Real-time Distributed Media Applications In LANs with OSC

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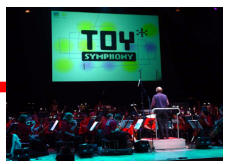
Abstract

An increasing number of interactive applications must deal with real-time processing, and/or management of large databases of media (i.e., text, sound, images, videos). Often, limitations with computing power, requirements for distributing knowledge, availability and convenience of programming environments, make most intensive systems often fragmented across machines and even locations. These programs must exchange streaming data quickly, and seamlessly.

The Media Laboratory explores and prototypes such systems. However, emphasis is often given on interactivity and content management rather than on communication technology. Open Sound Control (OSC) enables fast prototyping development of efficient communicating programs regardless of the programming language, computer architecture, and operating system.

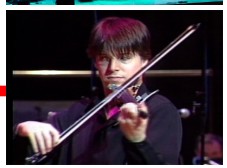


Toy Symphony

Max/MSP — Max/MSP

www.toysymphony.net

Large scale electronic performance involving timbral analysis of a symphony orchestra, and sound synthesis controlled by musical toys.



Analysis/Synthesis

Max/MSP — Max/MSP

www.media.mit.edu/~tristan

Perceptually driven timbre models for the Hyperviolin. Sound analysis and additive synthesis are distributed on separate machines.

Passing Glances

Max/MSP — Flash

www.mle.ie/~cati

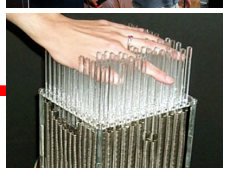
Specifically annotated images are retreived from a large database by SMS messages, and are displayed in real time within a public space.

Graphonic

Max/MSP — Supercollider

www.overtonesystems.com/graphonic

Drawing gesture analysis, and conversion into electronic sounds played back through the interface for aural-tactile feedback. (done at CREATE)

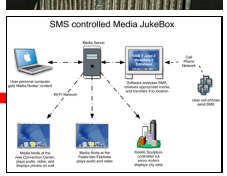


Matrix

C++ — Max/MSP - CSL Supercollider

www.overtonesystems.com/matrix

Human-computer interface that allows simultaneous control of 144 continuous parameters of an audio synthesis or effects algorithm.

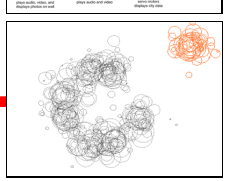


Media Jukebox

Obj-C — Max/MSP

www.media.mit.edu/~tristan

Open media database distributed through locations and time. Simulation of applications for a city network. Presented at Cannes, France.



RadioBANDA

Java — Max/MSP

www.radioBANDA.net

Interactive installation between a Java applet and a collection of physical radios. Users can collaborate on creating FM broadcasted music.