-
Computer-
Computer-
Computer-

Laptop

Removing a Connection

Ligature Room Configurator

Laptop

Computer-1
Computer-2
Computer-3
Computer-4
Computer-5

Load   Save

Remembering configurations

Ligature

Metaglue

GeometryAgent

ConnectionMakerAgent
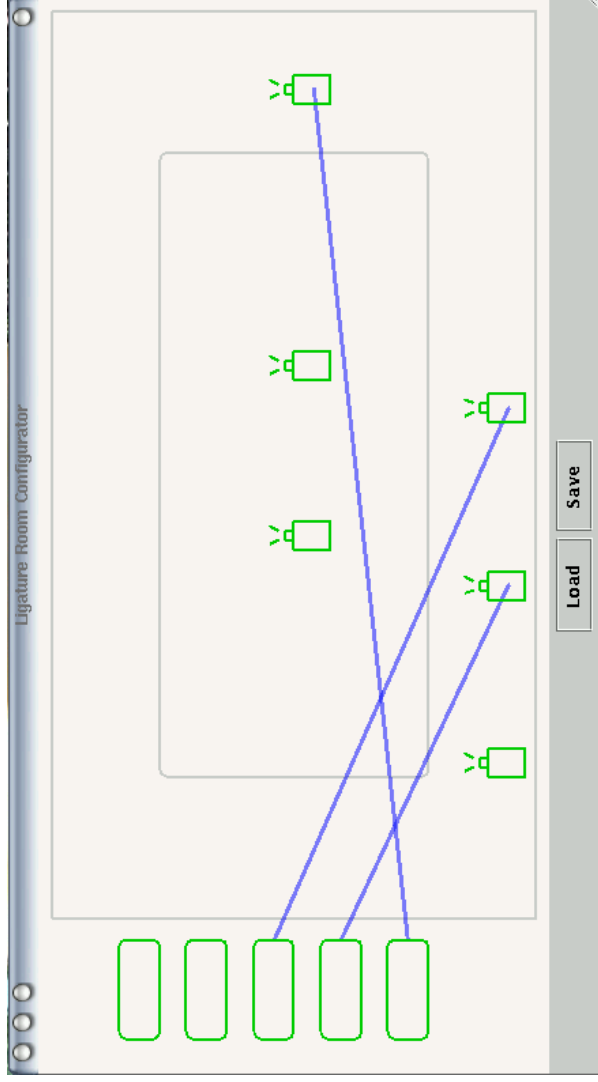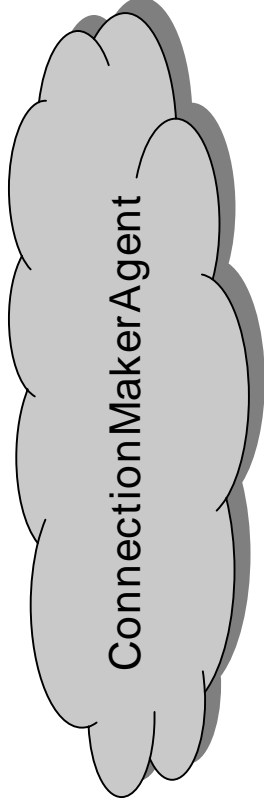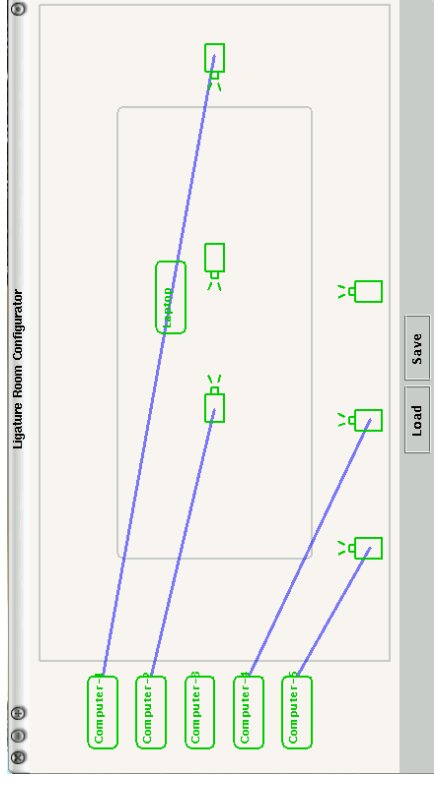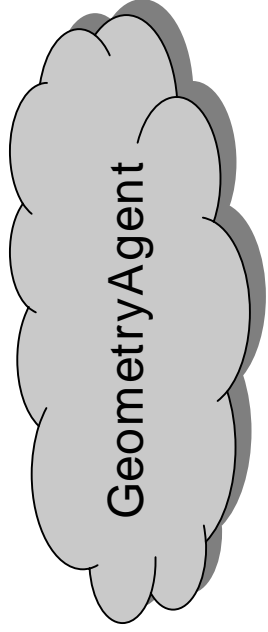
Discover the current environment

Ligature ←→ Metaglue
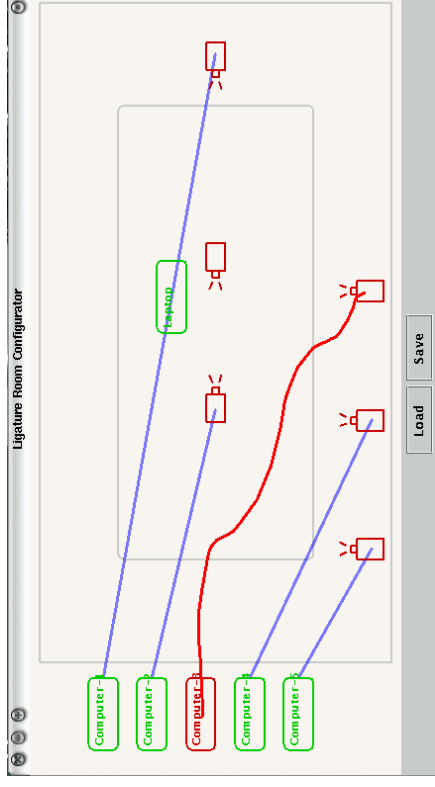
Effect user actions via resource manager

ConnectionMakerAgent
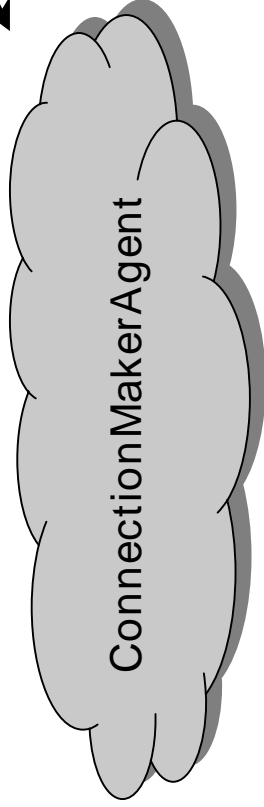
Future Work

- **Devices with state**
  - lights

- **Usability study**
  - **Projectors vs. displays: what's the right ontology**

- **Extend the connection metaphor**
  - **Moving information among services, applications, and workspaces**