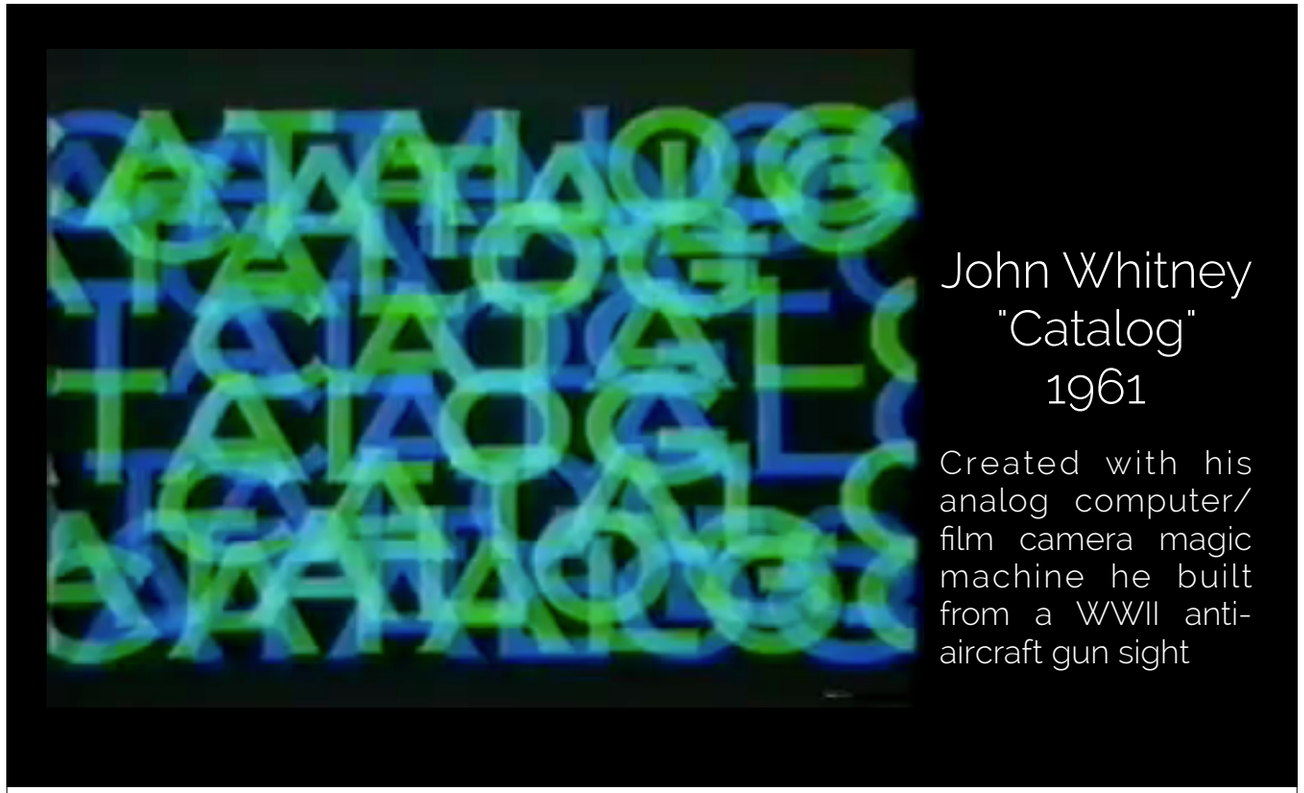
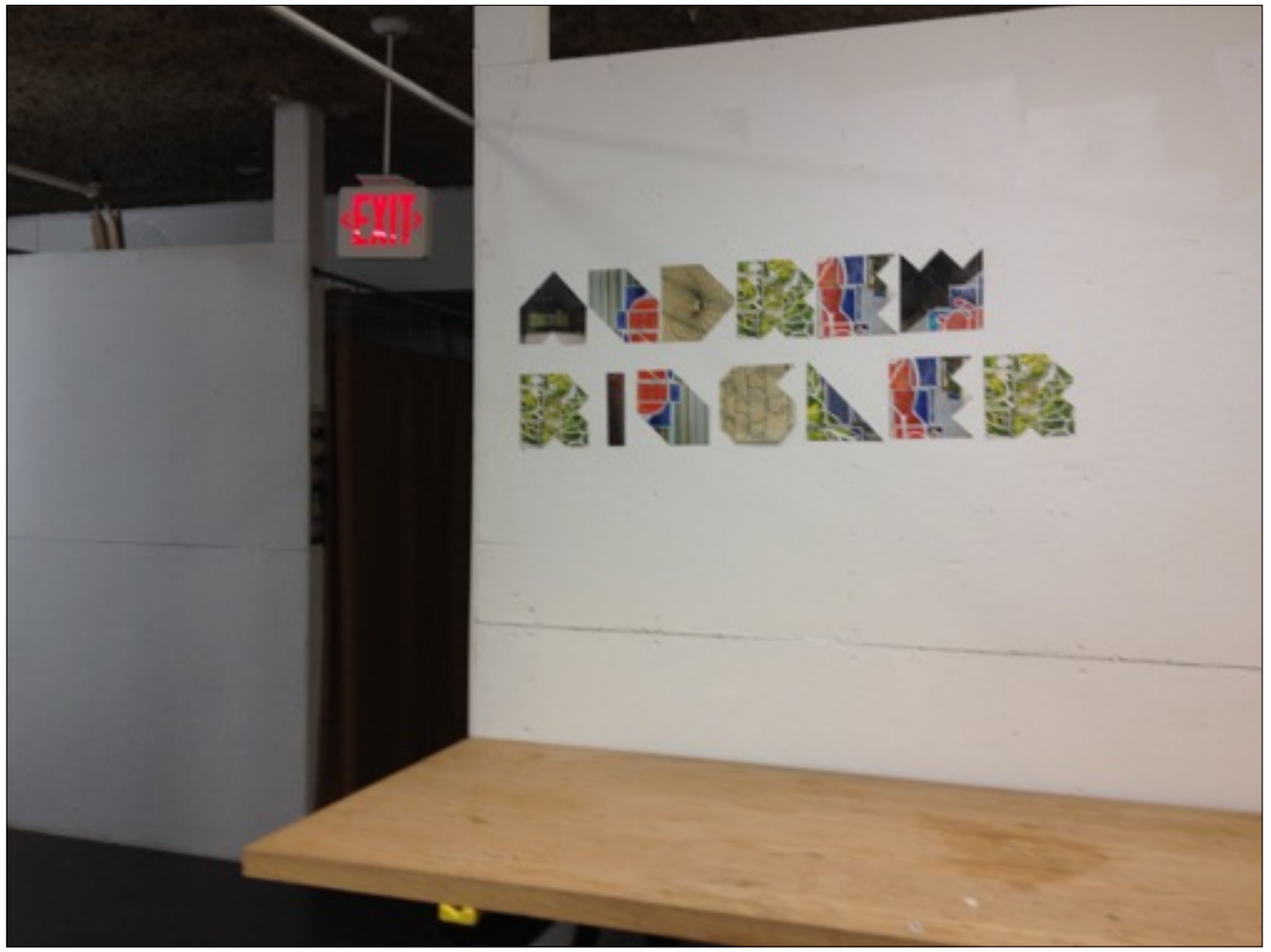


Andrew Ringler - Artist Talk / Scratch

John Whitney's demo reel of work created with his analog computer/film camera magic machine he built from a WWII anti-aircraft gun sight. Also Whitney and the techniques he developed with this machine were what inspired Douglas Trumbull (special fx wizard) to use the slit scan technique on 2001: A Space Odyssey

https://www.youtube.com/watch?v=TbV7loKp69s



So, first a little bit about me, Andrew Ringler.

I was a programmer for some time, user experience designer.

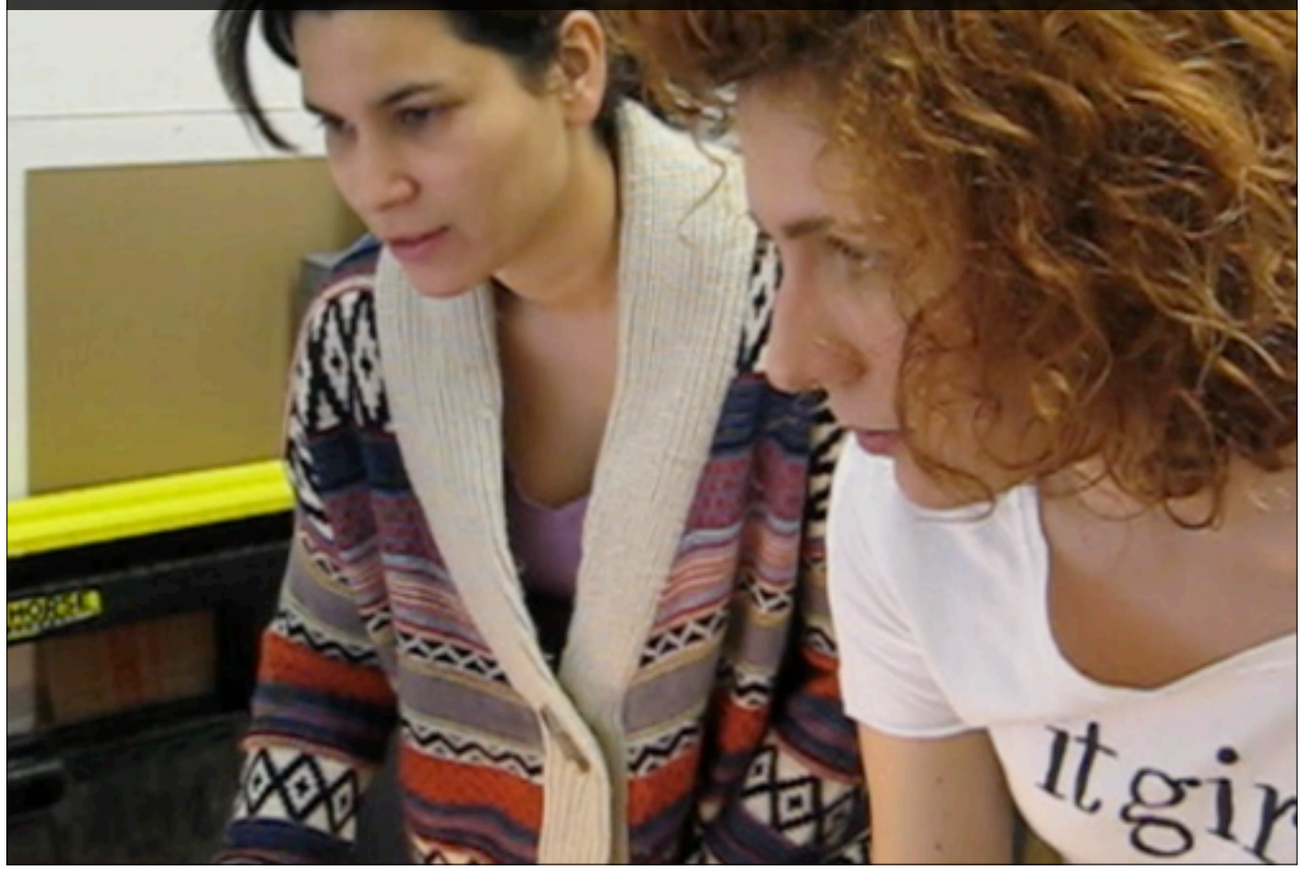
I do Improv.

Which means I can stand on a stage with 2 chairs.

I often make charcoal drawings

I make short films.

Draw Blocks



I make interactive, tactile & collaborative digital art

[play video]

I created a project called Draw Blocks, consisting of a table with 2 surfaces allowing participants to collaborate on a single digital drawing by moving wooden blocks, building up complex operations, like scaling, rotation grouping, grids and color mixing.

I will be installing Draw Blocks at Fresh Media in May and I hope that through the shared experience of learning something new & collaborating on creation, 2 strangers might feel a connection to one another and possibly empathy towards each other.

Over the next hour I challenge you to:
- learn what I did at DMI
- and why I did it
- and also have fun,
  I mean create fun (and have it too)

So, please structure this presentation so that you may accomplish those things.

Oh, right. You will help me make this presentation, thank you.
So, I am giving each of you two types of cards, topics and prompts which you will
use to create my presentation (I mean your presentation), I mean my presentation of your presentation

Michael Maloney —Play Me I'm Yours, Boston
#43 Post Office Sq "Let It Be"

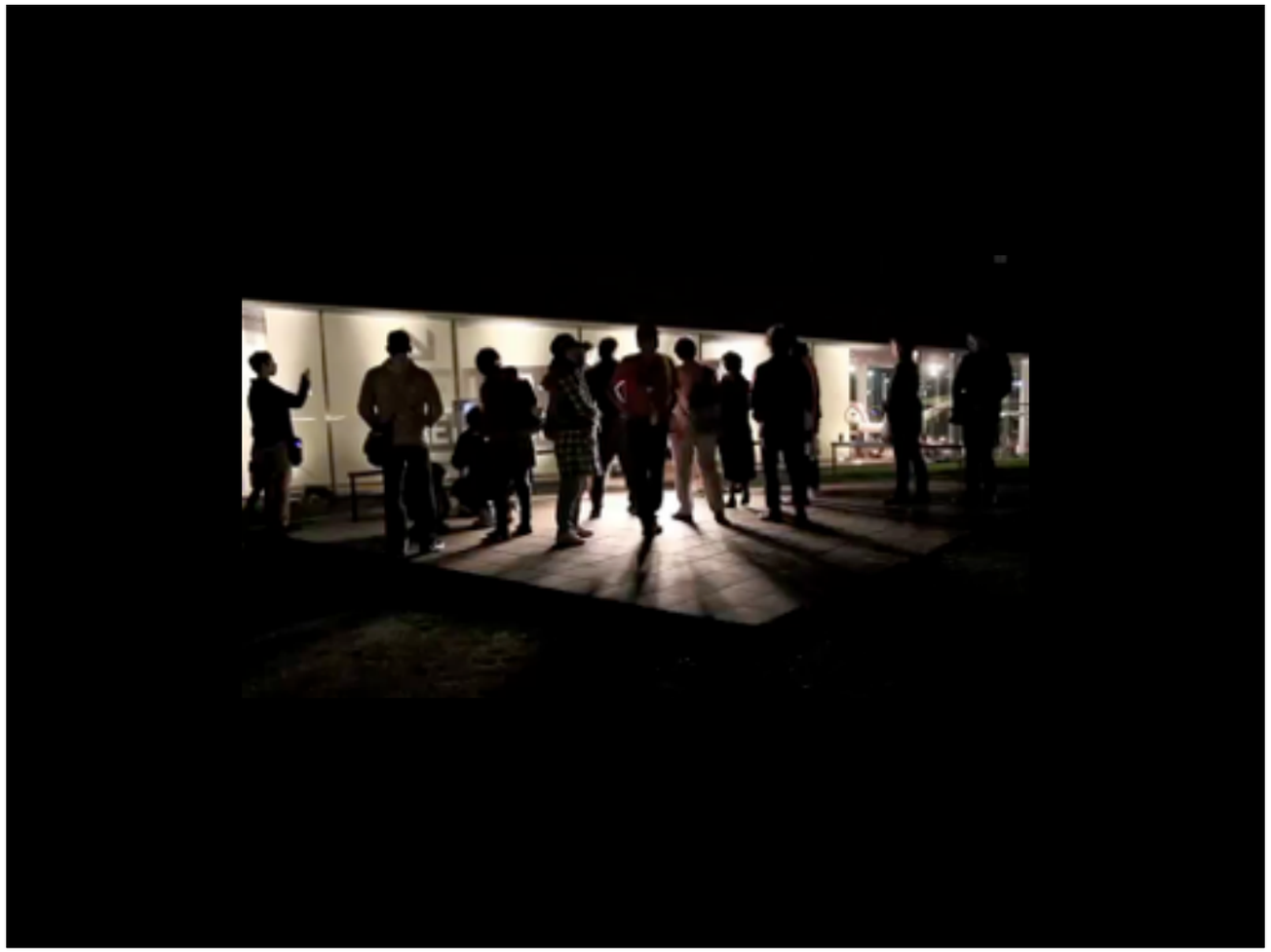
Luke Jerram's public piano installations.
Pianos installed on public sidewalks and squares act as gathering places for people.

and In additional to researching what has been done already

PlayMeImYoursBoston - #43 Post Office Sq "Let It Be"
Michael Maloney
https://www.youtube.com/watch?v=Yp2Ih96HQok

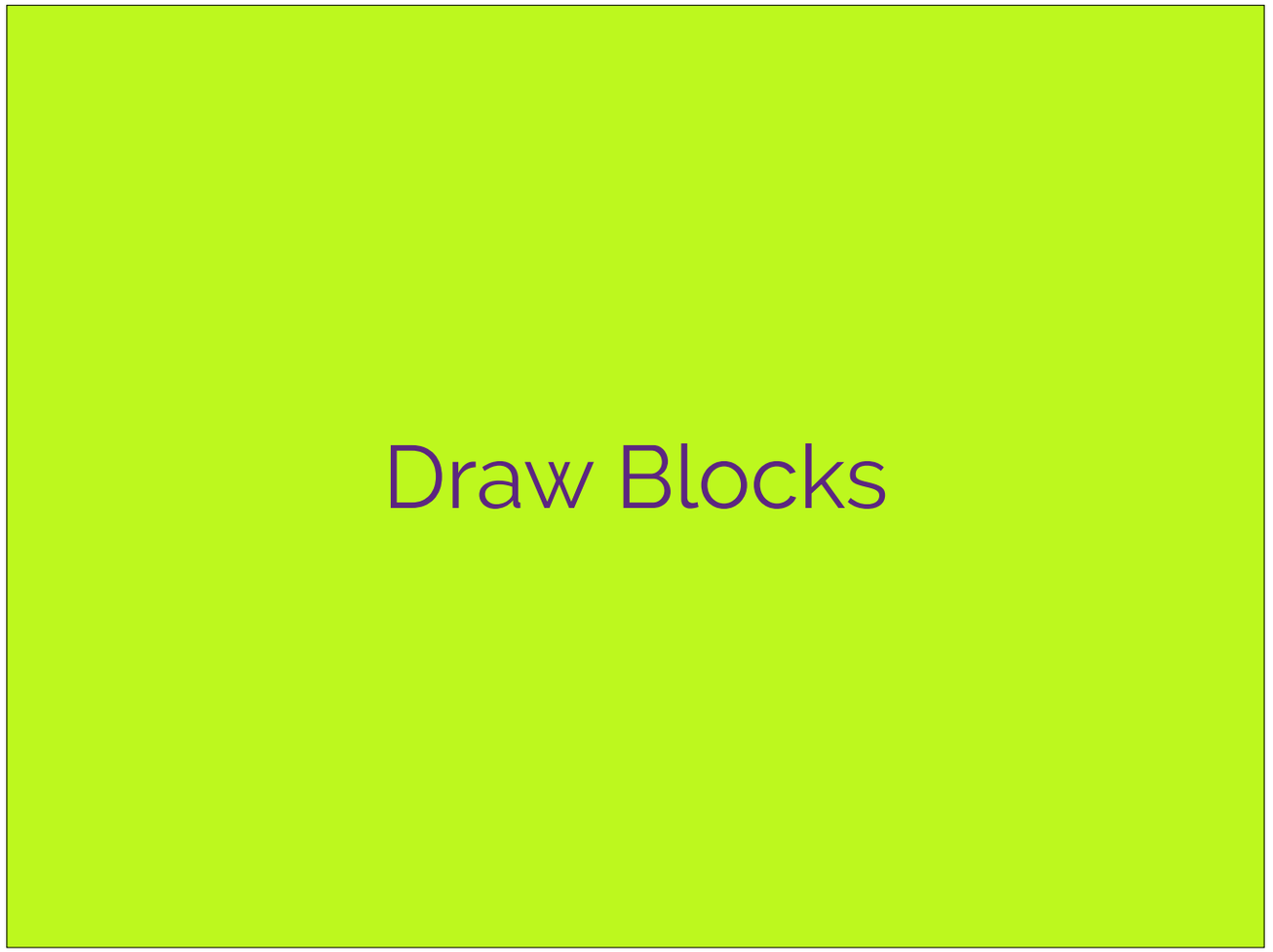
Play Me Im Yours Boston, The Beatles' "Let It Be" at Post Office Square/Normal Leventhal Park, different song at each piano, https://www.facebook.com/michaelmmusic (10/7/13 - 10/14/13)

Astor Place Cube



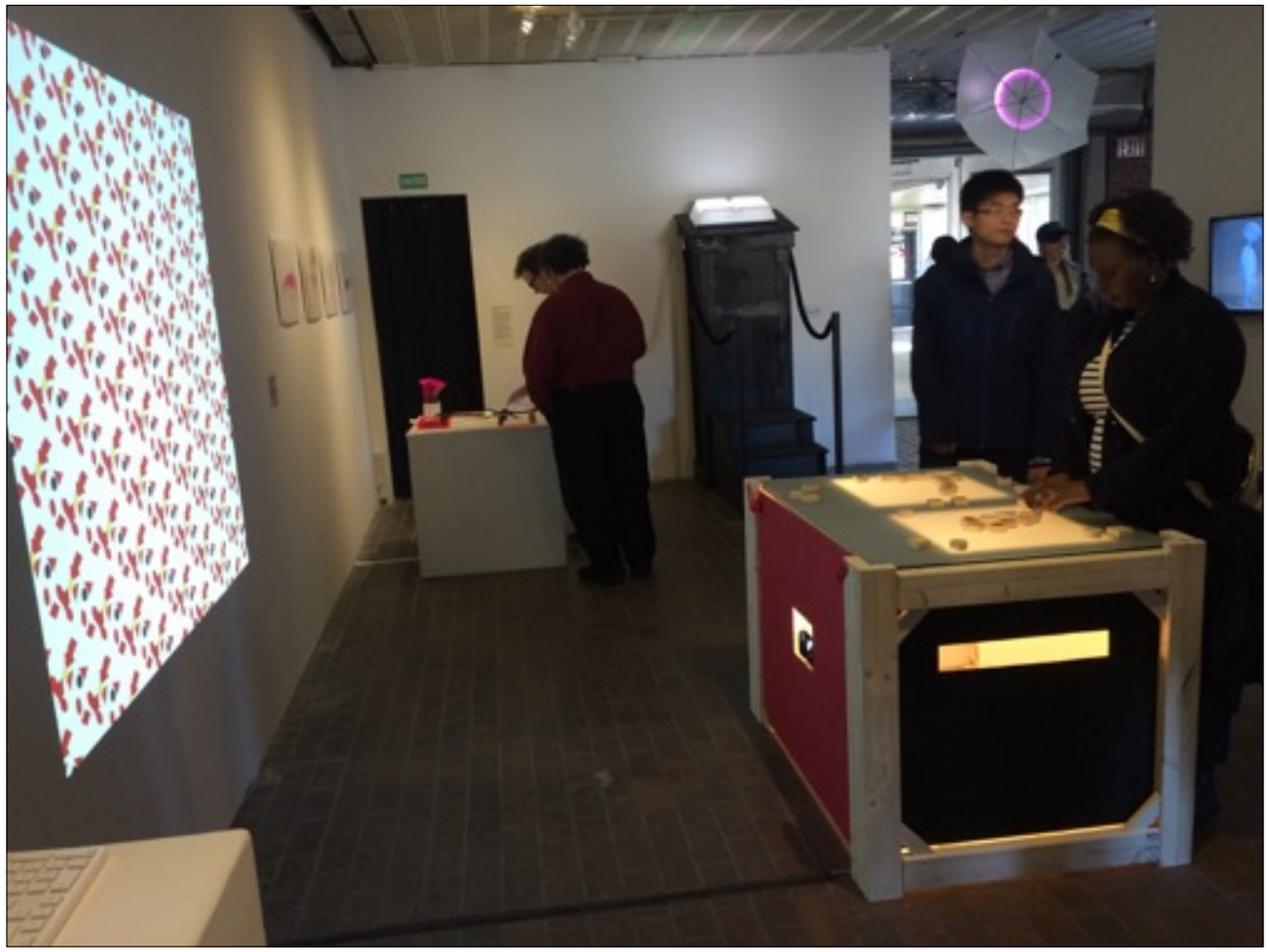
Light Music

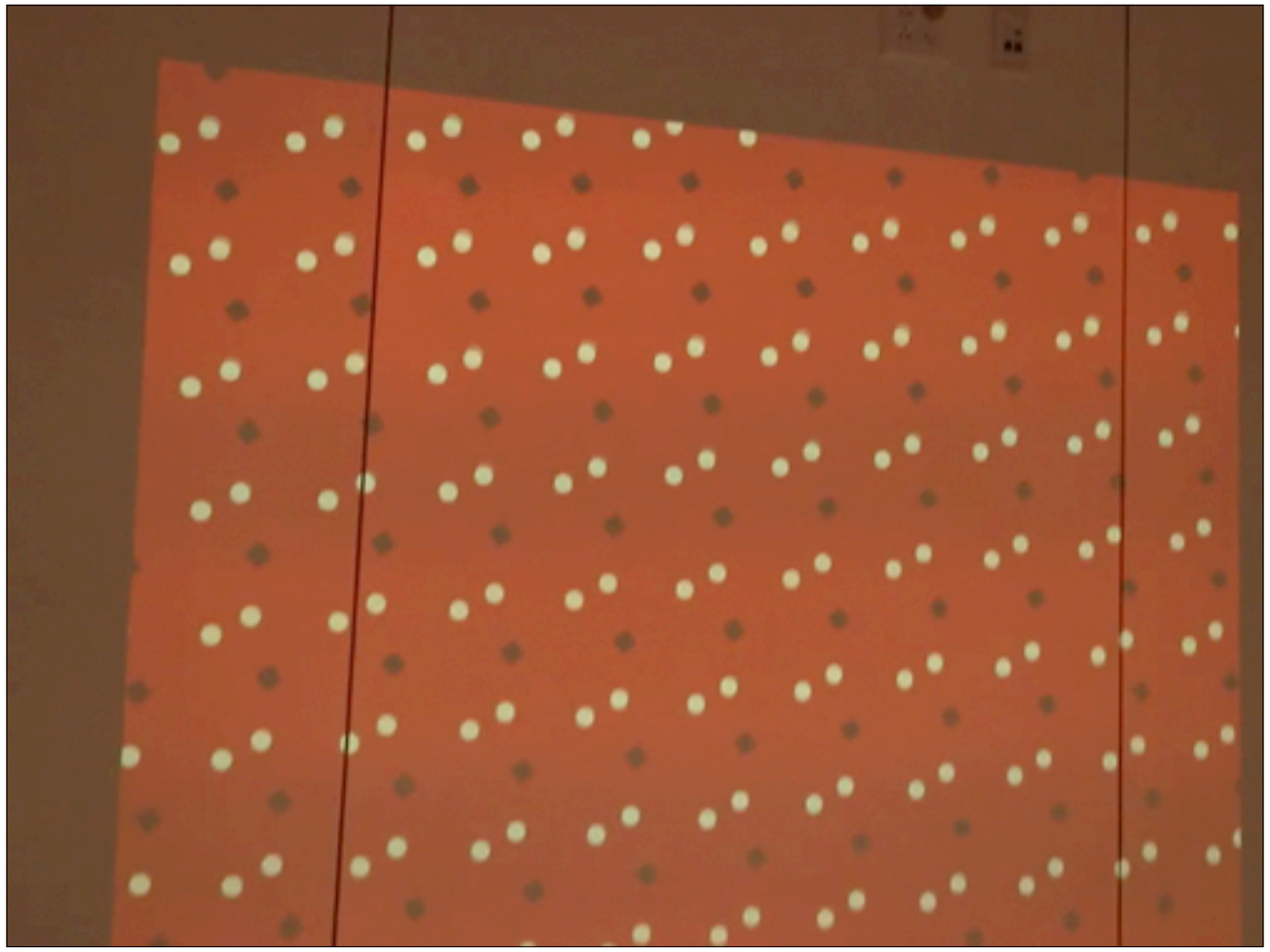
My Works

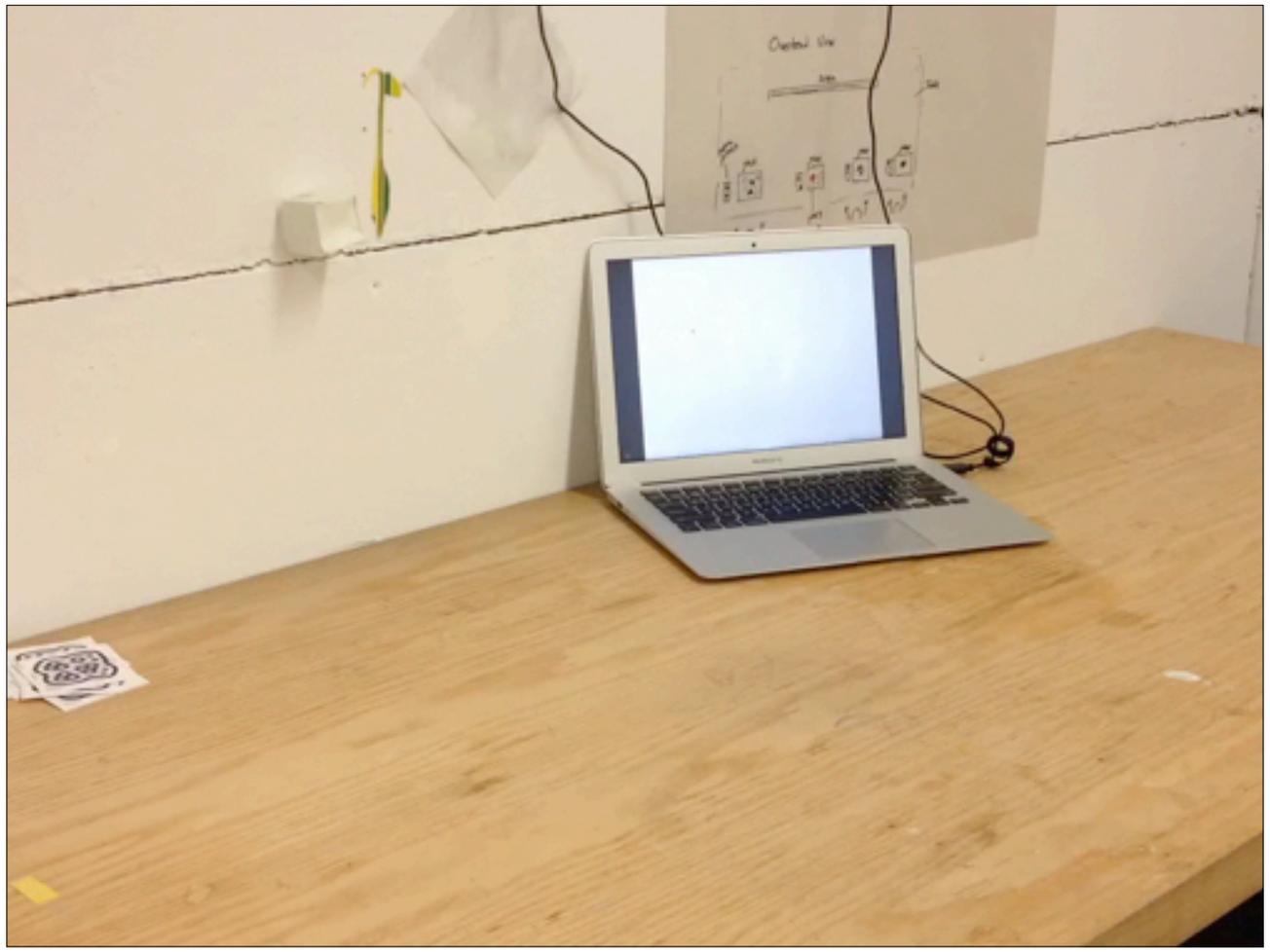


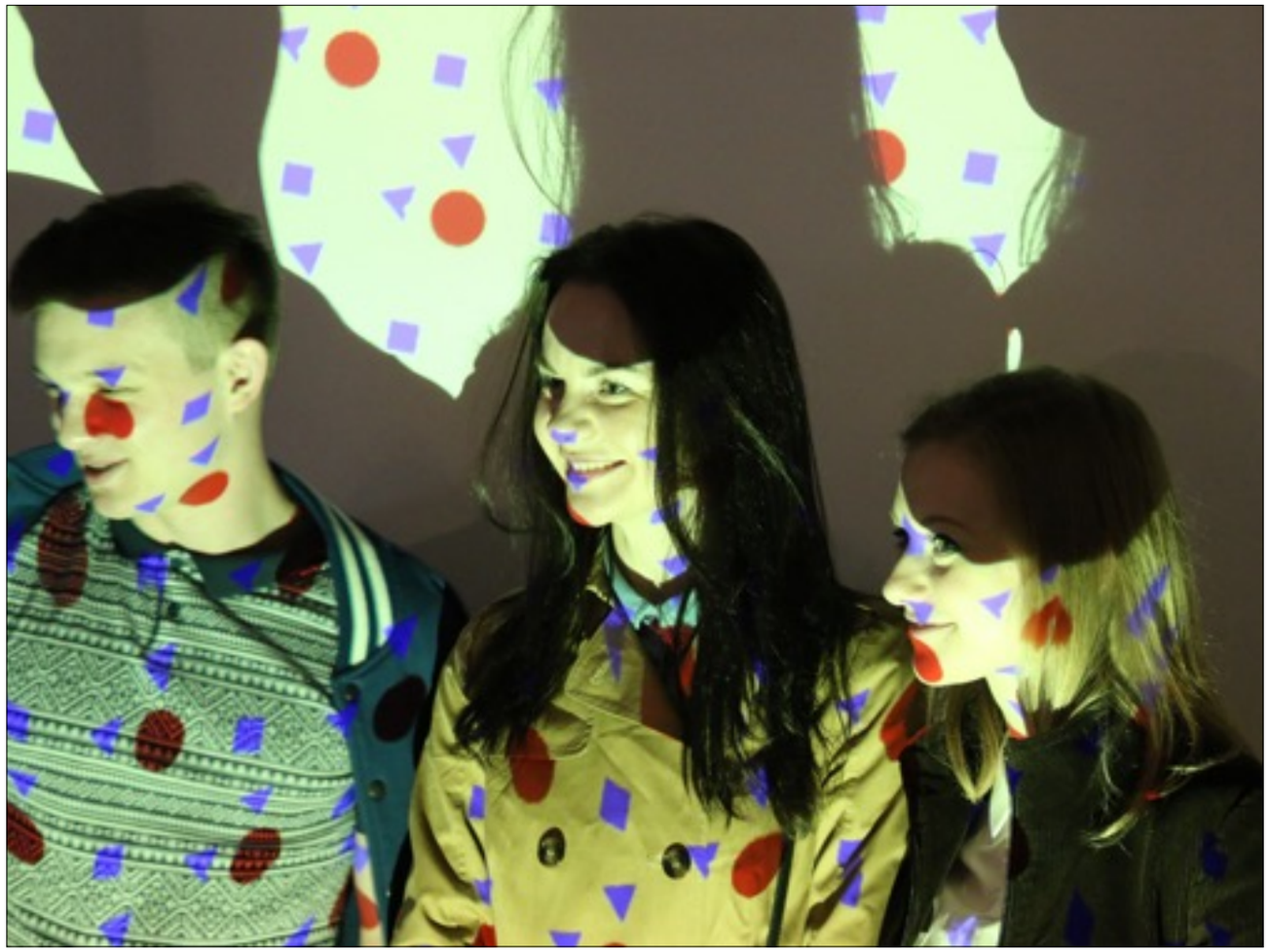
The themes of creation, collaboration, and learning tie together my thesis, the work examples within, and its philosophies of experience design.

The process of creating new things, new ideas, and new experiences is extremely fun, rewarding, and is an act of learning and personal growth. The projects in this thesis facilitate the process of creation by providing users with novel opportunities for collaborative creation.









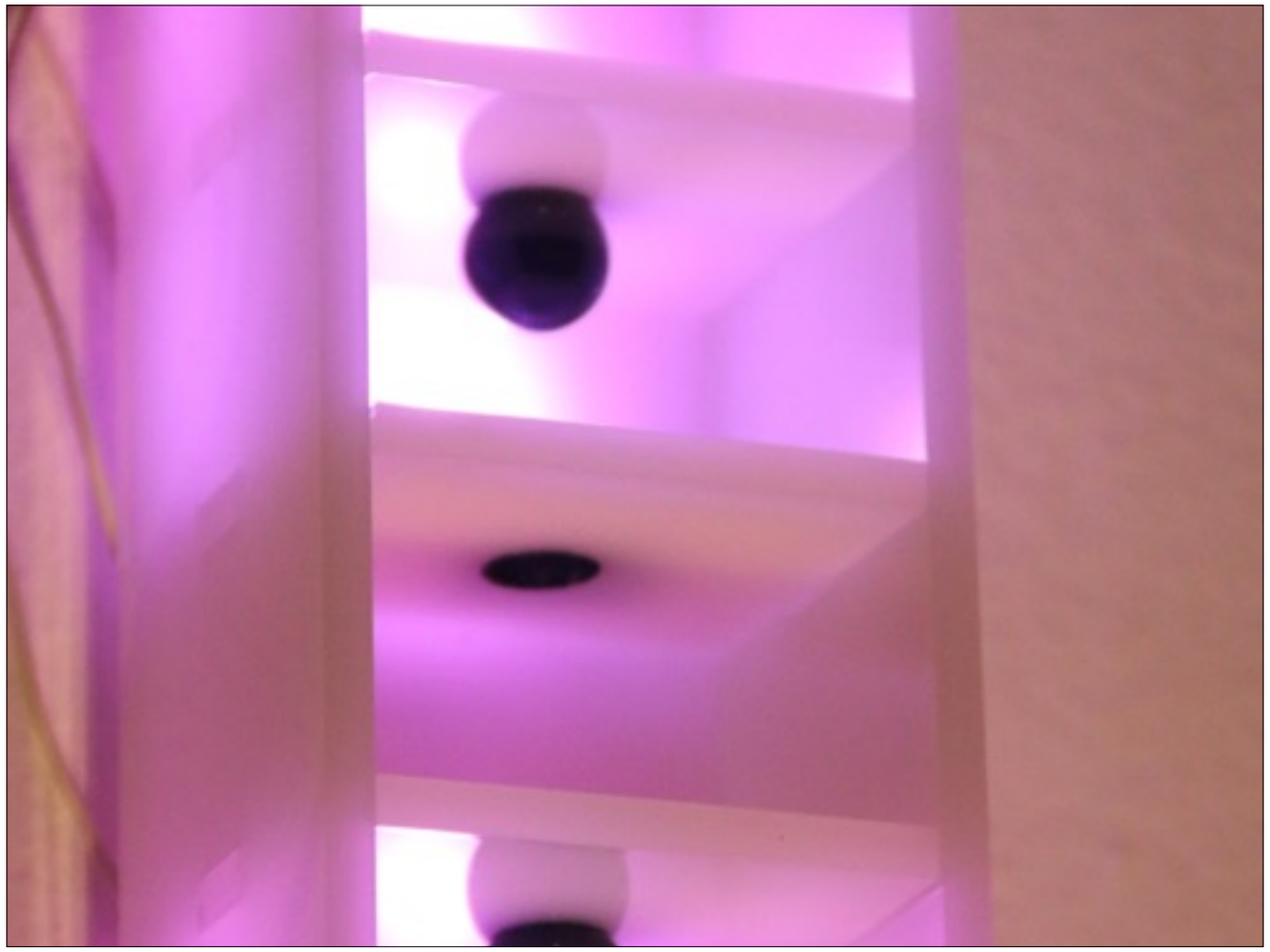
Macropavilion, Panama

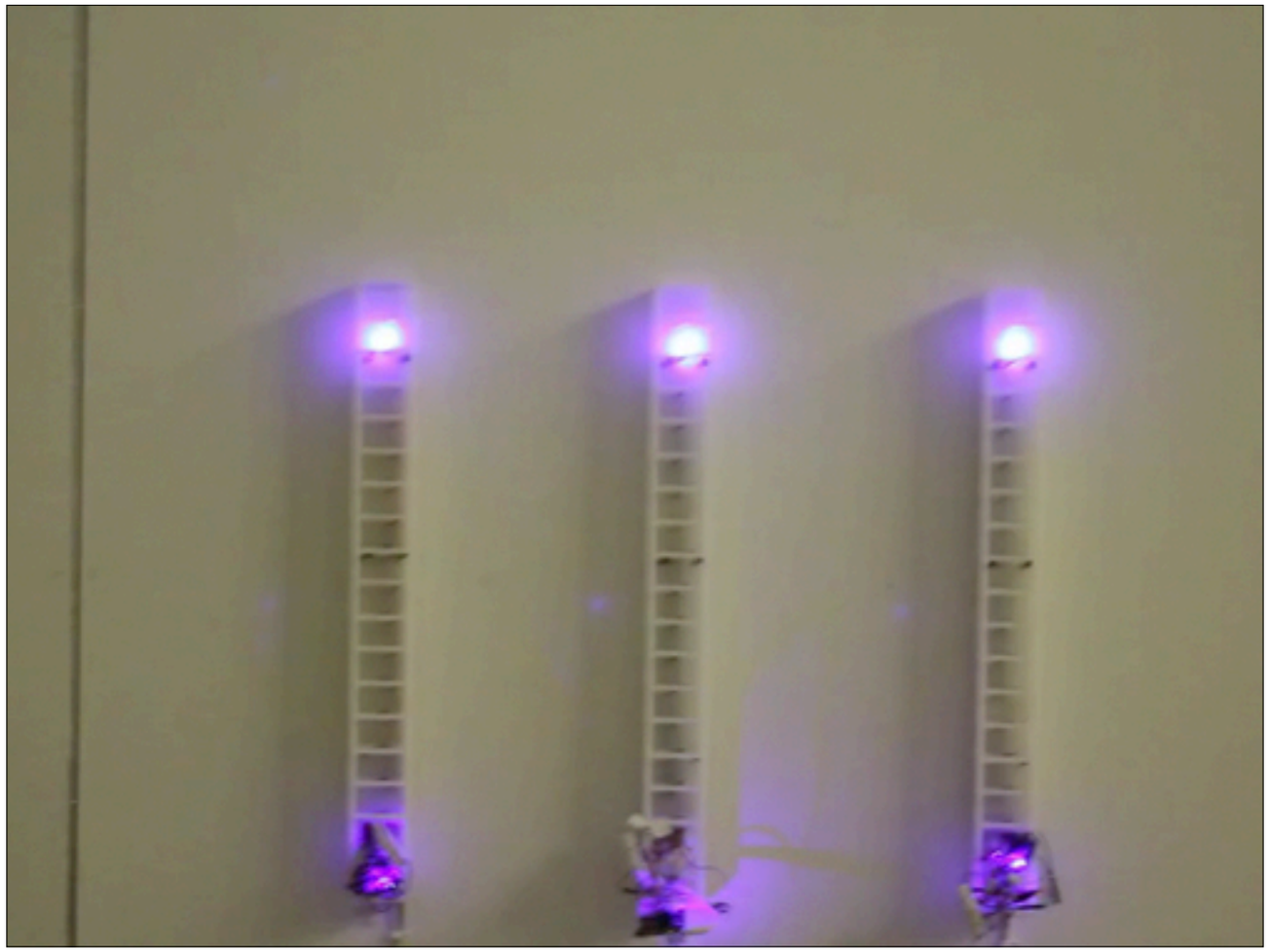

HUAWEI
HUAWEI

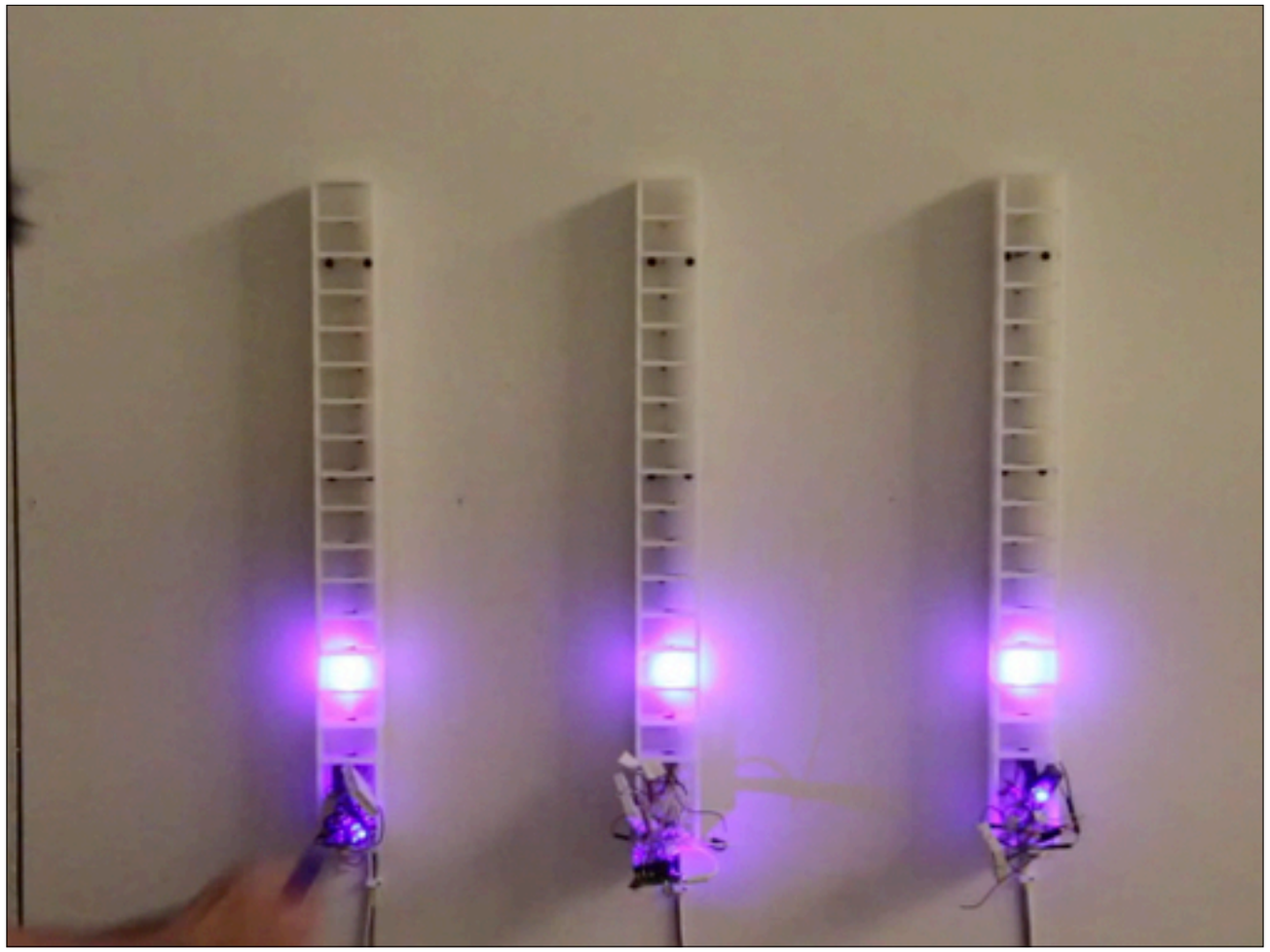

HUAWEI

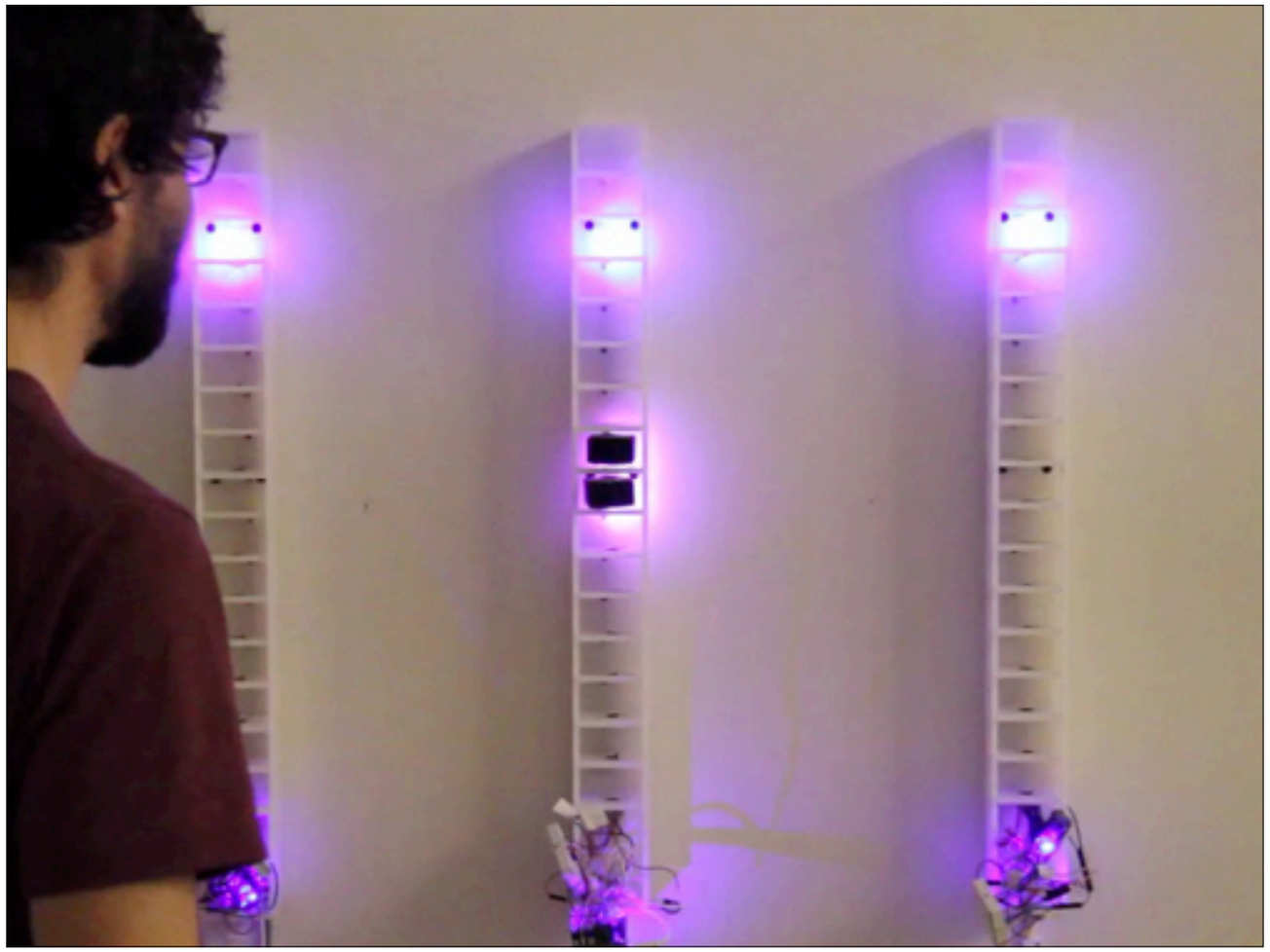

EMPRENDIMIENTO

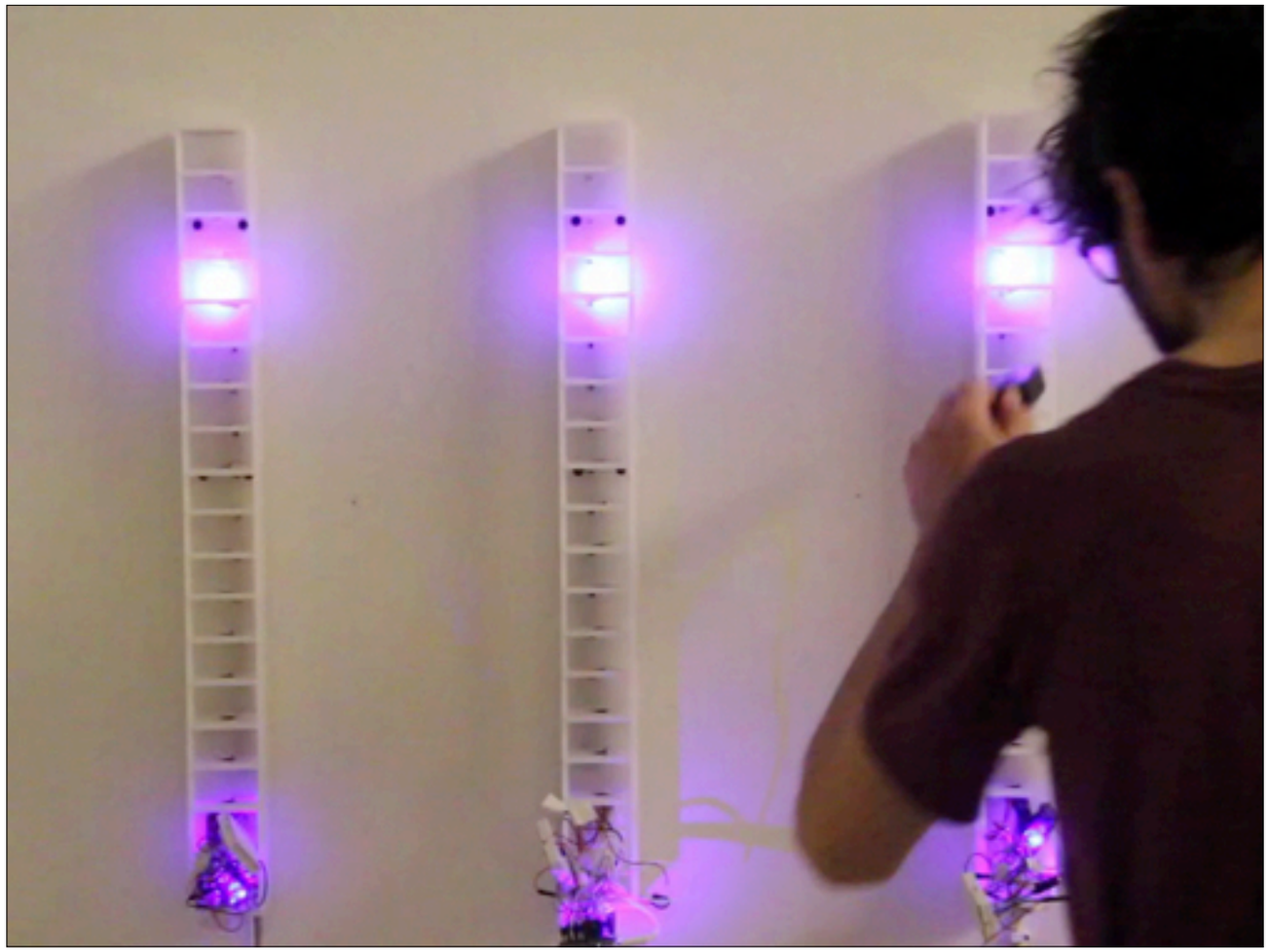
Sequencing











Programming for Art and Design

And all of these experiences and interests influence my work when I program to make art.

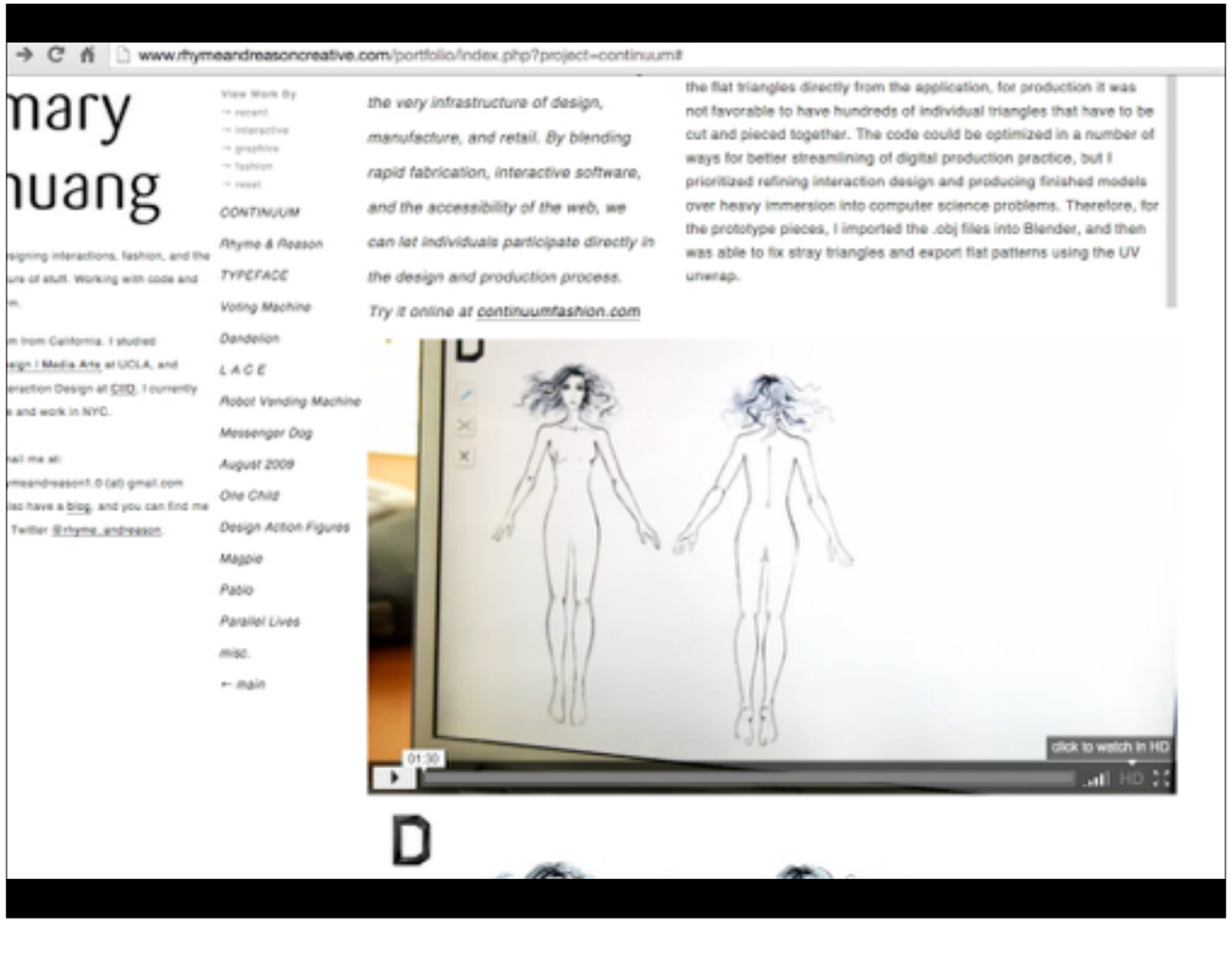
So. What do I mean by programming to make art.

Here are a few examples of art created through programming:

Kirk Israel - http://advent.kirk.is/

An interactive Animal Advent calendar created by Kirk Israel coded in Processing.js

http://advent.kirk.is/



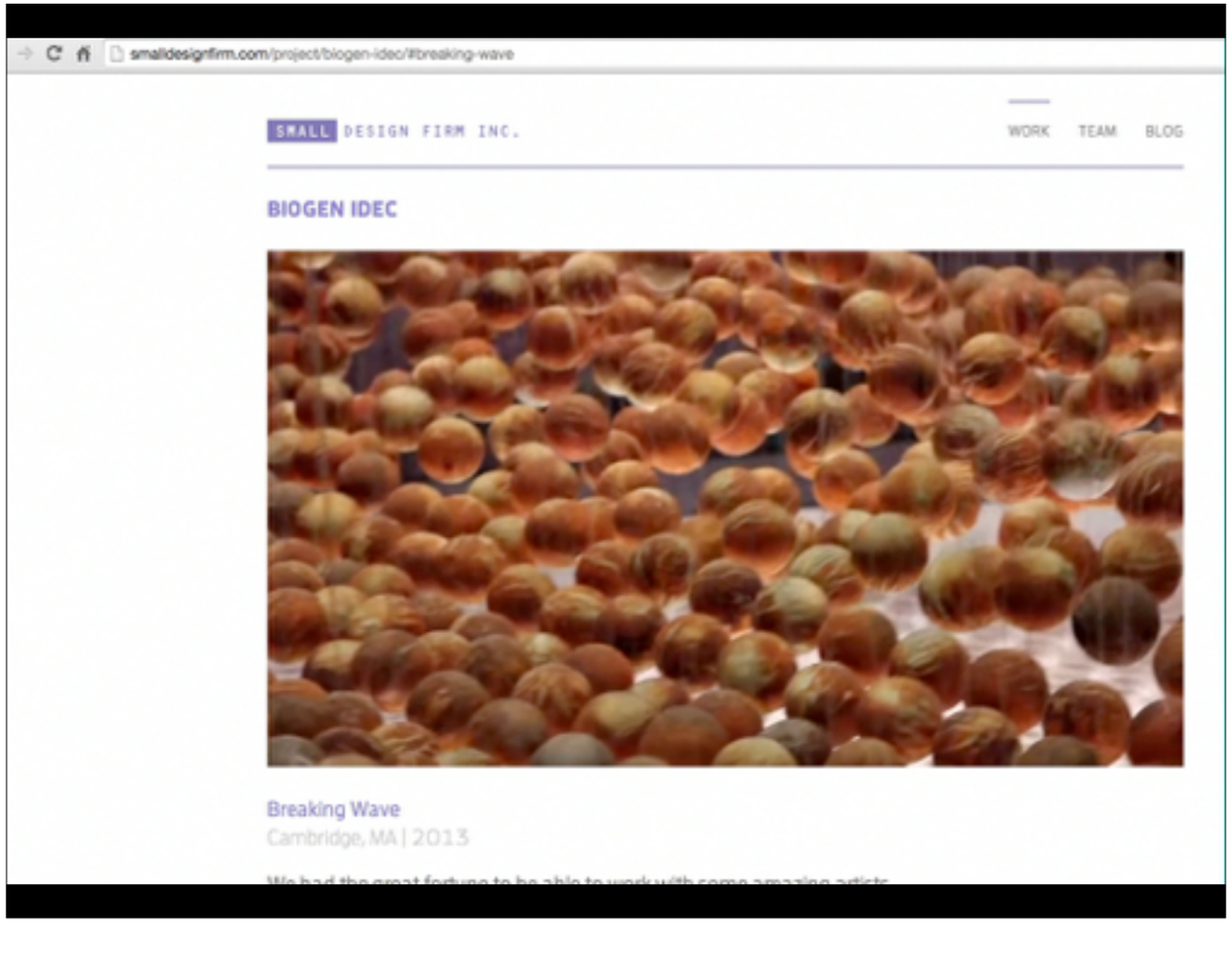
Interactive and algorithmic assisted dress generation by Mary Huang, written in Processing.

The software application was created in Processing. The generated dress models can be exported as .obj files. While you could export the flat triangles directly from the application, for production it was not favorable to have hundreds of individual triangles that have to be cut and pieced together. The code could be optimized in a number of ways for better streamlining of digital production practice, but I prioritized refining interaction design and producing finished models over heavy immersion into computer science problems. Therefore, for the prototype pieces, I imported the .obj files into Blender, and then was able to fix stray triangles and export flat patterns using the UV unwrap.

http://www.rhymeandreasoncreative.com/portfolio/index.php?project=continuum#

MIT media lab branding by TheGreenEyl and E Roon Kang made in Processing.

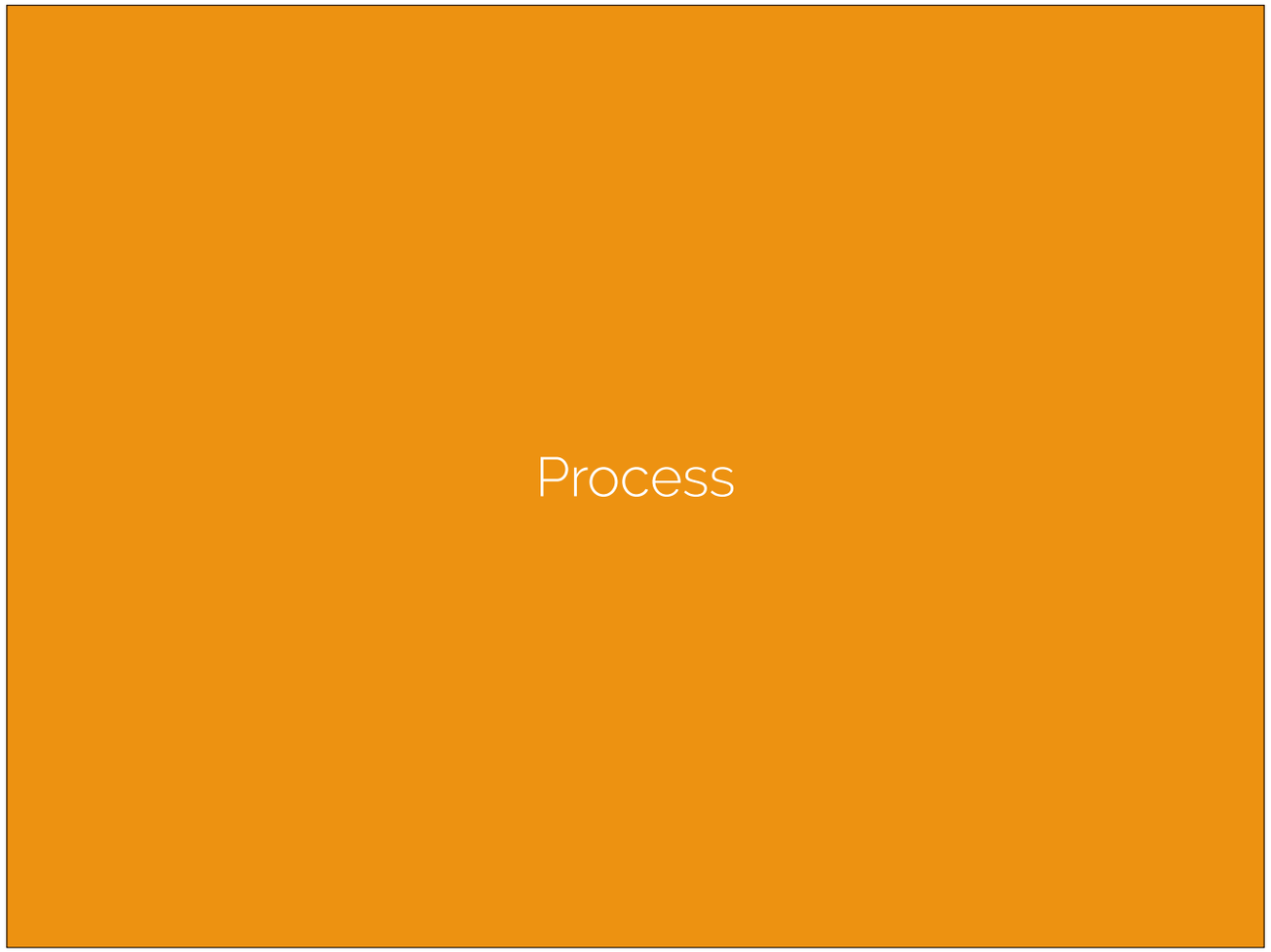
The new visual identity of the MIT Media Lab inspired by the community it comprises: Highly creative people from all kinds of backgrounds come together, inspire each other and collaboratively develop a vision of the future.



Small Design Firm, Plebian Design and Hypersonic Engineering for the Biogen IDEC headquarters lobby

http://www.hypersonic.cc/projects/breakingwave

http://smalldesignfirm.com/project/biogen-idec/#breaking-wave



And I will show you what a creative process looks like while coding. Ok. So how do we do this? First we start with some tools.

So just as an artist working with paints has his tools. Paints, paintbrush, palette, canvas. So does an artist working in code need tools.

http://upload.wikimedia.org/wikipedia/commons/e/e9/Brush_and_watercolours.jpg

Frieder Nake, 'Hommage à Paul Klee 13/9/65 Nr.2', 1965. Museum no. E.951-2008. Given by the American Friends of the V&A through the generosity of Patric Prince

So early programmed art was written in the same computer languages as software for business and science. Frieder Nake in 1965 wrote a program to send commands to a plotter, so here is one such output.

http://dada.compart-bremen.de/item/artwork/414
http://www.vam.ac.uk/content/articles/a/computer-art-history/

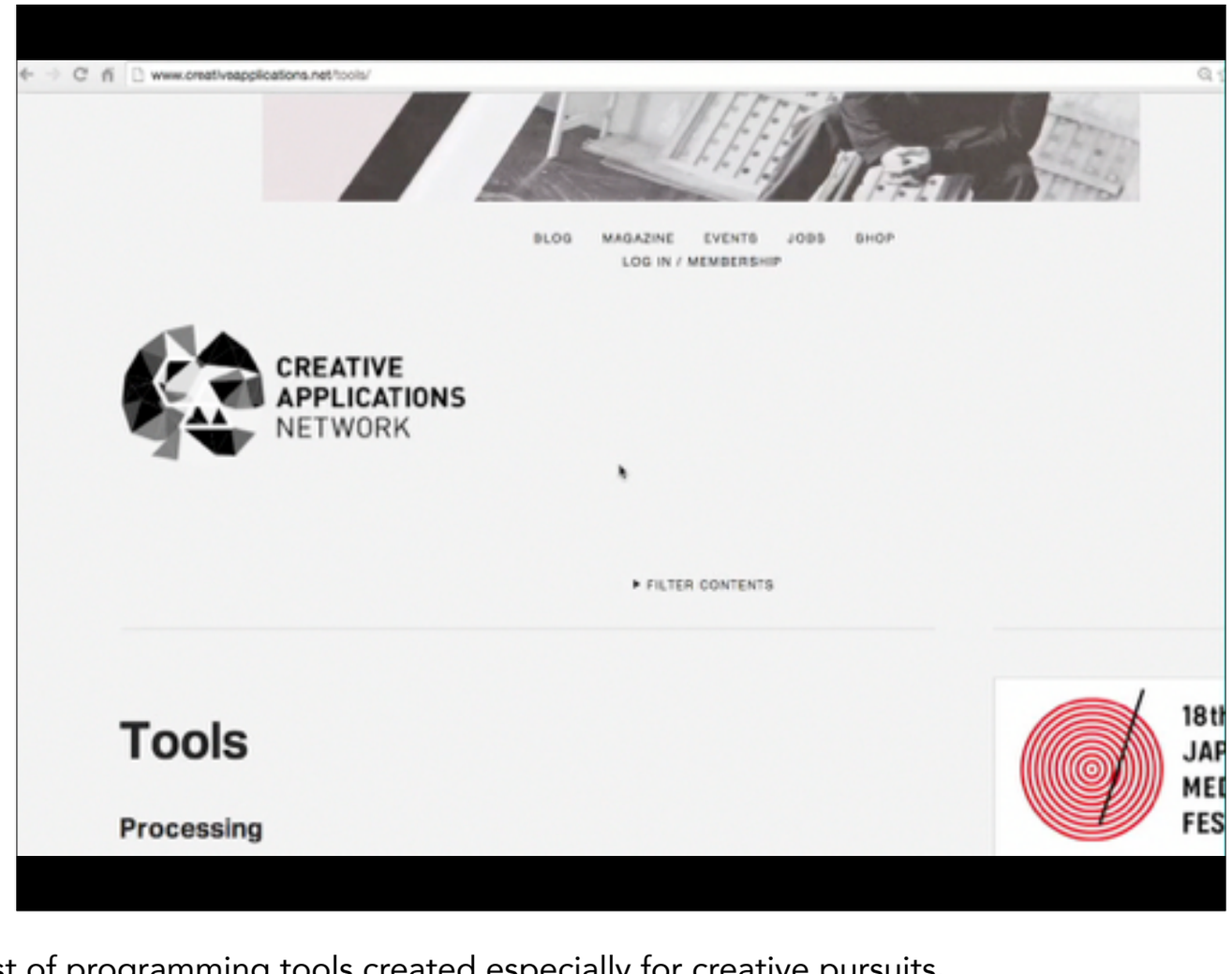
Symbolic instructions	Instructions in machine code	Storage addresses for the instructions
LS = > (1001)	1001 0 67	(0600)
0000 = > I 8	0000 8 91	(0601)
(1001) = > A	1001 0 41	(0602)
-> (1002/8) + A	1002 8 45	(0603)
I 8 + 0001	0001 8 93	(0604)
I 8 ? 0049	0049 8 98	(0605)
-- S, ≠	0603 0 14	(0606)
A = > (0610)	0610 0 42	(0607)
(0610) = > LS	0610 0 69	(0608)
Stop !	7900 0 00	(0609)
	0000 0 00	(0610)
	9999 9 99	(0611)
	9999 9 99	(0612)

So Nake wrote his program on the ER56 and his program would have looked something like this in 1965.

But for artists today we have a much easier time than digital artists did 50 years ago. Not only have program languages become easier to use, but we have languages designed especially for artists and their needs.

We state it first in symbolic language and then in the code Script of the "ER 56." In the third column we note the addresses in which we want to store each program instruction. We start by selecting an address at random; it turns out to be address (0600). We could take any other address; our computer has plenty of them.

http://www.lauftext.de/cybernetic-computer/language.htm



createapplications.net has a short list of programming tools created especially for creative pursuits.

So here we have:

Processing, Openframeworks, Cinder, vvvv (v4), MaxMSP, Pure Data, SuperCollider, QuartzComposer, NodeBox, Polycode, Three.js, Processing.js, Paper.js, d3 and Raphael

http://www.creativeapplications.net/tools/

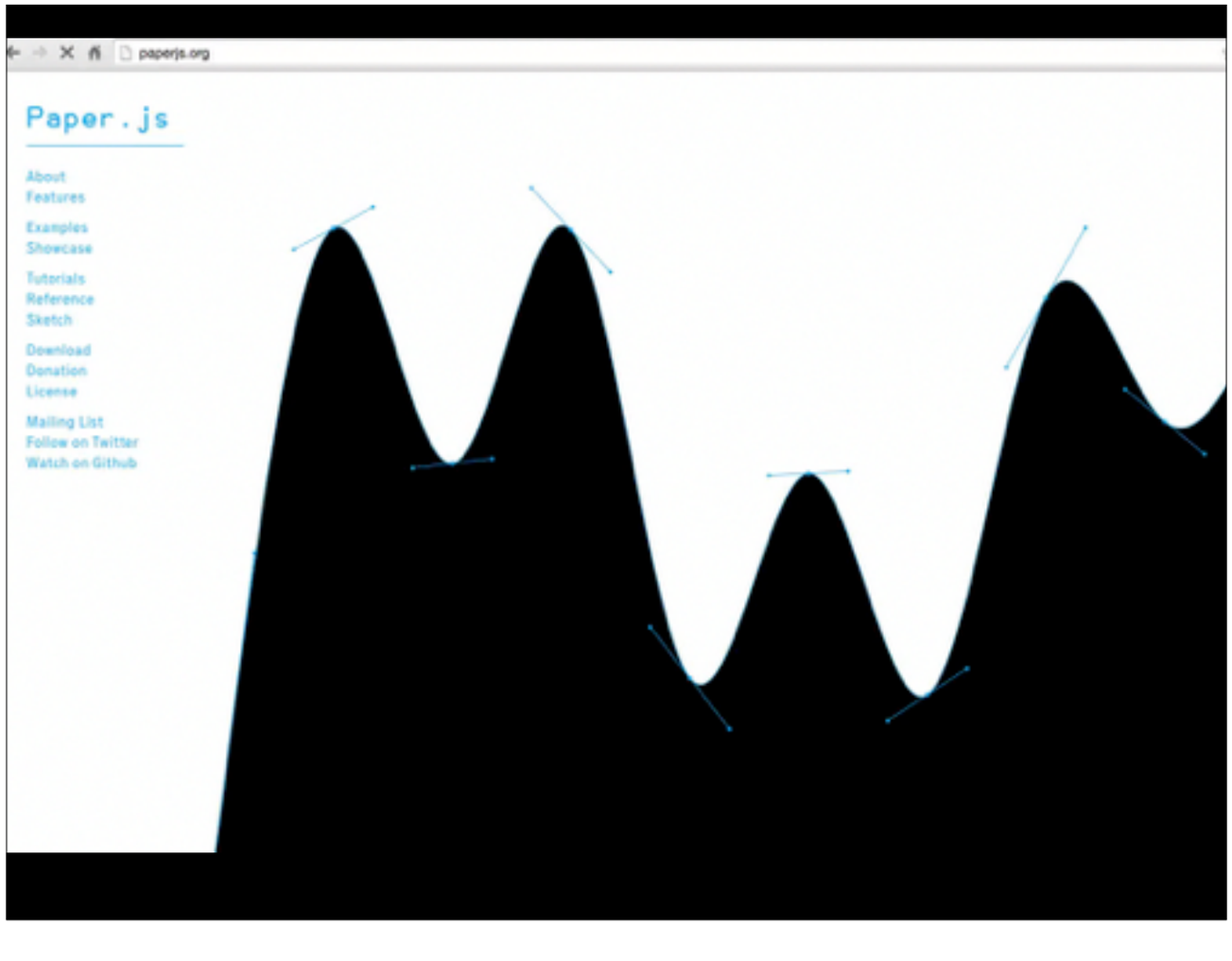
Software for Creative Programming

Processing / Processing.js / P5JS
Openframeworks
Scratch
d3 / raphael
vvvv (v4), MaxMSP, Pure Data, SuperCollider
Cinder, QuartzComposer
Paper.js
Polycode, Three.js

resources:
http://hackingforartists.com/
http://www.creativeapplications.net/tools/

So each of these were created to make creative programming easier. But that is a large field, as we saw Art is a lot of things. So each system here is created by a programmer who has specific needs and desires, and each system here makes some things easier to accomplish and other things harder.

So I think the best way to get an idea for what a system is good for is to read the about page and look at their gallery of examples.



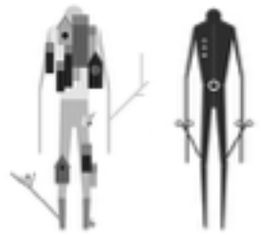
So here we have Paper.js

about: Paper.js is an open source vector graphics scripting framework that runs on top of the HTML5 Canvas. It offers a clean Scene Graph / Document Object Model and a lot of powerful functionality to create and work with vector graphics and bezier curves, all neatly wrapped up in a well designed, consistent and clean programming interface.

So lets look at the gallery

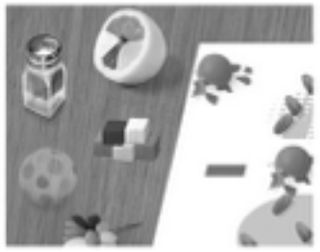
Paper.js

Showcase



Les métamorphoses de Mr. Kalia

This Google DevArt winner combines Paper.js with body tracking in wonderful ways.



NY Times: You Made That

The New York Times turned to Paper.js for this fun abstract art tool.

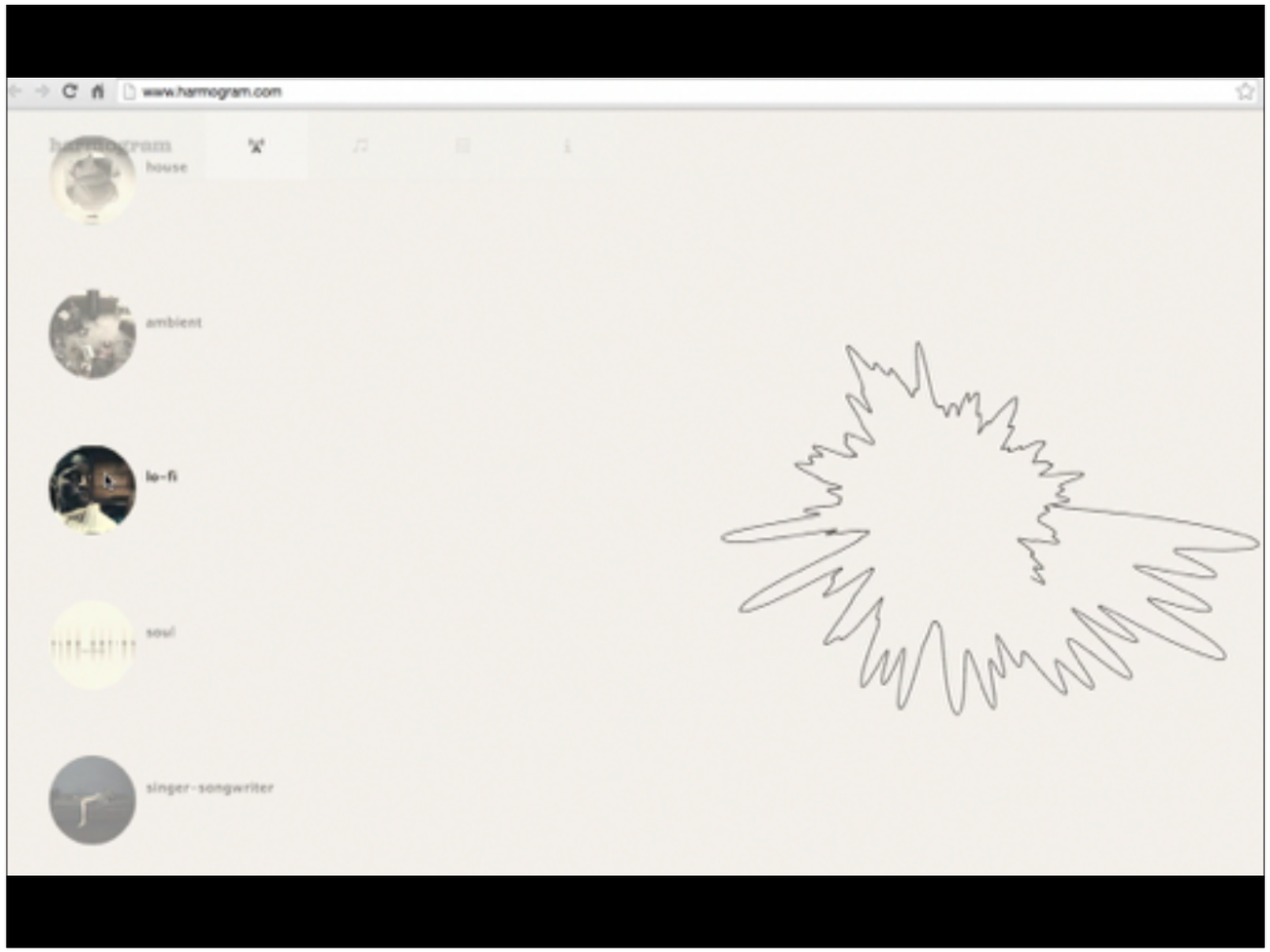
Foursquare's Timemachine

Four Square uses Paper.js to allow their users to visually relive their check-in history.

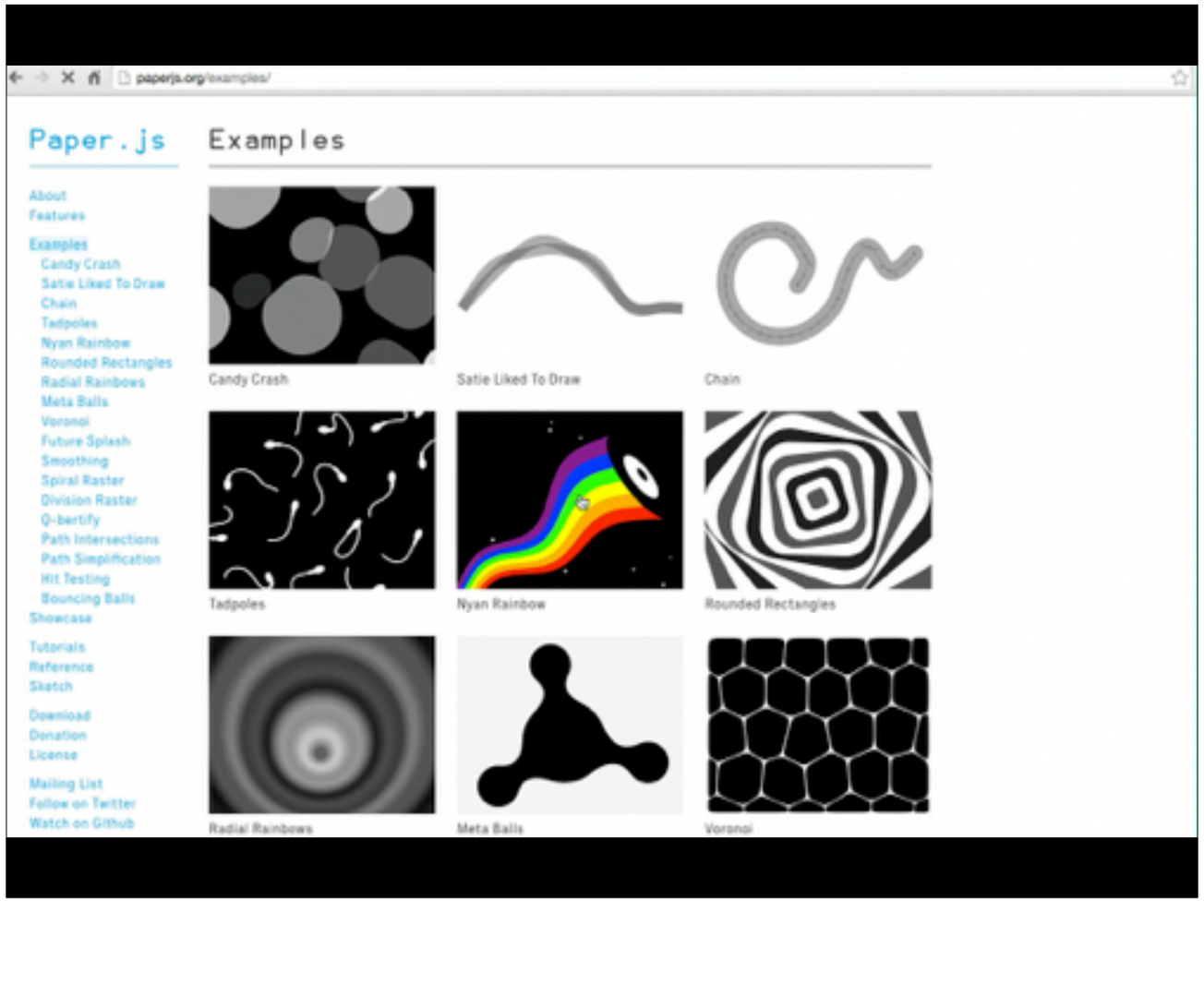
Google Chrome Racer

Turbulence

Kolber



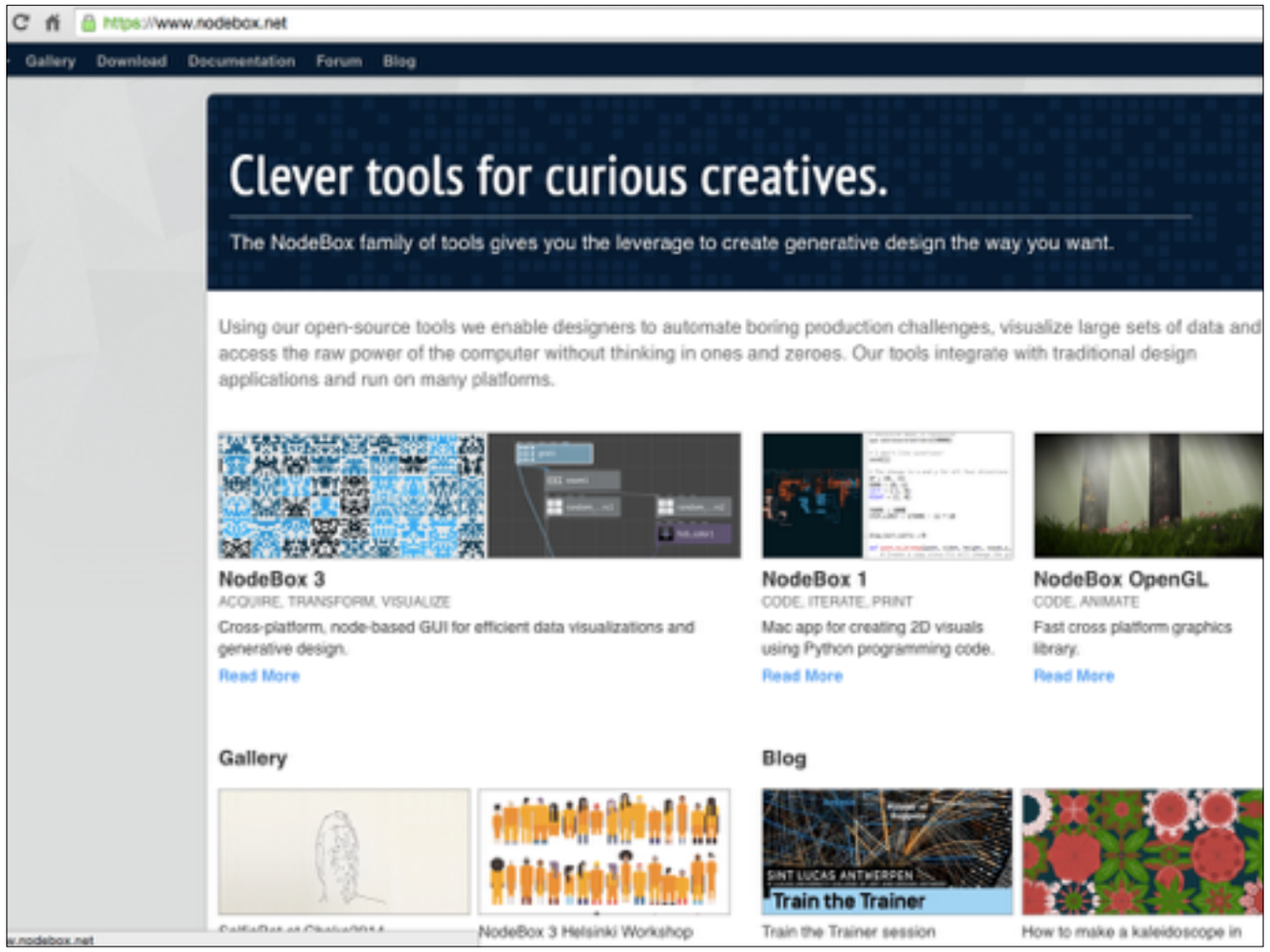
http://www.harmogram.com/ made in paper.js



Nyan rainbow

http://paperjs.org/examples/nyan-rainbow/

inspired by http://en.wikipedia.org/wiki/Nyan_Cat I suppose.

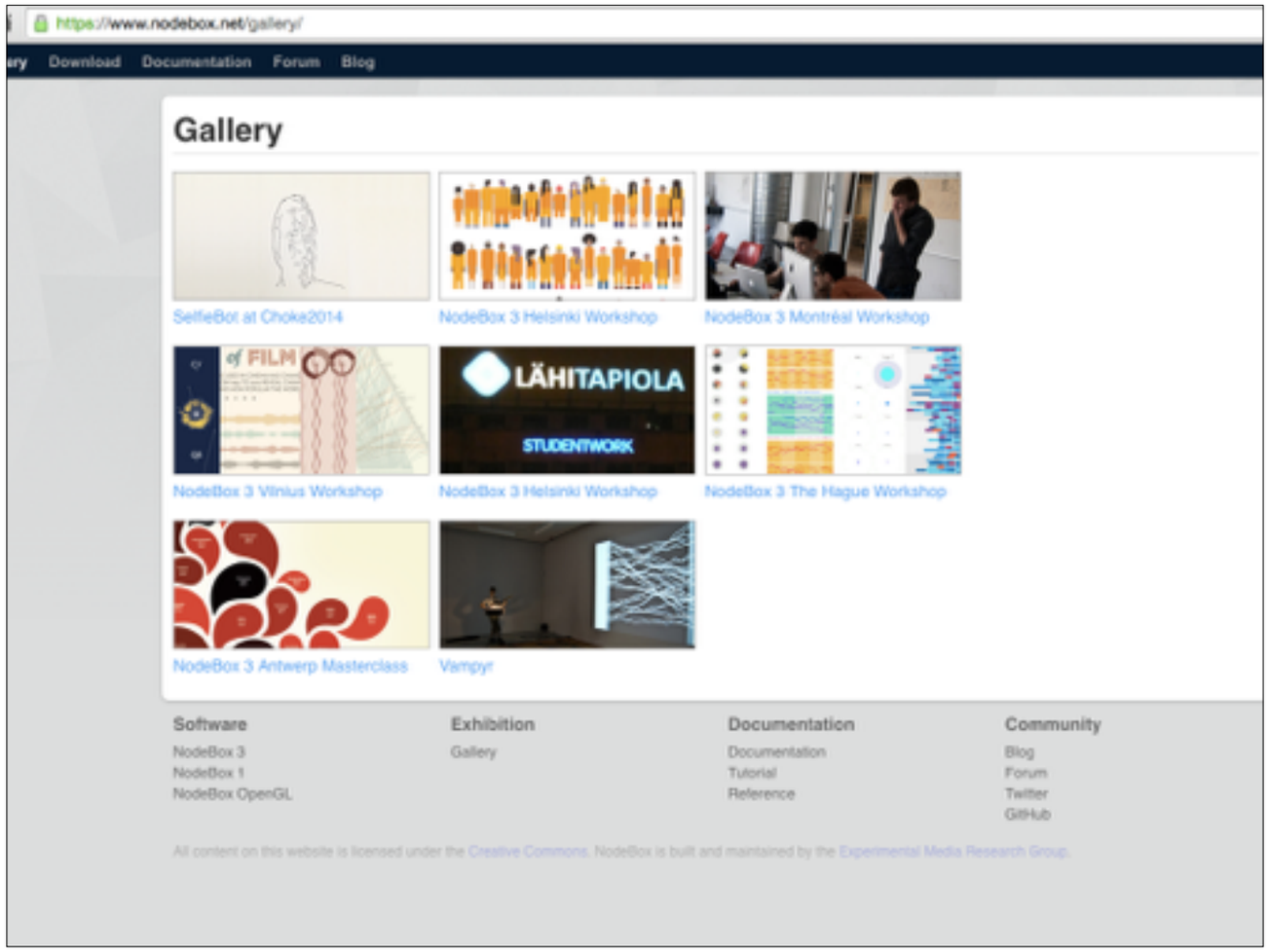


OK. Here is another. This one is called Nodebox.

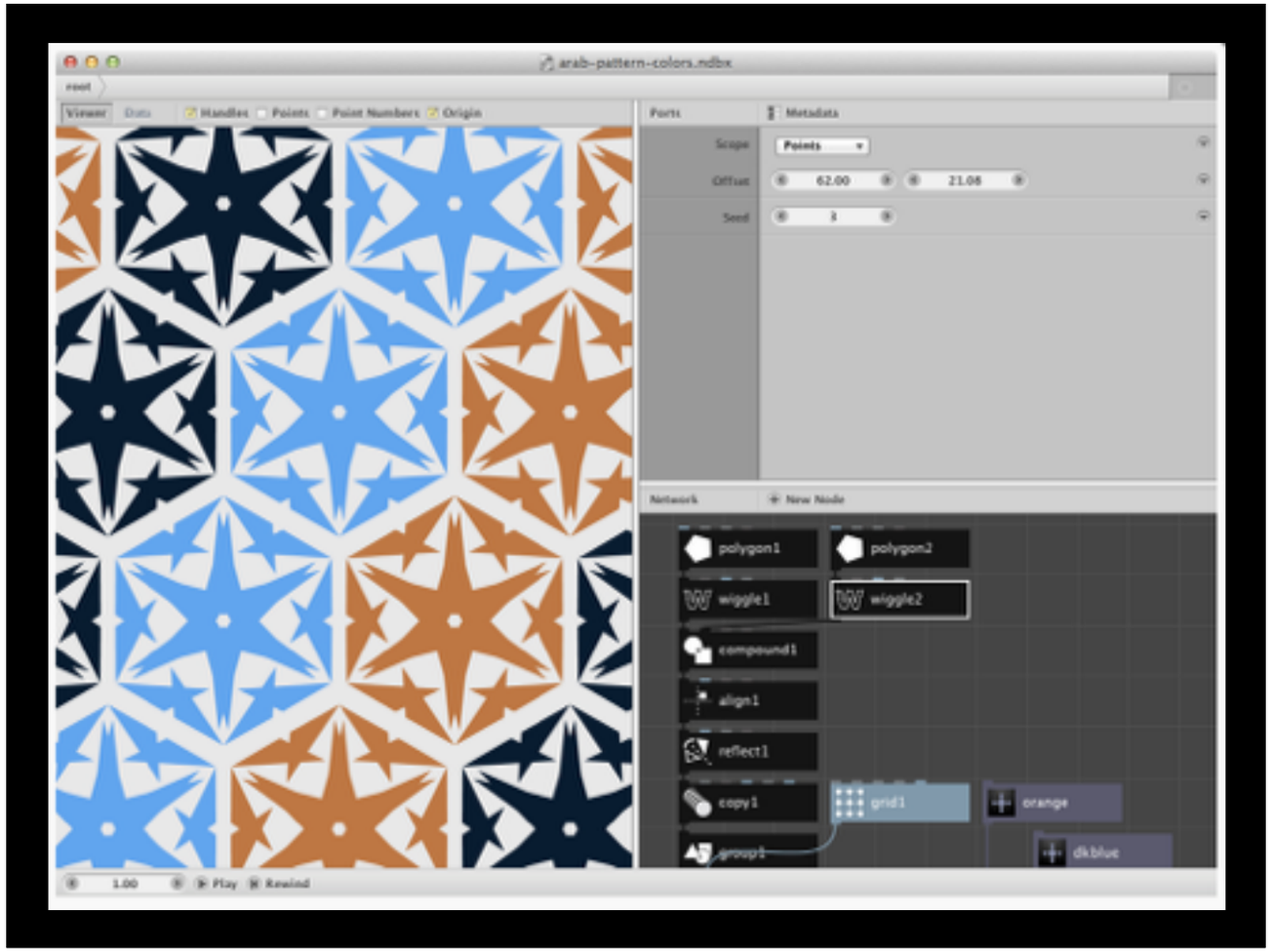
NodeBox makes it easy to do data visualisations, generative design and complex production challenges.

NodeBox is a node-based software application for generative design. It's built from the ground up by designers to be easy-to-use, efficient, and fast.

https://www.nodebox.net/node/

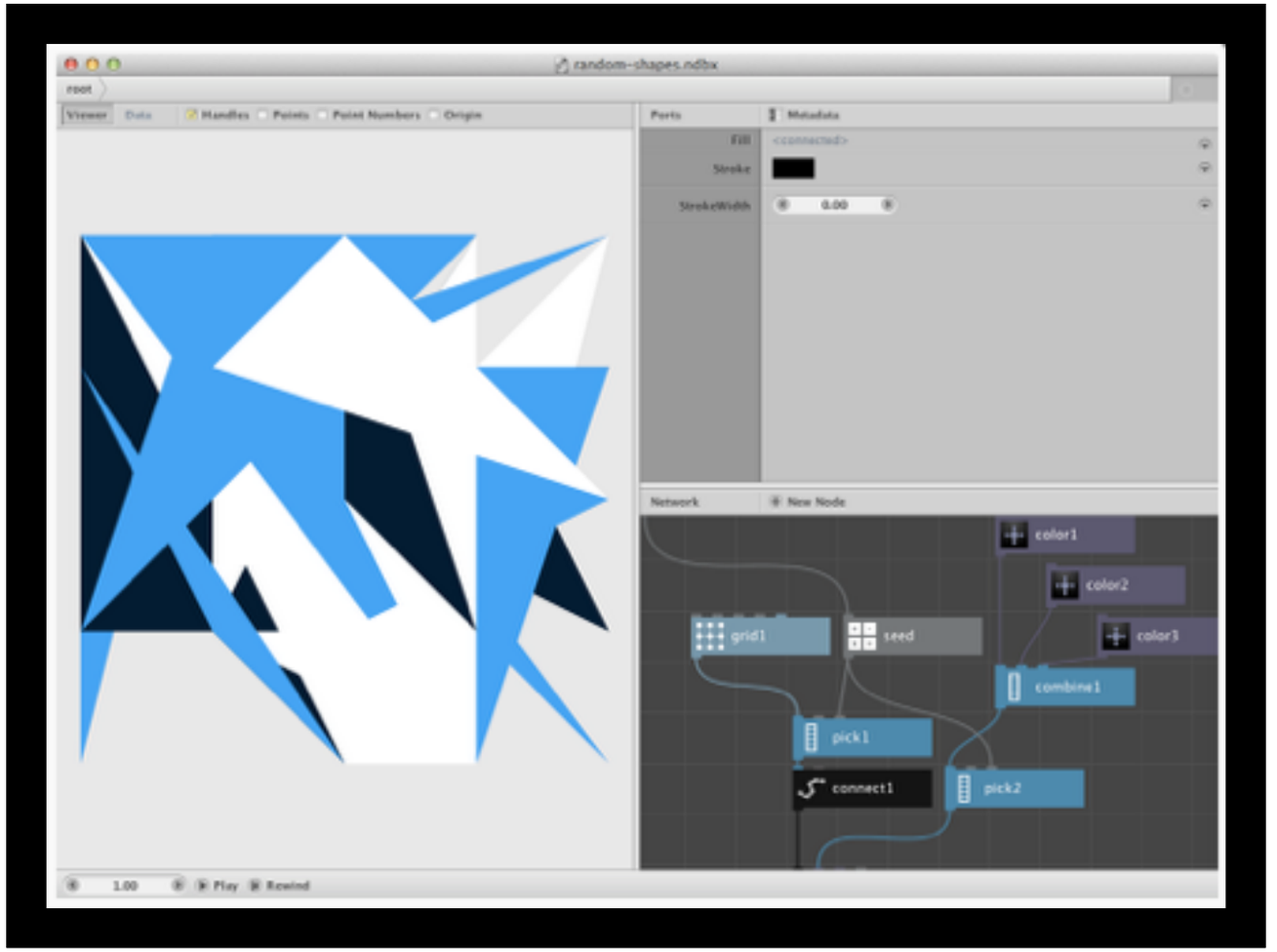


Nodebox gallerypage



Repeating patterns

from https://www.nodebox.net/node/



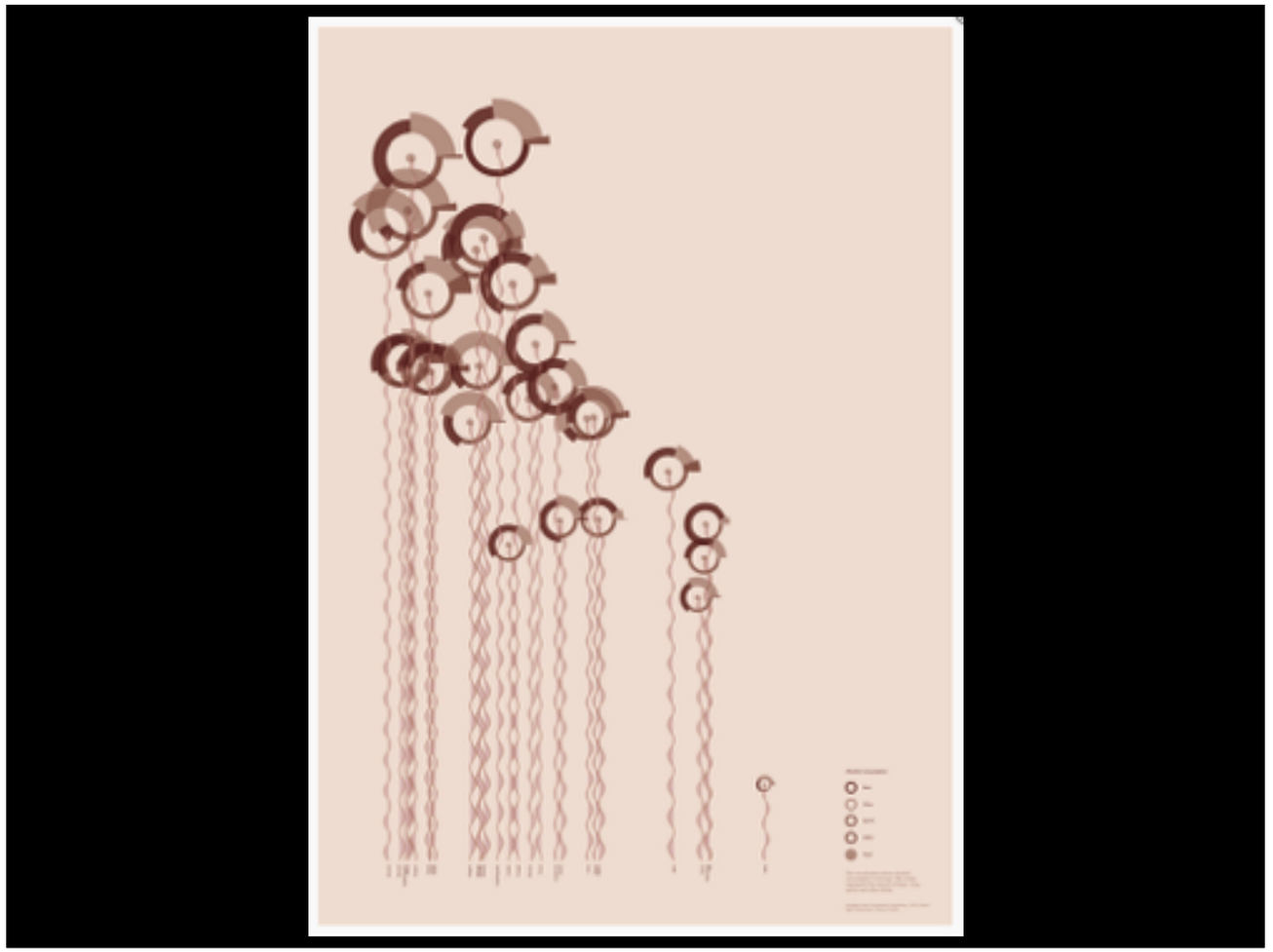
Abstractions

from https://www.nodebox.net/node/

Over the last half of the century, language used in cinema has changed quite a lot. Subtitles of hundreds of the most popular movies from 1952 to 2012 reveal changes in speech, values and culture.

The team analysed all the dialog from the 500 top films from 1962 to 2012 using custom Ruby scripts and the Pattern Python library.

The visualisation shows the evolution of the most interesting words as soundwaves. The volume of the soundwave shows how popular the word was in movies of that time.



Alcohol Consumption / Suicide Statistics

Eglė Palubeckytė, Edurne Castillo and Katažina Čaplinskaja
This group made two separate projects.

The first project shows alcohol consumption in Europe. They made their own “data flowers” where the length represent the total consumption and the circles break down the amount of beer, wine, spirits and other drinks.

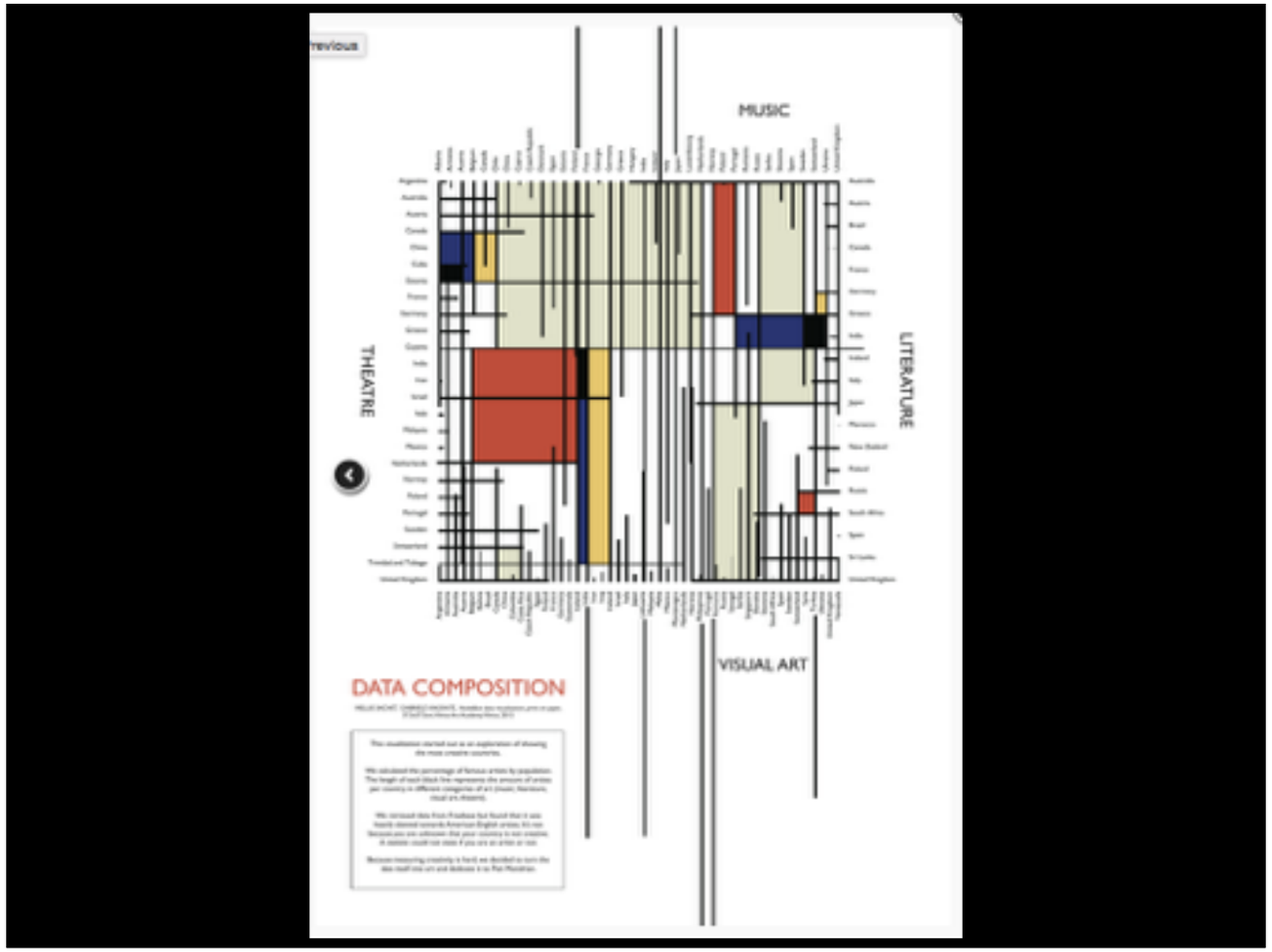
The second project examines the correlation between suicide rate and climate. Climate zones are provided in the Winkler scale, a system in which geographical areas are divided into five climate regions based on temperature. The list of suicide rates is provided by Wikipedia and shows the data from the World Health Organization in which the country’s rank is determined by its total suicide rate divided by the total population.

Alcohol Consumption / Suicide Statistics

Eglė Palubeckytė, Edurne Castillo and Katažina Čaplinskaja
This group made two separate projects.

The first project shows alcohol consumption in Europe. They made their own “data flowers” where the length represent the total consumption and the circles break down the amount of beer, wine, spirits and other drinks.

The second project examines the correlation between suicide rate and climate. Climate zones are provided in the Winkler scale, a system in which geographical areas are divided into five climate regions based on temperature. The list of suicide rates is provided by Wikipedia and shows the data from the World Health Organization in which the country’s rank is determined by its total suicide rate divided by the total population.



Data Composition

Mellie Sachet and Gabrielė Vingraitė

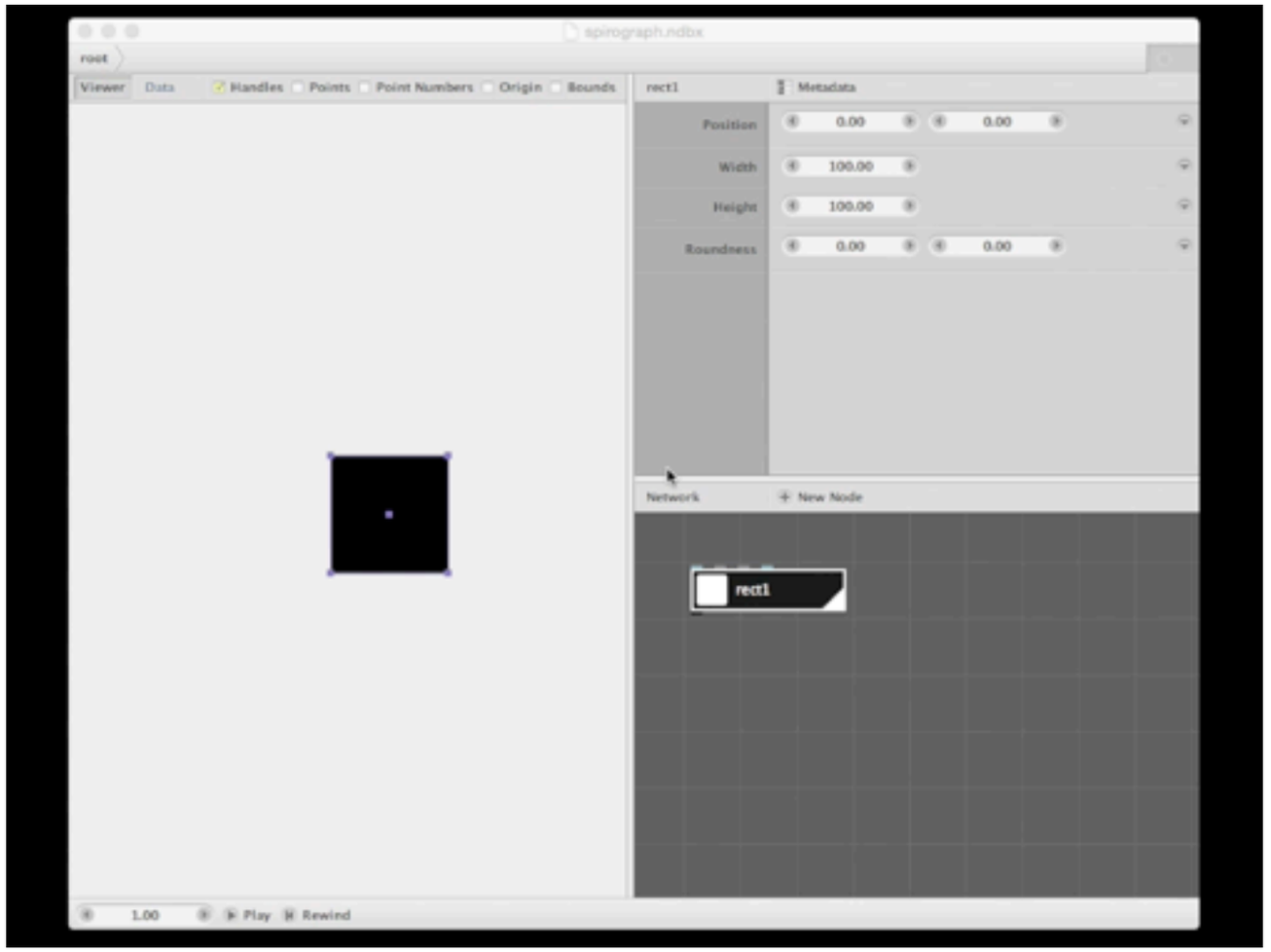
This visualization started out as an exploration showing the most creative countries. They calculated the ratio of famous artists to the total population. Artists are divided in four art categories: music, literature, visual art and theatre.

We retrieved data from Freebase but found that it was heavily skewed towards American-English artists and not representative.

Because it was so hard to measure, the project shifted towards turning the data itself into art, dedicated to Piet Mondrian.

here is an actual Mondrian

https://www.google.com/culturalinstitute/asset-viewer/tableau-yellow-black-blue-red-and-grey/GwHz_0nmyg4GGw?projectId=art-project



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.

https://processing.org/exhibition/

Processing | p5.js | Processing.py

Processing 2

Exhibition. A curated collection of projects created with Processing. New software added each month.

Curated by Filip Visnjic of CreativeApplications.net

Non-Linear Code
by Dextro

Dextro writes 'non-linear code' drawing inspiration from nature. The results are non-fractal or random programs that iterate without change, with equal rules for all objects. Most of the scripts rely on trigonometry and could be seen as sets of wave generators interacting with one another. Some of these pieces take years to develop but the code is usually short but complex.

Links: Dextro, Vimeo

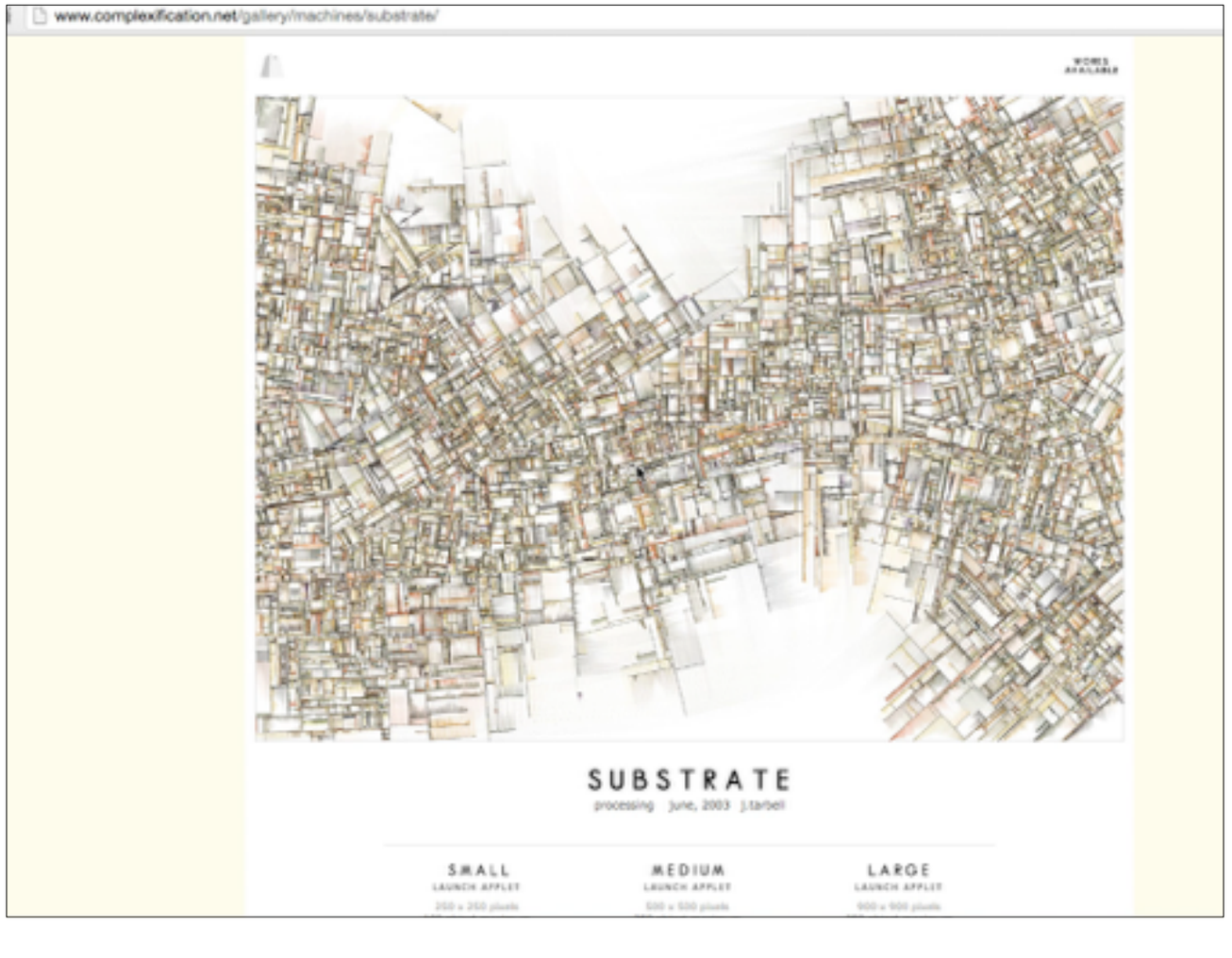
Computational design methodologies for large-scale 3D printing
by GAD – RC4

With an exponential increase in the possibilities of computation and computer-controlled fabrication, architecture is now facing a novel challenge. Bartlett School of Architecture's RC4 in London researches computational design methodologies for large-scale 3D printing with industrial robots, taking logistical, structural and material constraints as design opportunities.

Filament Sculptures
by Lia

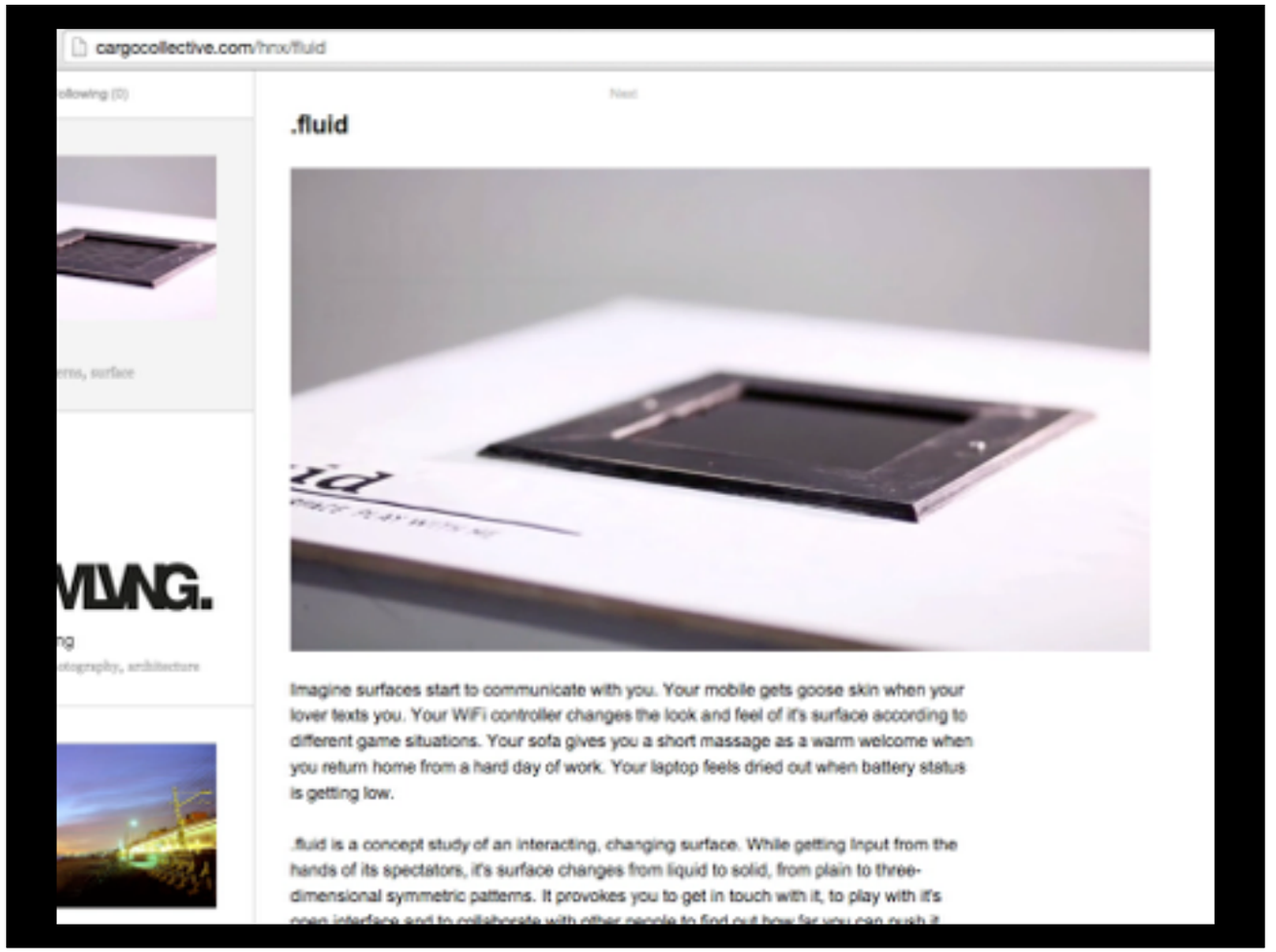
For about a year now generative artist Lia has been exploring 3d printing by analysing filament and the movements of the printhead. Rather than just having 3d models printed out, Lia has been interested in the possibilities of the process by defining the location of the printhead, the speed of the movement and the amount of filament that should be extruded.

Links: Lia, liasomething.tumblr.com



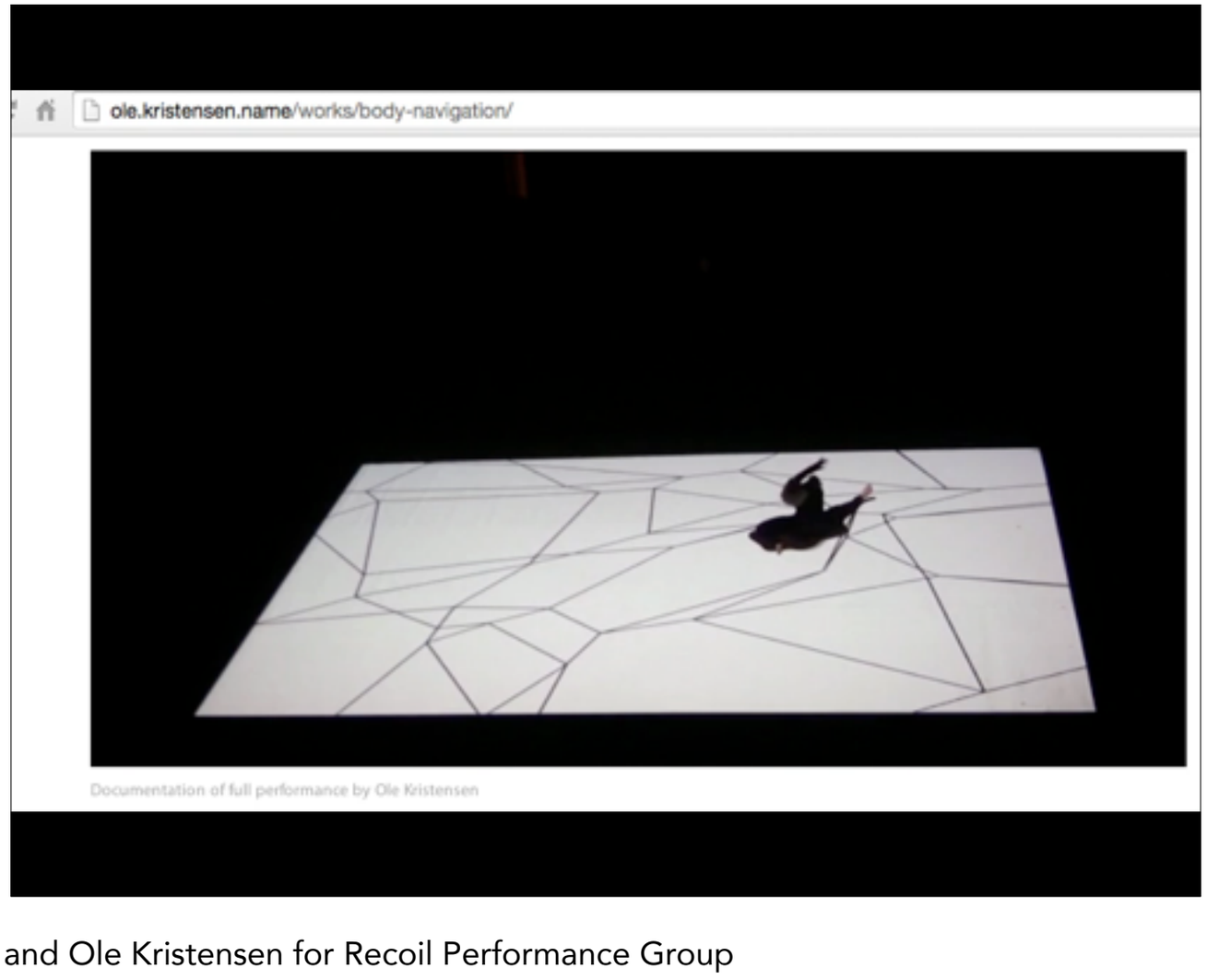
http://www.complexification.net/gallery/machines/substrate/

from “Processing” the book
Substrate beings similarly with an empty rectangular region. It has been compared to crystal formation and the emergent patterns of urban landscapes. A single line (known internally as a “crack” since the algorithm was inspired by sunbaked mud cracks) begins drawing itself from some random point in some random direction. The line continues to draw itself until it either (a) hits the edge of the screen of (b) hits another line, at which point it stops and two more lines begin. The one simple rule used in the creation of new lines is that they begin tangents to existing lines. This process is repeated until there are too many lines to keep track of or the program is stopped.



Created by Hannes Jung, .fluid is a concept study of an interacting, changing surface that uses non-newtonian fluid, an Arduino board, a speaker and Processing to allow surface to change from liquid to solid, from plain to three-dimensional symmetric patterns

https://processing.org/exhibition/
http://cargocollective.com/hnx/fluid



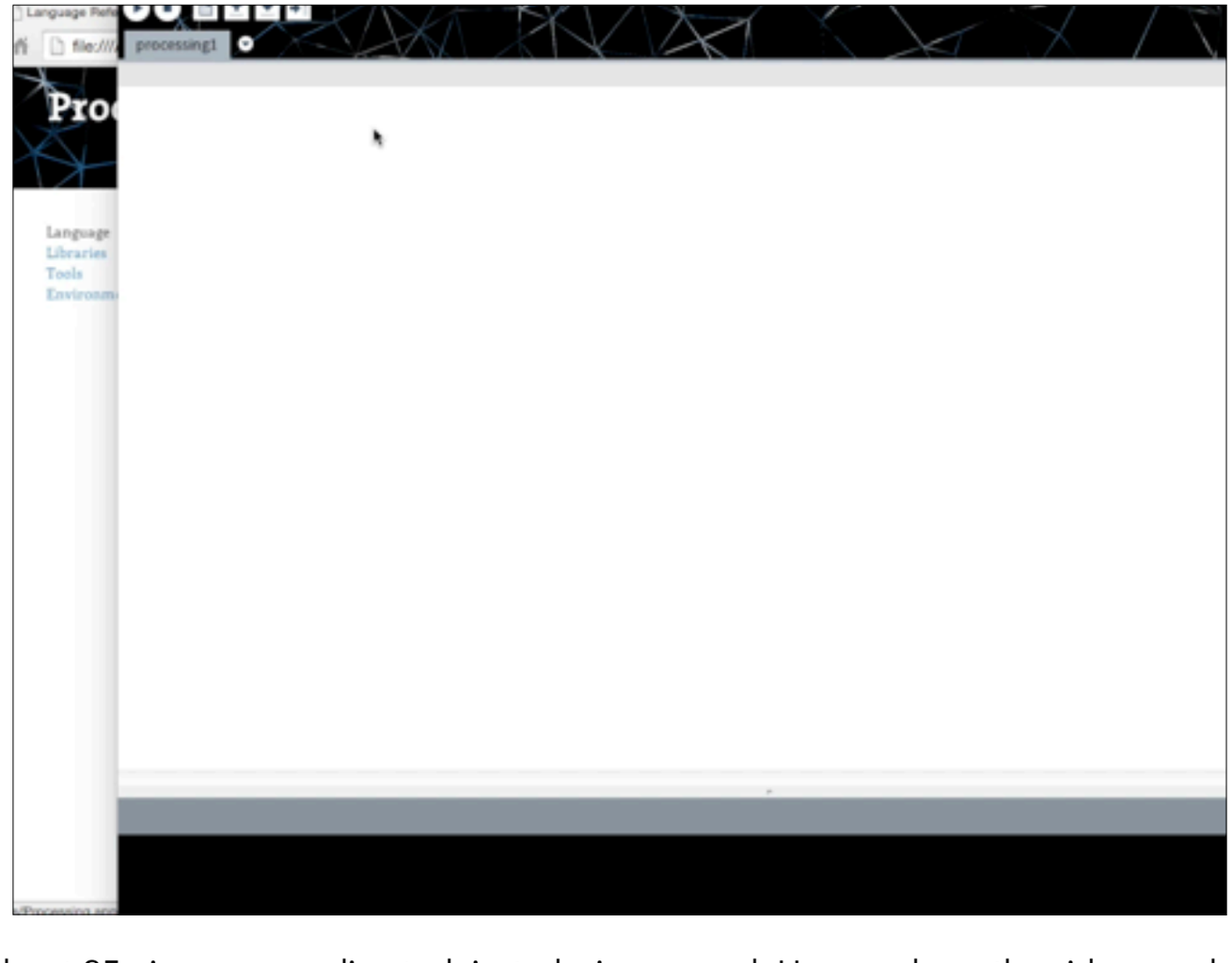
Documentation of full performance by Ole Kristensen

Body Navigation by Jonas Jongejan and Ole Kristensen for Recoil Performance Group

Infrared motion tracking and floor projection installation for a Danish Dance Theatre production with choreographer Tina Tarpgaard.

We used processing for the infrared blobtracking of the dancers and drawing the open gl graphics. During the performance Tina controlled the whole thing live from an Isadora-based interface via osc.

http://ole.kristensen.name/works/body-navigation/



This is me coding in Processing for about 35mins., very undirected, just playing around. Here we have the video sped up 10x.

Experimentation, play, that is one way to create art. Inspiration comes from the medium.

Inspiration can also come up-front before starting a project.

Circles in Processing by Andrew R.

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=xMzojQFyMo0>.
It is only six minutes long. Just watch it. 1972?

Mitchel Resnick. “Mitchel Resnick 2011 McGraw Prize in Education Acceptance Speech.” 2011.Video. Feb 27, 2016. <https://www.youtube.com/watch?v=xZVLupvrlpY>.

Scratch

Thank You.

Andrew Ringler