R for Strings and Hammers

R for strings and hammers is an algorithmic audio/visual installation that takes pixel information (hue, saturation, and brightness) from a digital representation of [ANON PAINTING] as its generative material. At each point along a simulated Brownian trajectory (shown trailing in white) the computer extracts, scales and maps pixel data to the parameters of a probabilistic playback system consisting of sampled/processed/spatialized piano, double bass and viola.

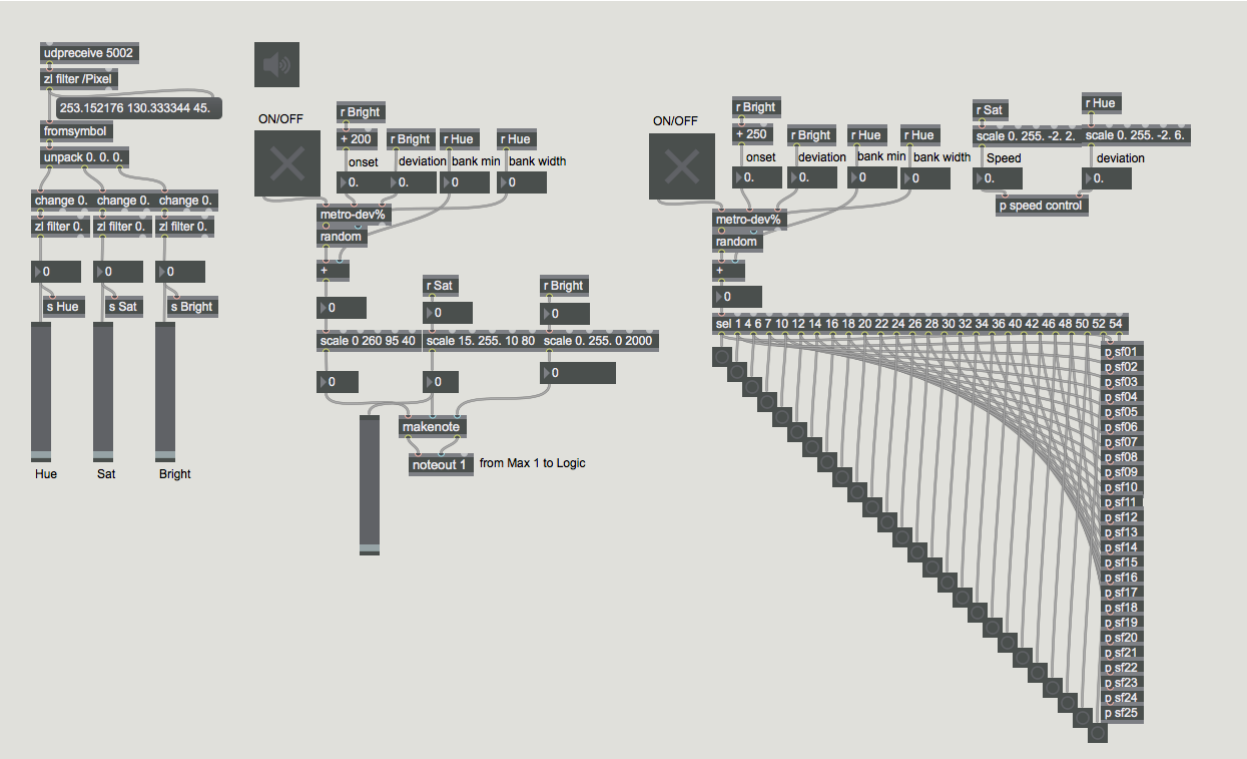
Technical Requirements

- Video display
- Stereo playback
- Cables (VGA, 2 XLR)
- Laptop (Software = Processing to Max/MSP to Logic)*

Processing Code:

```
import oscP5.*;
import netP5.*;
OscP5 oscP5;
NetAddress myRemoteLocation;

static final String ENGINE = P2D;
PImage img;
int num = 50;
int range = 6;
float[] ax = new float[num];
float[] ay = new float[num];

void setup()
 {
   size(360, 480);
   frameRate(25);
   oscP5 = new OscP5(this, 5002);
   myRemoteLocation = new NetAddress("127.0.0.1",5002);
 }

void draw()
 {
   img = loadImage("Image_1.JPG");
   img.resize(358, 478);
   image(img, 1, 1);
   img.loadPixels();
   loadPixels();

   for (int i = 1; i < num; i++)
    {
      ax[i-1] = ax[i];
      ay[i-1] = ay[i];
    }

   ax[num-1] += random(-range, range);
   ay[num-1] += random(-range, range);
   ax[num-1] = constrain(ax[num-1], 0, img.width);
   ay[num-1] = constrain(ay[num-1], 0, img.height);

   for (int i=1; i<num; i++)
    {
      float val = float(i)/num * 204.0 + 74;
      stroke(val, val);
      strokeWeight(4);
      line(ax[i-1], ay[i-1], ax[i], ay[i]);
      final color c = pixels[int(ay[i])*img.width + int(ax[i])];
      OscMessage myMessage = new OscMessage("/Pixel");
      myMessage.add(hue(c) + "\t" + saturation(c)+ "\t" + brightness(c));
      oscP5.send(myMessage, myRemoteLocation);
    }
   }
```

Max Patch:


udpreceive 5002
zl filter /Pixel
253.152176 130.333344 45.
fromsymbol
unpack 0. 0. 0.
change 0.
change 0.
change 0.
zl filter 0.
zl filter 0.
zl filter 0.
0
0
0
s Hue
s Sat
s Bright
Hue
Sat
Bright
ON/OFF
r Bright
+ 200
r Bright
r Hue
r Hue
onset
deviation
bank min
bank width
0.
0.
0
0
metro-dev%
random
+
0
r Sat
r Bright
0
0
scale 0 260 95 40
scale 15. 255. 10 80
scale 0. 255. 0 2000
0
0
0
makenote
noteout 1
from Max 1 to Logic
ON/OFF
r Bright
+ 250
r Bright
r Hue
r Hue
r Sat
r Hue
scale 0. 255. -2. 2.
scale 0. 255. -2. 6.
onset
deviation
bank min
bank width
Speed
deviation
0.
0.
0.
0.
0
0
0.
0.
p speed control
metro-dev%
random
+
0
sel 1 4 6 7 10 12 14 16 18 20 22 24 26 28 30 32 34 36 40 42 46 48 50 52 54
p sf01
p sf02
p sf03
p sf04
p sf05
p sf06
p sf07
p sf08
p sf09
p sf10
p sf11
p sf12
p sf13
p sf14
p sf15
p sf16
p sf17
p sf18
p sf19
p sf20
p sf21
p sf22
p sf23
p sf24
p sf25