TransAtLab : AIX // CHICAGO // NICE

Research

### Hypertables and Networked Surfaces

Interactive spaces using video projection and computer vision. Extending Douglas Stanley's "Hypertable," we aim to build a common platform for creating networked, shared virtual spaces. These reactive surfaces are a way of creating an intuitive, gestural interface.

Embedded Networking

Development of methods for networking embedded microcontroller devices. This endeavor joins together ongoing research projects at both institutions to develop low-cost, accessible devices for artists who need to embed sensing, intelligence and network connectivity into physical objects and spaces.

The EZIO Board (top) is a computer interface board developed by Ed Bennett and Michael Roedemer at SAIC and used worldwide by artists, educators, and designers. It provides an easy interface between real-world sensing and control devices and programming languages such as Director, Processing, Java, and Max/MSP over a standard serial-port connection. Shown is a next-generation EZIO prototype, the EZIO TCP/IP, which can be controlled from anywhere in the world over the internet without the need for a local desktop computer.
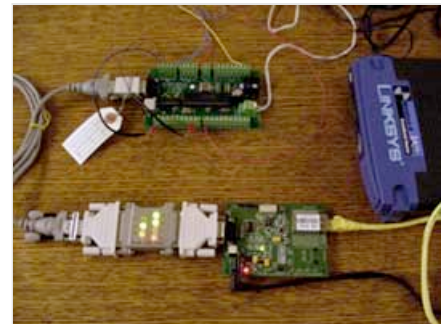
The PicoIP (bottom) is an interface board developed by Jean-Pierre Mandon and used extensively at ESAA for interactive and mechatronic artworks. Shown is the latest in the PicoIP series, the PicoIP WiFi, which has an onboard WiFi card for wireless networking and internet connectivity.

CAVE (immersive environments and virtual reality)

The CAVE is a virtual reality system using stereoscopic projection and 3D body tracking to create highly immersive, interactive virtual environments. In addition to its uses in the fields of architecture, science, engineering, and education, the CAVE is used worldwide to develop and exhibit virtual reality artwork.
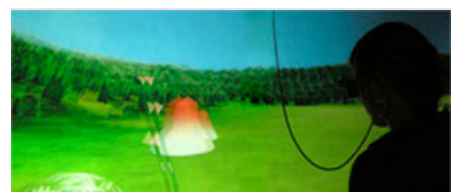
We are interested in ways of using the CAVE to create shared virtual spaces, to explore collaboration, social interaction, and communities in virtual worlds.

Right: Synthecology, a networked, collaborative virtual reality sound-sculpting environment developed at SAIC's Virtual Reality Lab

Virtual Artist Lecture Series

Presentations broadcast over the internet in front of audiences on both sides of the Atlantic. This continuing lecture series provides a common point of departure for research projects, collaborations, and pedagogical investigations. More than just a way to broadcast a lecture, this technology is a way to connect two communities (for instance, two classrooms) in a two-way form of communication.

To achieve this, we research and develop configurations of technologies - audio and video streaming, web-based video conferencing, and virtual desktops.