

Arte y Tecnología Digital

Luis Blackaller

<http://blacklog.mitplw.com>



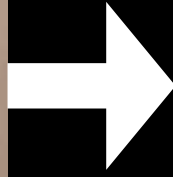
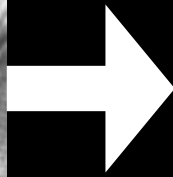
1: Introducción



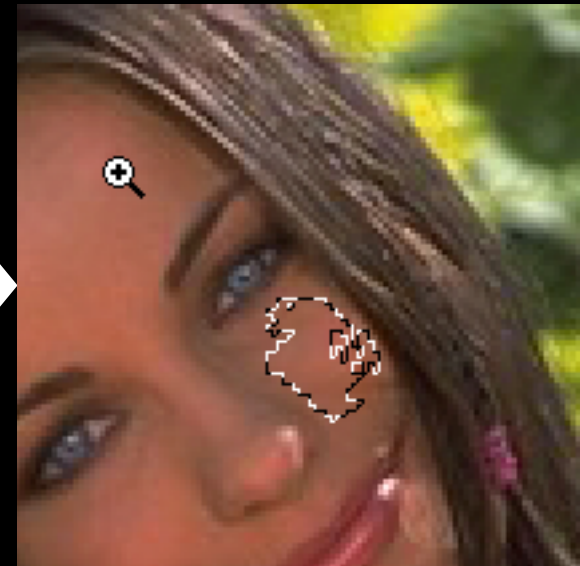
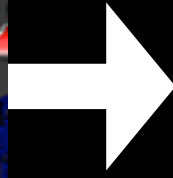
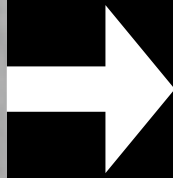
@blackaller



1976

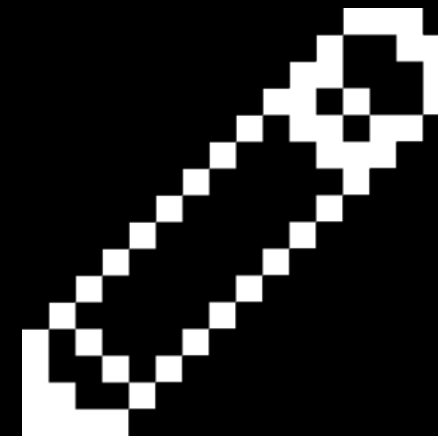


1982



1992

1994



```
switch(captureSize)
{
    case (SMALL_BACK) :
    case (SMALL_FRONT) :
        [mCaptureSession setSessionPreset:AVCaptureSessionPresetLow]; //192x144
        break;
    case (MEDIUM_BACK) :
    case (MEDIUM_FRONT) :
        [mCaptureSession setSessionPreset:AVCaptureSessionPreset640x480];
        break;
    case (LARGE_BACK) :
    case (LARGE_FRONT) :
        [mCaptureSession setSessionPreset:AVCaptureSessionPresetHigh]; //1280x720
        break;
}
```

```
[mCaptureSession commitConfiguration];
[mCaptureSession startRunning];
mVideoProcessor = new VideoProcessor();
```

```
- (void) captureOutput: (AVCaptureOutput *) captureOutput didOutputSampleBuffer: (CMSampleBufferRef) sampleBuffer fromConnection: (AVCaptureConnection *) connection
```

```
{
    CVImageBufferRef imageBuffer = CMSampleBufferGetImageBuffer(sampleBuffer);
```

```
    CVPixelBufferLockBaseAddress(imageBuffer, 0);
```

```
    size_t bytesPerRow = CVPixelBufferGetBytesPerRow(imageBuffer);
    size_t width = CVPixelBufferGetWidth(imageBuffer);
    size_t height = CVPixelBufferGetHeight(imageBuffer);
```

El medio digital es ideal
para explorar ideas
interesantes relacionadas
con la creación
artística:

- Interactividad
- Participación
- Proceso
- Comunicación
- Intercambio





Saturday, August 6, 2011

2: Cibernética y MIT

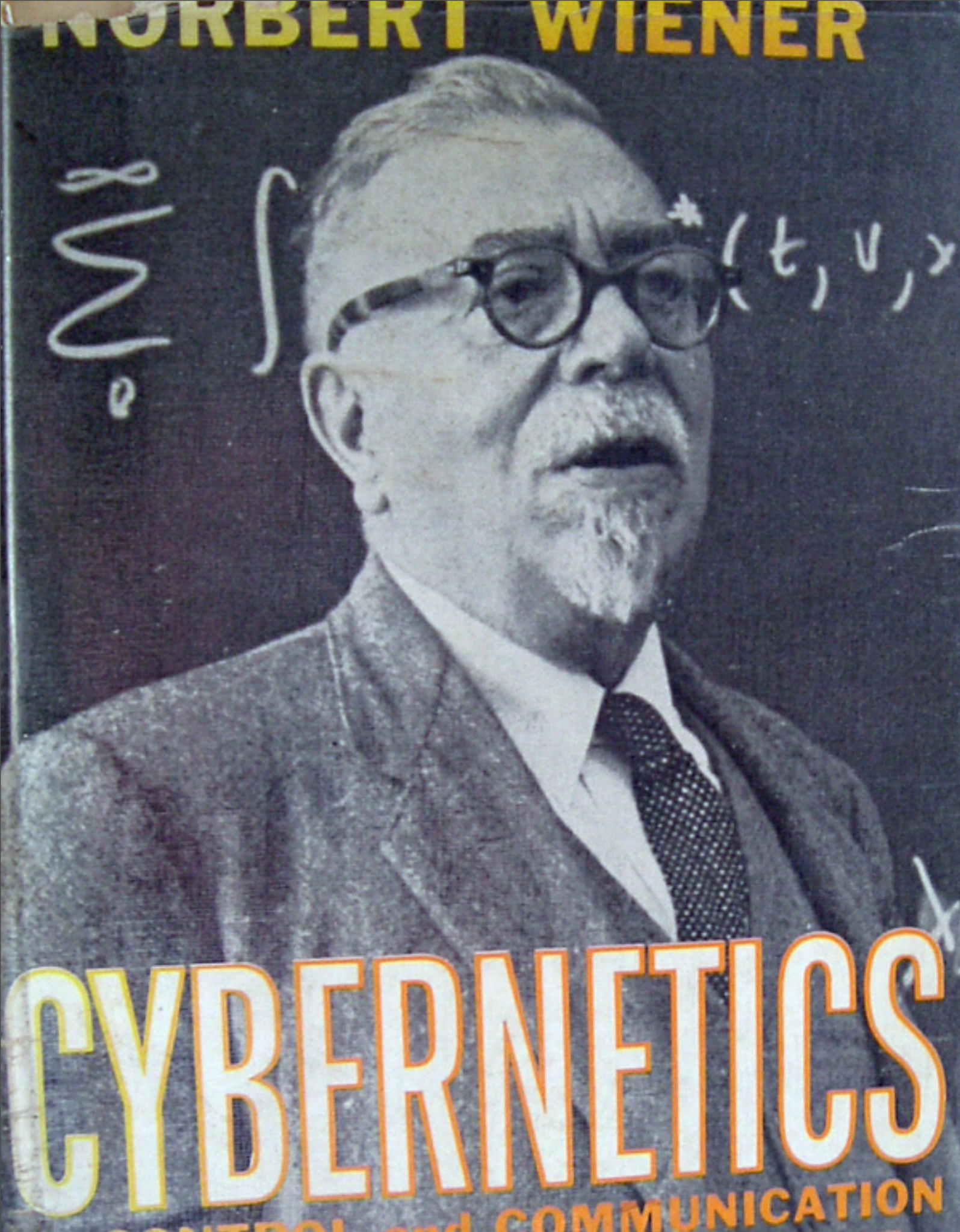






Claude Shannon

En 1937 escribió la que algunos consideran la tesis de maestría más importante de la historia, donde sentó los fundamentos de lo que más tarde se convertiría en teoría de la información.



Norbert Wiener

En 1948 publicó un libro titulado cibernética, escrito en el Distrito Federal Con una beca del Instituto de Cardiología de la Ciudad de México, entonces dirigido por el Dr. Arturo Rosenblueth.

Cibernética

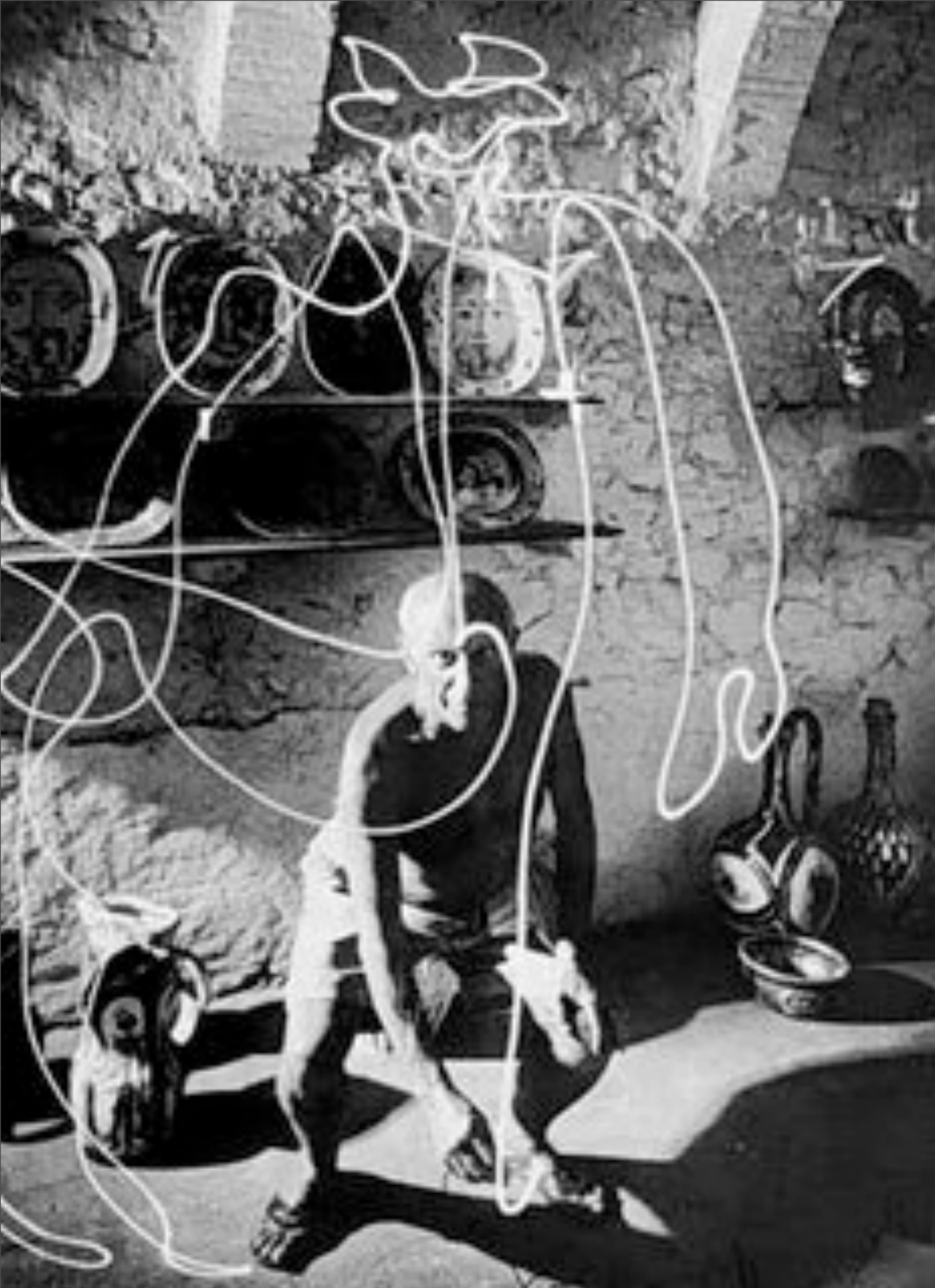
Propone nueva filosofía de la ciencia,
enfocándose en

- sistemas en lugar de objetos
- preguntar ¿qué hace? en lugar de ¿qué es?
- predicciones en lugar de explicaciones.

Paralelismo entre Arte Contemporaneo y Cibernética

Varias corrientes de Arte Contemporaneo proponen un
cambio en el papel social del Arte:

- de jerarquía a sistema
- de monumento a experiencia
- de contemplación a interacción.



Arte y Acción

Pablo Picasso dibujando
con luz.

Proceso

Jackson Pollock
pintando en su estudio,
1950. El proceso es,
por lo menos, tan
importante que como
resultado.

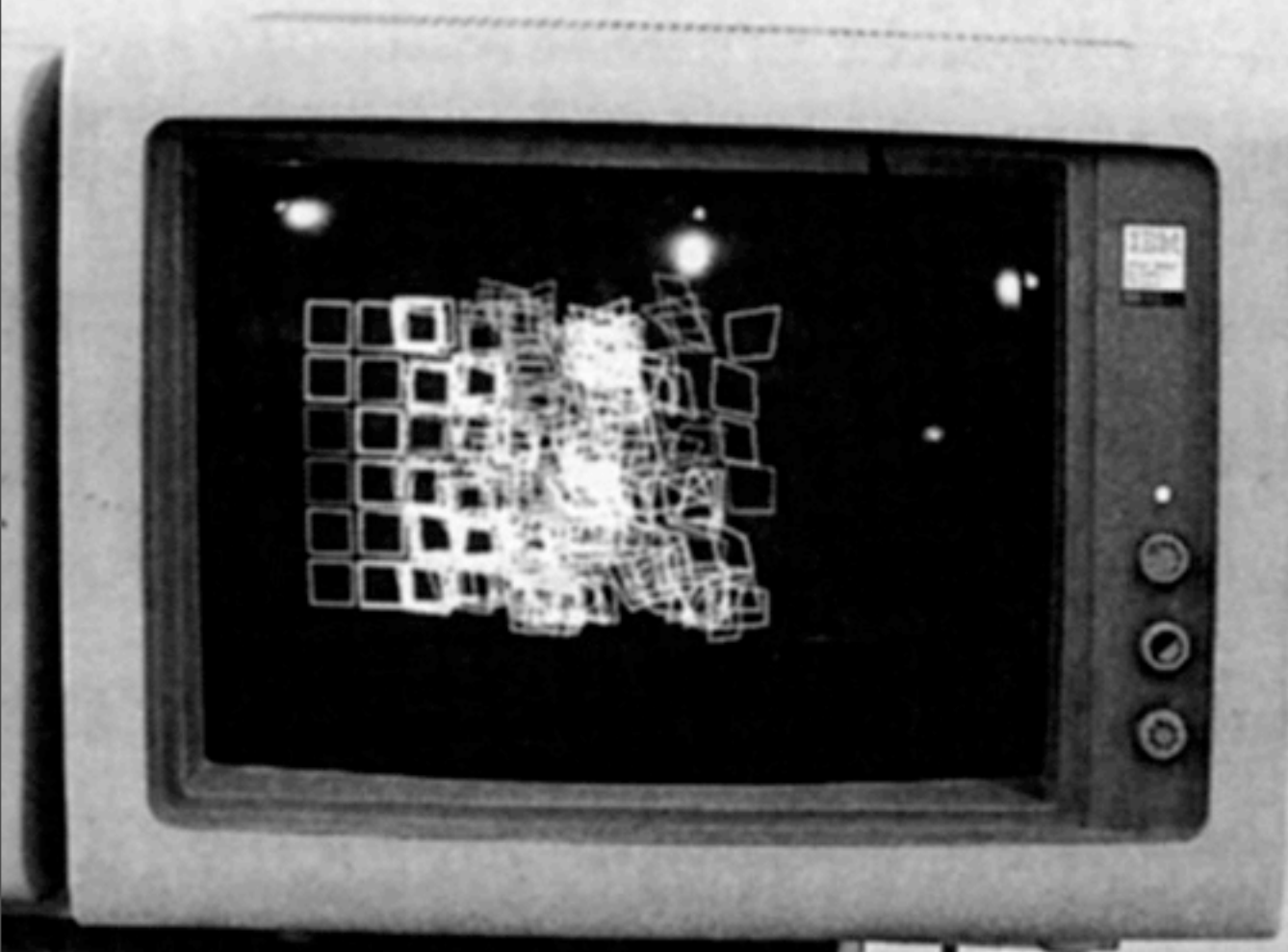


Arte Conceptual

Sol LeWitt: dibujo de pared No 65, ejecutado por primera vez en 1971. National Gallery of Art, Washington, 2004.

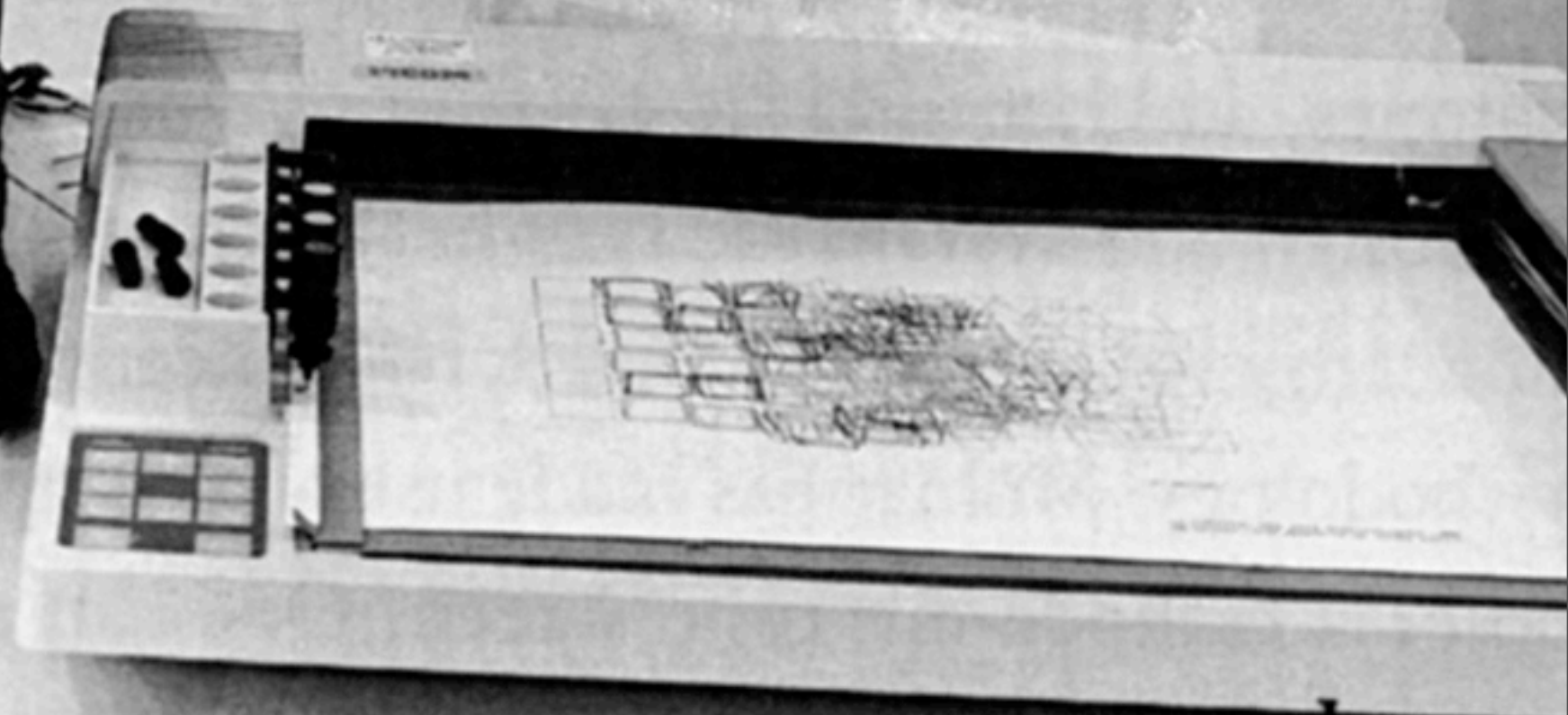
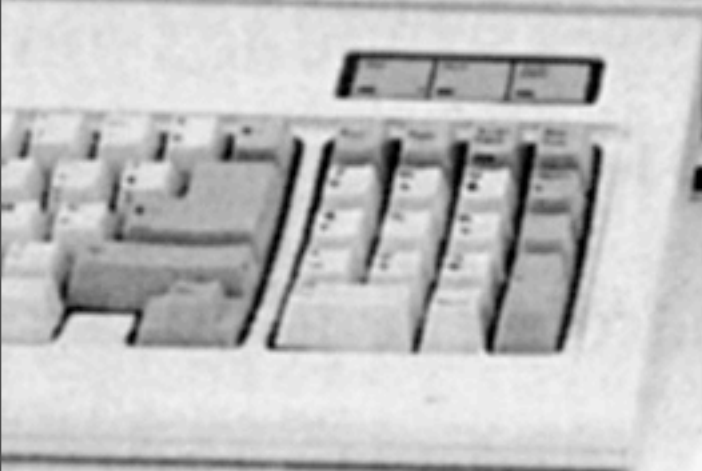
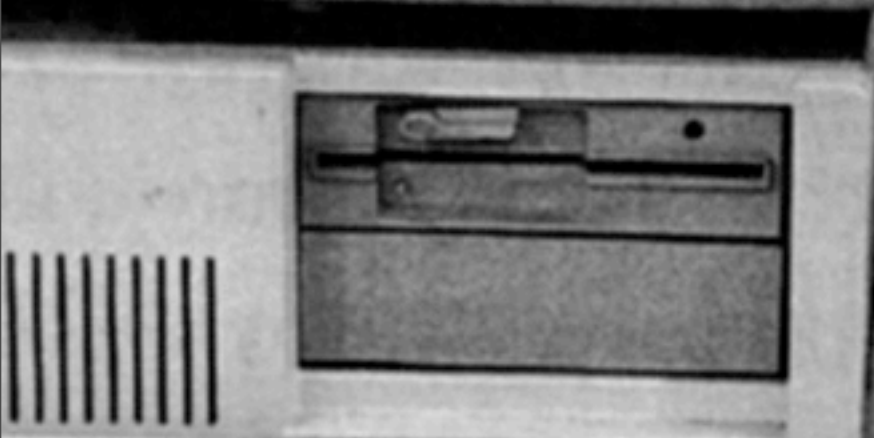
De acuerdo con los principios de su trabajo, los dibujos de LeWitt son concebidos como un sistema de reglas que puede ser ejecutado por otros.





Arte Computacional

Vera Molnar, Comment faire sortir le carré de ses gonds? 1988. Vera Molnar piensa que la computadora es una extensión de su proceso de dibujo.



Interactividad

Myron Krueger Small Planet, SIGGRAPH 1993.
Los participantes pretendían volar sobre
un planeta generado por computadora. El
gesto infantil de moverse como avioncito
controla la interfase.



Telemática

Roy Ascott, aspectos de
Gaia, 1989.



Participación Pública

Rafael Lozano-Hemmer, Arquitectura Relacional 4: Elevación Vectorial, D.F. 1999-2000. Elevación Vectorial es una obra interactiva diseñada para transformar el zócalo del D.F. Usando una aplicación web, el público podía programar las luces robóticas colocadas alrededor de la plaza. Cada participante recibió un sitio web con fotos tomadas por tres video cámaras. El sitio web recibió 800 000 visitas de 89 países y todos los estados de México.





Personalización

Golan Levin y Zach Lieberman, Reface [Portrait Sequencer], 2007. Parecido al efecto de mirarnos reflejados en el espejo, el arte se vuelve el proceso que resulta de recombinar imágenes provenientes de los rostros de distintos participantes.



3: El Media Lab y John Maeda

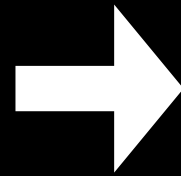




Transformación

De formal a social

001010100111010011100
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Hola, ¿Cómo estás?

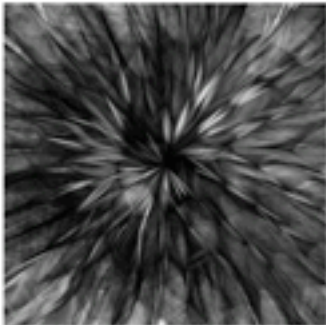


<http://processing.org>

Processing

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» Browse Tutorials

Processing is an open source programming language and environment for people who want to create images, animations, and interactions. Initially developed to serve as a software sketchbook and to teach fundamentals of computer programming within a visual context, Processing also has evolved into a tool for generating finished professional work. Today, there are tens of thousands of students, artists, designers, researchers, and hobbyists who use Processing for learning, prototyping, and production.

- » Free to download and open source
- » Interactive programs using 2D, 3D or PDF output
- » OpenGL integration for accelerated 3D
- » For GNU/Linux, Mac OS X, and Windows
- » Projects run online or as double-clickable applications
- » Over 100 libraries extend the software into sound, video, computer vision, and more...
- » Well [documented](#), with many [books](#) available

To see more of what people are doing with Processing, check out these sites:

- » [Processing Wiki](#)
- » [Processing Discussion Forum](#)
- » [OpenProcessing](#)
- » [CreativeApplications.Net](#)
- » [O'Reilly Answers](#)
- » [Vimeo](#)
- » [del.icio.us](#)
- » [Flickr](#)
- » [YouTube](#)

To contribute to the development, please visit [Processing on Google Code](#) to read instructions for [downloading the code](#), [building from the source](#), [reporting and tracking bugs](#), and creating [libraries](#) and [tools](#).

Announcing Processing 1.5+

A lot has changed in the nine months since 1.2.1 was released, the biggest being the introduction of "modes" for the editor, allowing you to switch between Android development and the classic desktop/web mode. More modes are coming in future releases. Please read [revisions.txt](#) to see all of the changes.

Processing was initiated by Ben Fry and Casey Reas. It is developed by a small team of volunteers.

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<http://openframeworks.cc>

OF

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openFrameworks is an open source C++ toolkit for creative coding.

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news and updates

[Follow openFrameworks on GitHub](#)
December 27th 2009

We have officially switched over to GitHub for the development of openFrameworks. Switching to GitHub has been an immense help for keep track of bugs and splitting up the development amongst the team. It also makes it much easier for people to contribute bug fixes or improvements to OF.

You can follow us on our github account here: <http://github.com/openframeworks/openframeworks>

OF Team

[Notes for Snow Leopard users](#)
October 22nd 2009

Just posted a thread to the forum on how to get OF up and running in Snow Leopard.

Next OF release will be fully functional with Snow Leopard.

[openFrameworks in a book](#)
July 29th 2009



openFrameworks is featured in the excellent new O'Reilly book [Programming Interactivity](#) written by [Joshua Hobbs](#).

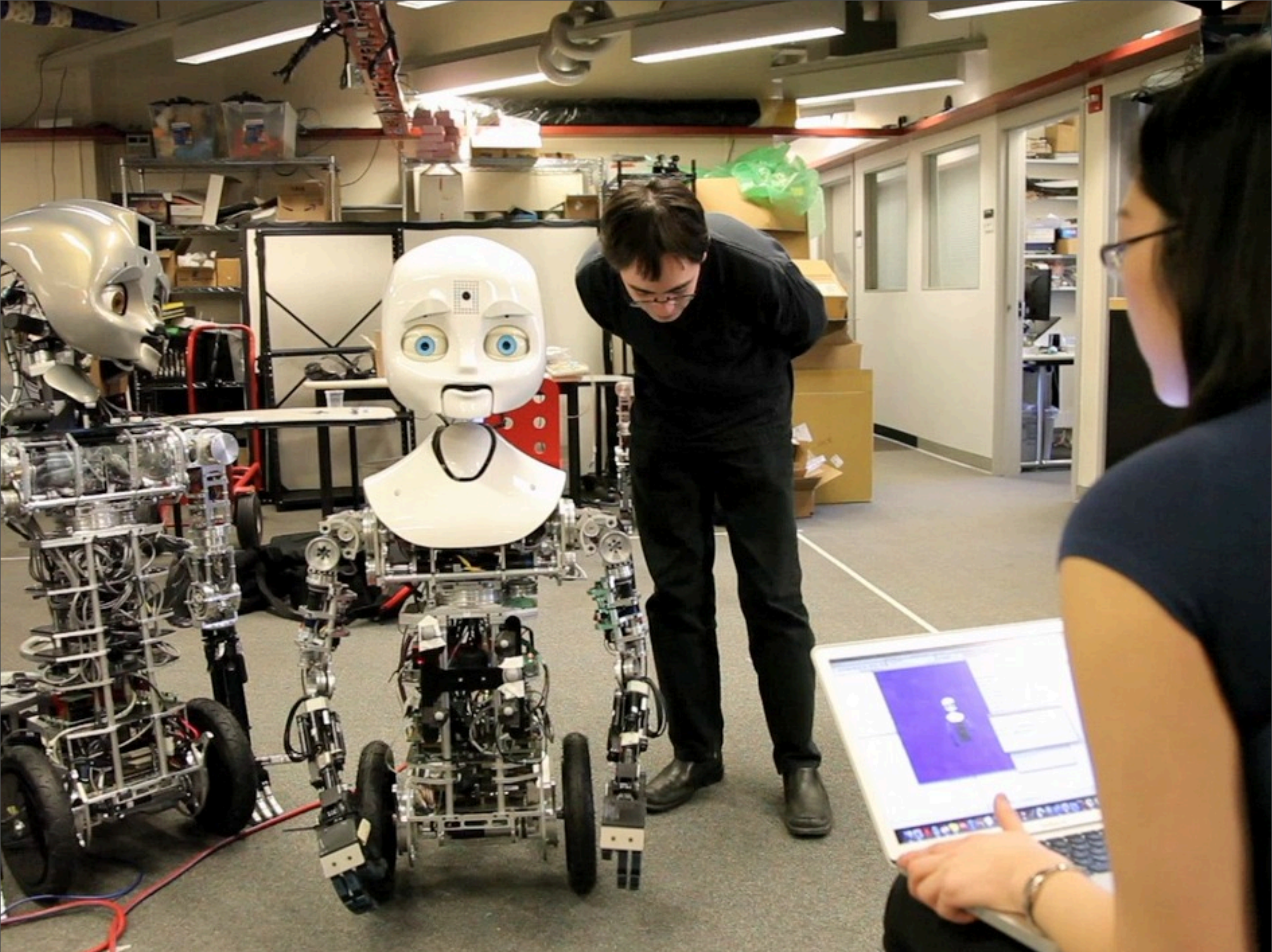
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mailing list

Saturday, August 6, 2011



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Saturday, August 6, 2011



Saturday, August 6, 2011









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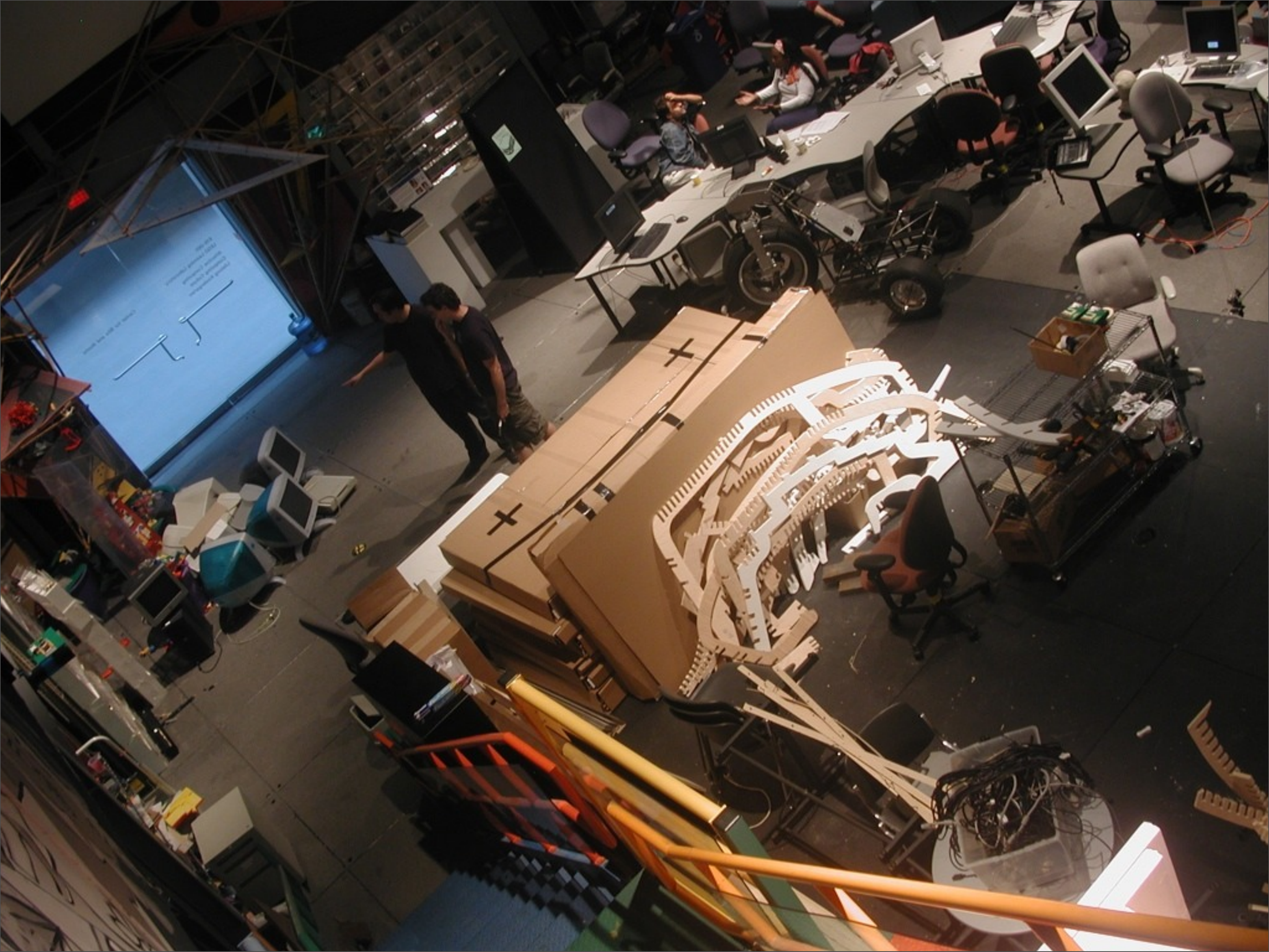




Saturday, August 6, 2011



Saturday, August 6, 2011





4: El Medio Digital



imagen



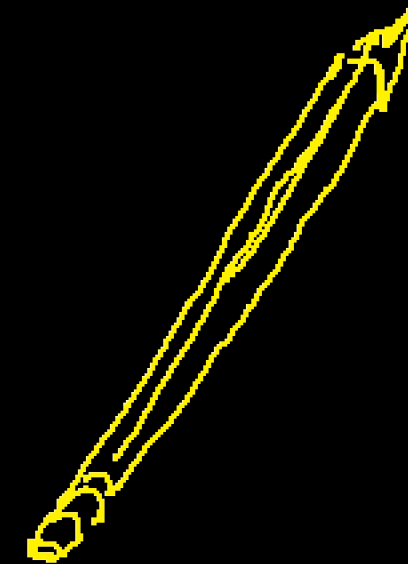
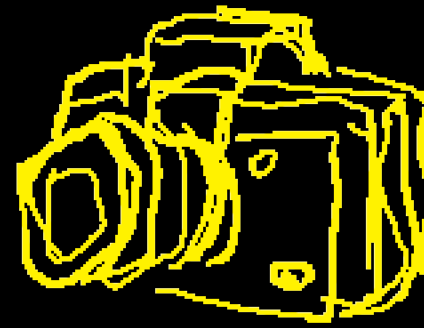
dibujo



código







A diferencia del lápiz y la cámara, una computadora, o celular o tableta o lo que sea, es una herramienta de tareas múltiples, y de comunicación a distancia.

El espacio digital
activa expresión y
comunicación al mismo
tiempo.

Fomenta la
participación y permite
compartir el proceso.



Roy Ascott

Cinco características del arte contemporaneo

- **Conectividad** entre sus partes y las personas,
- **Inmersión** en el todo, disolviendo el sujeto, el marco y el terreno,
- **Interacción** como la misma forma del arte (como soñaba Myron Krueger), transformando el arte de un comportamiento de las formas a una forma de comportamiento,
- **Transformación** (o proceso) como el perpetuo flujo entre imagen, superficie e identidad,
- **Aparición**, (emergence) o realización perpetua de un significado siempre cambiando.

que pueden ser también definidas como
cinco características del arte digital

La participación requiere un ambiente con apertura
Condiciones para la participación:

- **Persistencia.** El trabajo hecho con la herramienta digital debe ser conservado.
- **Accesibilidad Múltiple.** El trabajo hecho con la herramienta digital se debe poder acceder desde localidades múltiples.
- **Comunicación Colaborativa.** El trabajo hecho con la herramienta digital, y los medios para modificar dicho trabajo deben hacerse disponibles a otros.

5: ¿Qué es el Arte Digital?



digital art - Google Image Search

http://images.google.com/images?hl=en&safe=off&client=safari&rls=en&q=digital+art&um=1&ie=UTF-8&sa=N&tab=wi digital art

wikipedia PLW myServers Codes Ars Electronica code_Projects scientific artsy history mapas languages weblogs yoga escuelas

Web Images Video News Maps Gmail more

luis.blackaller@gmail.com | My Account | Sign out

Google digital art Search Images Search the Web Advanced Image Search Preferences

New! Google Image Labeler

Images Showing: All image sizes Results 1 - 20 of about 25,300,000 for digital art. (0.04 seconds)

« View all web results for digital art

 Digital Art Design: articles, books, ... 1024 x 768 - 229k - jpg fantasyartdesign.com	 First Prize for Digital Art - Zazie 550 x 376 - 32k - jpg www.artdept.com.au	 First Prize for 2003 Digital Art - ... 550 x 413 - 40k - jpg www.artdept.com.au	 Filed under: Art, Digital Art 437 x 300 - 57k - jpg www.blackbeltjones.com	 2006 International Digital Art ... 400 x 331 - 35k - jpg www.vca.unimelb.edu.au
 ... festival of advanced digital art ... 450 x 286 - 42k - gif bad.eserver.org	 ... art pictures free digital art ... 1024 x 768 - 221k - jpg neosurrealism.artdigitaldesign.com	 Digital Art 1024 x 768 - 143k - jpg www.captainfletch.com	 ... in the digital art communities ... 400 x 300 - 14k - jpg www.cgexplorer.com	 "Romance - Love Steam - Digital Art" ... 360 x 450 - 50k www.art.com
 ... I posted any of my digital art. 1024 x 768 - 1288k - png www.fantasist.net	 Starting off the digital art 2007 ... 571 x 700 - 154k - jpg winterblink.com	 This digital art is part of the ... 1217 x 1571 - 342k - jpg www.lyon.edu	 Digital Art Gallery Page 708 x 340 - 75k - jpg www.pete-wilson.co.uk	 DIGITAL ESOTERIC ART FOR SALE 700 x 350 - 21k www.signedoriginals.co.uk





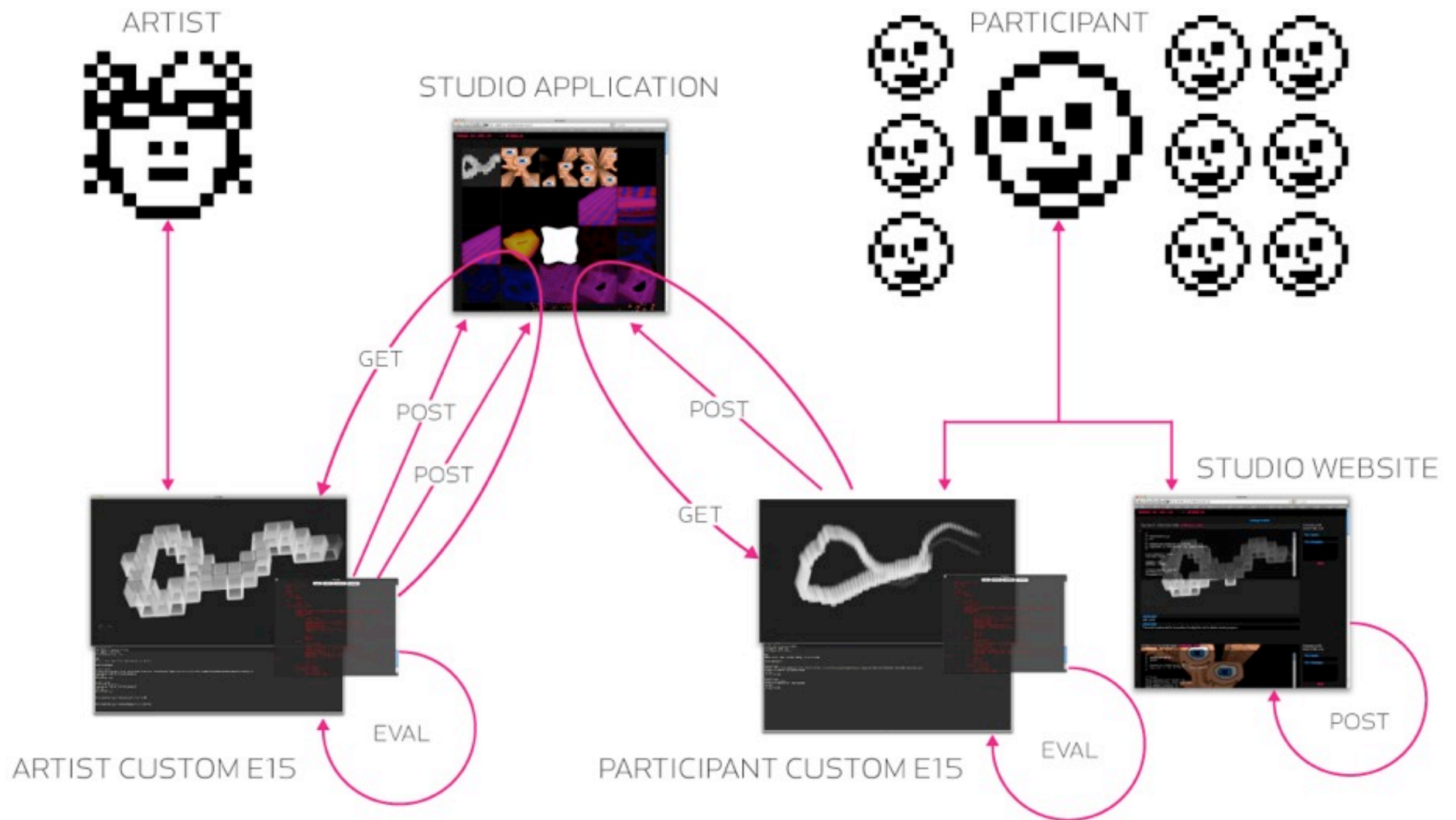
MiEstudio

Luis Blackaller

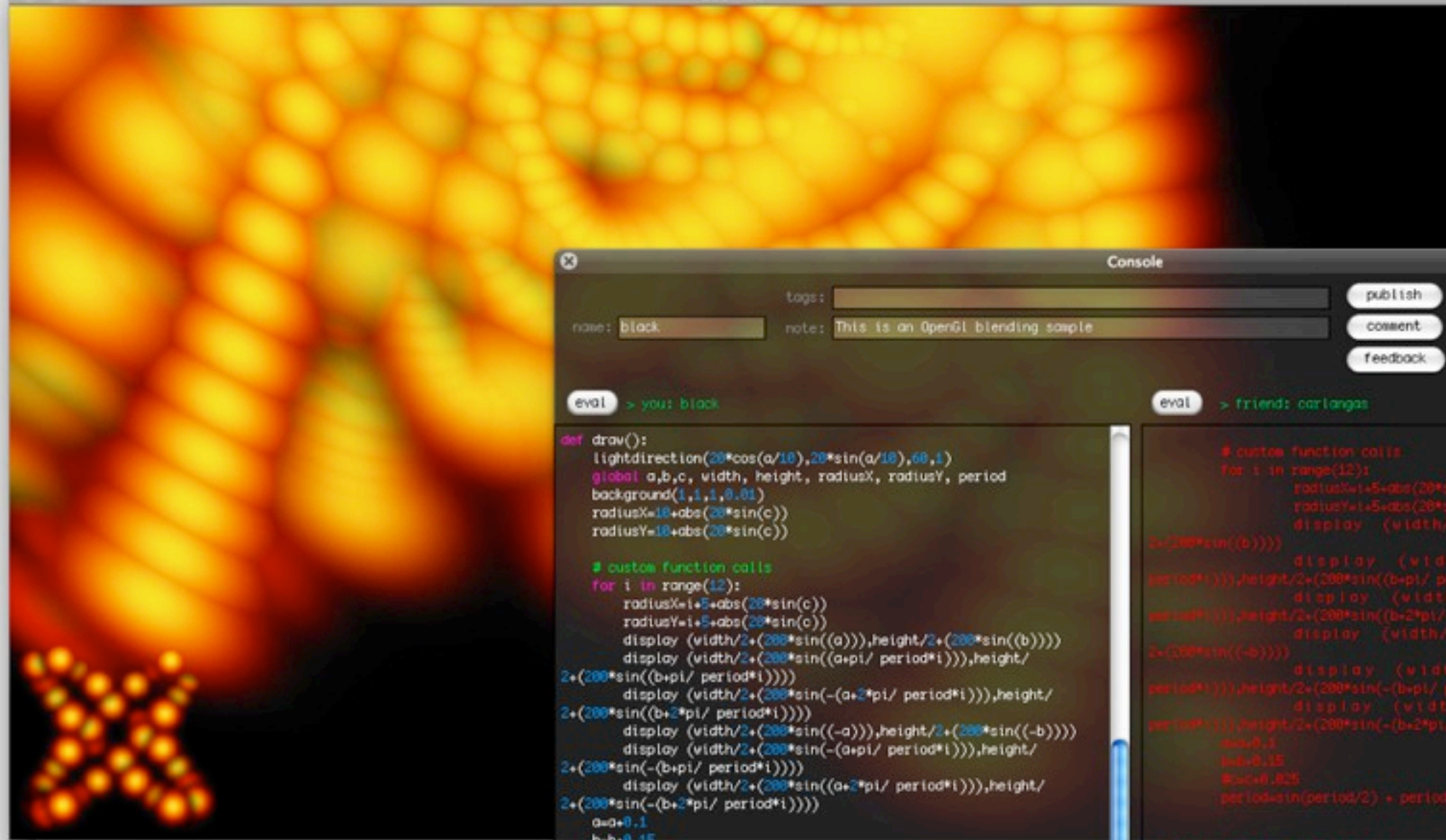
- Sistema de participación en internet
- Medio de expresión en código que genera gráficos interactivos
- Estudio virtual
- Participación en forma de comentarios acerca del proceso

Implementación

- Entorno de programación interpretada en Python con un contexto gráfico de OpenGL que permite evaluar los cambios hechos a un programa en vivo.
- Aplicación web Ruby on Rails para comunicación y persistencia. El artista puede publicar código e imágenes en proceso y recibir comentarios a través de la red.



E15Plus



Welcome to E15
The Physical Language Workshop
(c) 2009 MIT Media Lab
<http://plw.media.mit.edu>

tags:

name: black

note: This is an OpenGL blending sample

publish

comment

feedback

✓ AIM Friend List

carlangas

PacoLoco

add friend

eval > you: black

eval > friend: carlangas

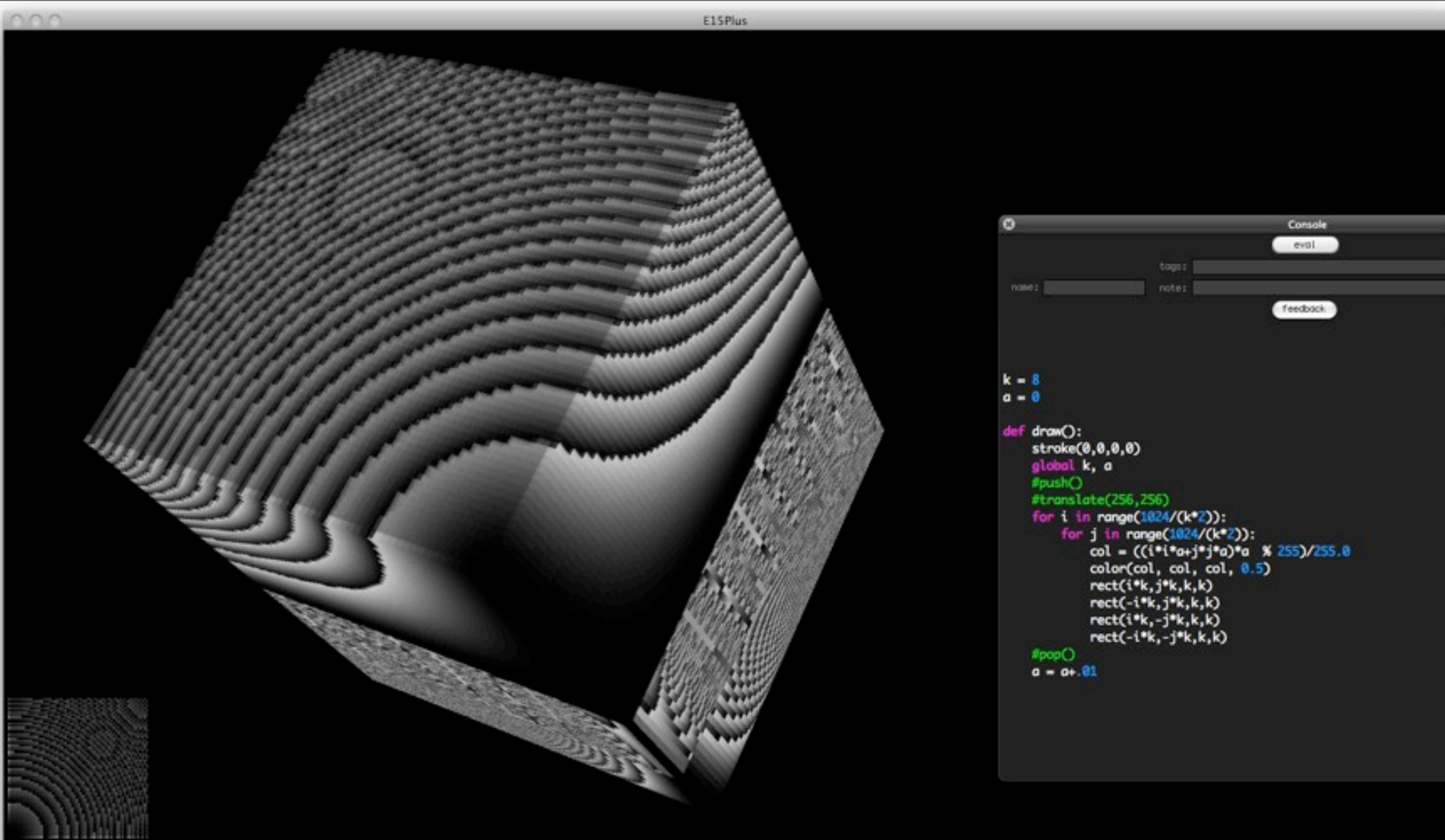
```
def draw():
    lightdirection(20*cos(a/10),20*sin(a/10),60,1)
    global a,b,c, width, height, radiusX, radiusY, period
    background(1,1,1,0.01)
    radiusX=18+abs(20*sin(c))
    radiusY=18+abs(20*sin(c))

    # custom function calls
    for i in range(12):
        radiusX=i+5+abs(20*sin(c))
        radiusY=i+5+abs(20*sin(c))
        display (width/2+(200*sin((a))),height/2+(200*sin((b))))
        display (width/2+(200*sin((a+pi/ period*i))),height/
2+(200*sin((b+pi/ period*i))))
        display (width/2+(200*sin(-(a+2*pi/ period*i))),height/
2+(200*sin((b+2*pi/ period*i))))
        display (width/2+(200*sin(-(a))),height/2+(200*sin((-b))))
        display (width/2+(200*sin(-(a+pi/ period*i))),height/
2+(200*sin(-(b+pi/ period*i))))
        display (width/2+(200*sin((a+2*pi/ period*i))),height/
2+(200*sin(-(b+2*pi/ period*i))))
        a=a+0.1
        b=b+0.15
        #c=c+0.025
        period=sin(period/2) + period/2 +0.01

    # custom function definition
    def display(x,y):
        push()
        translate(x,y)
        color(0,0,0,1)
        ellipse(-1.5 * radiusX,-1.5 * radiusY, 3 * radiusX, 3 * radiusY)
        color(1,0,0,1)
        ellipse(-radiusX,-radiusY, 2 * radiusX, 2 * radiusY)
        color(0,0,0,1)
        ellipse(-radiusX,-radiusY, 2 * radiusX, 2 * radiusY)
        color(1,0,0,1)
        ellipse(0.8*radiusX,0.8*radiusY, radiusX, radiusY)
        pop()
```

```
# custom function calls
for i in range(12):
    radiusX=i+5+abs(20*sin(c))
    radiusY=i+5+abs(20*sin(c))
    display (width/2+(200*sin((a))),height/
2+(200*sin((b))))
    display (width/2+(200*sin((a+pi/ period*i))),height/
2+(200*sin((b+pi/ period*i))))
    display (width/2+(200*sin(-(a+2*pi/ period*i))),height/
2+(200*sin((b+2*pi/ period*i))))
    display (width/2+(200*sin(-(a))),height/2+(200*sin((-b))))
    display (width/2+(200*sin(-(a+pi/ period*i))),height/
2+(200*sin(-(b+pi/ period*i))))
    display (width/2+(200*sin((a+2*pi/ period*i))),height/
2+(200*sin(-(b+2*pi/ period*i))))
    a=a+0.1
    b=b+0.15
    #c=c+0.025
    period=sin(period/2) + period/2 +0.01

# custom function definition
def display(x,y):
    push()
    translate(x,y)
    color(0,0,0,1)
    ellipse(-1.5 * radiusX,-1.5 * radiusY, 3 * radiusX, 3 * radiusY)
    color(1,0,0,1)
    ellipse(-radiusX,-radiusY, 2 * radiusX, 2 * radiusY)
    color(0,0,0,1)
    ellipse(-radiusX,-radiusY, 2 * radiusX, 2 * radiusY)
    color(1,0,0,1)
    ellipse(0.8*radiusX,0.8*radiusY, radiusX, radiusY)
    pop()
```

```
Console
eval

name: tags: publish
note: comment

feedback

k = 8
a = 0

def draw():
  stroke(0,0,0,0)
  global k, a
  #push()
  #translate(256,256)
  for i in range(1024/(k*2)):
    for j in range(1024/(k*2)):
      col = ((i*i*a+j*j*a)*a % 255)/255.0
      color(col, col, col, 0.5)
      rect(i*k,j*k,k,k)
      rect(-i*k,j*k,k,k)
      rect(i*k,-j*k,k,k)
      rect(-i*k,-j*k,k,k)
  #pop()
  a = a+.01
```

```
author: black
content: opensource son
created-on: 2008-04-03T17:47:04-04:00
id: 214
picture-id: 921

Resote server says: Created picture with id 922

Resote server says: Created picture with id 923

Resote server says: Created picture with id 924

Resote server says: Created picture with id 925

Resote server says: Created message for picture 925

Resote server says: Created picture with id 926

Resote server says: Created message for picture 926

Recent Messages:
author: black
content: nice
created-on: 2008-04-03T17:56:06-04:00
id: 215
picture-id: 926
```


MyStudio

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http://18.85.23.126:3000/studio/log

Google

wikipedia graphics▼ cocoa▼ thesis▼ PLW▼ myServers▼ Ars Electronica▼ Codes▼ scientific▼ code_Projects▼ artsy▼ history▼ mapas▼ languages▼ weblogs▼ yoga▼ >>

MyStudio - Info - oGfX - e15 - HTMLPLW - Mit Media Lab

Mon Mar 31 12:02:28 EDT 2008 - fullPicture - code

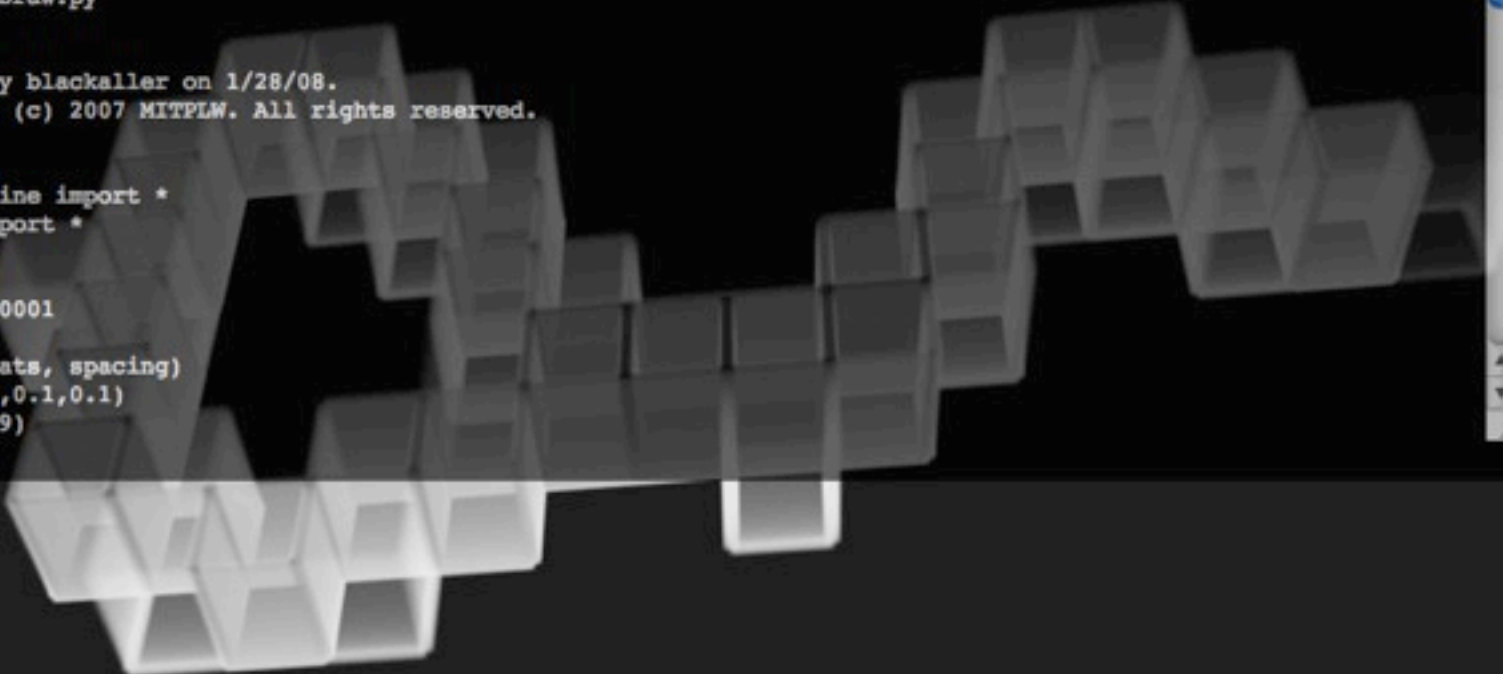
x

```
#
# BresenhamDraw.py
# E15
#
# Created by blackaller on 1/28/08.
# Copyright (c) 2007 MITPLW. All rights reserved.
#

from drawengine import *
from math import *

repeats = 64
spacing = 0.0001

history(repeats, spacing)
envcolor(0.1,0.1,0.1)
blendmode(0,9)
```



black said:

hello world

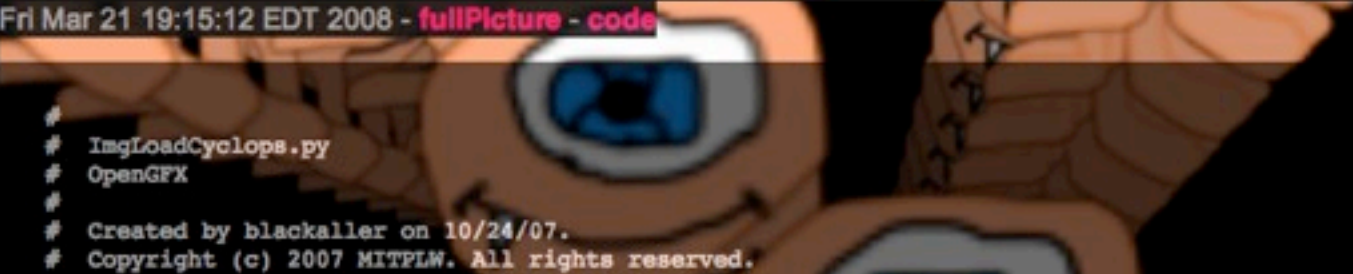
black said:

This script implements the bresenham line algorithm and a simple drawing program.

Fri Mar 21 19:15:12 EDT 2008 - fullPicture - code

x

```
#
# ImgLoadCyclops.py
# OpenGFX
#
# Created by blackaller on 10/24/07.
# Copyright (c) 2007 MITPLW. All rights reserved.
#
```



black said:

hello world

black said:

This script implements the bresenham line algorithm and a simple drawing program.

Snapshot id 906

Some HTML is ok

Your name:

Your message:

send

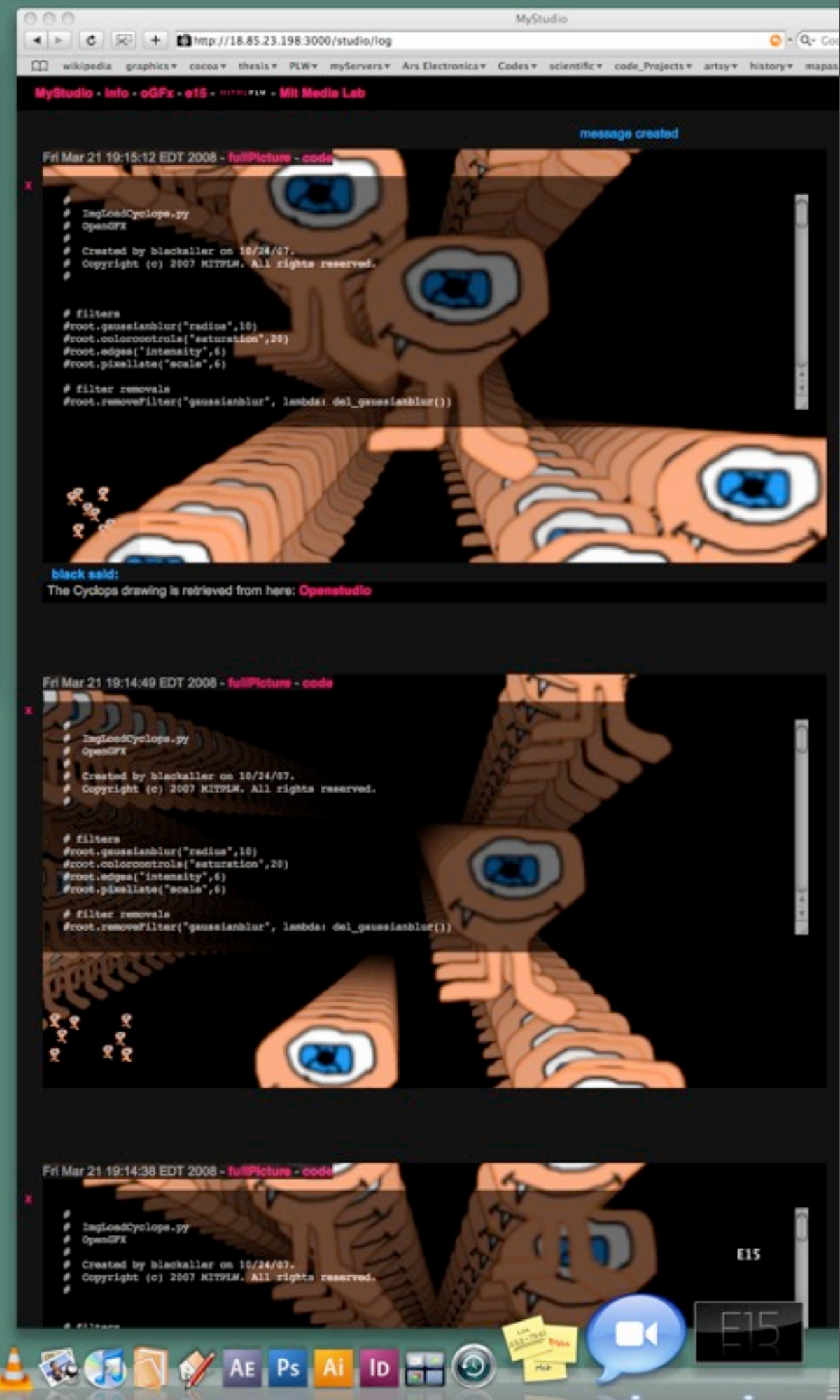
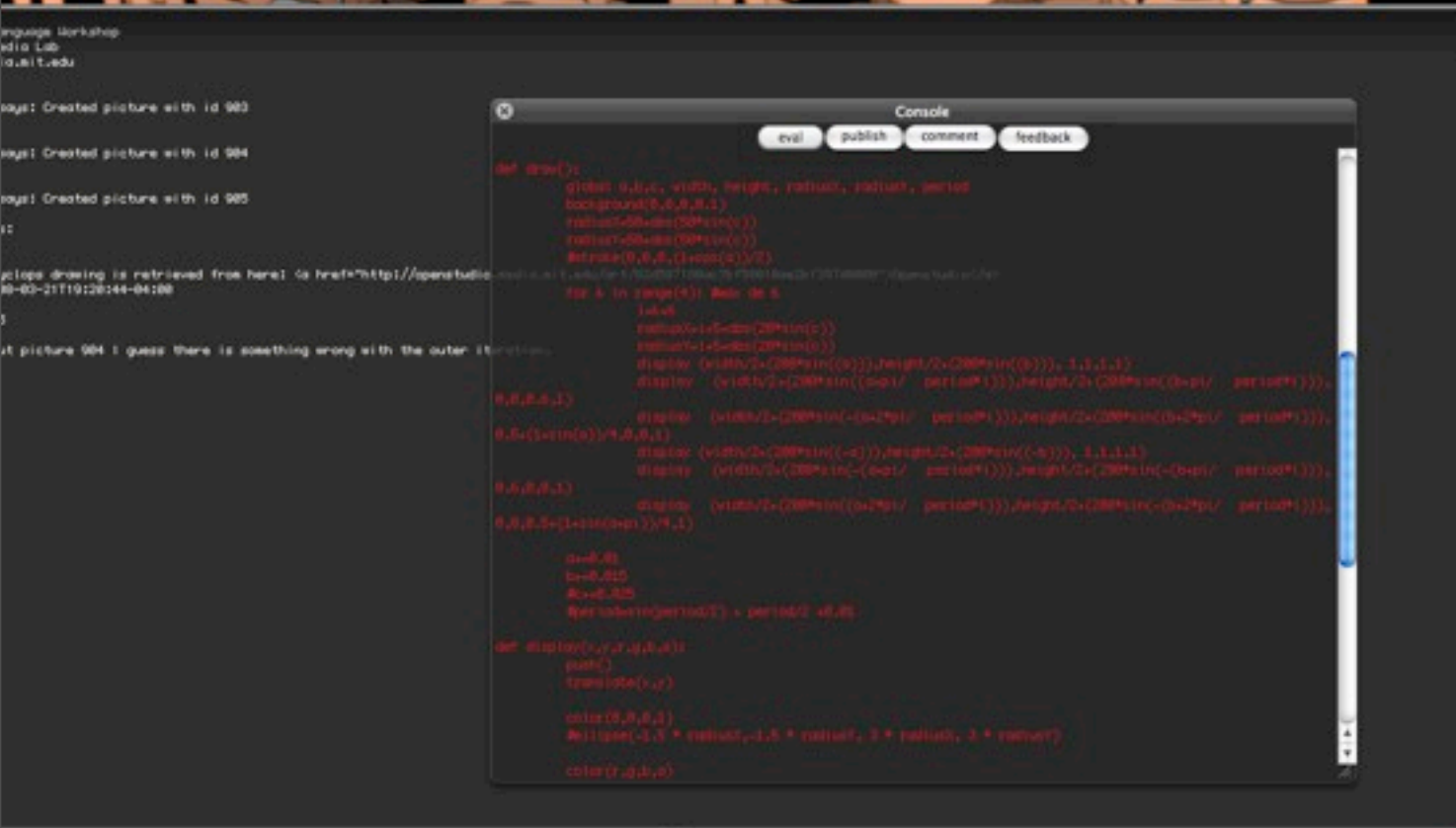
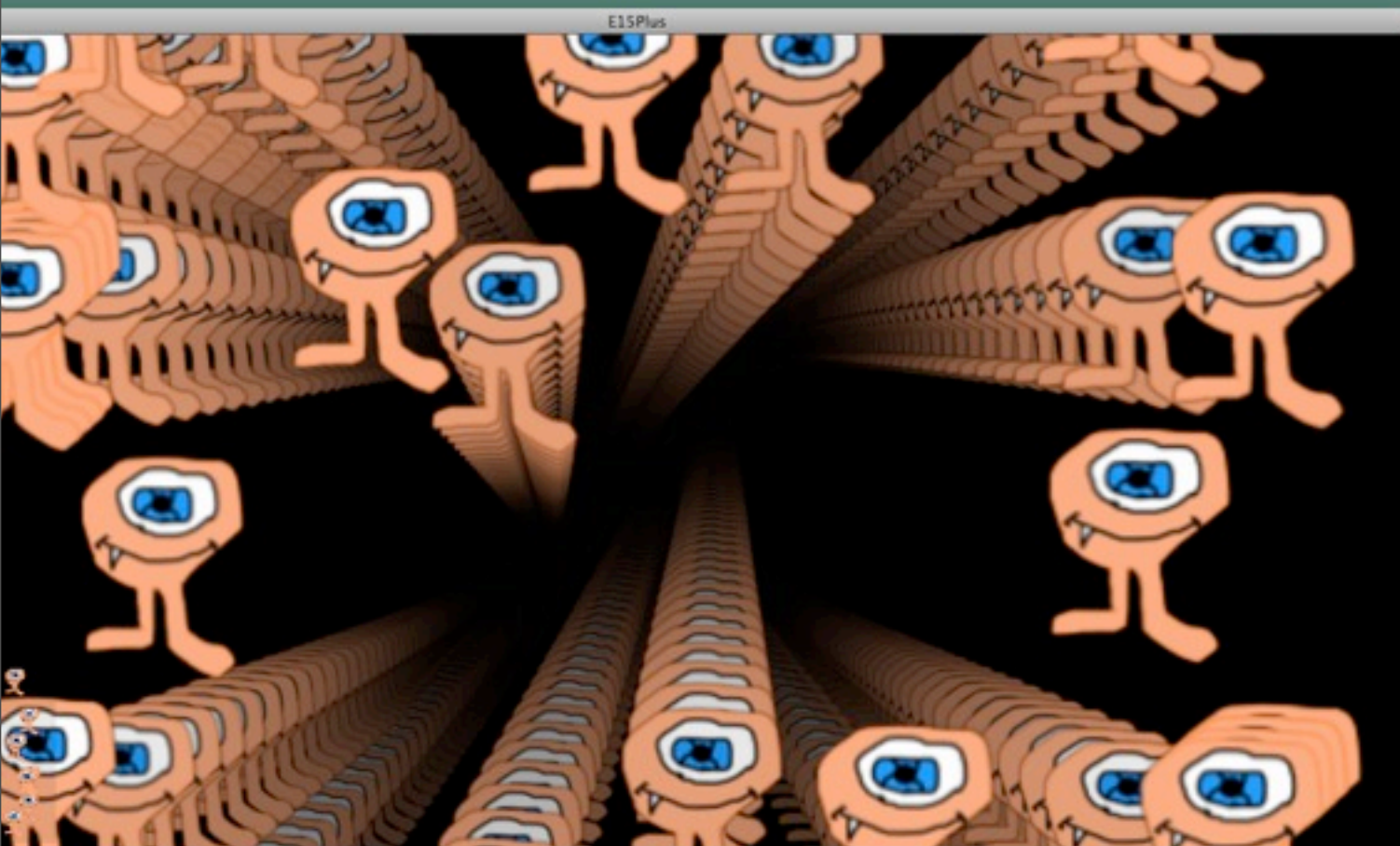
Snapshot id 905

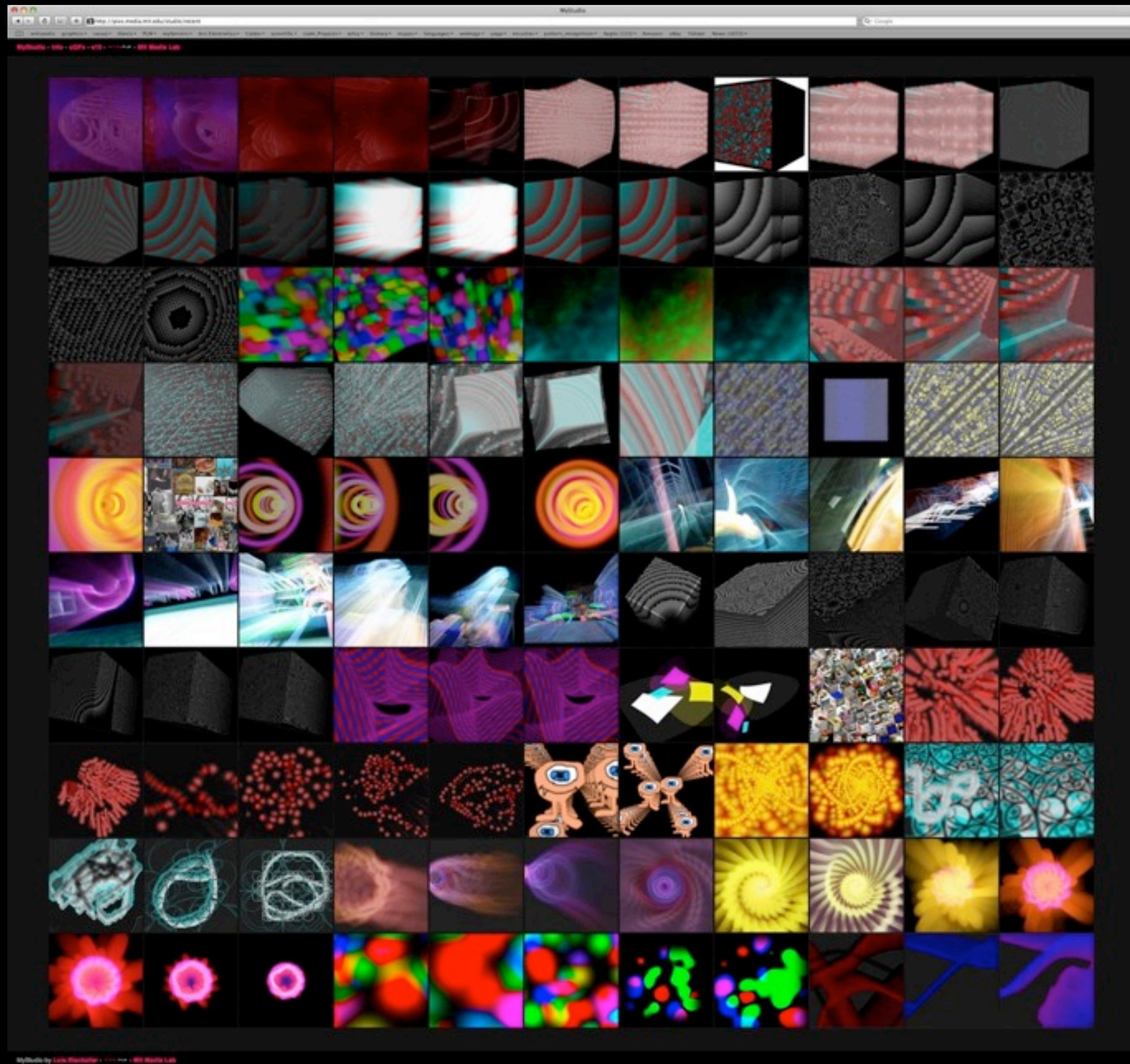
Some HTML is ok

Your name:

Your message:

send

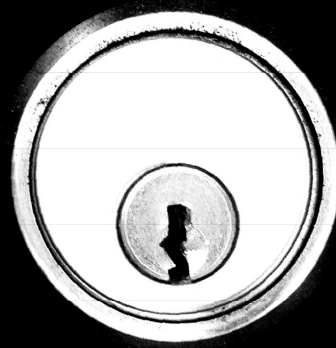




6: ¿Espacio Público Digital?

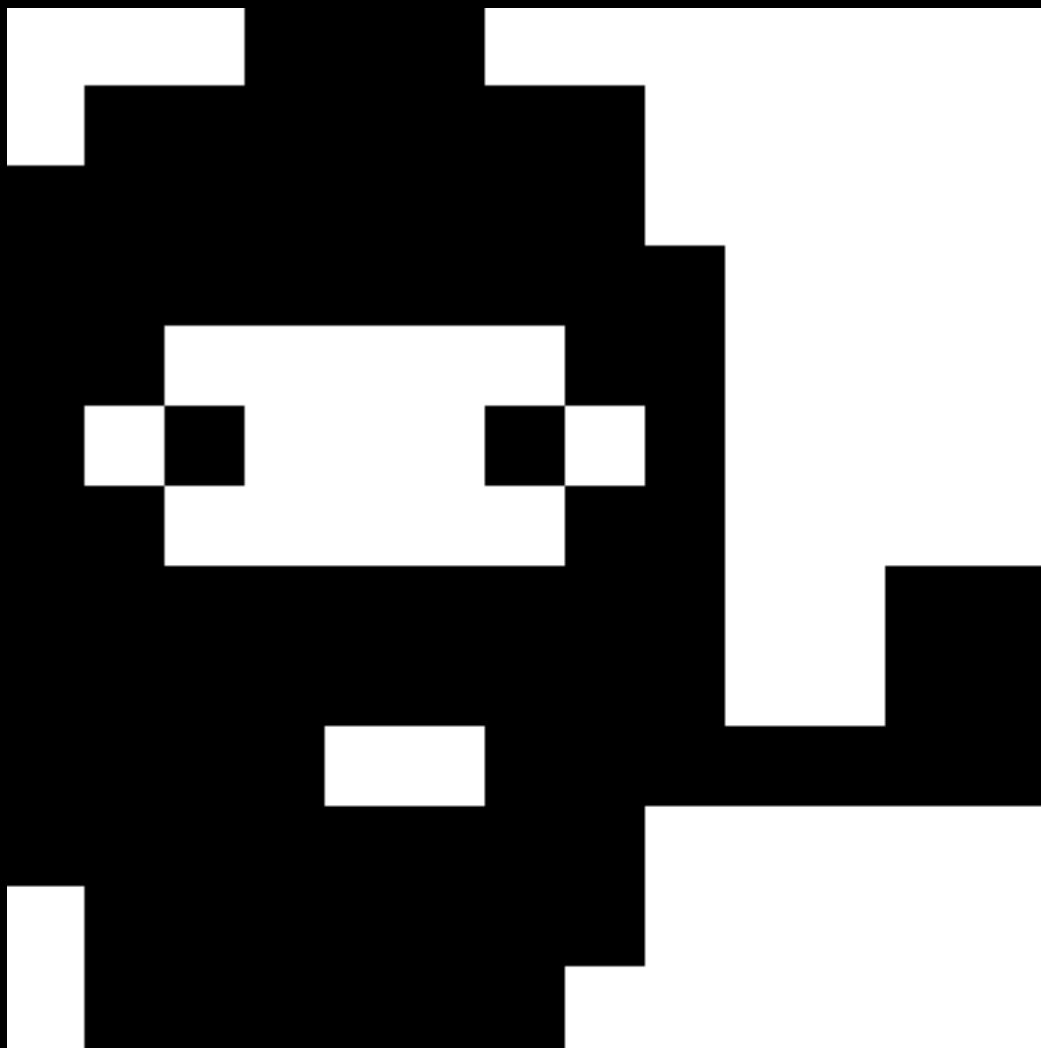


Espacio público, anonimato y participación



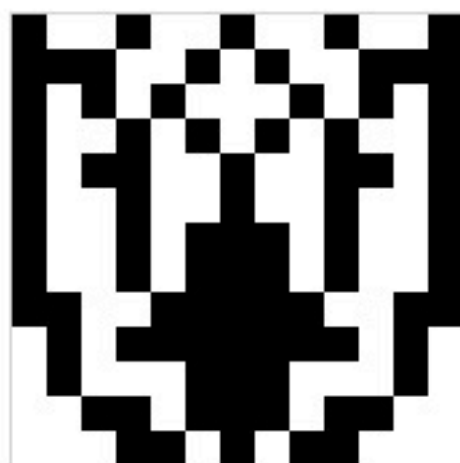
Tiny Icon Factory
PictureXS
TinyDoodle

3



<http://tiny.tacolab.com/>

Tiny Icon Factory



Title

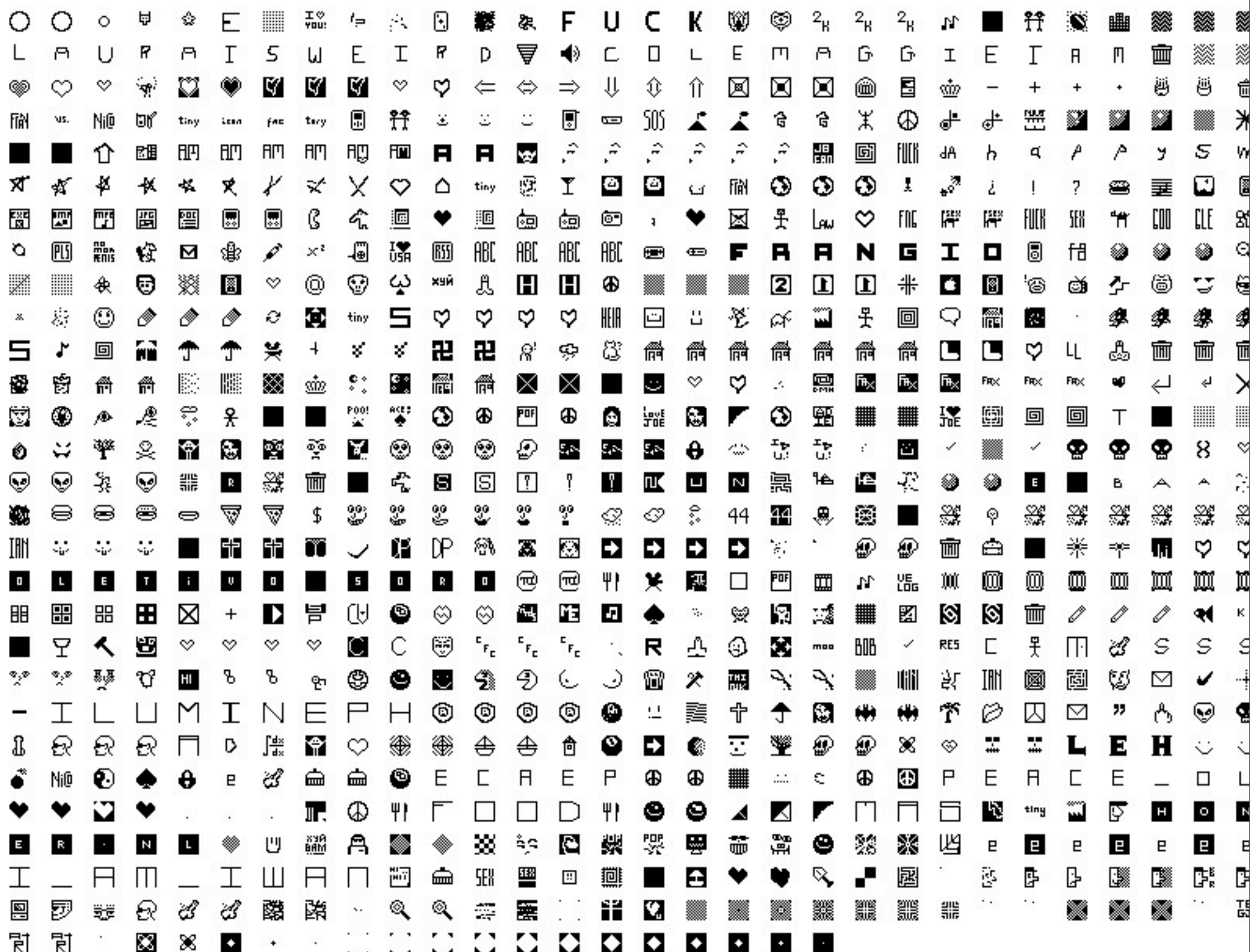
Invert | Clear | **Save**

New: Tiny Dashboard Widget

RSS & Search API

Created by Luis & Brent in
the PLW. (disclaimer)

LWMITMLPLWMIT



Saturday, August 6, 2011

Ociosos



PictureXS

Espacio anónimo para subir fotos, con

- tags,
- comentarios,
- herramienta de trazo y
- sistema de censura.

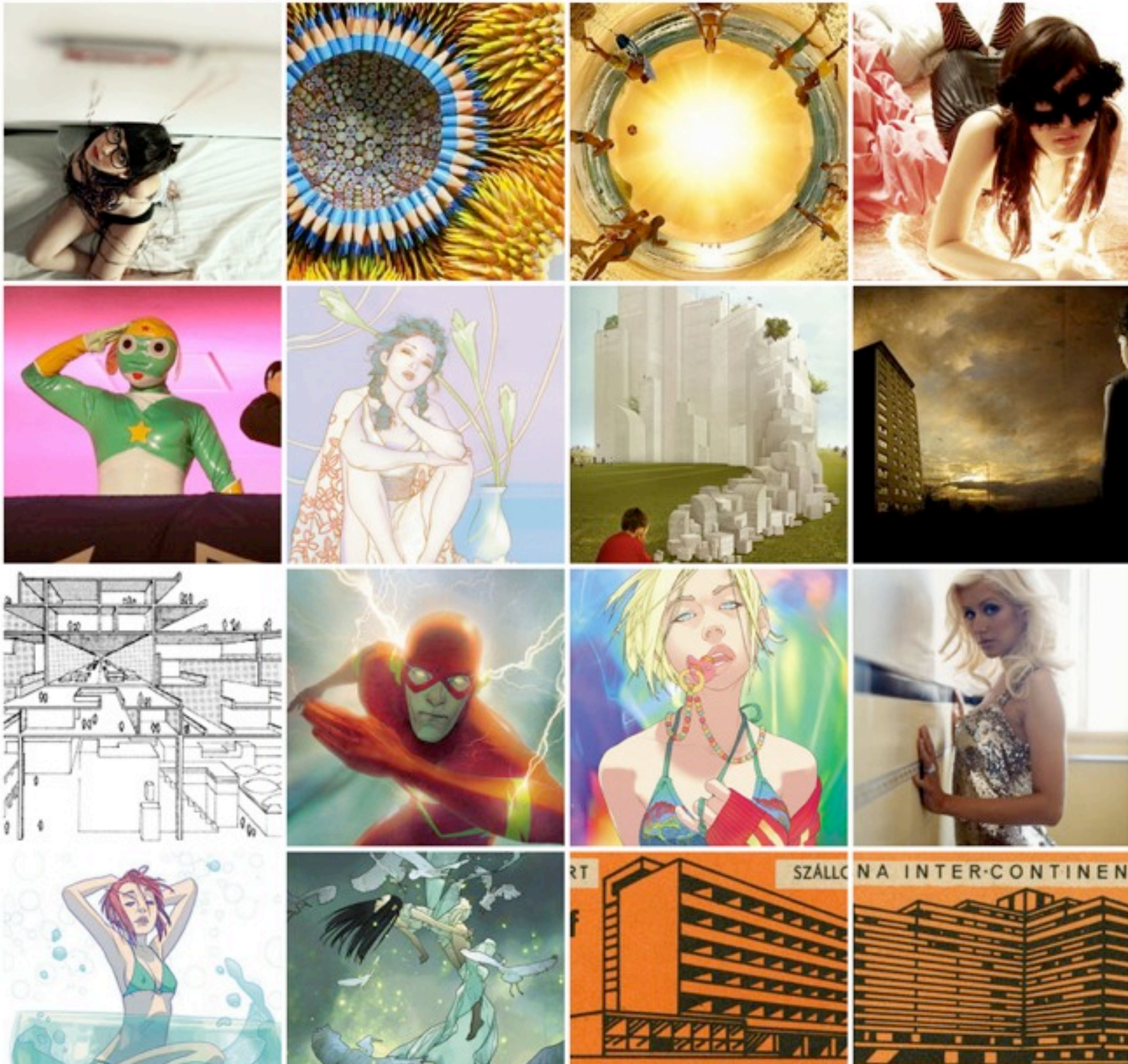
PictureXS

http://pixs.media.mit.edu/pictures/random

wikipedia graphics cocoa thesis PLW myServers Ars Electronica Codes scientific code_Projects artsy history mapas languages weblogs yoga

PictureXS by Luis Blackaller at PLW - info - ~~HITRE PLM~~ - censorship - drawings

recent | zoom out | colors | pairs | pages search tags



Do you have a picture?

Choose File n...

tag it

upload

Click here for full size:



tape wall mess melancholy

PictureXS

⏪

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↺

+

📷

http://pixs.media.mit.edu/pictures/show/11839#

Q

Google

wikipedia graphics▼ cocoa▼ thesis▼ PLW▼ myServers▼ Ars Electronica▼ Codes▼ scientific▼ code_Projects▼ artsy▼ history▼ mapas▼ languages▼ weblogs▼ yoga▼ >>

PictureXS by Luis Blackaller at PLW - info - ~~NITEL PLW~~ - censorship - trace - drawing

3

previous - next



remove this picture

search tags

Fullsize Picture



tags for this image: **mono negativo** ... and related pictures:





this picture is this color:



Please leave a message
Some HTML is ok

Your name:

Your message:

send

update tags

update

Do you have a picture?

n...

tag it

upload

Saturday, August 6, 2011

PictureXS

http://pixs.media.mit.edu/pictures/show/11839#

wikipedia graphics▼ cocoa▼ thesis▼ PLW▼ myServers▼ Ars Electronica▼ Codes▼ scientific▼ code_Projects▼ artsy▼ history▼ mapas▼ languages▼ weblogs▼ yoga▼

PictureXS by Luis Blackaller at PLW - info - ~~NITRO PLW~~ - censorship - trace - drawing

3 previous - next  remove this picture search tags

Fullsize Picture

submit drawing



this picture is this color:

Please leave a message
Some HTML is ok

Your name:

Your message:

send

update tags

mono negativo

update

Do you have a picture?

Choose File n...

tag it

upload

tags for this image: **mono negativo** ... and related pictures:



Participación Activa vs Participación Pasiva

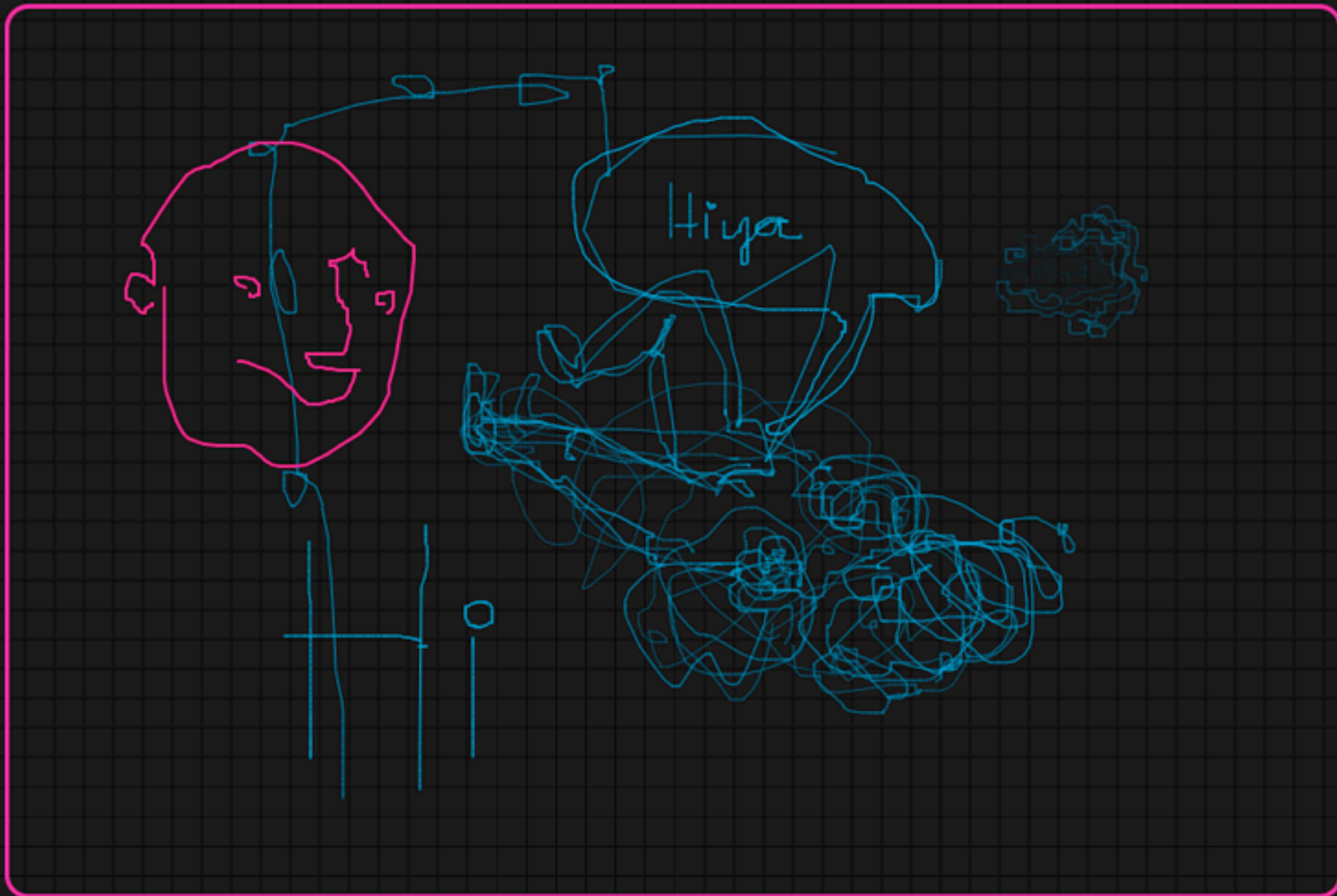
Las curvas aproximan número de visitas sobre número de posts en los primeros meses de vida de ambos sistemas.

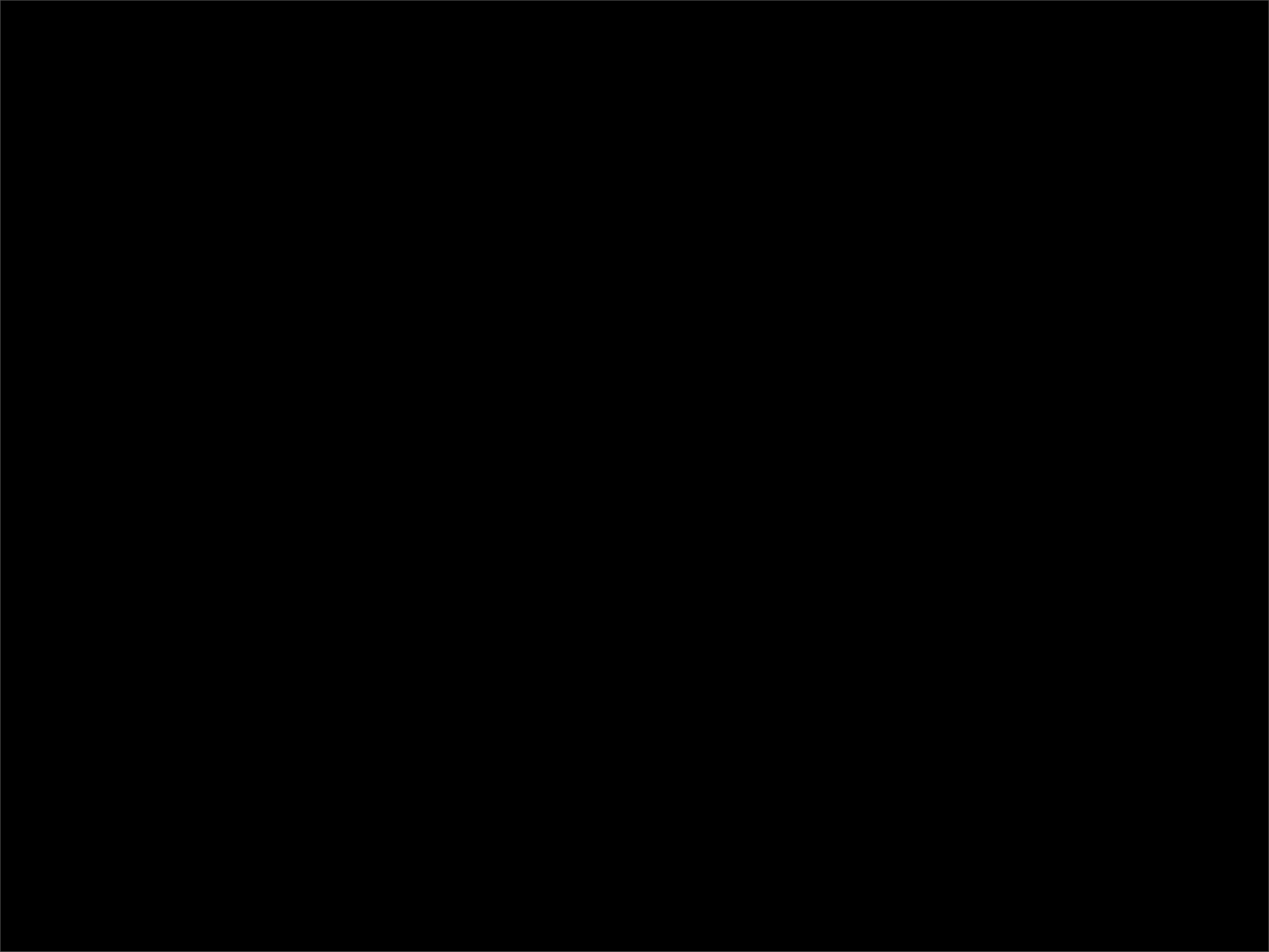
PictureXS: más visitas que posts

Tiny: más posts que visitas

<http://doodle.mitplw.com/>

Chat with doodles in tinyDoodle by **Black** at **HITMLPLM** - Watch a **Movie** - works on **Firefox** or **Safari**







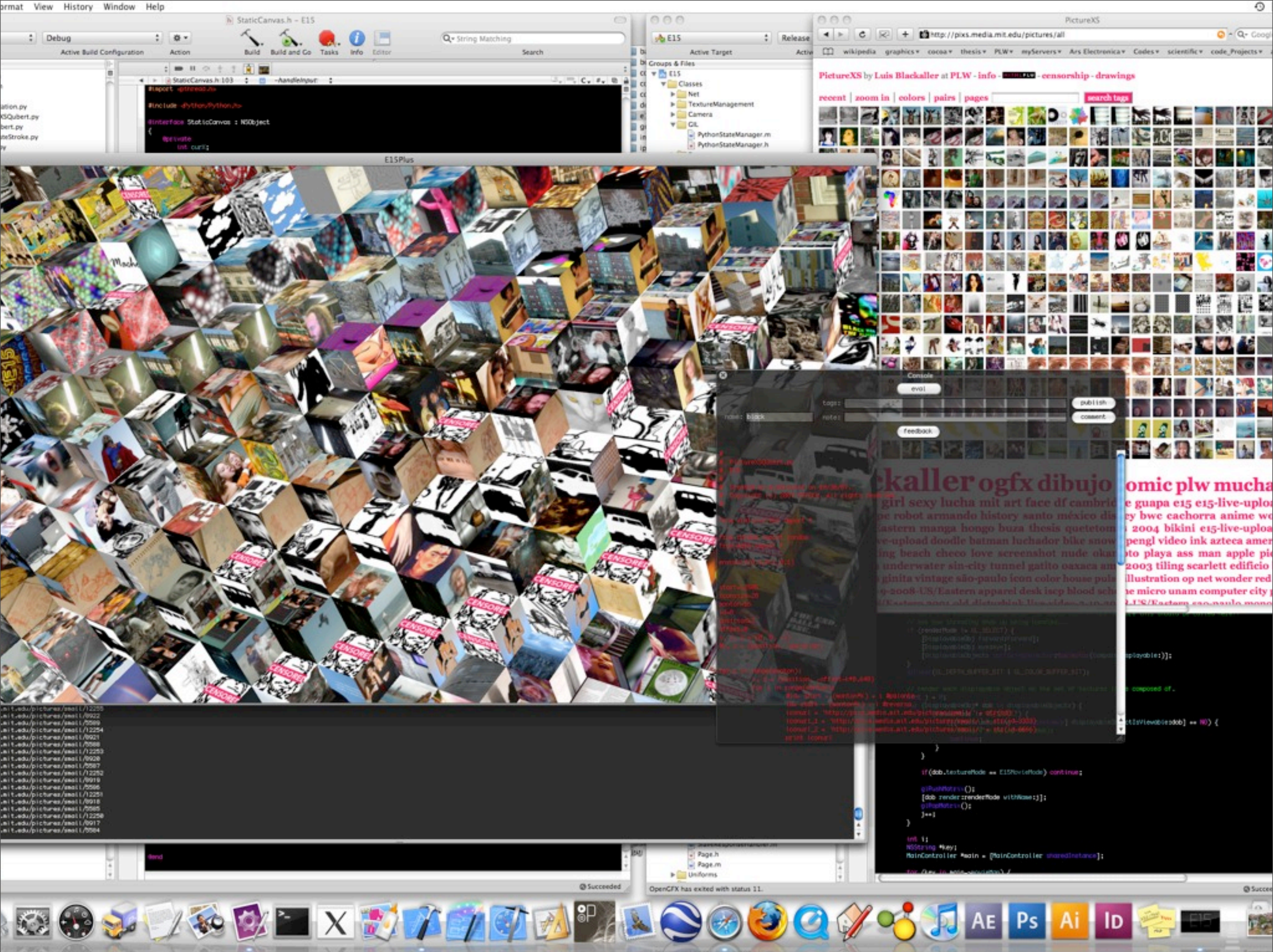
7: E15



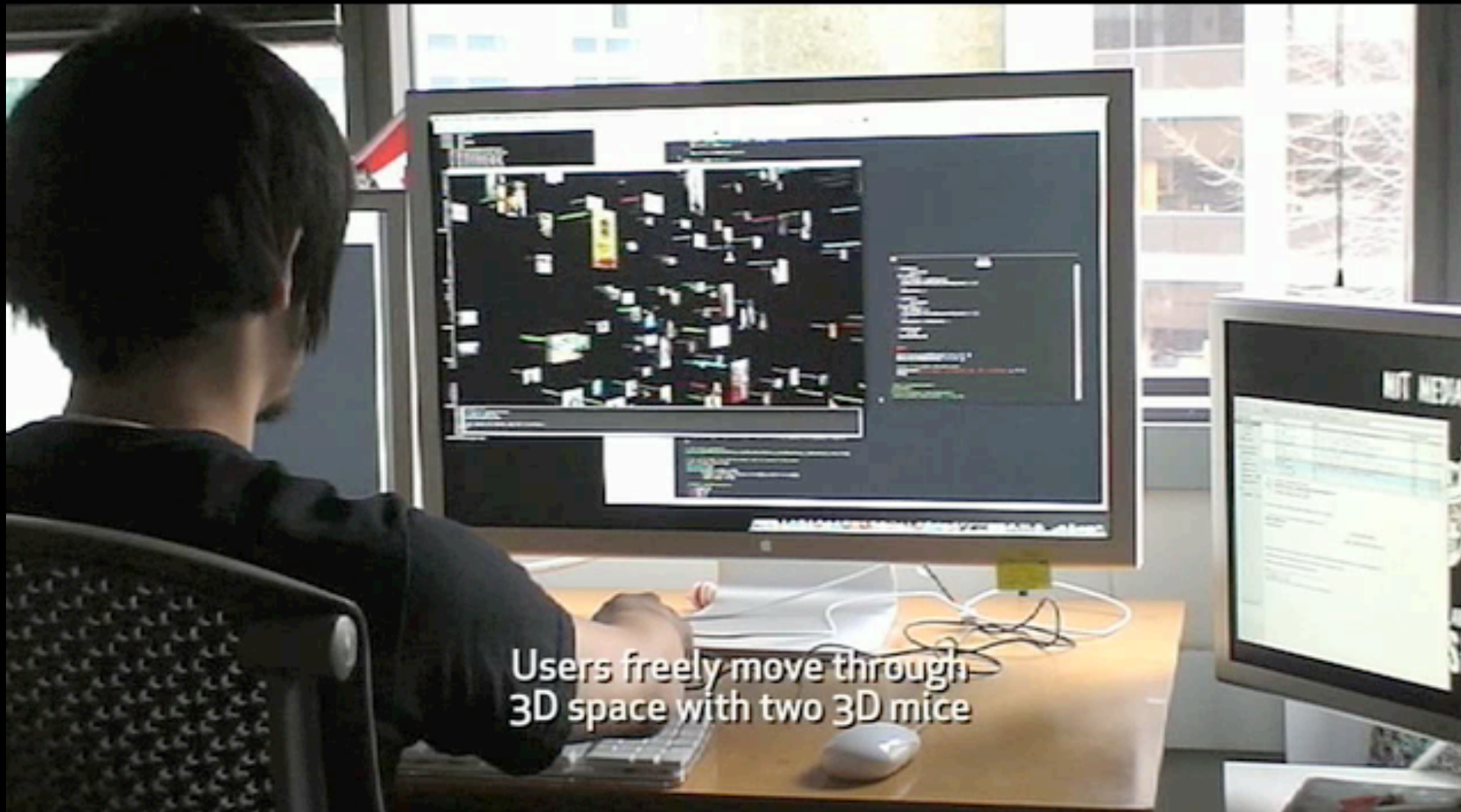
Pregunta más general

¿Cuál es el futuro del medio digital en su relación con los sistemas de comunicación y la cultura?









Users freely move through
3D space with two 3D mice

Demos

TinyIF <http://tiny.tacolab.com/> con Brent Fitzgerald

TinyDoodle <http://doodle.mitplw.com/>

oGFx <http://ogfx.mitplw.com/> con Kyle Buza

Blacklab

Ligas

Blog <http://blacklog.mitplw.com>

Portafolio <http://black.mitplw.com>

Tesis Media Lab Master of Science

Performing Process: The artist studio as interactive art

<http://black.mitplw.com/papers/thesis.pdf>

¡Muchas gracias!

¡Muchas Gracias!

