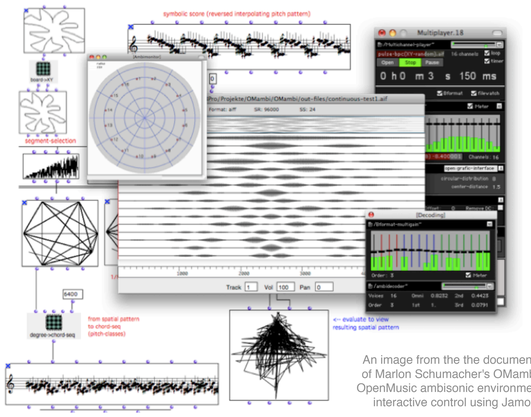
Jamoma

A Platform for Interactive Art-based Research and Performance



An image from the the documentation of Marlon Schumacher's OMambi - an OpenMusic ambisonic environment with interactive control using Jamoma.

http://jamoma.org

A work session for Jamoma as a part of the Virage project in Albi, France sponsored by GMEA.

Support

the development of Jamoma is supported on an on-going basis by the following organizations

BEK - Bergen Center for Electronic Arts
Electrotap / 74Objects
GMEA - Centre National de Creation Musicale d'Albi-Tarn

the development of Jamoma has also received support from the following organizations

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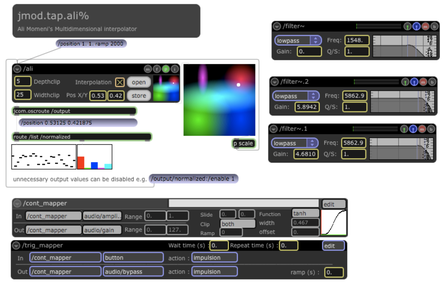
University of Oslo
iMAL (Brussels)
The French National Agency for Research through the Virage Research Platform
The University of Missouri – Kansas City through the Doctoral Research Fellowship program
Bergen National Academy of the Arts through the Artist Research Fellowships Programme
Canada Council for the Arts (CCA)
COST Action Gesture Controlled Audio Systems (ConGAS)
COST Action Sonic Interaction Design (SID)
didascalie.net
Natural Sciences and Engineering Research Council of Canada (NSERC)
Norwegian Academy of Music
Norwegian Research Council
The Municipality of Bergen

Patching: A Structured Approach

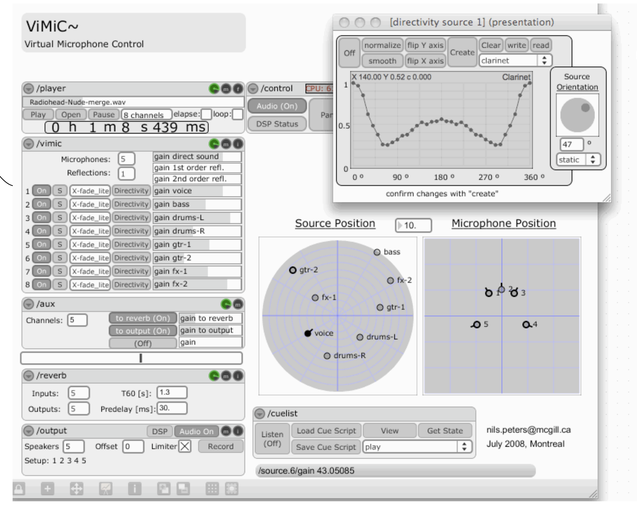
Trond Lossius, Artistic Director, BEK

The development of real-time technology has opened new possibilities for artistic expression, enabling live generation of and interaction with media. The processing in real-time of media and live input, often combined with possibilities for physical computing (O'Sullivan & Igoe, 2004), has become an integrated part of a variety of contemporary artistic practises such as works for stage, live music performances using new instruments for musical expression, interactive and generative installations and sound art. A major challenge in this kind of works is how to develop control systems that maintain access to a rich set of parameters while remaining manageable in a live performance setting.

Jamoma attempts to address this issue by providing a framework for modular development in Max with a structured API for interfacing with modules (Place & Lossius, 2006). Jamoma modules communicate using the Open Sound Control protocol (Wright, 2002), extended through an object-oriented approach to OSC nodes, conceiving them as having properties and methods (Place, Lossius, Jensenius, Peters, & Baltazar, 2008). The process of assigning additional properties to parameters defining their behaviour increase the abilities for continuous transformation and shaping of the artistic material (Place, Lossius, Jensenius, & Peters, 2008). The OSC namespace implementation in Jamoma also provides possibilities of querying the system for the namespace of available nodes, as well as retrieving information on current values of nodes and node properties, along somewhat similar lines as suggested by Jazzmutant (2007). This way Jamoma partly offers solutions to a fundamental question of how to maintain access to and control of complex sets of parameters and data in real-time systems.

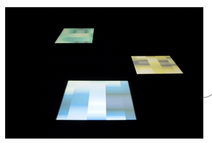


The tap.jit.ali object from Tap.Tools (the interpolation engine of the Hipno plug-ins) is here adapted by Nils Peters as a control module mapped to other modules' parameters.



Nils Peters' ViMiC modules for Jamoma provide a powerful engine for realtime spatial audio rendering.

"Cubic Second" is one of numerous installation works created by Trond Lossius using Jamoma.



Motiongrams of dance movements as produced by Alexander Refsum Jensenius. The modules for producing motiongrams are included in Jamoma.

Publications and Research

Flexible Control of Composite Parameters in Max/MSP
Timothy Place, Trond Lossius, Alexander Refsum Jensenius, Nils Peters
Proceedings of the International Computer Music Conference, 24-29 August 2008, Belfast

Spatial Sound Rendering in Max/MSP with ViMiC
Nils Peters, T. Matthews, J. Braasc, S. McAdams
Proceedings of the International Computer Music Conference, 24-29 August 2008, Belfast

Controlling Spatial Sound within an Installation Art Context
Trond Lossius
Proceedings of the International Computer Music Conference, 24-29 August 2008, Belfast

A Multilayered GDIF-Bases Setup for Studying Coarticulation in the Movements of Musicians
Alexander Refsum Jensenius, Kristian Nymoen, R. I. Godoy
Proceedings of the International Computer Music Conference, 24-29 August 2008, Belfast

A Setup for Synchronizing GDIF data using SDIF-files and FTM for Max
Kristian Nymoen
Report for Short Term Scientific Mission, Action E0601 – Sonic Interaction Design. Musical Gestures Group, Dept. of Musicology, University of Oslo, 2008.

Addressing Classes by Differentiating Values and Properties in OSC
Timothy Place, Trond Lossius, Alexander Refsum Jensenius, Nils Peters, Pascal Baltazar
Proceedings of the 8th International Conference on New Instruments for Musical Expression (NIME), June 2008, Genova

DBAP - Distance-Based Amplitude Panning
Trond Lossius, Pascal Baltazar, Théo de la Hogue
Upcoming: Proceedings of the International Computer Music Conference, 2009, Montreal

Action - Sound: Developing Methods and Tools to Study Music-Related Body Movement
Alexander Refsum Jensenius
PhD thesis. Department of Musicology. 2007. University of Oslo, Norway.

Sound - Space - Body. Reflections on Artist Practice
Trond Lossius
Thesis for Research Fellowship in the Arts. 2007. Bergen National Academy of the Arts, Norway.

Towards a Spatial Sound Description Interchange Format (SpatDIF)
Nils Peters, S. Ferguson, S. McAdams
Canadian Acoustic, Vol. 35:3, pp. 64-65. 2007.

Trakhue Intuitive Gestural Control of Live Electronics
Nils Peters, S. Ferguson, S. McAdams
Proceedings of the International Computer Music Conference, 27-31 August 2007, Copenhagen.

Jamoma: A Modular Standard for Structuring Patches in Max
Timothy Place, Trond Lossius
Proceedings of the International Computer Music Conference, 2006, New Orleans