

*“The Art of Composition or:  
How I Learned To Stop  
Programming and Love the  
UNIX Pipe”*

Andrew Ringler, October 27<sup>th</sup> 2016

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MassArt Professional and Continuing Education  
Thursday Night Lecture Series

*“or, at least love the idea  
of the UNIX Pipe”*



- 10 -

Summary--what's most important.

To put my strongest concerns into a nutshell:

1. We should have some ways of coupling programs like garden hose--screw in another segment when it becomes ... necessary to massage data in another way. This is the way of IO also.
2. Our loader should be able to do link-loading and controlled establishment.
3. Our library filing scheme should allow for rather general indexing, responsibility, generations, data path switching.
4. It should be possible to get private system components (all routines are system components) for buggering around with.

M. D. McIlroy  
October 11, 1964

<http://doc.cat-v.org/unix/pipes/>

<http://doc.cat-v.org/unix/pipes/>

In a typewritten piece of paper, Doug McIlroy described pipes long before the advent of Unix.

- 10 -

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M. D. McIlroy



Classic Sesame Street - Crayon Factory (stereo)

<https://www.youtube.com/watch?v=PoM0p02KGcM>

Published on Oct 12, 2014

Using music composed and performed by Richard Harvey. He breaks down the creation of "Watercourse" and "Exchange" here:

<https://www.youtube.com/watch?v=QvhX9...> or <https://youtu.be/QvhX9uxXMTA>

If you'd like to purchase this music on iTunes:

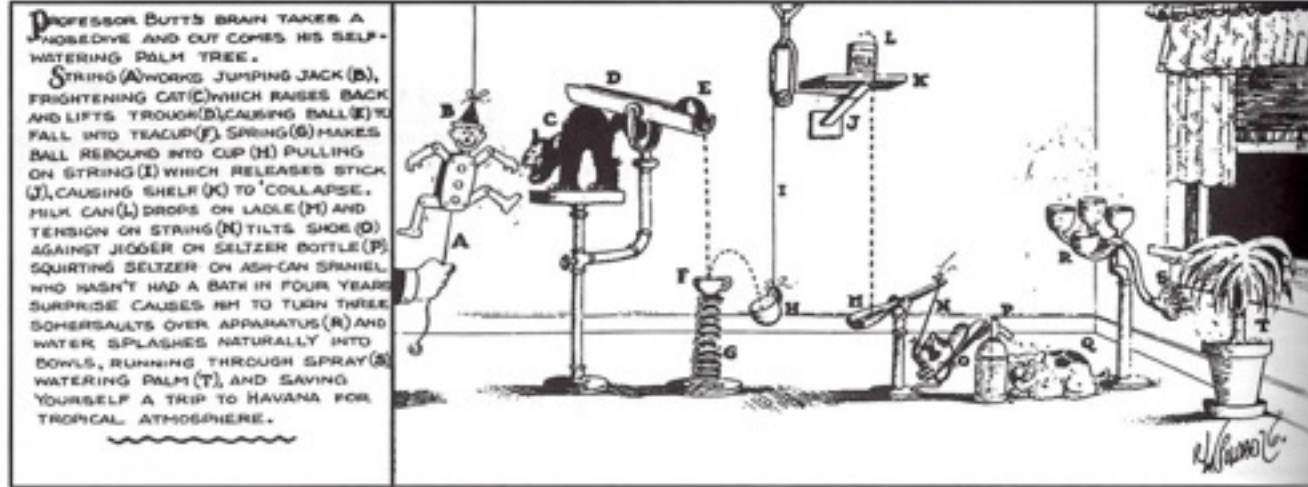
<https://itunes.apple.com/us/album/kpm...>

process1 | process2 | process3

...terminal

Rube Goldberg

## Self-Watering Palm Tree



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"Self-Watering Palm Tree" © Rube Goldberg. ~1930

copyright Rube Goldberg Inc.

<https://www.rubegoldberg.com/artwork/self-watering-palm-tree/?c=45>





OK Go - This Too Shall Pass - Rube Goldberg Machine - Official Video

<https://www.youtube.com/watch?v=qybUFnY7Y8w>

Uploaded on Mar 1, 2010

From the OK Go album "Of the Blue Colour of the Sky" available at <http://www.okgo.net/store>

Director: James Frost, OK Go and Syyn Labs.

Producer: Shirley Moyers.

The official video for the recorded version of "This Too Shall Pass" off the album "Of the Blue Colour of the Sky". The video was filmed in a two story warehouse, in the Echo Park neighborhood of Los Angeles, CA. The "machine" was designed and built by the band, along with members of Syyn Labs ( <http://syynlabs.com/> ) over the course of several months.

There is an in-depth behind-the-scenes look at the warehouse here: <http://www.okgo.net/this-too-shall-pa...>

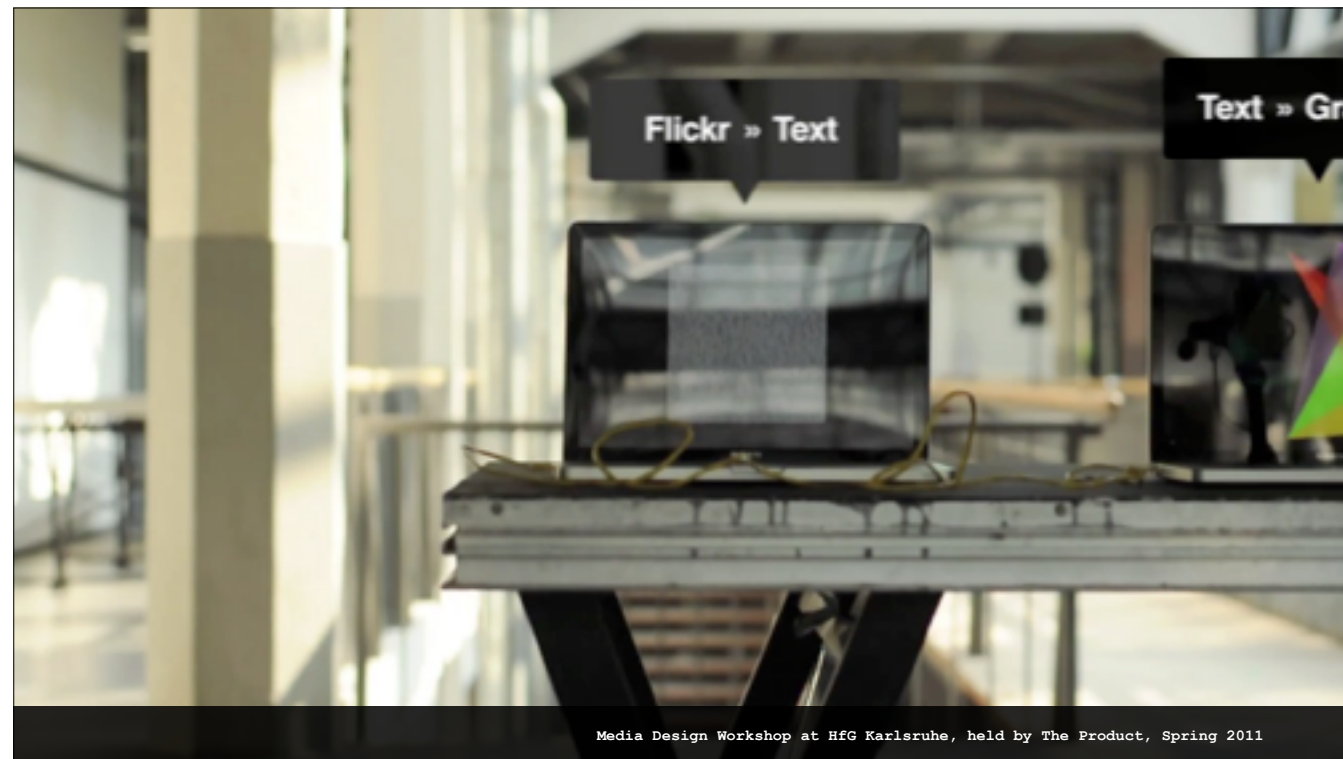
OK Go thanks State Farm for making this video possible.

Category

Music

License

Standard YouTube License



<https://vimeo.com/26013639>

Media Design Workshop at HfG Karlsruhe, held by The Product, Spring 2011

Our everyday life is more and more captured and stored as digital data. The promise says that an extensive collection of data can be translated into objective information, whereas the translation of data depends on the subjective selection of algorithms and devices.

The digital Rube Goldberg Processor articulates this subjectivity of data by transforming a flickr image in an endless cycle of interconnected computers and algorithms.

Communication Design Department

Prof. Florian Pfeffer

Indra Häußler

Lecturer

Jens Wunderling

Patrick Kochlik

Students

Matthias Gieselmann

Kirstin Griech

Stefanie Miller

Simon Schelsky

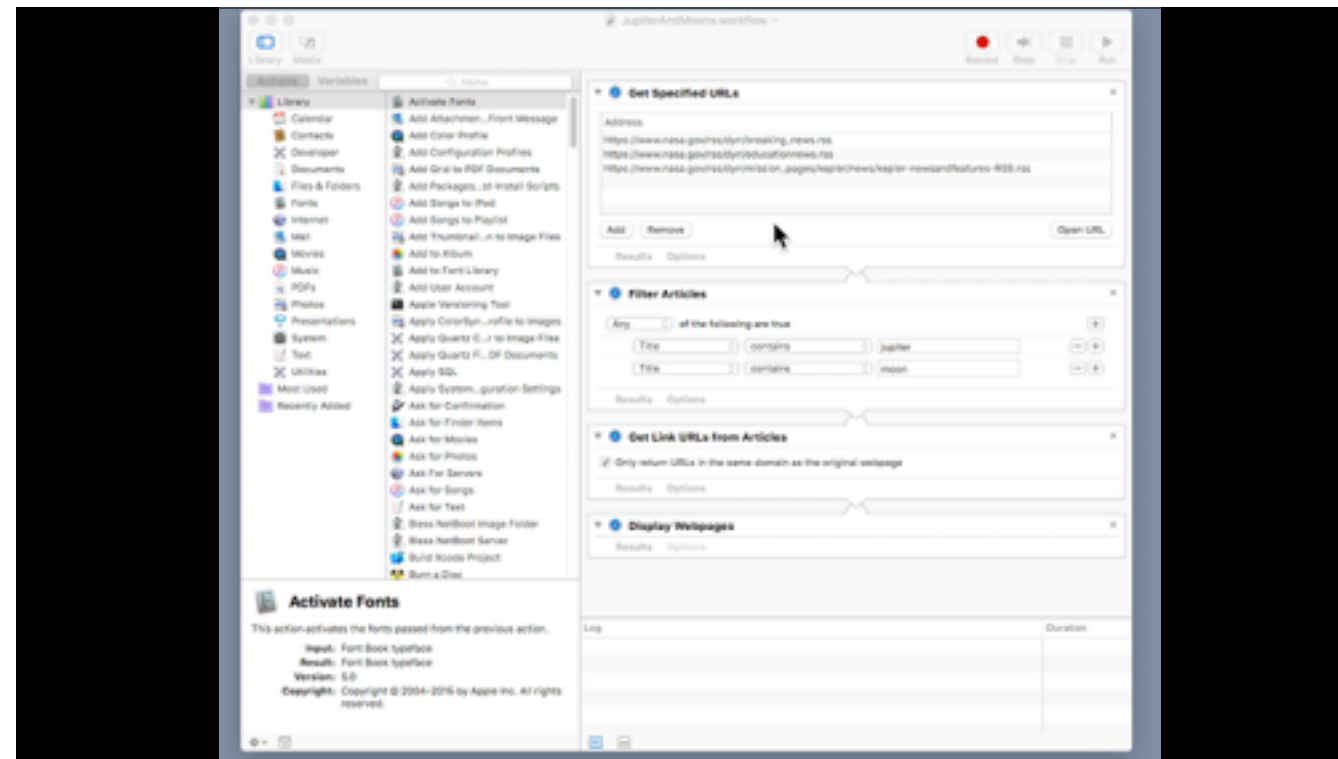
Nadja Schoch

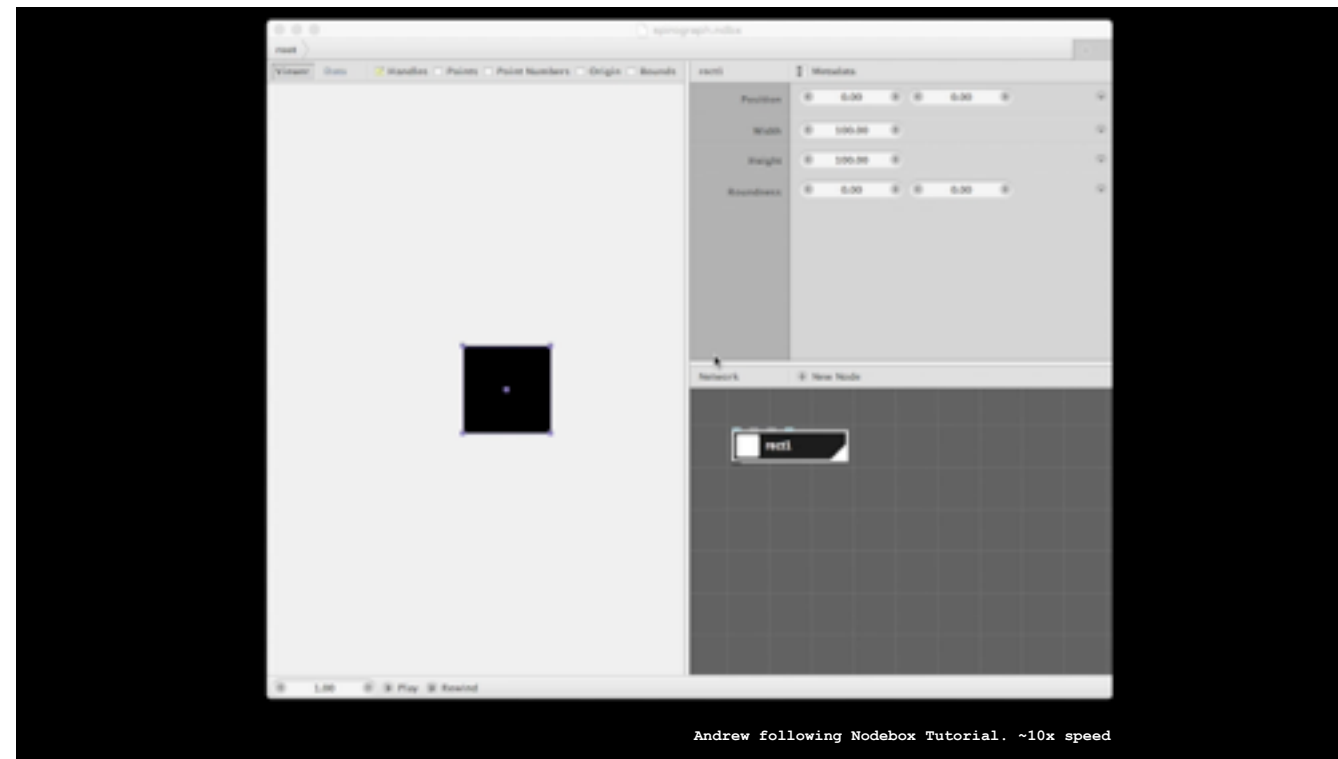
Lisa Stöckel



Apple Automator

<http://www.macosxautomation.com/automator/examples/ex08/02.html>





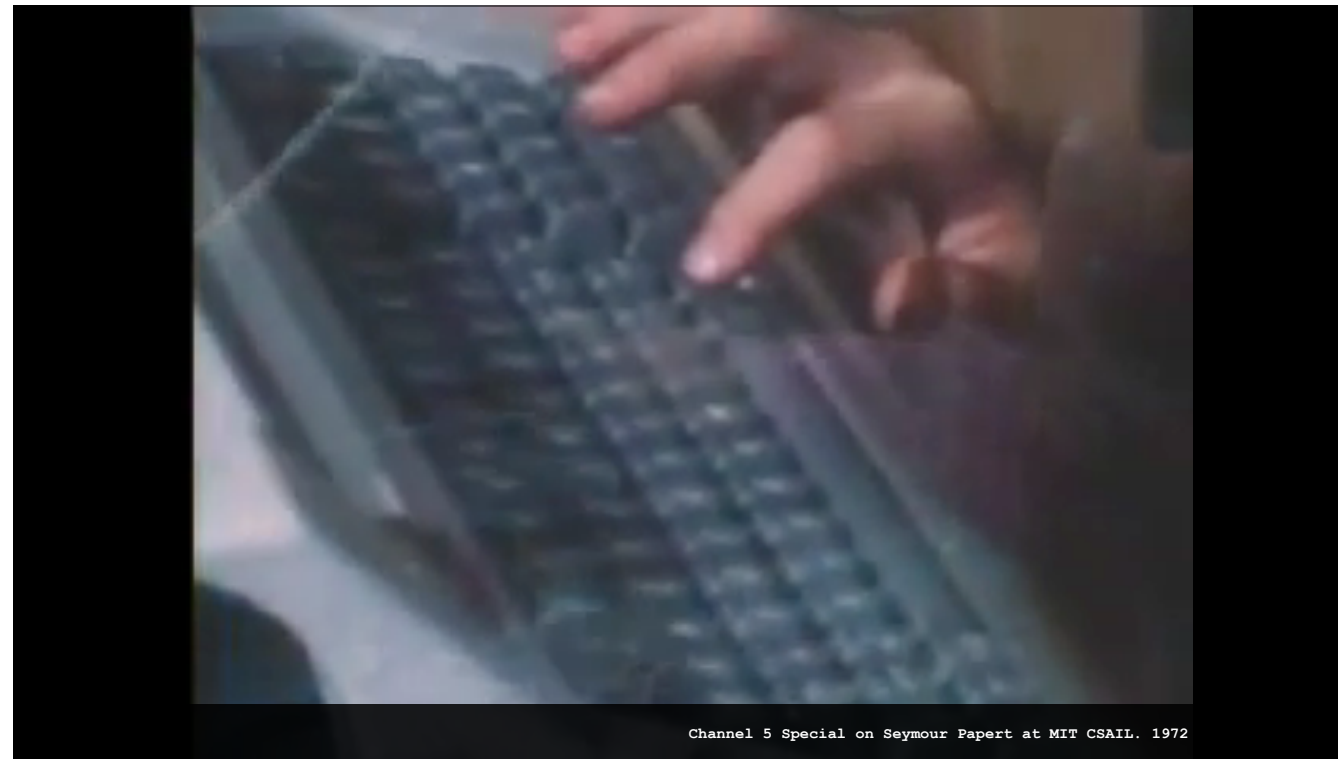
And here is what it looks like to actual code in Nodebox.

Here is me creating a spirograph (following the Nodebox tutorial online actually).

About 8min. sped up to just a few.



Mitchel Resnick. Scratch. About Video. <https://scratch.mit.edu/about>



Papert, Seymour A. Title unknown. Channel 5 Special on Seymour Papert at MIT CSAIL". 1972.Video. Dec 1, 2016. <<https://www.youtube.com/watch?v=xMzjQFyMo0>>.

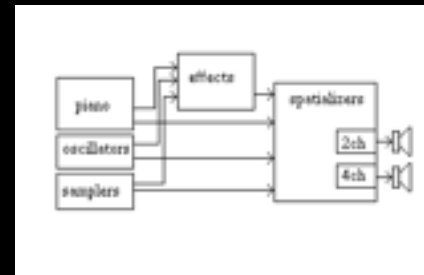
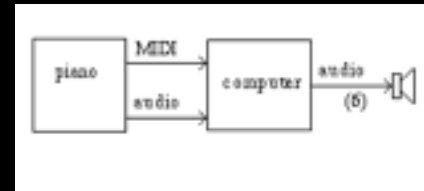
It is only six minutes long. Just watch it. 1972?

Max





Sogitec 4X (center) on IRCAM's machine room in 1989



AUDIO. Philippe Manoury, Pluton. 1988-89. Beginning.

Philippe Manoury, Pluton (1988/89)  
first musical piece to use the Max software

<http://msp.ucsd.edu/pdrp/latest/files/manoury-pluton/doc/manoury.htm>

<http://msp.ucsd.edu/pdrp/latest/files/manoury-pluton/doc/>

[https://en.wikipedia.org/wiki/Max\\_\(software\)](https://en.wikipedia.org/wiki/Max_(software))

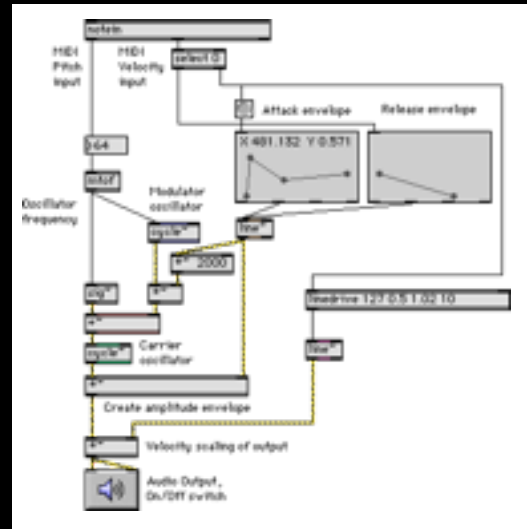
[https://en.wikipedia.org/wiki/Sogitec\\_4X](https://en.wikipedia.org/wiki/Sogitec_4X)

Philippe Manoury, Pluton (1988/89)

[https://www.youtube.com/watch?v=JFnW7Xocb\\_U](https://www.youtube.com/watch?v=JFnW7Xocb_U)

<https://web.archive.org/web/20040707132901/http://www-crca.ucsd.edu/~msp/pdrp/latest/patch/manoury-pluton/doc/history.htm>

Pluton (1988), by Philippe Manoury, is a piece for piano and computer lasting about 48-51 minutes. The computer senses the performer's piano playing through a MIDI interface. This is used to synchronize the computer with the piano (using score following) and also as a source of additional control. Manoury explores the idea of using



Max, IRCAM 1985?  
<http://soundartarchive.net/WORKS-details.php?recordID=1330>

AUDIO. Philippe Manoury, Pluton. 1988-89. Mid-performance.

Philippe Manoury, Pluton (1988/89)  
 first musical piece to use the Max software

<http://msp.ucsd.edu/pdrp/latest/files/manoury-pluton/doc/manoury.htm>  
<http://msp.ucsd.edu/pdrp/latest/files/manoury-pluton/doc/>  
[https://en.wikipedia.org/wiki/Max\\_\(software\)](https://en.wikipedia.org/wiki/Max_(software))  
[https://en.wikipedia.org/wiki/Sogitec\\_4X](https://en.wikipedia.org/wiki/Sogitec_4X)

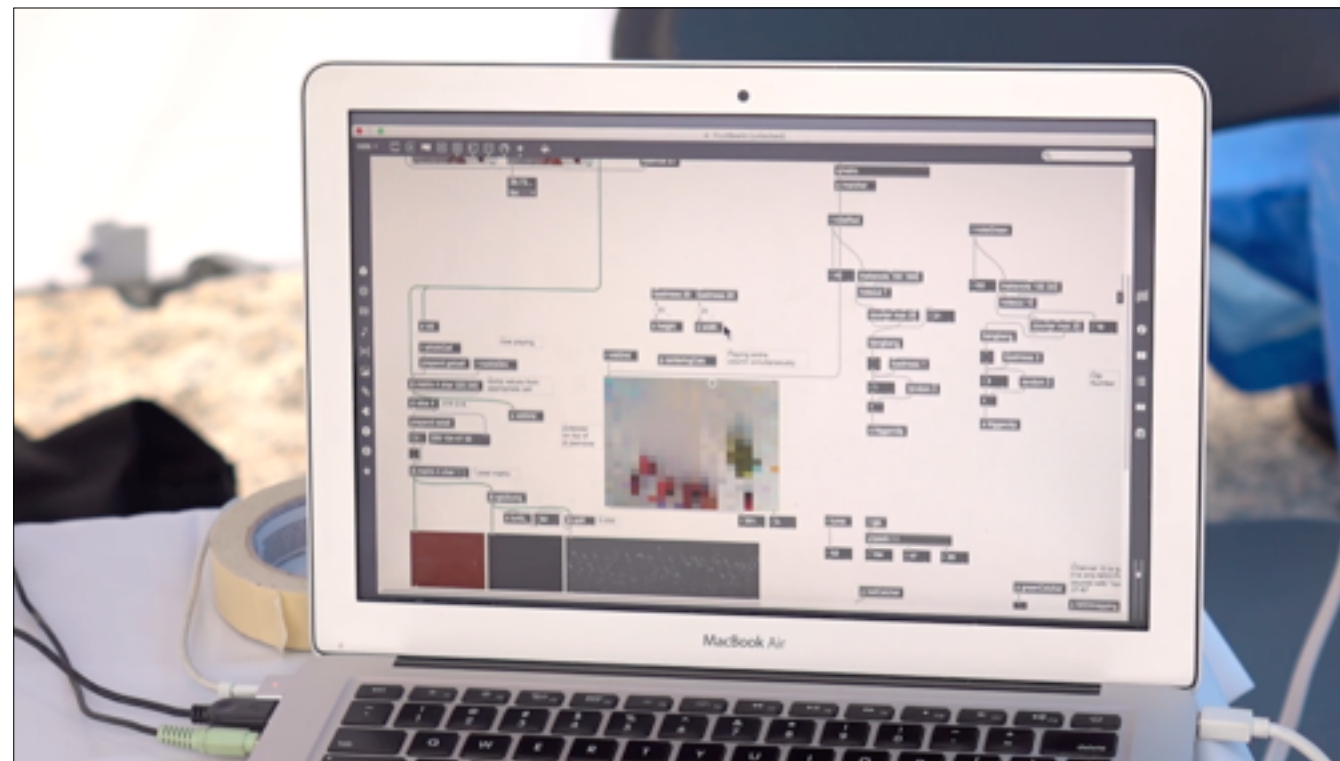
Philippe Manoury, Pluton (1988/89)  
[https://www.youtube.com/watch?v=JFnW7Xocb\\_U](https://www.youtube.com/watch?v=JFnW7Xocb_U)

<https://web.archive.org/web/20040707132901/http://www-crcs.ucsd.edu/~msp/pdrp/latest/patch/manoury-pluton/doc/history.htm>

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My Works

Fruit Beets

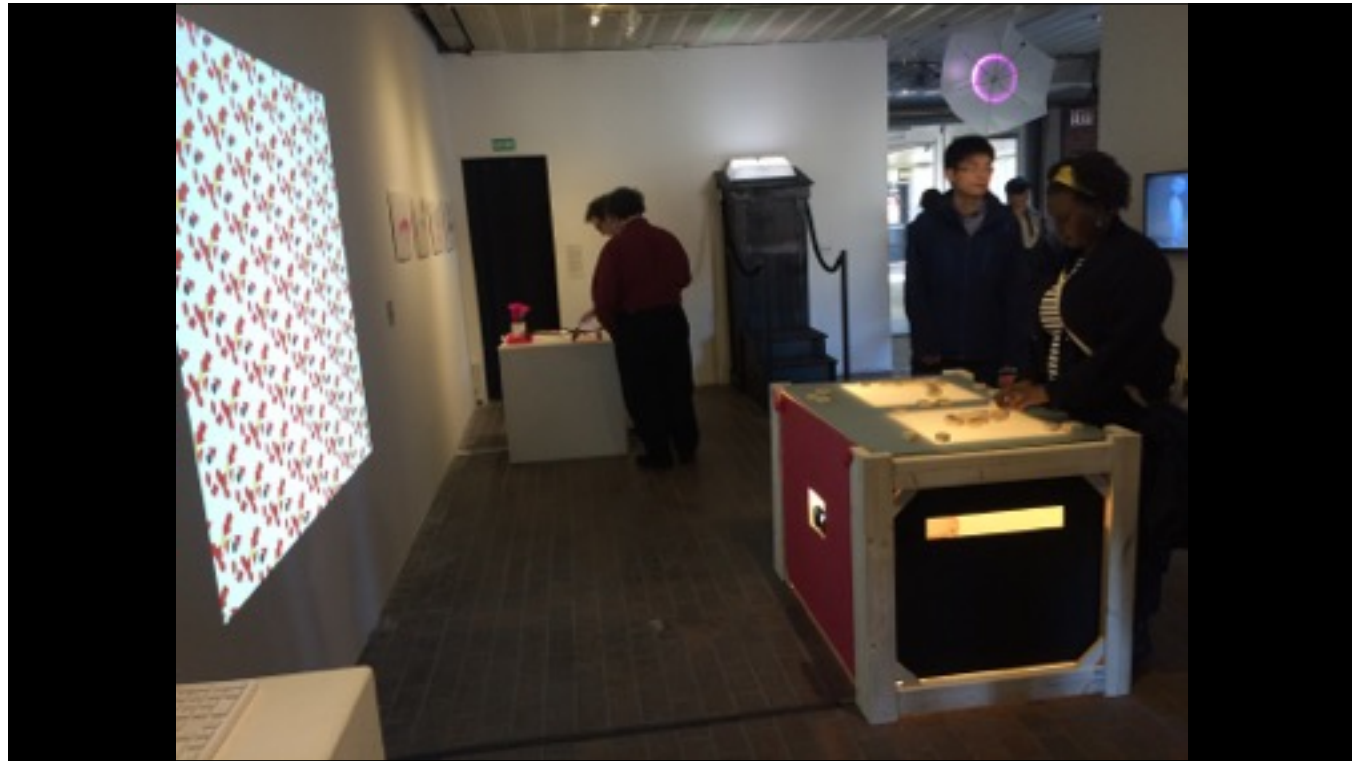




Draw Blocks



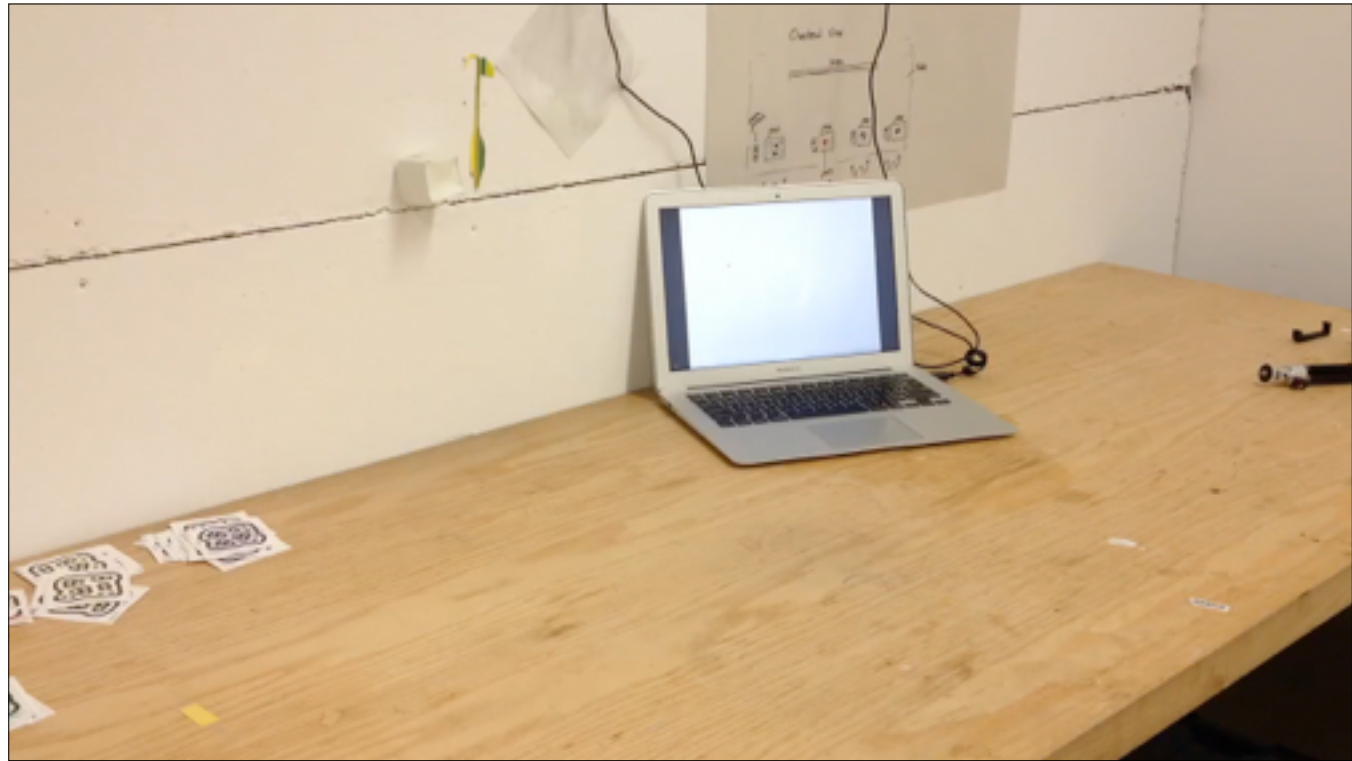






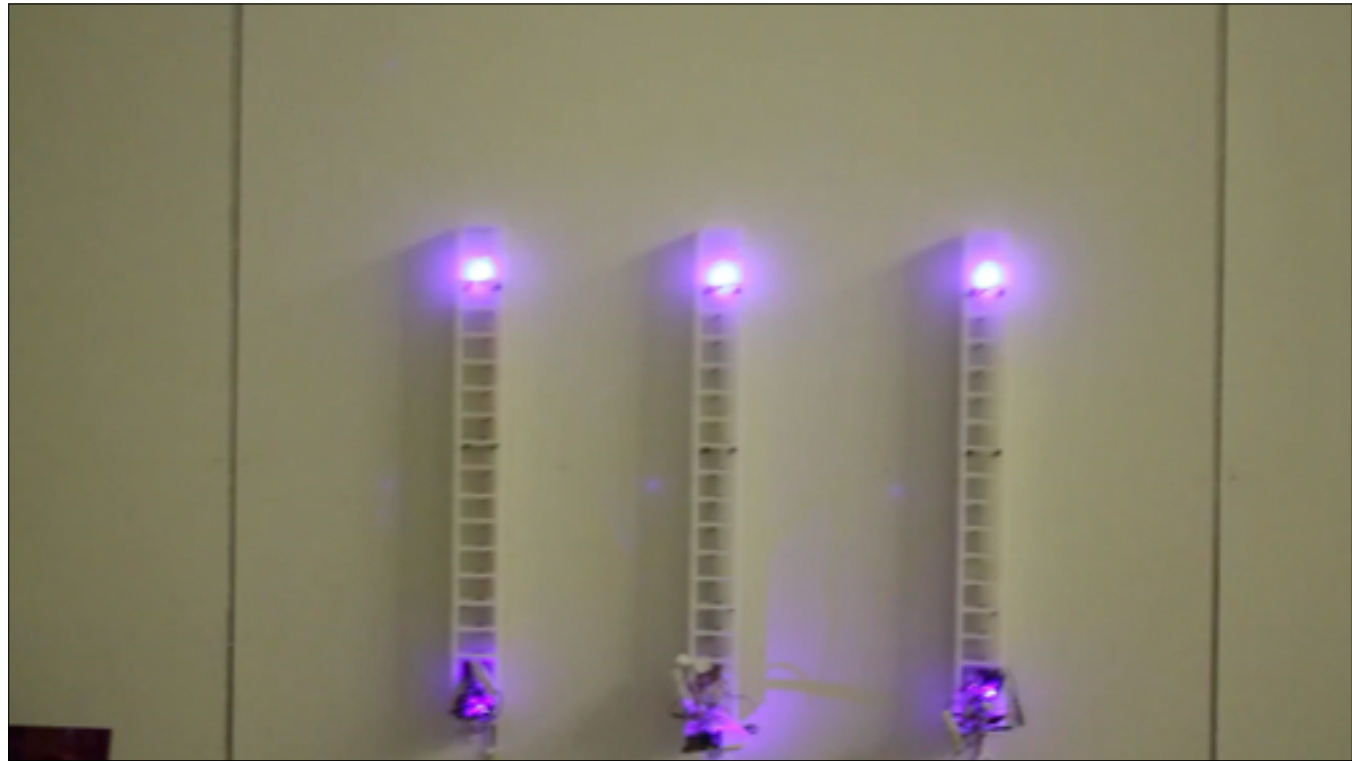




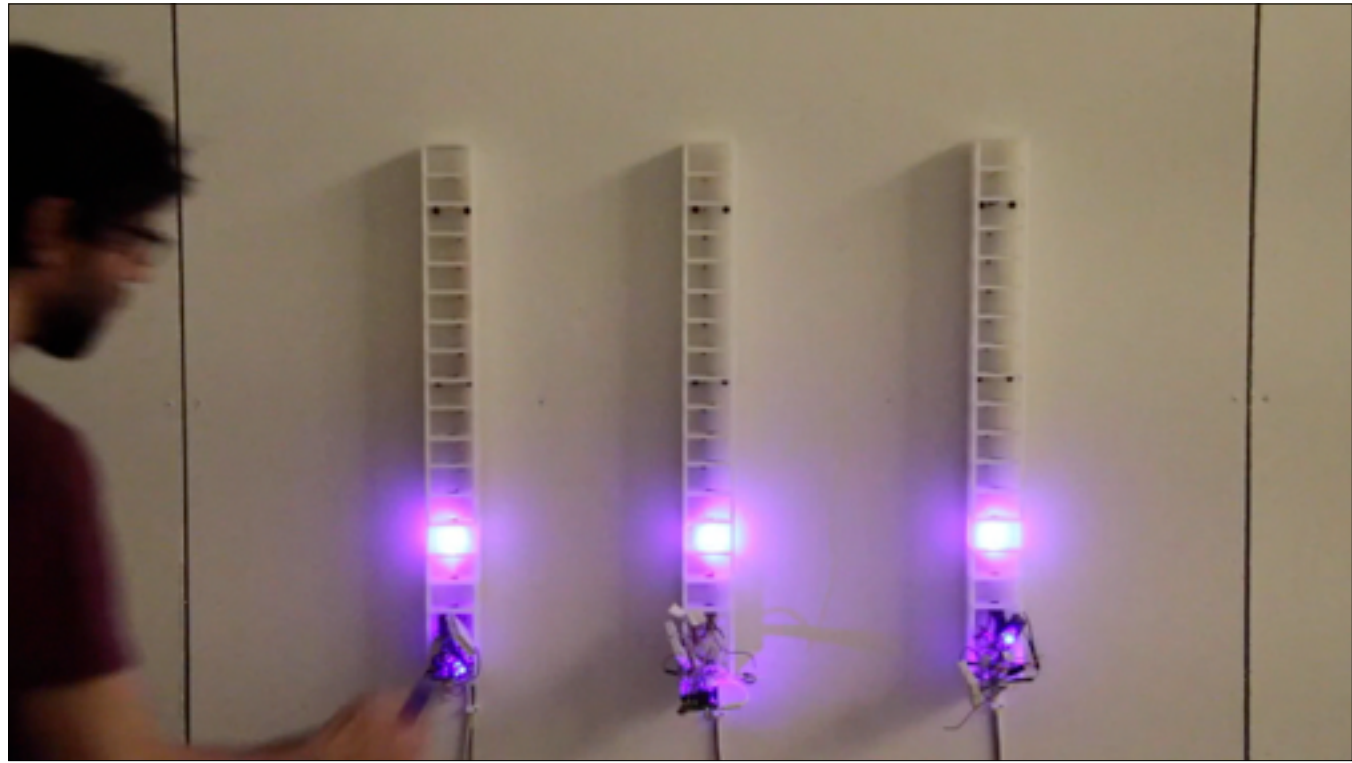


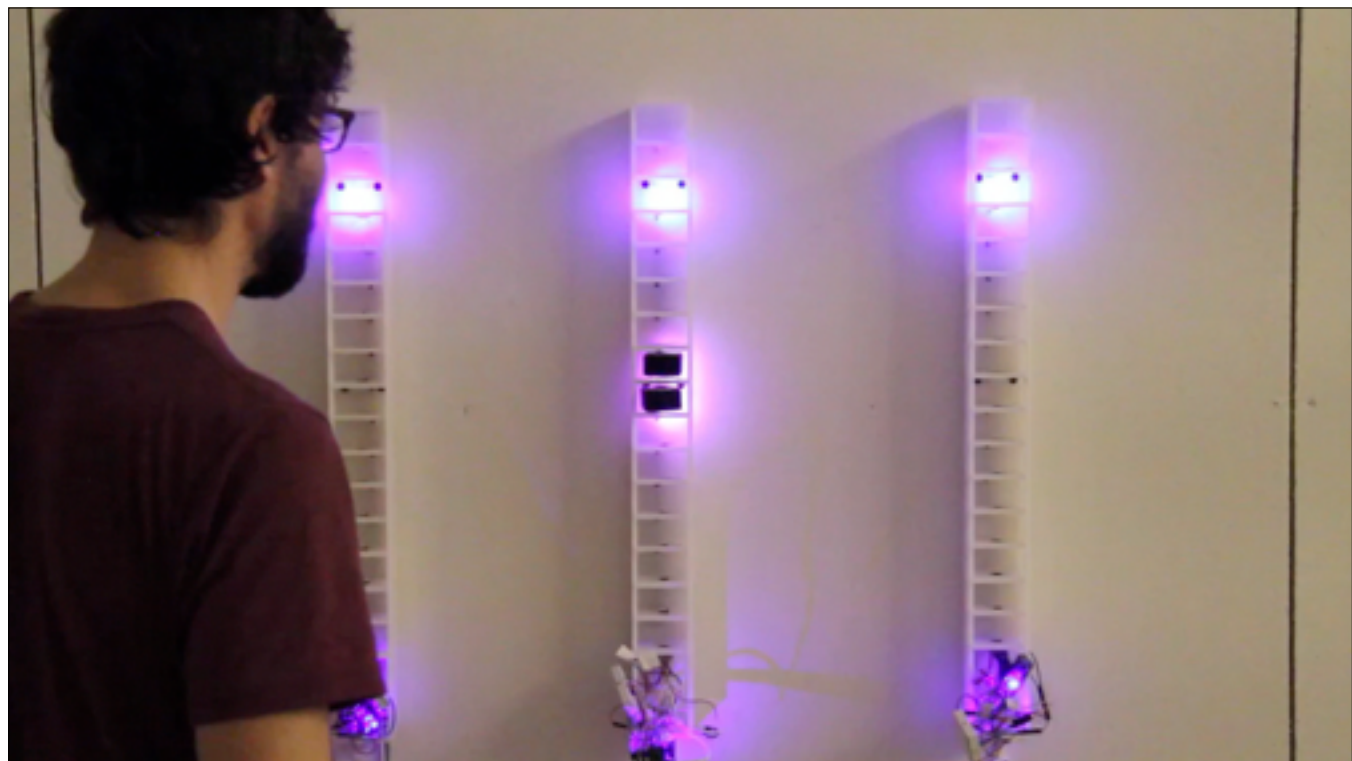
## Sequencing Marbles

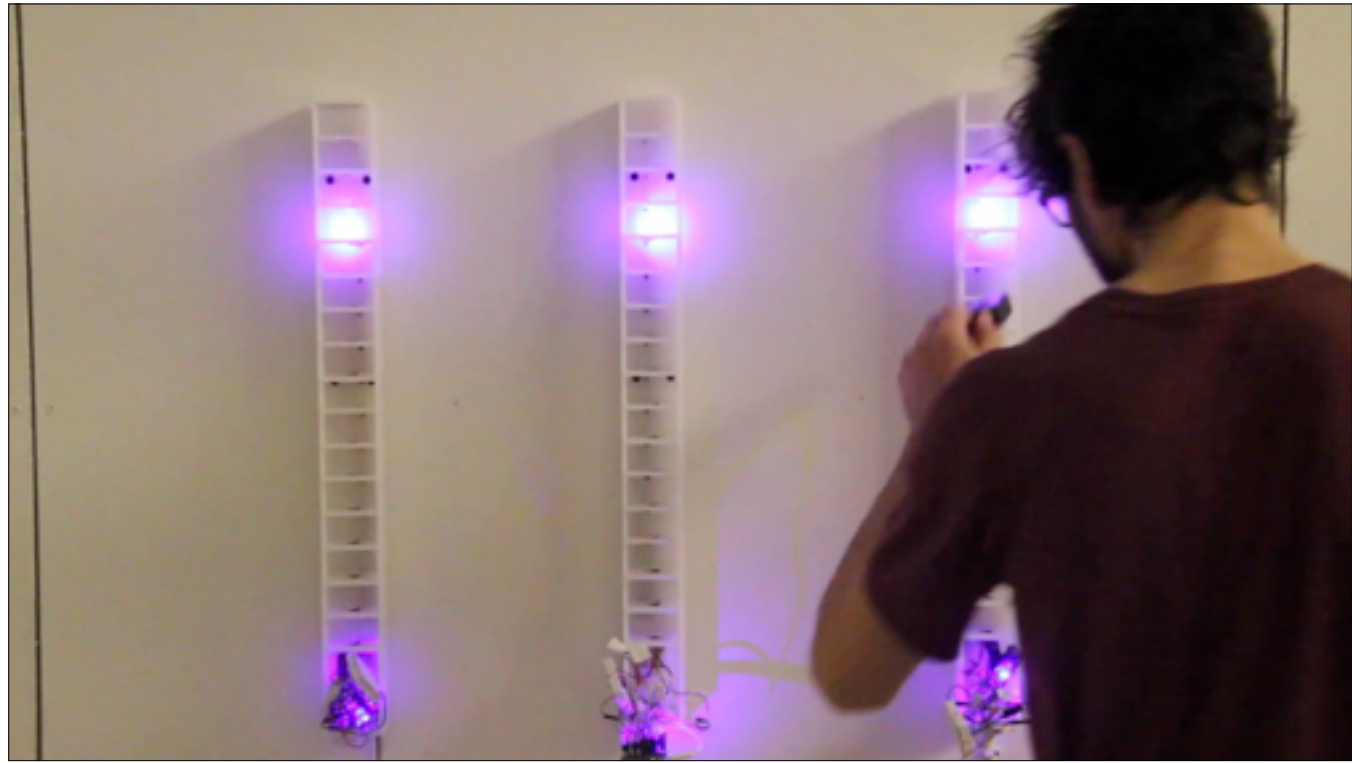






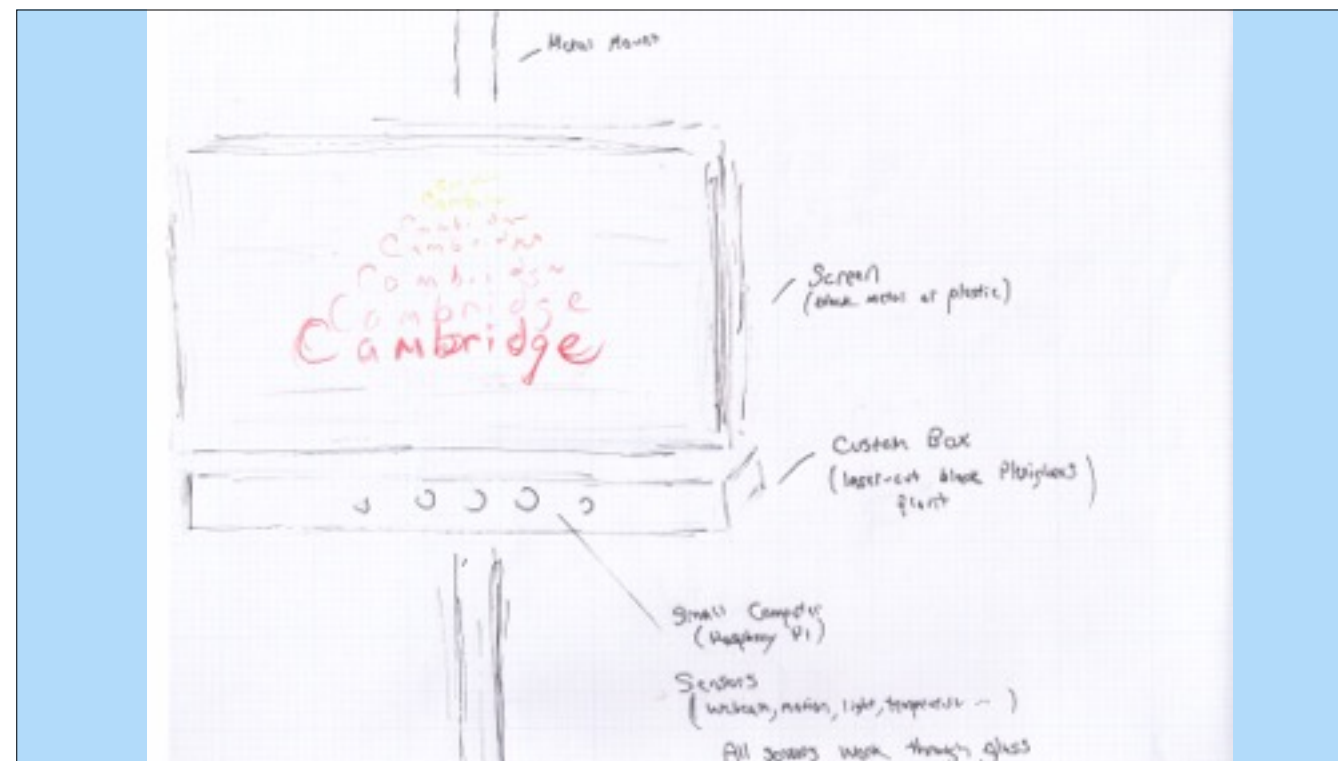






Future Works

# Art Screen Project





# "Mirror" Abstractions

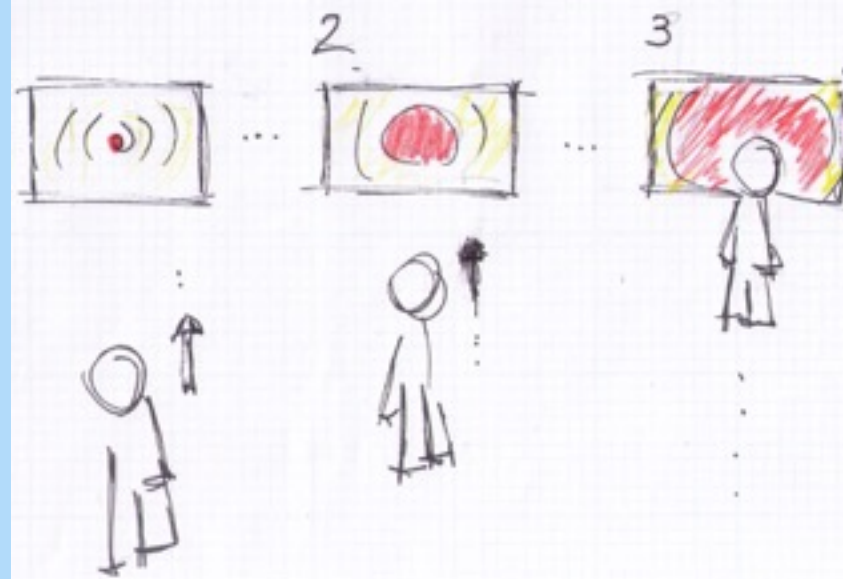




# Motion Sensing Messages



# Proximity (closeness) Interactions



Time of Day  
Color Fields



```
say -v andrew "thank you."
```

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Extra Slides



LEGOs  
the modular building block  
modular construction

=====  
reference

Overly long video of my brilliant adorable children playing with Legos.  
<https://www.youtube.com/watch?v=zJ-zdogOctw>