

Isadora Notes

Isadora is a software program for controlling live and interactive media, authored and invented by Mark Coniglio, co-director of Troika Ranch. He was initially inspired to expand and improve upon the program, Imagine, one of first interactive live video programs.

The Isadora manual can be downloaded at:

<http://www.troikatronix.com/izzy-download.html>

Isadora permits a variable experience, in which video takes on multiple roles – as a light source, a character, a responsive environment, even a narrative element.

With the physical interfacing of Midi sensors – you can track Motion in Isadora and compose elements to respond to that motion.

Some **Questions** to consider when composing interactive media:

What is the concept behind the use of the technological tool?

How can the media element evolve rather than become a static element?

What is the relationship between the interactive elements and viewers' perception of the interaction?

What is the balance between composition and improvisation, user input and prepared narrative?

When should a scene respond to a trigger or to the computer operator?

What is the relationship between the performer and the interactivity?

Isadora gives the artist a blank slate – the tools with which to combine media and compose a timeline:

- The toolbox presents modules to construct the program
- The scene list populates the bottom bar, which can play in order, can be triggered, or can be programmed to play in a random order
- The scene editor allows you to edit the contents of the scene
- The user can cut and paste scenes or modules from within scenes fluidly

Windows > Show Media – to view pre-recorded media (these exist as reference files and are not materially imported)

File > Import Media – to bring in media as reference files

The most basic setup is as follows:

In group 1 of the tools (the **Video Group**) – add a **movie player** and **projector** – (click on the module and then within the scene window to place the desired module into the scene). Import a movie and then connect the movie player to the projector by dragging from the movie player's video out button to the projector's video in button.

To view go to **Window > Show Stages**

Right click over any module for detailed help and information about what that module does.

When you change the parameters of an actor or module, numbers are expressed as a percentage, which you can adjust with the slider or by typing. If you change the play length to 2, it loops after 2%. If change change the start time and length, the media starts at that point and loops for the portion indicated. For speed, 1 is normal speed, 2 is double time.

You can shrink images with the Projector's Zoom function. You can combine many video feeds into projectors and create composite imagery in Isadora.

Sensors – Sound, Air Pressure, Motion, Microphone, Video Tracking, Mouse and Keyboard...

Sensors take real-world information and bring it into the software. The Mouse and Keyboard are sensors. Mouse & Keyboard tools: The **Mouse Watcher** can connect the position of the mouse to characteristics of the movie or projector.

Ex. If the **Horizontal Position** of the **Mouse Watcher** is connected to **Play Start**, the mouse changes the portion of the movie played: to control playback, set the movie player's speed to 1 and move the mouse – you can reverse and forward, or scroll through footage.

Ex. If the **Vertical Position** of the **Mouse Watcher** is connected to the projector's **Zoom**, movement of the mouse zooms the video in and out.

Recommended export settings for video playback in Isadora:
Half resolution: 320 x 240 – full resolution quadruples the size
Codec: Photo JPEG
Video formats: Plays Flash 6 files, MPEG, and .mov
In Settings, have Hardware Accelerated Rendering ON

Sensing/Triggering

Linear arrangement of scenes isn't required – you can use triggers to have nonlinear progression, skipping from scene 3 to 5...

You can also manipulate parameters by using **Generators** (Module Group 4) Generators are continuous controllers, as opposed to triggers (like knob vs. switch)

Wave Generator: used to produce a periodic shape that has a constant, cumulative effect

Sawtooth Wave, for example, goes from 0 to 100, and will affect whatever parameter as moving from lowest to highest value; frequency affects the value of the shape

Envelope Generator: when a trigger is linked to the envelope generator, you can trigger an event within a scene, as opposed to triggering the next scene
Only changes when triggered; not constant

If two or more movie projectors are in the same scene, they are automatically layered (like Photoshop layers). If you don't change the Layer input in projector, the actor that is lowest in the media folder will appear the highest in Layer order; you can change layer order.

Audio Input: Audio Group (2)

You change trigger levels so that only a certain level of sound affects video.

- can use internal sound input of computer, or can use line in to use soundboard
- add Sound Level Watcher and attach to any parameter
sound will affect that value, whether zoom or intensity or...

(increase amount of left/right minimum levels to avoid having hum of room/computer affect video)

Live Video Input: turn camera on and plug in, in **Input > Start Video Input;** Show Status to view feed; if video trigger doesn't have an "X," then the input isn't seen by the program; video feed has delay based on cable length

Tech advice for **LIVE INPUT:**

turn demo mode off of camera; take tape out of the camera so it doesn't turn off automatically (or turn off the auto turn-off feature in the menu, if there is that option); do not use the battery

To Save the scene as it plays to the stage, in **Output Menu**, choose **Record Stage Settings, and set parameters** (size – custom and set resolution) (make sure that movie resolution and compression settings are set correctly); the fastest compression is Photo JPEG

Tracking: EYES

(Eyes Module – tracks one object; New module: Eyes Plus Plus – can track up to 8 objects as opposed to 1)

- * The Ideal setting for tracking is a solid bright black or white background
- * When tracking, turn auto focus off; theatrical lighting will alter focus drastically

Turn Eyes monitor on to view video input; Eyes tracks the brightest thing within the frame; can inverse to have Eyes track the darkest area in frame; with Threshold, can tweak the contrast.

Hit Column and Hit Row reveal where the center of the object on view is (acts as an x.y pointer of tracker, like a mouse)

Can track position, velocity, activity in the frame (using difference – the more the movement, the brighter the image), brightest or darkest object in the frame, color (with chroma key), track motion while removing the background (using a freeze and effect mixer)

Within Eyes, velocity (speed of motion) can also be linked to parameters within the player, like speed (scale min to 0; scale max to 1) – will toggle between still and play based on the object's motion

Smoothing: value in eyes that turns a value jump to a curve

Example: If link video position to an eyes parameter, the video being tracked affects the scrubbing of the video (speed must be set to 0; in this case playback is linked to horizontal position of the object tracked, and blur is linked to the vertical position)

* Another object in the frame can interfere with the tracking: Eyes will look for the biggest block (usually a dark object, that when inversed appears white)

MIDI Inputs:

Window > Midi Setup – choose **Midi Port** (will see whatever is connected, the ports listed alphabetically): only see this option in Windows when have the drivers of the keyboard/interface and the device plugged in

MIDI device – the connection requires a translator box that accepts MIDI connectors (transformed into USB for computer)

Using the sliding knob as a controller:

Working with keyboard – velocity affected by intensity of pressure;

The knob on keyboard can be moved, like a controller, and animates the value, which can be connected to any property and thereby affect any parameter; knobs automatically receive a number by the software, in the Status Window you can view the knob's number...

Creating custom sliders/ knobs/ mouse palettes, etc: (these are in the Isadora example files)

1. Go to Controls (top menu, not tools) > Show Controls
2. Controls > Show Actor/Control Split
3. Take a 2D slider (or other control) from the control tool palette (tool palette transforms when in Edit mode) and add it to the scene

4. Connect the 1 (horizontal in the case of the 2D/mouse) to one parameter, and the 2 to another
5. To use, hold down the option key or switch from edit mode in the Control menu
6. To remove the connection, open up the pop up window for the parameter (in the scene by clicking on the name of that parameter, like "height" in the Projector), and reset the Control ID to 0. The Control ID will reflect the number of the controller that is connected to...

Computer checklist before an Isadora Presentation:

Set you computer's screen background to black, the main display to 256 colors

Displays – set the projector display to RGB generic, 800 x 600, millions

Set the Alert volume all the way down and the sound all the way up