

images from 'GRACE': a collaborative creation with Joe Ink and Diana Burgoyne  
and from 'IMMANENCE' featuring Tara Cheyenne Friedenber

**jamie griffiths**

**interactive designs for  
live performance**

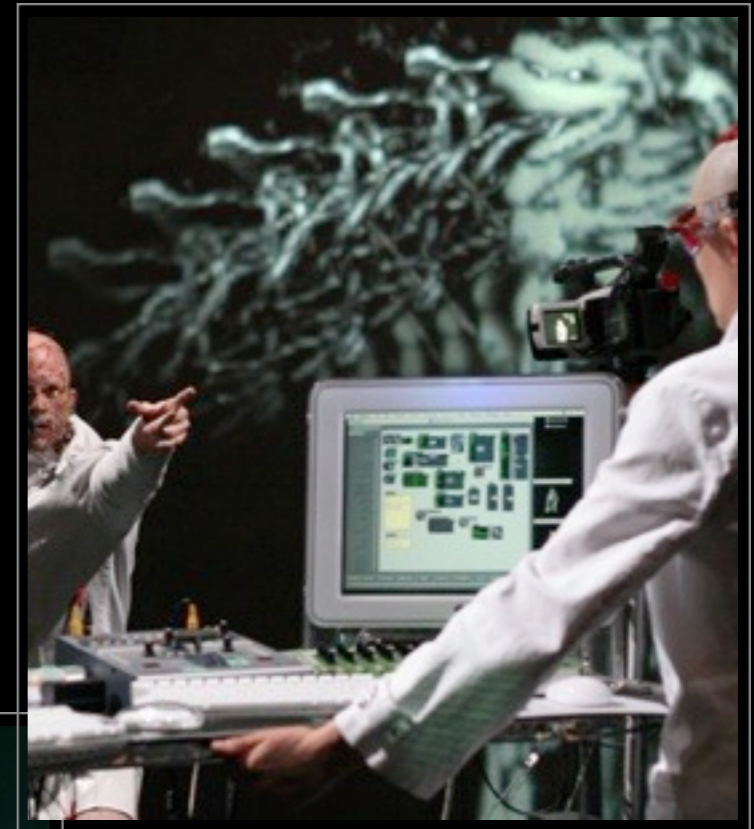
**visual & new media artist, film-maker, performer**

**Primal Divine**  
PRODUCTIONS

[jamie@jamiegriffiths.com](mailto:jamie@jamiegriffiths.com)

[www.jamiegriffiths.com](http://www.jamiegriffiths.com)

[www.jamiegriffiths.com/  
isadoraworkshops](http://www.jamiegriffiths.com/isadoraworkshops)



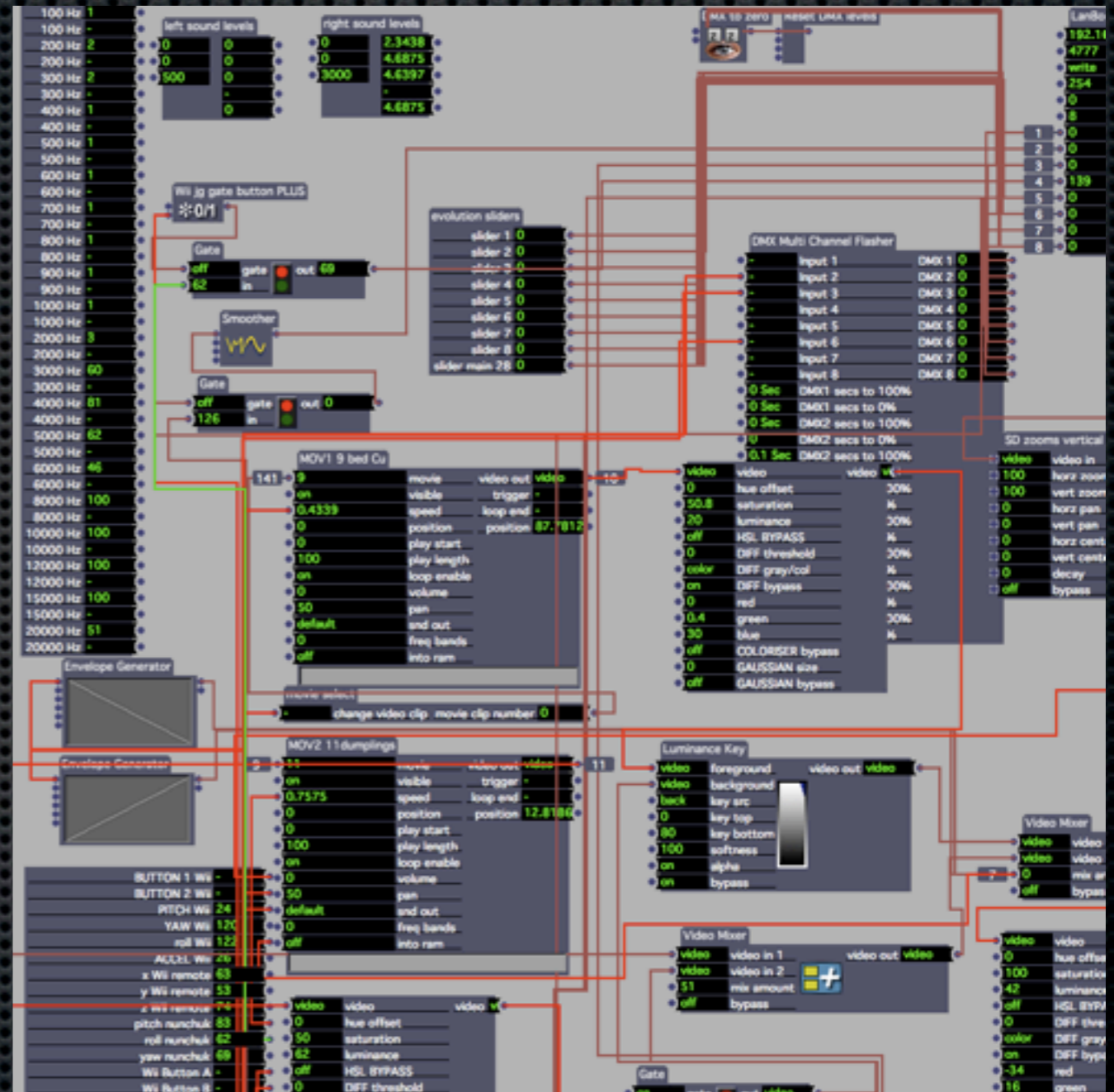
# TROIKATRONIX.COM

Mark Coniglio

Creator of Isadora Software



control panel mode



build/edit mode

# TROIKATRONIX.COM

Isadora Software

**COLLIDING WORLDS...** theatre, meets interdisciplinary artists, meets VJs meets commerce...

**Isadora is a graphical programming environment (data-flow programming) that provides interactive control over digital media, with special emphasis on the real-time manipulation of digital video.**

# PURPOSE OF THE WORKSHOP

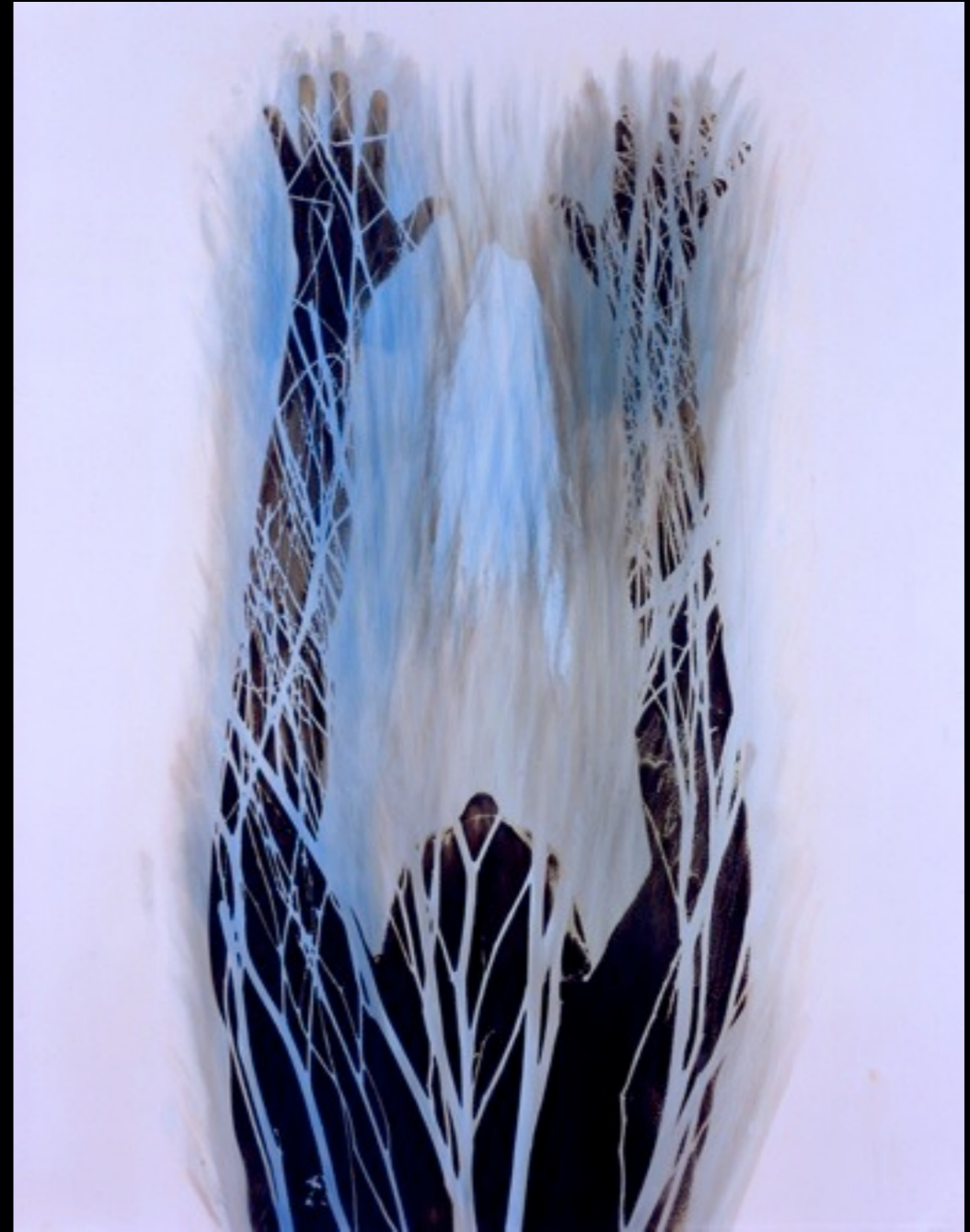
Destroy creative blocks & learn new tools.

Learn how to use Isadora software

Apply its use to your own work

Share your experiences through creative process

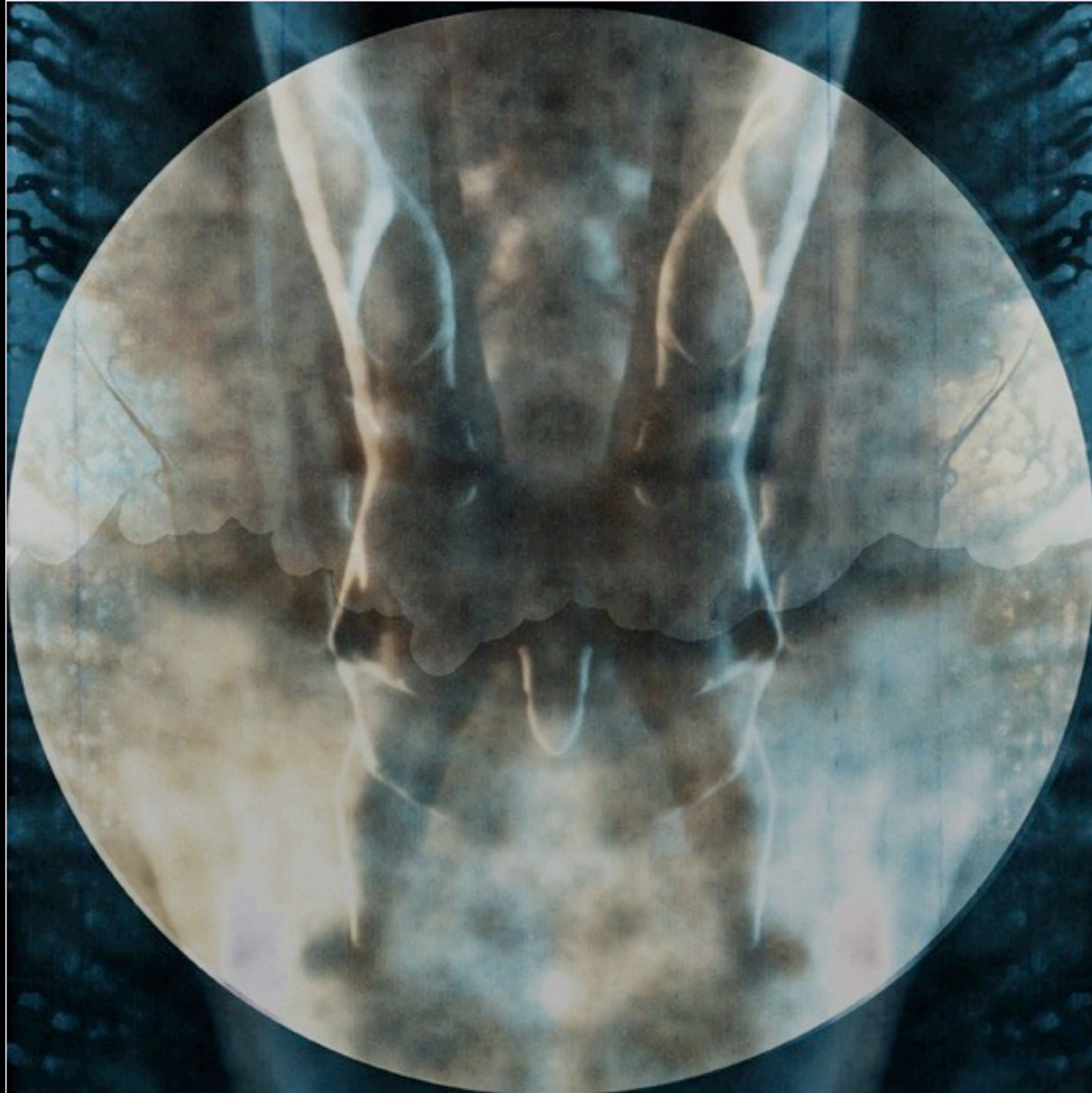
**CONCEPTUAL PHOTOGRAPHY, FILM AND VIDEO**  
CONTEMPLATIVE OBSERVATION, DARKROOM INNOVATIONS  
BRUSHES, TONERS, MULTI-TONING, BLEACHING, REFRACTION...





*Analog and Digital image convergence.  
Darkroom, Digital Manipulation*

*ABSTRACTED VISUAL DESIGN*  
*Darkroom, Digital Manipulation*  
*Abstract Visual Design Explorations*



***'When That I Was'***  
**CONCEPT VIDEO FOR LIVE DANCE PERFORMANCE**

*Nigel Charnock (DV8, Helsinki Conetemporary Dance)*

*Noam Gagnon (The Holy Body Tattoo)*



# GRACE

joe laughlin, jamie griffiths

Vancouver, Calgary (UK, Korea) 2005/6

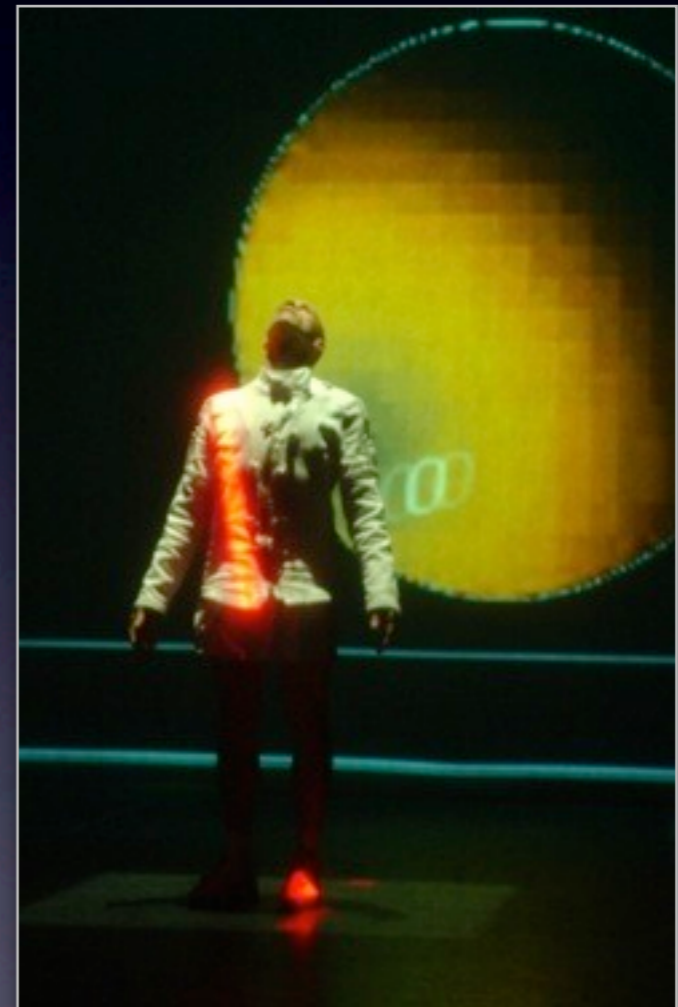
- **SCRIM & SCREEN DESIGN, CUSTOM SOFTWARE CONTROL SYSTEM, & PROJECTION STAGING** by jamie griffiths.

- **Co-CONCEPTUALIZED & PERFORMED** by jamie griffiths with Joe Laughlin of Joe Ink.

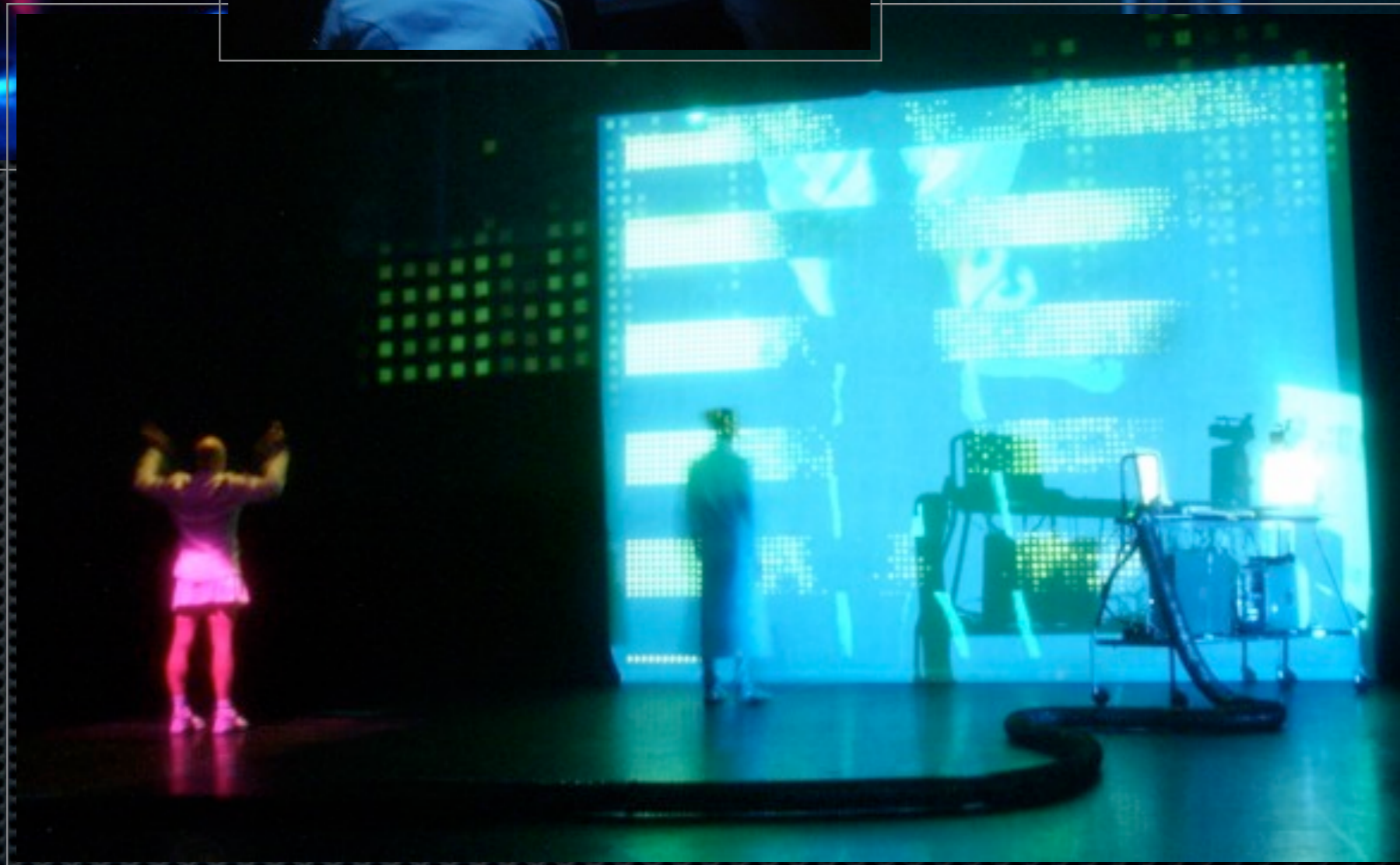
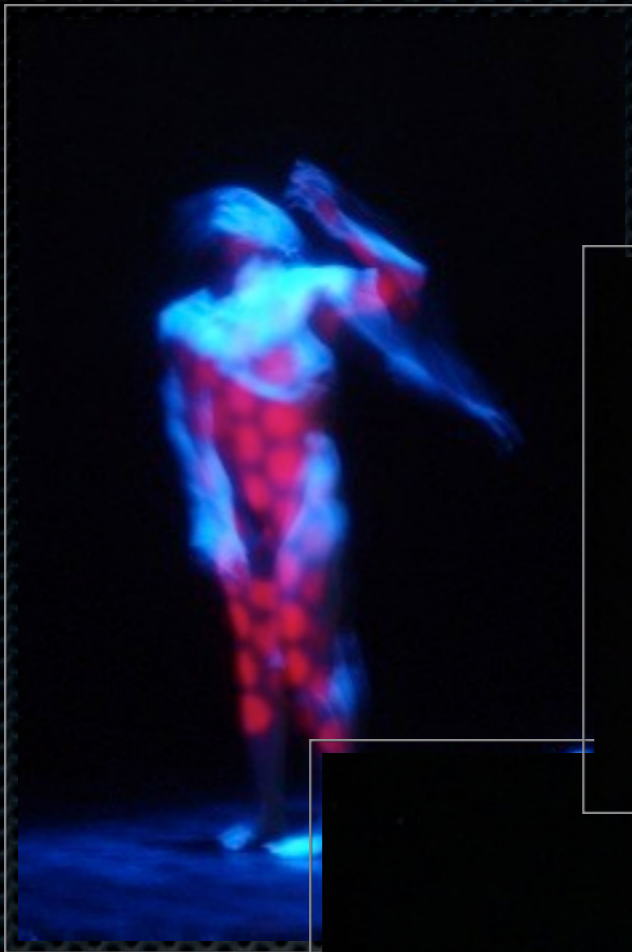
- Use of the **MOVING BODY** to generate imagery. Audience triggers affecting the video. Live multi-screen projection performance with interactive visuals, responding to sound & movement

- Micro-remote **WIRELESS CAMERA** system designed by jamie griffiths and worn onstage.

NEW MEDIA DANCE DUET



Click the link to go Joe Ink website:  
<http://www.joeink.ca/past-projects.htm>

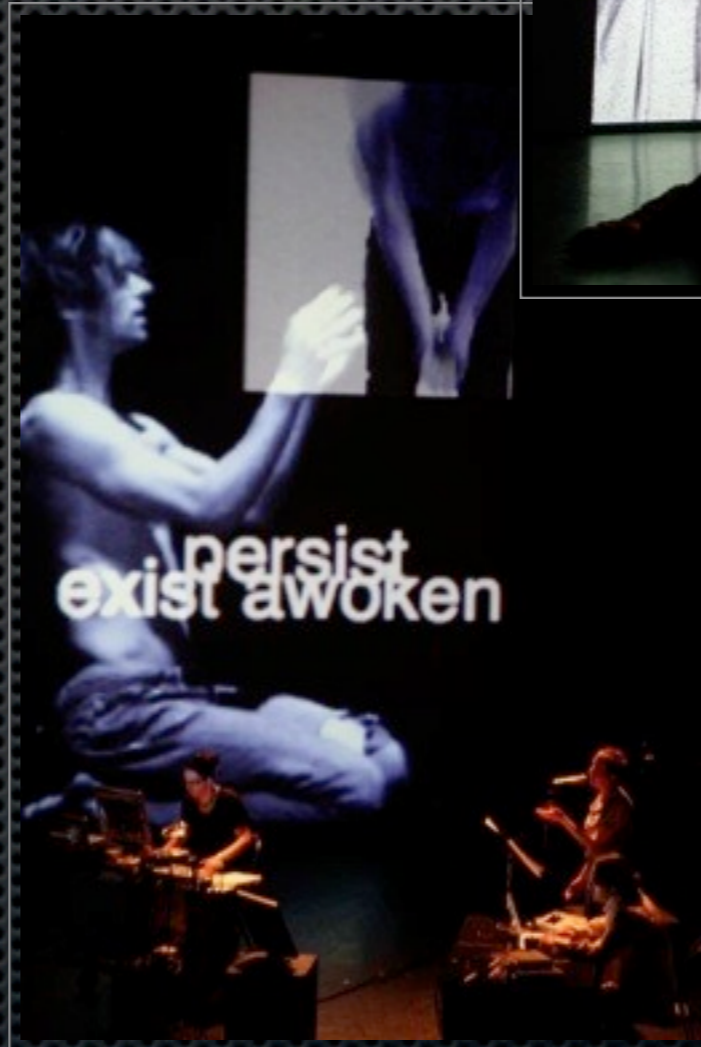


images from 'GRACE'

**'GRACE - Electro-Dance'**

*Joe Laughlin (Joe Ink Dance)*

*Jamie Griffiths (Primal Divine Productions)*



# **'GESTURE4'**

*Noam Gagnon (the Holy Body Tattoo)*

*Jamie Griffiths (Primal Divine Productions)*

*Stefan Smulovitz & Viviane Houle (Pictures in the Sky)*

'WOLSGEHAUL' with Berlin composer, Alex Nowitz

## Sound Responsive Software

C++ scripting of video to embed clips into the pre iTunes version of GForce by Andy O'Mara  
Triggered by key commands only.  
Began dreaming of better ways to call and control the image processing options.

[jamiegriffiths.com](http://jamiegriffiths.com) > video > reel



ARKAOS VJ SOFTWARE

MOTION DIVE VJ SOFTWARE

MAX/MSP

ABLETON LIVE

ISADORA

**ARTIST**

**INTERACTIVE FILM PERFORMANCES**

orchestra/live music

**INTERACTIVE INSTALLATIONS**

public art : interactive installations

*EDGAR VARESE... in the 1930's said that films are made to accompany music... that Disney had it all the wrong way round... He was the progenitor of many new thoughts in music... including the precursor to the 'music video'.*

<http://www.youtube.com/primaldivine.com>

**Videmote research clip**

# COMMON

Christ Church Cathedral, Vancouver, 2005

A storytelling piece, with projections and tuvan throat singers of the ***One Voice Harmonic Choir.***

Imagery derived from water around the world was driven by pitch and frequency, as well as controlled by MIDI.

Visitors entering the cathedral triggered soundscape pre-recordings of prayer and the meaning of prayer from 7 different faiths/belief systems. These were also then incorporated into the MIDI performance.

*Christian (Catholic, Anglican), Muslim, Jewish, Bahai, Hindu & Atheist*



<http://www.youtube.com/primaldivine>

# VIDEMOTE

jamie griffiths, Jason Dubois

INTERACTIVE VIDEO SPOTLIGHT Vancouver, 2005 Budget \$26K



- **INTERACTIVE VIDEO SPOTLIGHT**  
Designed by jamie griffiths & Jason Dubois
- Controlled by custom software, via a **LANBOX** and standard theatre equipment.
- Video image can be moved anywhere in a 280 degree angle from the hanging position.
- **VIDEO FOLLOW-SPOT** Can be programmed to automatically follow a person or to respond to sound, music or motion.
- **AUTOMATIC KEYSTONE** adjustments calculated on-the-fly

Click link to visit VIDEMOTE on YouTube  
<http://www.youtube.com/watch?v=Ck5YYWiENjg>

# 1984 (George Orwell)

- **A Virtual Stage Production:** a theatre company specialising in new technology in performance.



*“Invasive technological devices, such as the all-seeing “telescreen” that Big Brother installs in every home, are central to Orwell’s cautionary tale. Our team investigated how to give the projection a sense of motion, allowing it to stalk, lurk, intimidate and oppress the characters of Winston Smith and Julia as they attempt to hide their forbidden love affair from the Thought Police of Oceania using Visual Media Designer Jamie Griffiths’ new Vid-Emote, an invention of hers that operates essentially like a moving and computer-programmable video spotlight (much like a “moving light” but with a video image). Ms. Griffiths was able to fly her image around, hitting multitudinous “marks”, and use the video projector as scenography and as a lighting instrument in rapid succession on multiple surfaces.” Andy Thompson*

## **VIDEMOTE**

is an interactive video-spotlight  
that responds to sound and movement.

### **The VIDEMOTE Hardware**

DMX Lanbox  
ICue Mirror  
Video Projector  
Custom Bracket

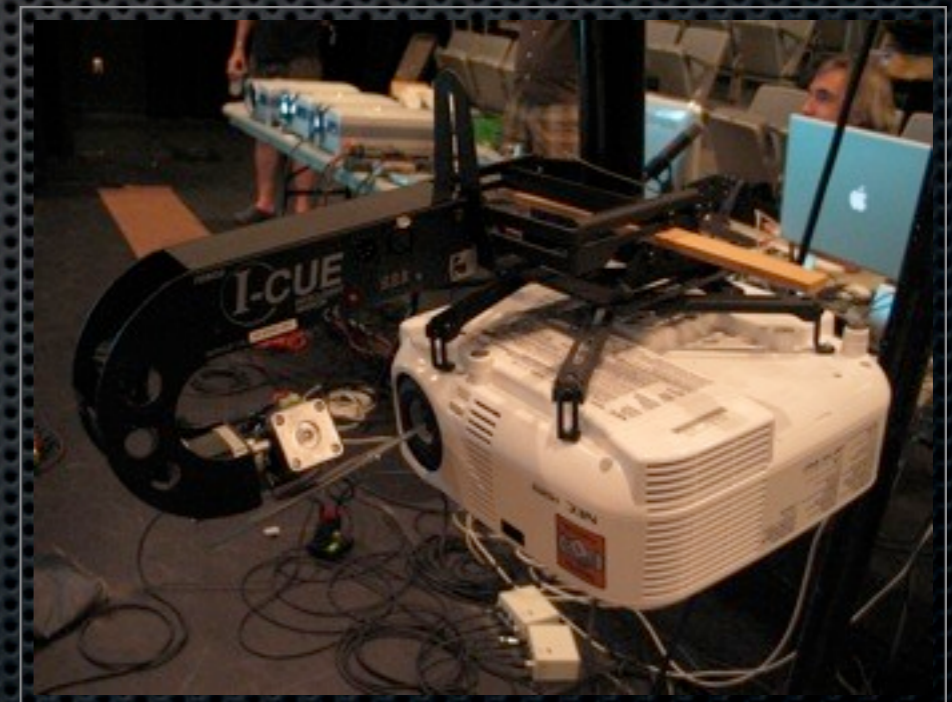
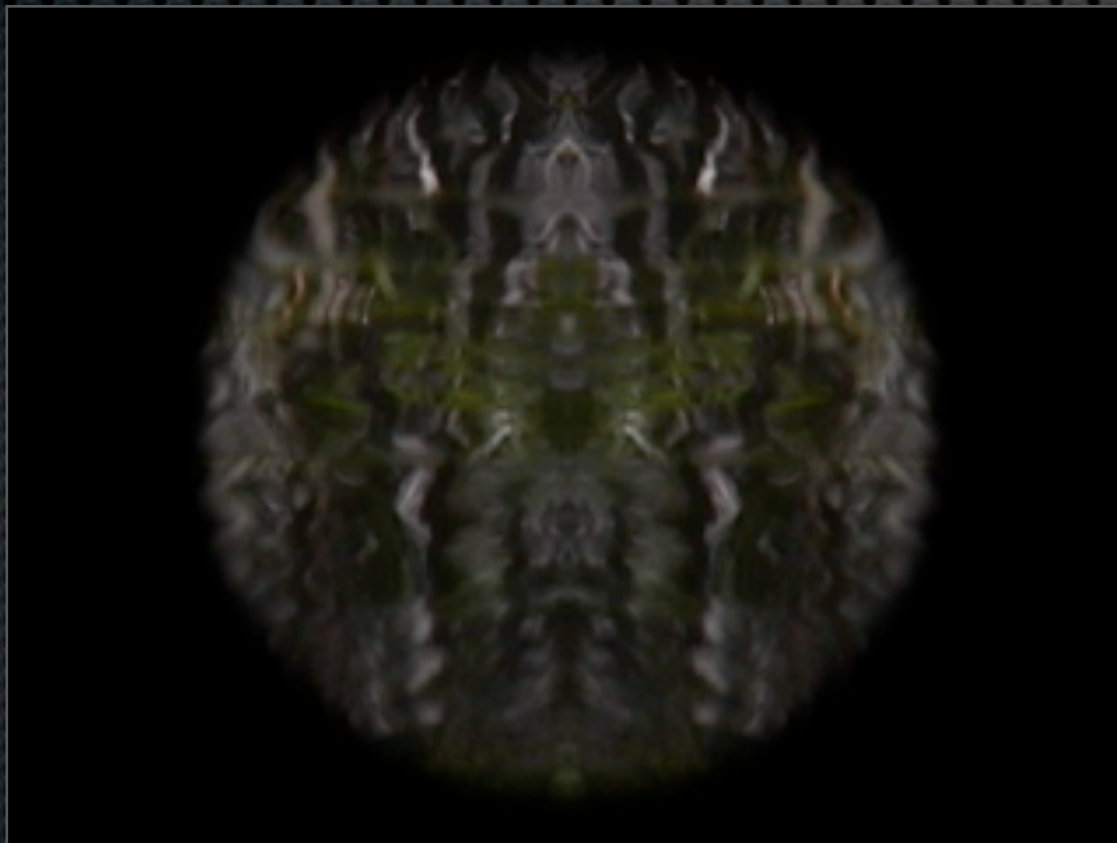
### **The VIDEMOTE Control System**

Laptop (Isadora and LCEdit software)  
Video Camera (watches the water tank)  
Microphones (to monitor the live  
musicians)  
Audio inputs (from electronic musician)

Click this link to visit [VIDEMOTE demo on YouTube](#)

# WAVE & SPARK

- ✦ interactive lighting using Isadora & Lanbox
- ✦ interactive DMX video-spotlight (the 'Videmote') controlled by Isadora
- ✦ Wii control of the Videmote



# WAVE & SPARK

- ✦ interactive live performance for **music, water-derived imagery & 3D sacred geometry**
- ✦ Lighting driven by **flute, voice & synth-guitar**
- ✦ motion control of **video-spotlight** by the action of bowls of water ripples controlled by the performers onstage
- ✦ **3D video projection** on a 15ft diameter circular rear screen
- ✦ **Wii controllers** passed among the audience allowed them to alter with the images.

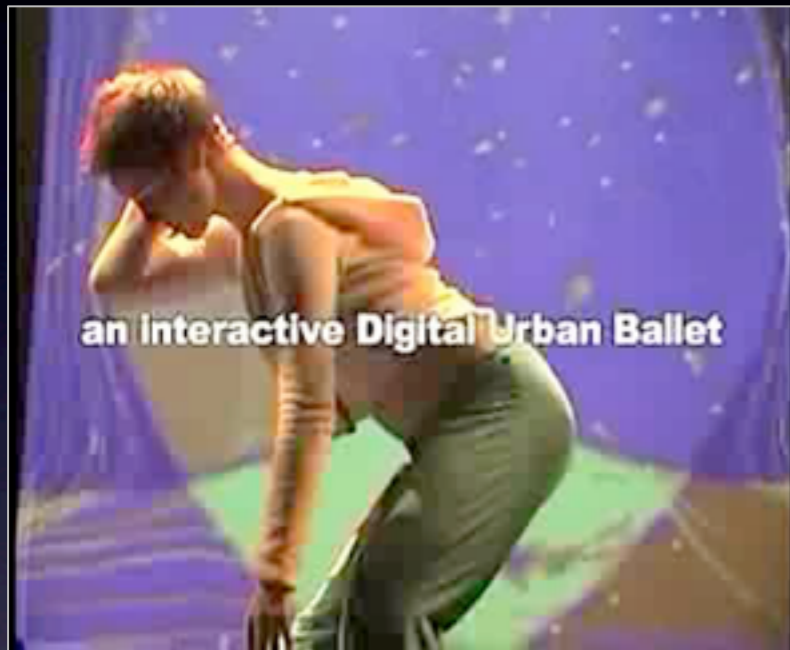


Click this link to visit [WAVELITE web-blog](#)

# iDUB jamie griffiths & robb lovell

## interactive digital urban ballet

Vancouver, 2005



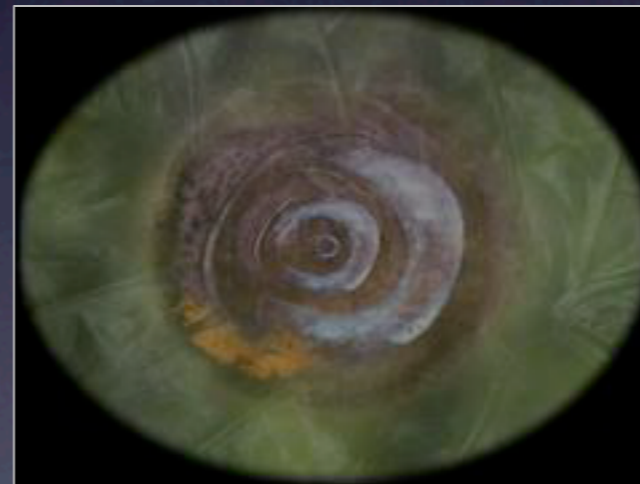
- **PROJECTION DESIGNS & MEDIA CONTENT** by jamie griffiths in collaboration with Robb Lovell.  
CHOREOGRAPHER Martha Carter of mmHoP Dance Productions.
- **TECHNICAL DIRECTOR** Jason Dubois.
- Multi-screen **INTERACTIVE VISUALS** generated and affected by dancers motions, and live music triggers. Multi-computer control system. **CUSTOM SOFTWARE** designs.
- **MULTI-SCREEN PROJECTIONS.** Community involvement of dancers, live audience participation.

Click this link to [iDUB video on YouTube](#)

# EARTH = home

Official arts and Culture festival of the  
United Nations World Urban Forum  
Vancouver 16-25 June 2006

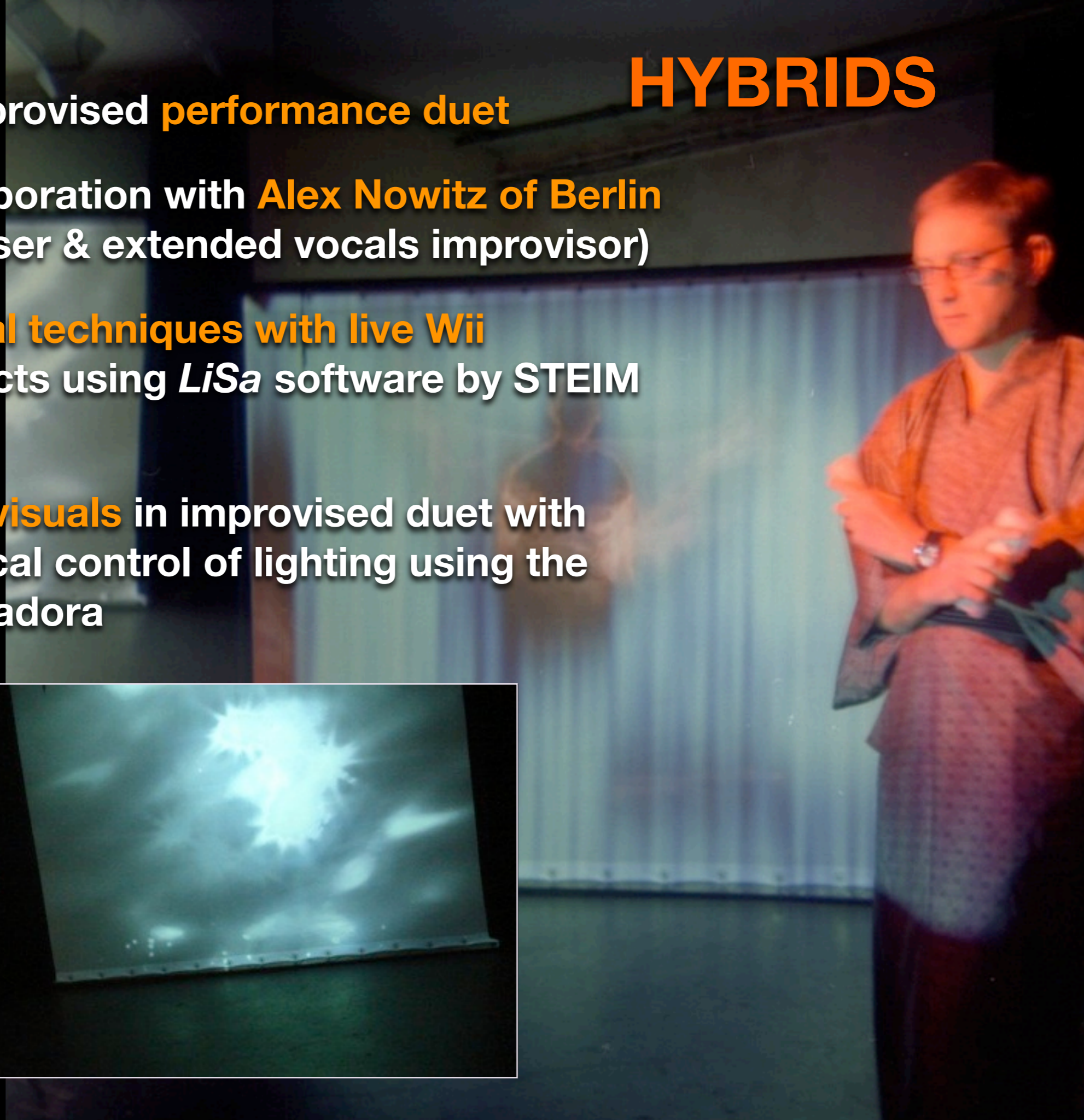
- **LARGE SCALE MULTIPLE PROJECTION DESIGN** (griffiths)
- **MEDIA CONTENT CREATION** (griffiths, Samper)
- **SET DESIGN** (Samper)
- 10 performances, 9 dancers, 3 custom oval screens, large circular performance tent ('Shabono' design by Samper)
- National Arts Funders, Commercial sponsors, **CO-PRODUCED BY THE UNITED NATIONS.**



Click this link to watch [EARTH video on YouTube](#)

# HYBRIDS

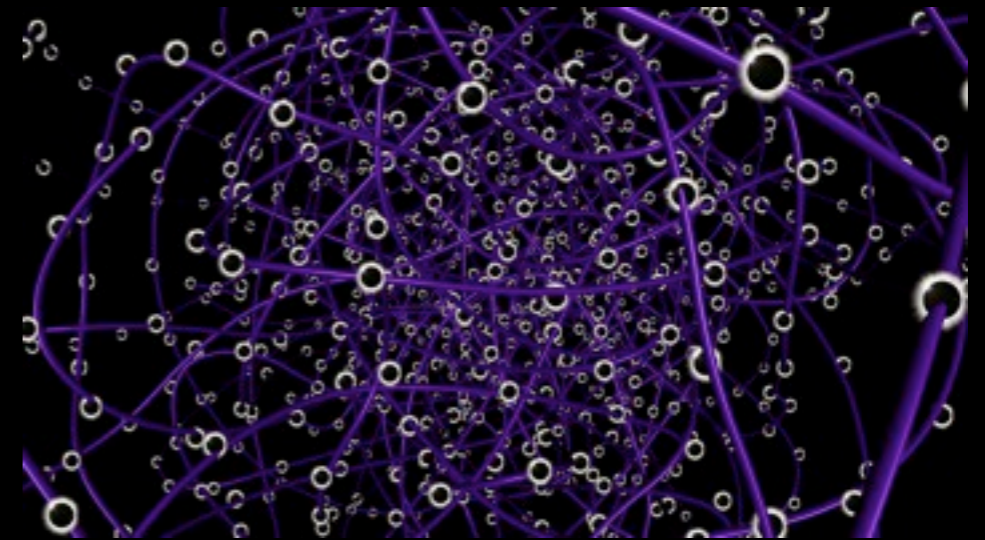
- ✦ interactive improvised **performance duet**
- ✦ Creation collaboration with **Alex Nowitz of Berlin** (opera composer & extended vocals improviser)
- ✦ **Extended vocal techniques with live Wii controller** effects using *LiSa* software by STEIM (Amsterdam)
- ✦ **Wii control of visuals** in improvised duet with vocals and vocal control of lighting using the Lanbox and Isadora



# MystiQ 3D video projection installation

Words from 800 year old Sufi poems are used in conjunction with interpretive photographs and complex mathematical knots to create a 3D tool for meditation and live performance.

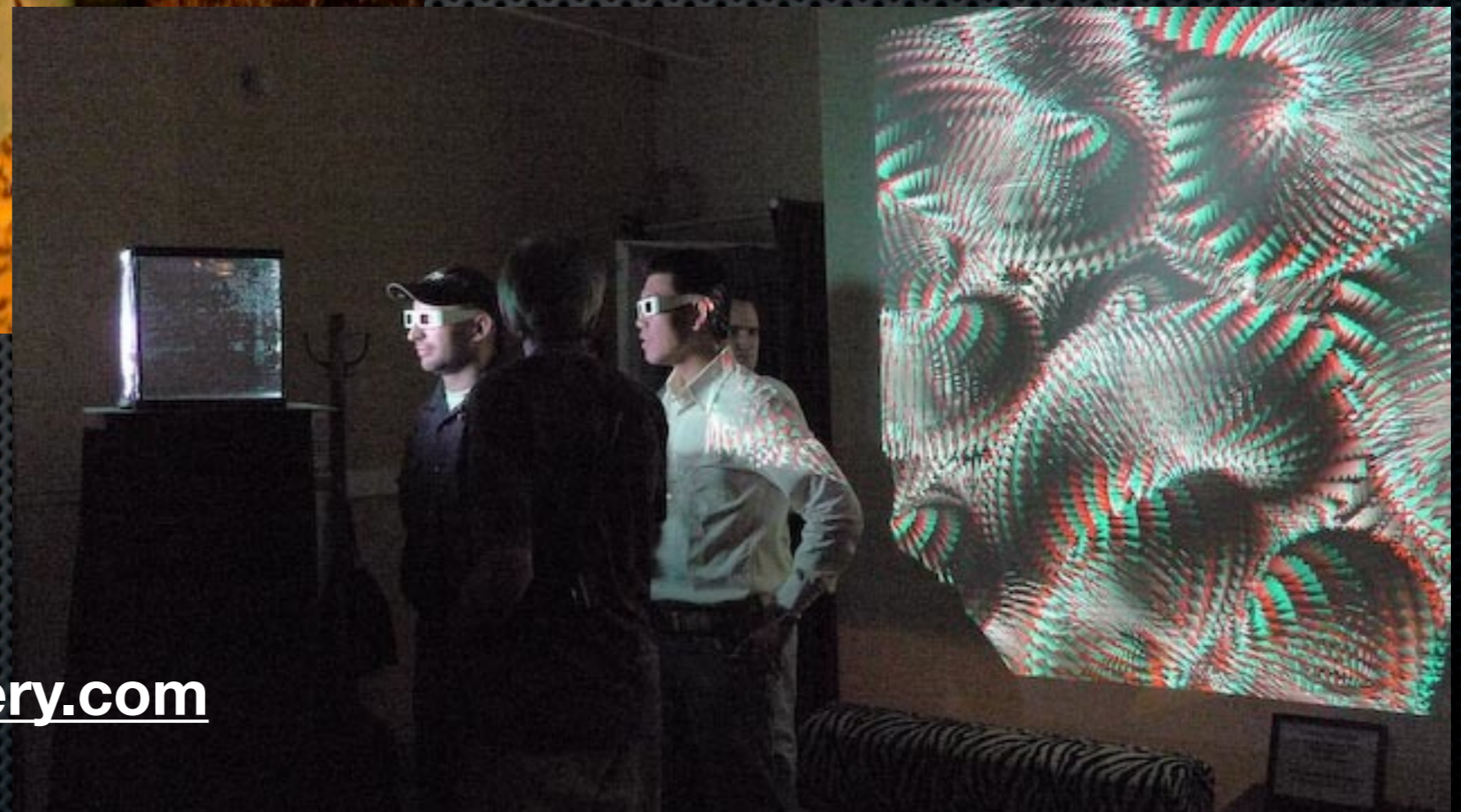
- [www.knotplot.com](http://www.knotplot.com) by Rob Scharein



The Live Performance version of **MystiQ** will have its World Premiere at the **Parliament of World Religions** in Melbourne, Australia in December 2009.

# MystiQ 3D video projection creation & installation

Words from 800 year old Sufi poems are used in conjunction with interpretive photographs and complex mathematical knots to create a 3D tool for meditation and live performance.





# Museum of Anthropology

Vancouver BC

**MystiQ** 3D video projection installation

**Bill Reid Atrium** Interactive Video, Sound & Lighting

Visitors to the museum were greeted in Sept 2009 with interactive art displays that responded to their movements and hand gestures. The rotunda lighting responded to sound.

Dancers with the mmHoP dance troupe energised the corridors and hallways of the museum.

# DIGITAL VIDEO ILLUMINATION DVI System

## A RESEARCH PROJECT

A SSHRC funded 3 year research project, working with  
Prof. Robert Gardiner at UBC.

Research and Development of a control system of multiple video  
projections as lighting instruments for live performance in a real world  
and virtual 3D environments.



<http://faculty.arts.ubc.ca/rgardiner/rgsshrc/index.htm>

# introductions

practical skills... camera, music, imagery, tech?  
level of experience & computer skills  
creative goals

# related softwares

**Max/Msp & Jitter & PureData (P.D.)**

[www.cycling74.com](http://www.cycling74.com)

## **Plugins**

**FreeFrame** free video processing effects

QuartzComposer (Mac)

Syphon (Mac)

## **Language based programming softwares**

Processing

Super Collider

## **many Third Party softwares**

OSCulator, MadMapper, Visio

Resolume, Arkaos (VJ softwares)

# the basics

**Isadora software is used to control media (video files, sound files, live video input (cameras), live audio input (microphones) , midi controllers (eg keyboards) , DMX signals (theatre lighting)... other softwares**

**A manipulated video image is output to a second computer monitor or to screens or installation environment by video projector/s.**

**Manipulated sound can be output to an external audio environment such as a theatre PA (multi-speaker) system.**

**Interdisciplinary tool for theatre, opera, dance, music, performance art, Installations, experimental films, abstract cinema, research in performance...**

# why isadora?

**Simpler entry point into interactive programming.**

**Graphical programming software with an easier learning curve than most of the competitors, without losing complexity.**

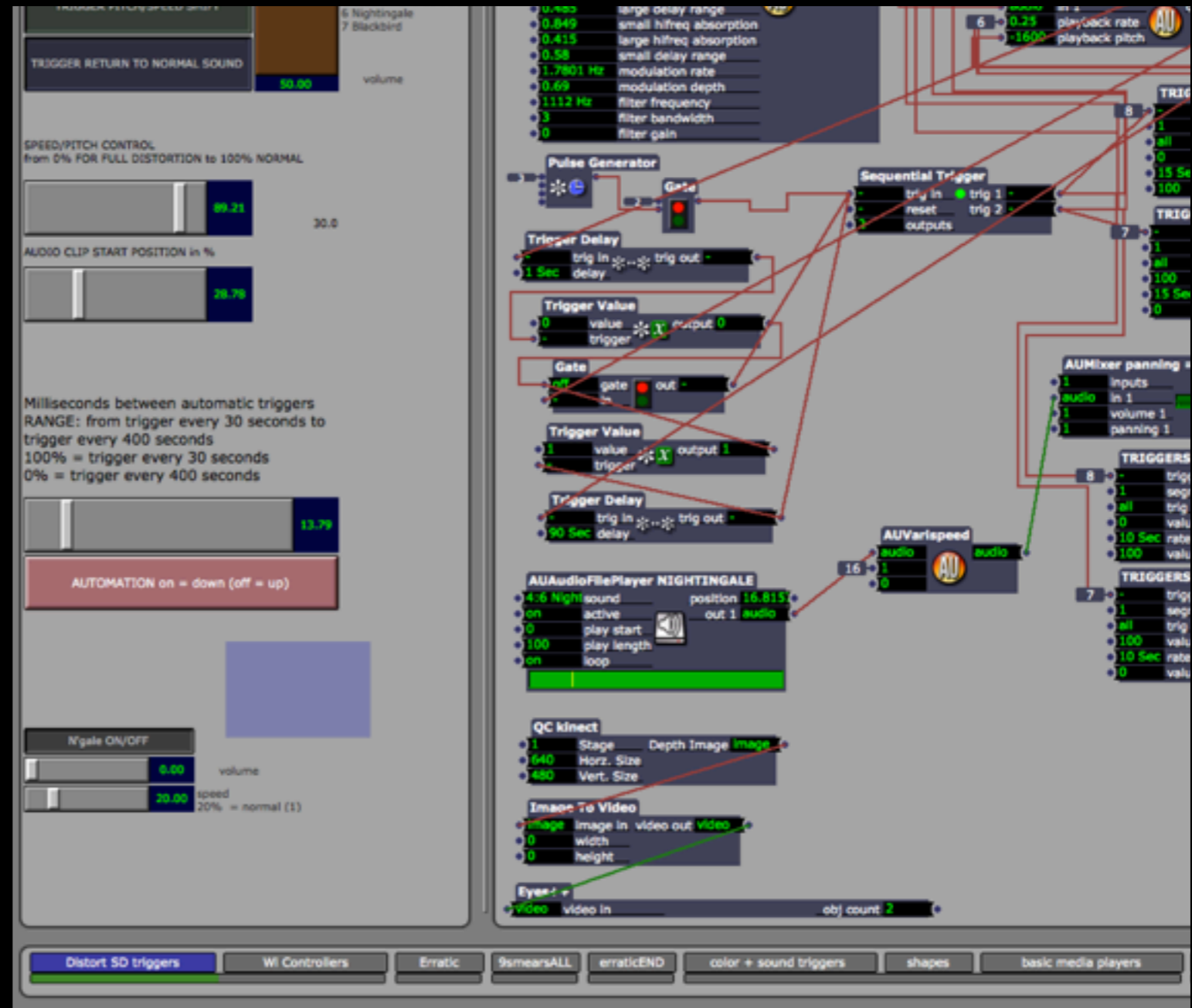
**More flexible than traditional show control software (such as QLab) for live performance.**

**Faster build time, due to the supplied building blocks within Isadora of programming called 'actors' that contain processing algorithms.**

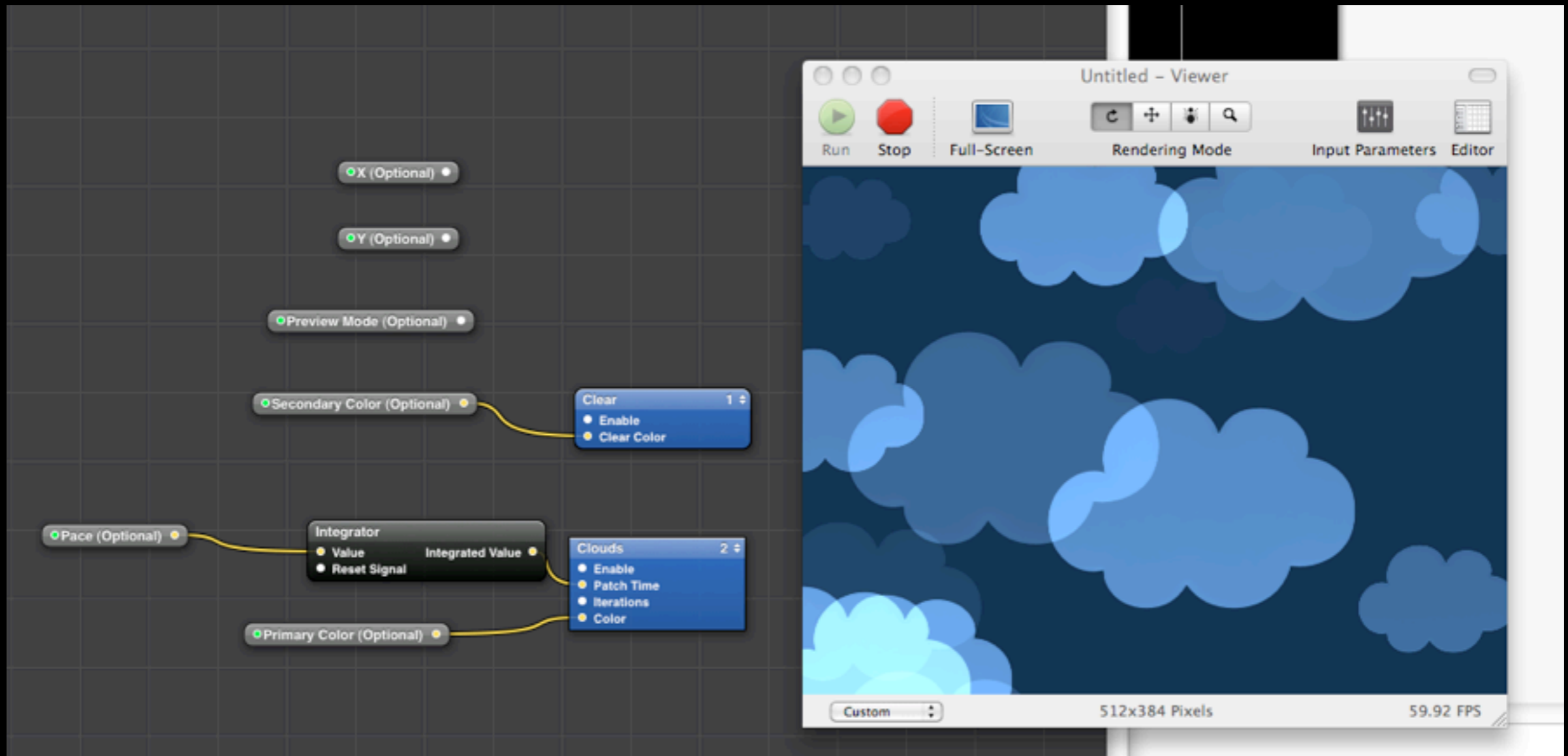
**Quicker build time to creativity. Less tool-making initially.**

**SCENE-BASED** programming, allows for linear or non-linear use.

Easy to use **CONTROL PANELS** for theatre/gallery staff or general public.



**PLUG INS** such as Quartz Composer and FreeFrame plugins allow users to create custom actors of their own and to share them with other users.



# what can 'izzy' do?

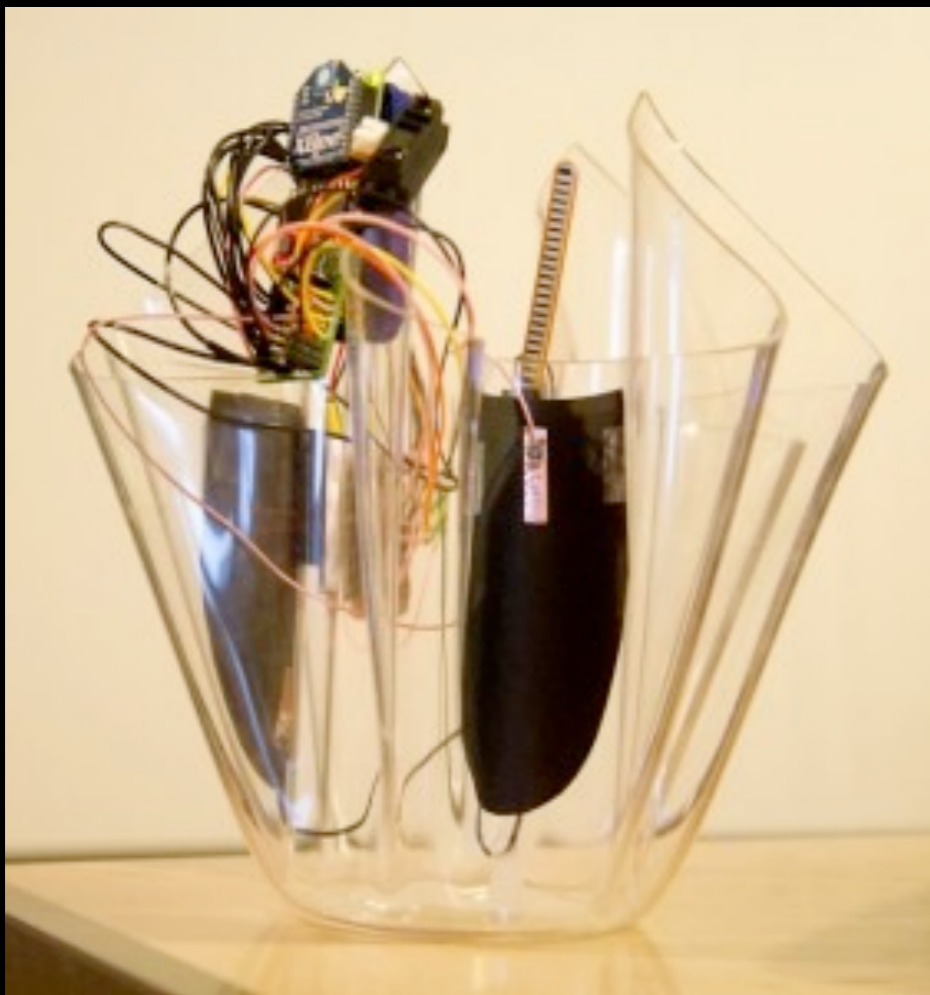
**Virtual MIDI in/out** - allows Isadora to communicate with other MIDI enabled software eg Ableton Live 6, Max/Msp etc

**MIDI in/out** - through MIDI hardware, such as synths or MIDI controllers, MIDI keyboards.

Isadora can talk and listen to other software via **OSC (Open Sound Control)** via UDP (User Datagram Protocol).

**Syphon shared video streams** - Isadora is syphon enabled, so it can share a video stream with other softwares, such as MadMapper.

Isadora can talk and listen to other software via **OSC (Open Sound Control)** via UDP (User Datagram Protocol).



**YUV** processing (each pixel occupies half the memory of RGB, and is native for PhotoJpeg and DV formats). Hence much faster.

**CONNECTIVITY** Simple broadcasting of data between networked computers.

**Syphon shared video streams** - Isadora is syphon enabled, so it can share a video stream with other softwares, such as MadMapper.

**Capture video to Disk** - record realtime video inputs from cameras. Auto-loads to the media bin for use as a movie file, or held in a buffer for instant recall.

**External Video output** can be recorded to Quicktime movies or to a camera via a video output card.

**Serial Data** Send and receive eg Matrix actors for DMX

**Control theatre lights** using DMX signal data, directly from Isadora instead of a lighting board, via attached hardware such as the Lanbox, Enttec or DMX King.



**Motion tracking** - Built in modules using the EYES and EYES++ actors, for tracking motion

**Sound Monitoring** Built in sound triggers, using the Frequency Watcher and Sound Level Watcher.

## WHAT IS CORE VIDEO AND AUDIO?

**Multi-Channel Sound Output** using Apple's **Core Audio**. (QKT Pro files can be made with multiple channels of audio).

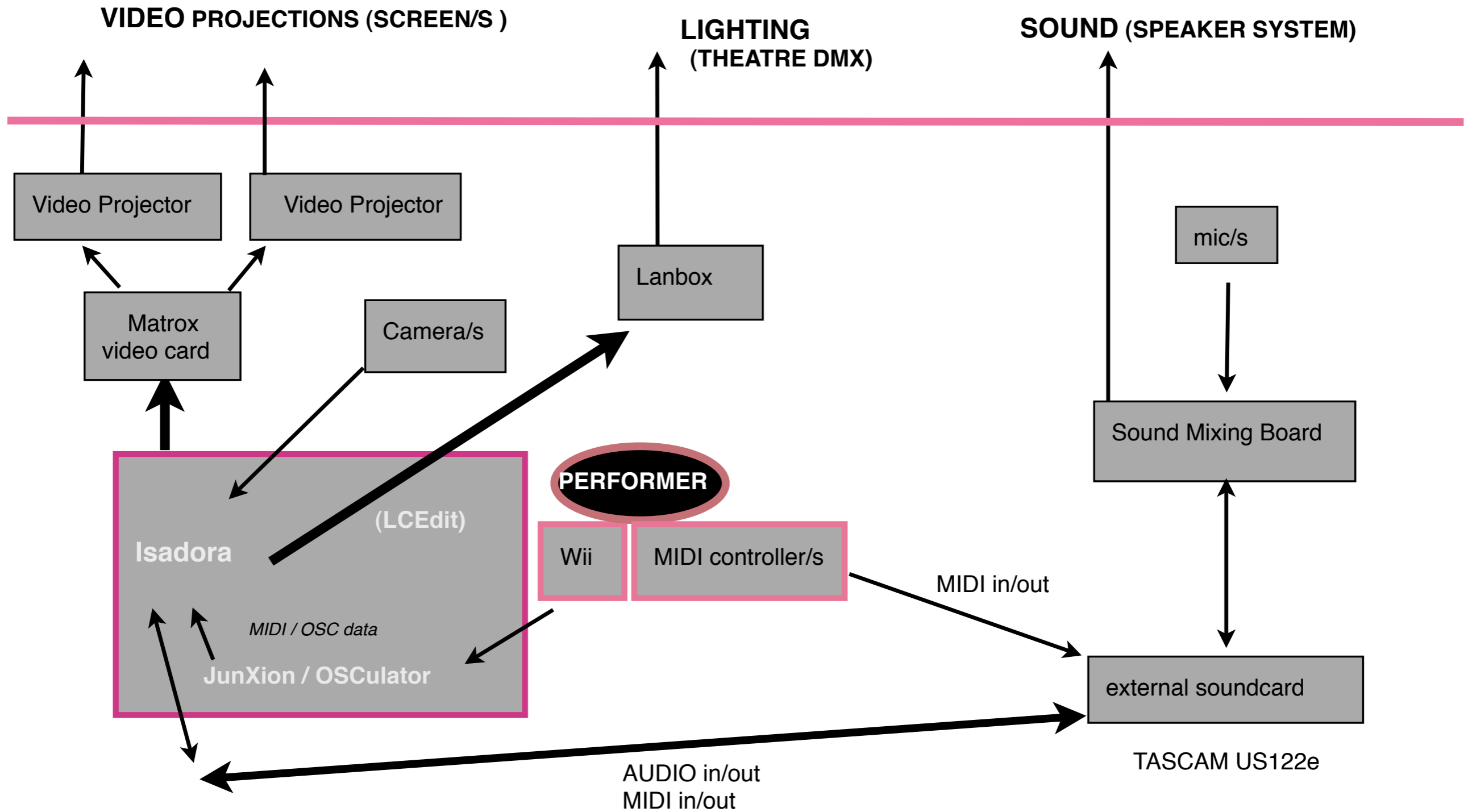
*"Core Video is the video processing model used by QuickTime 7 on Mac OS X to interface with the rendering and compositing layers in its graphics model. It delivers the images from QuickTime or other video source to the rest of the Quartz technologies in Mac OS X.[1]*

*Apple's Core Audio documentation states that "in creating this new architecture on Mac OS X, Apple's objective in the audio space has been twofold. The primary goal is to deliver a high-quality, superior audio experience for Macintosh users. The second objective reflects a shift in emphasis from developers having to establish their own audio and MIDI protocols in their applications to Apple moving ahead to assume responsibility for these services on the Macintosh platform."*

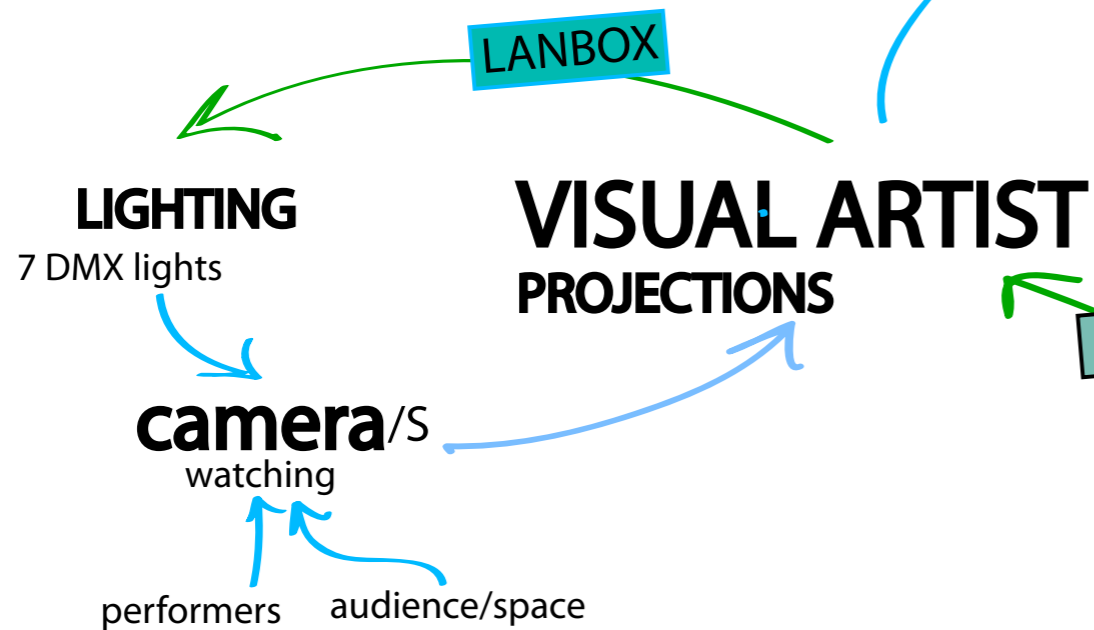
*wiki*

# •Setting up equipment (hardware)

Interactive SOLO tech set up - jamie griffths



VISUALS & LIGHTING CREATED by JAMIE GRIFFITHS  
*Isadora software, Wii, MIDI, Lanbox, XLR sound inputs x2*  
with additional processing of imagery affected by  
input data from sound analysis (listening) to the space  
input data from video tracking (watching) the space & lighting  
input data from Wii controllers of visual artist (physicality of artist)  
input data from Wii controllers of composer (physicality of artist)



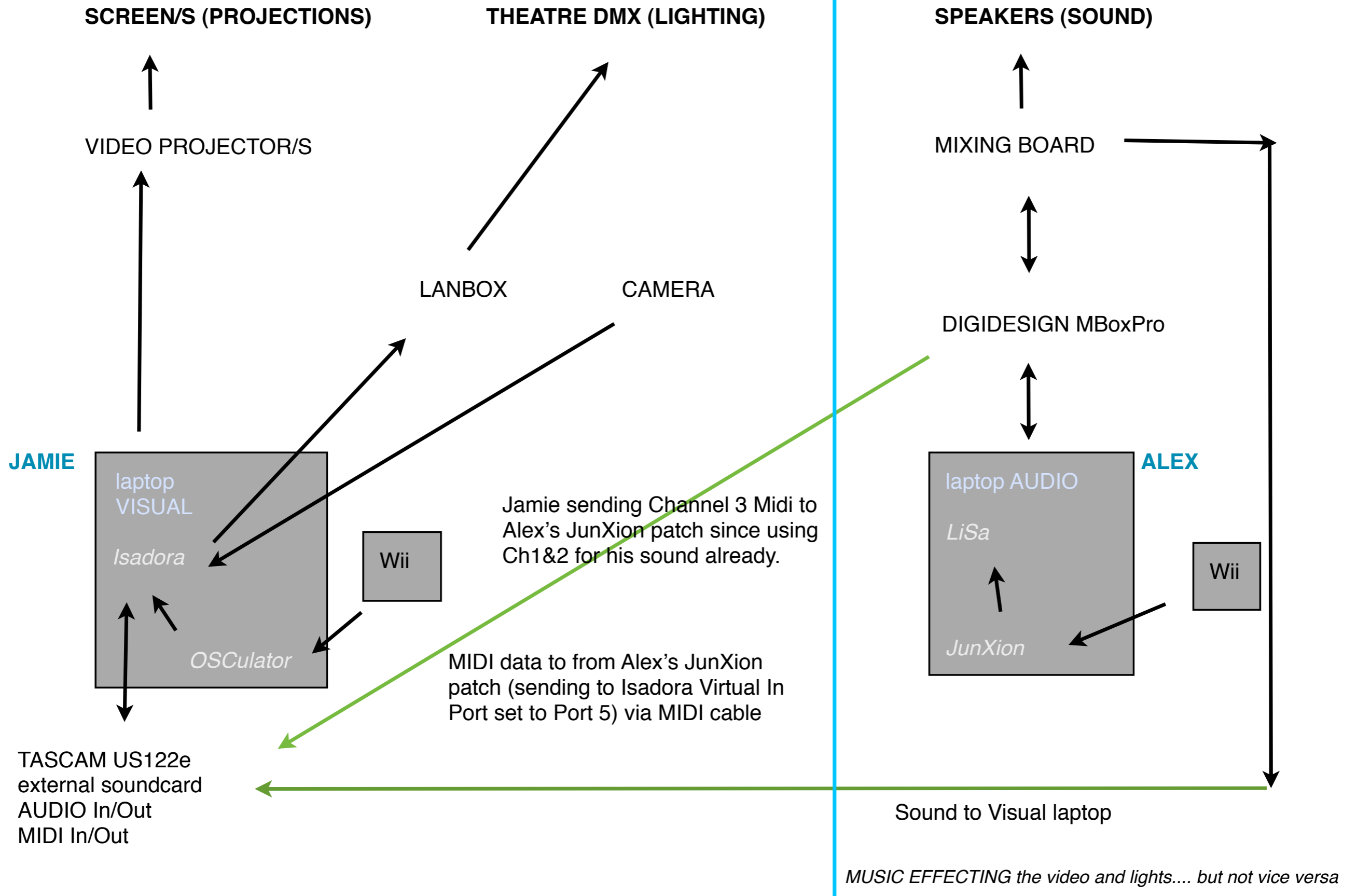
data from isadora can be sent back to alex (music) via ethernet  
data from Alex's Wii can be sent to Isadora (visuals) via ethernet

**COMPOSER MUSIC**

MUSIC CREATED by ALEX NOWITZ  
*Lisa software, Wii, music software, voice*  
input data from Wii hand controllers of composer  
input data from video tracking ('watching') the space  
input data from Wii hand controllers of visual artist

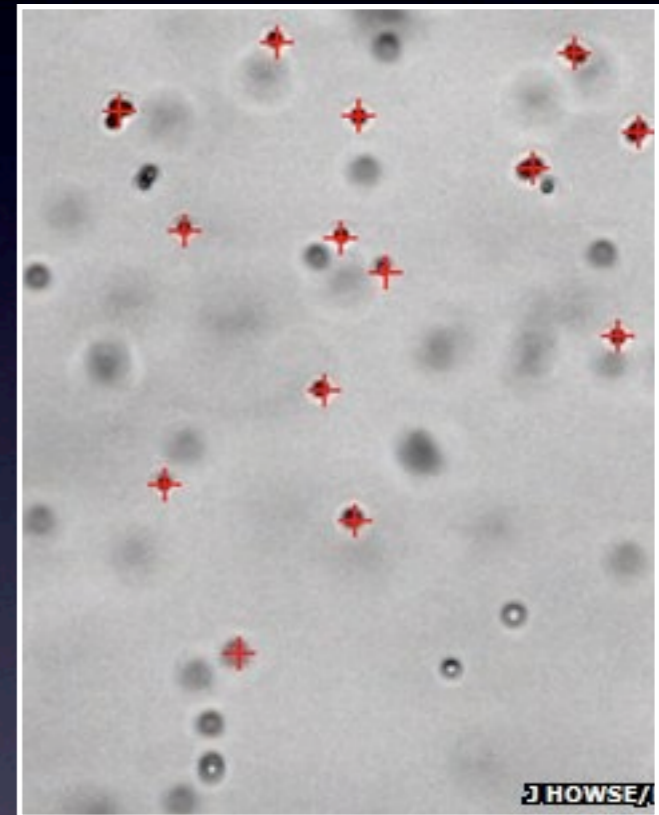
*arrows show flow of information between the artistic mediums*

Interactive game-plan for Project 'Hybrids' with Berlin composer Alex Nowitz

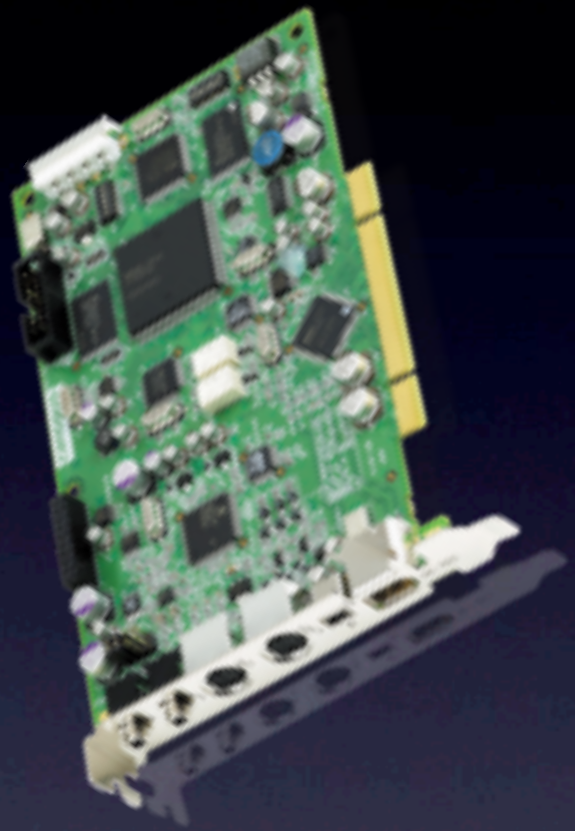


# Interactive Art & Science

- Mapping sounds to Brownian Motion (the movements of microscopic moving particles)... Is this art or science?
- What is Mapping?
- <http://www.bbc.co.uk/news/science-environment-19647038> (sound link)
- <http://www.bbc.co.uk/news/uk-wales-18882190> the sounds of plants



# camera tracking... needs a digital camera feed



Canopus (Grass Valley)

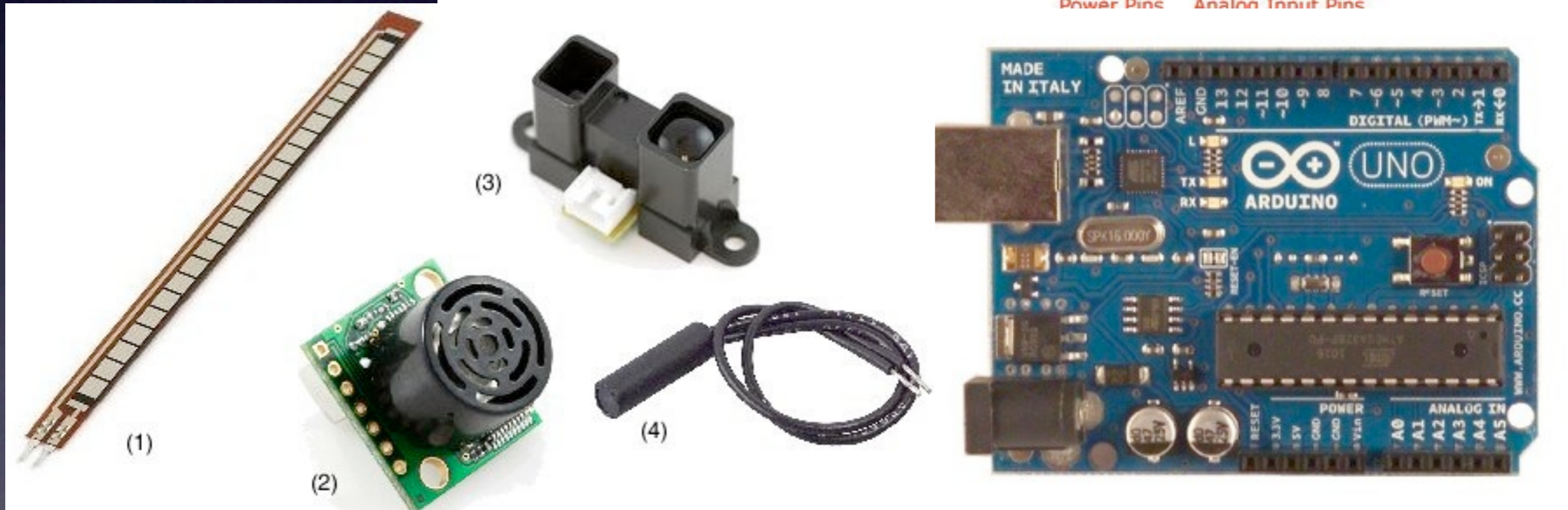
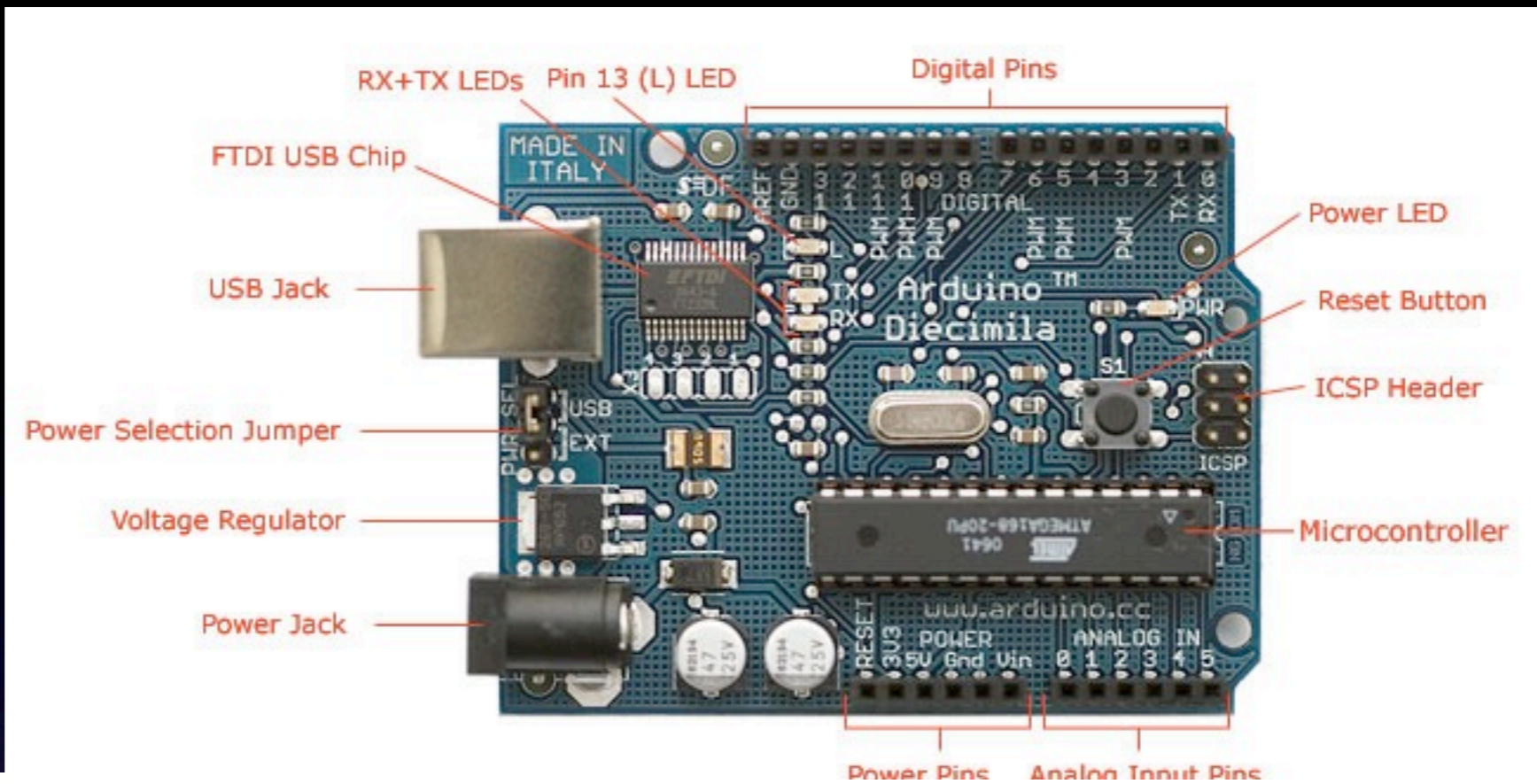


BlackMagic

# kinect: infra red, stereoscopic camera



# arduino

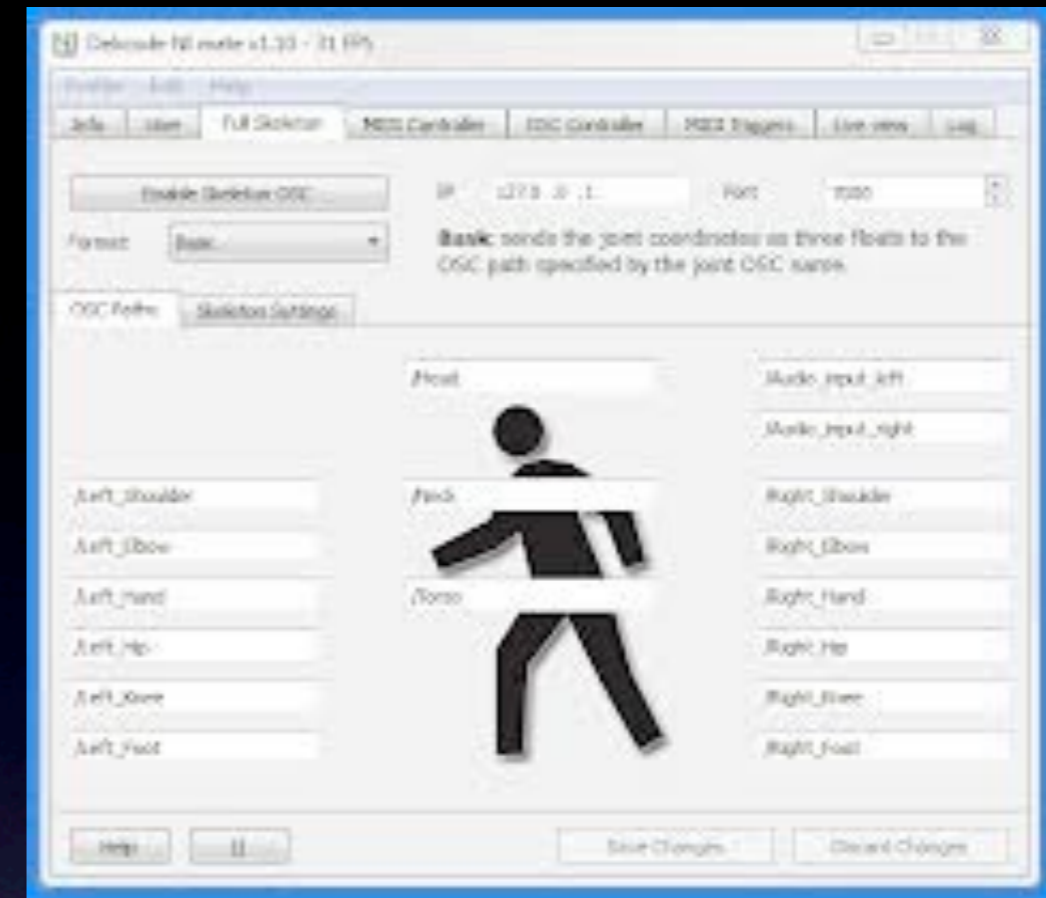


<http://iainmccurdy.org/sensorsworkshop/index.html>

# NiMATE skeleton tracking software

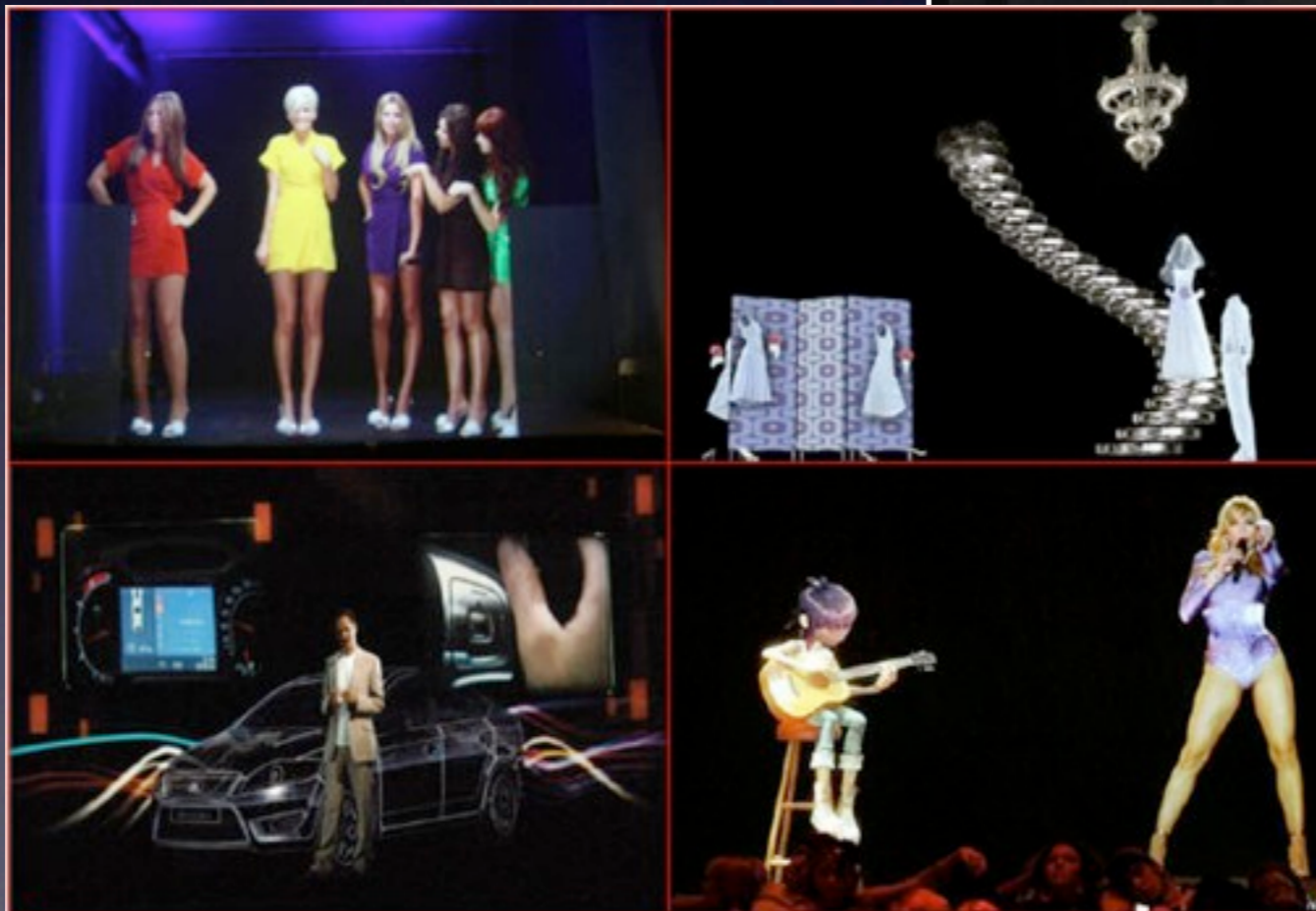
Skeleton points are sent via OSC messages into Isadora.

The tracked depth map image can be sent to isadora using the syphon capabilities of both softwares.



# hi tech peppers ghost

- [Opera Erratica \(link\)](#)
- [Musion Eyeliner](#)



# projection mapping



- Klaus Obermeier

