

A large, modern glass atrium with a high ceiling. The space is filled with numerous colorful spherical lights in shades of green, orange, red, and blue. The word "Software" is written in a white, stylized, cursive font across the lower part of the image. The architecture features a complex network of steel beams and glass panels, creating a sense of depth and openness. The lighting is a mix of warm and cool tones, creating a vibrant and futuristic atmosphere.

Software

The Program

11:22

DMX sending

Paused

ANIMATION

0.00 TIMESPEED

120 DMXMAXSPEED

WAVE/ NOISE ANIMATE SENDDMX

WAVE PARAMETERS

0.65 AMPMULTIPLIER

0.89 FREQMULTIPLIER

54.00 HEIGHTOFFSET

0.00 EXTRANOISE

RGB LIGHTS

MANUAL VOLUME COLOURS DAILY



Day Gradients



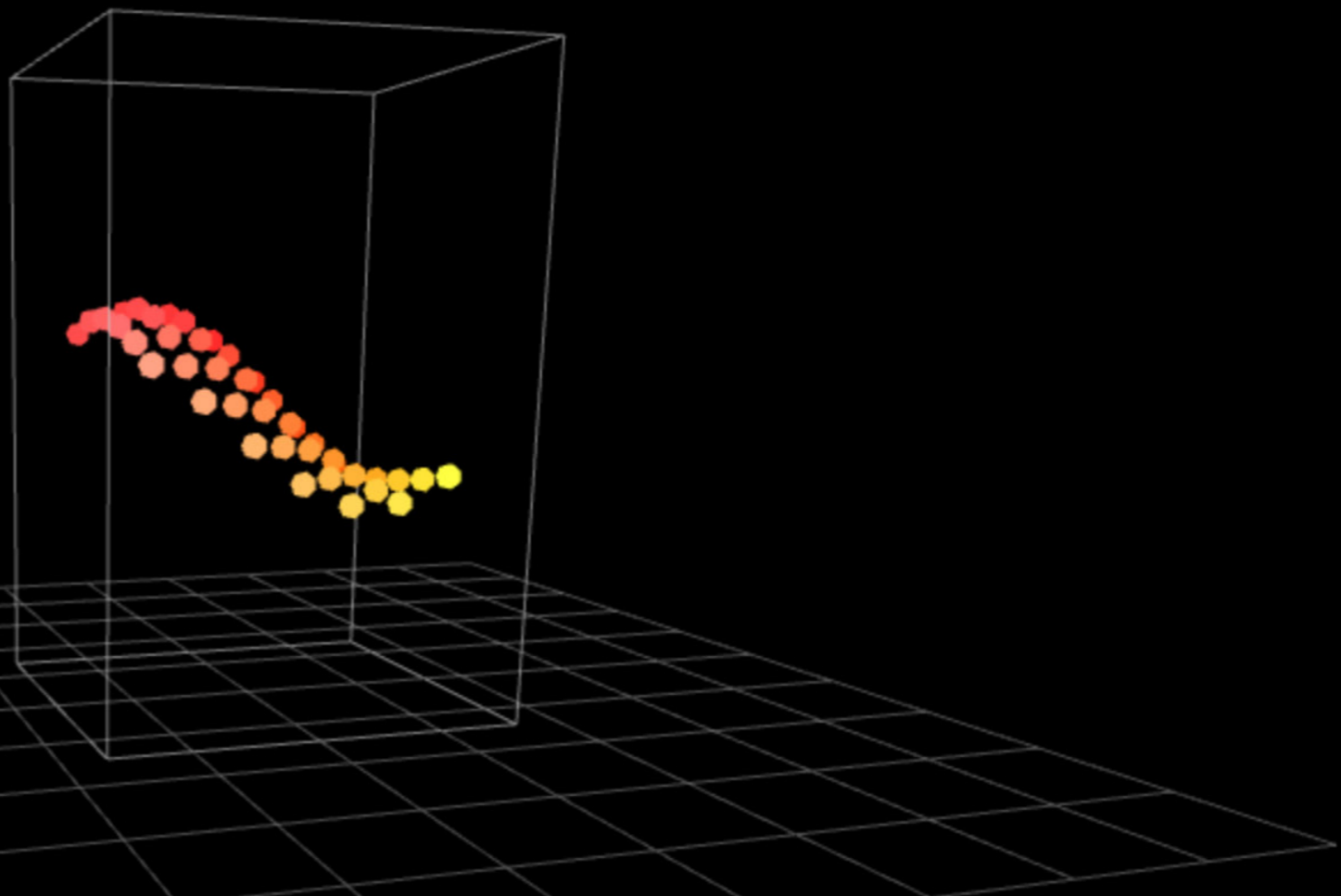
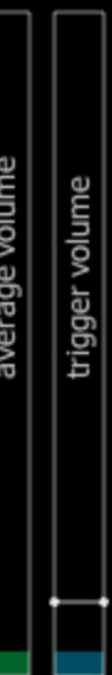
Amp1 = 10.57
 Amp2 = 53.289997
 Freq1 = 0.32
 Freq1 = 0.59999996
 Time Speed = 0.003
 DMX speed = 120
 Average VOI = 0.06

95	86	85	94	109	126	140
92	88	94	107	123	138	147
89	92	103	119	136	149	153
88	96	112	131	147	156	156
87	101	120	140	154	159	154
89	107	127	146	157	158	149

700.00 VOLUMESCALE

0.00 VOLUMEBOOST

1.35 H
 0.00 Y
 2.87 Z
 1200.00 TX
 710.00 TY
 -1780.00 TZ



Existing Modes: Wave

11 : 22

DMX sending
Paused

ANIMATION

0.00 TIMESPEED
120 DMXMAHSPEED

WAVE/NOISE ANIMATE SENDDMX

WAVE PARAMETERS

0.65 AMPMULTIPLIER
0.89 FREQMULTIPLIER
54.00 HEIGHTOFFSET
0.00 EXTRANOISE

RGB LIGHTS

MANUAL VOLUMECOLOURS DAILY

255
0
0
255

255
255
0
255

Day Gradients

Amp1 = 10.57
Amp2 = 53.289997
Freq1 = 0.32
Freq2 = 0.59999996
Time Speed = 0.003
DMX speed = 120
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88	96	112	131	147	156	156
87	101	120	140	154	159	154
89	107	127	146	157	158	149

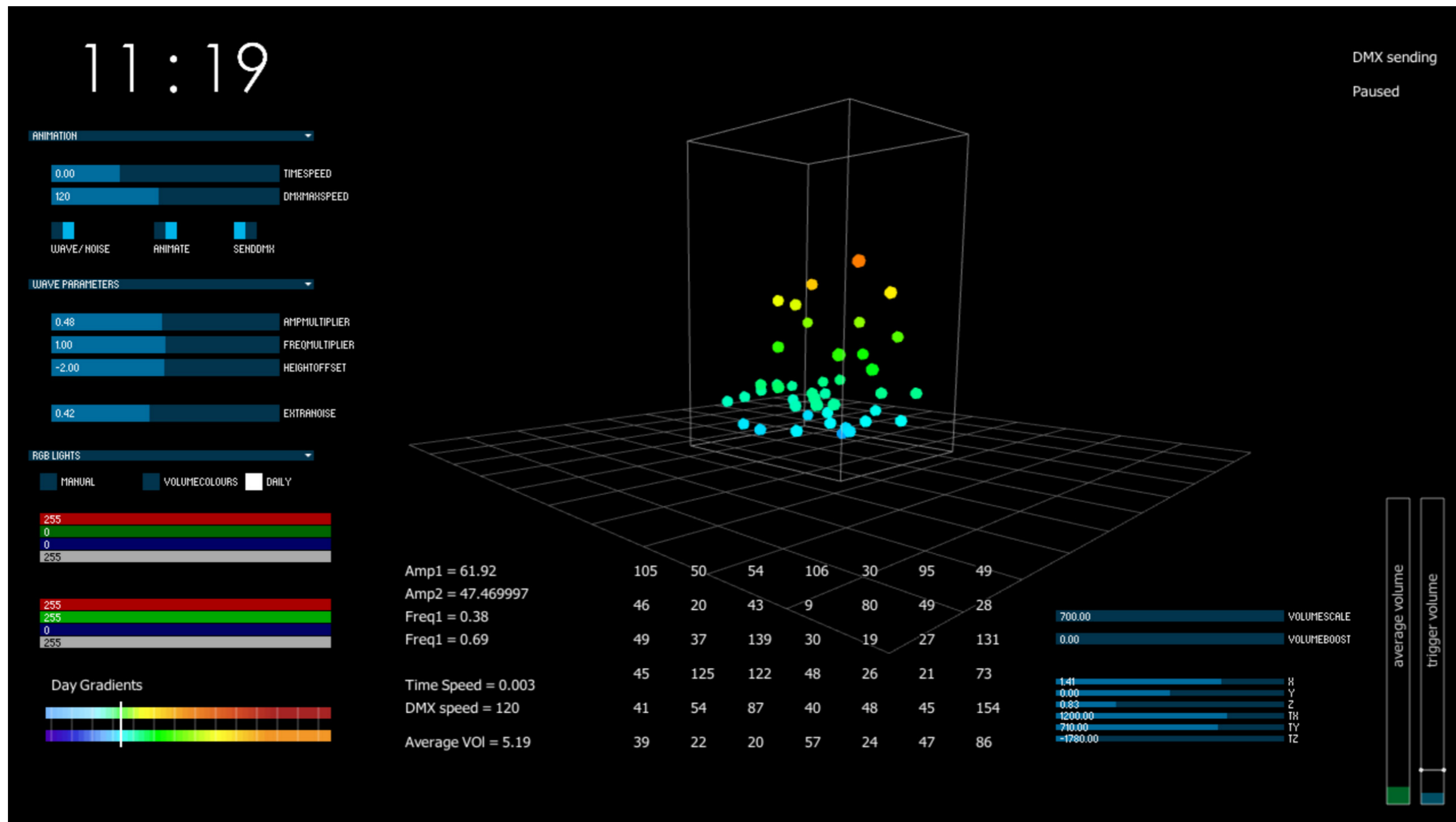
700.00 VOLUMESCALE
0.00 VOLUMEBOOST

1.35 X
0.00 Y
2.87 Z
1200.00 TX
710.00 TY
-1780.00 TZ

average volume
trigger volume

The balls create a gently undulating supposition of sinewaves in 3D. The amplitude of the waves is proportional to the average volume on the ground floor

Existing Modes: Noise



The balls create a gently moving random distribution whose amplitude is proportional to the noise on ground floor.

Resetting

11:10

DMX sending
Paused

ANIMATION

0.00 TIMESPEED
120 DMXMAXSPEED

ANIMATE SENDDMX

WAVE PARAMETERS

0.70 AMPMULTIPLIER
1.00 FREQMULTIPLIER
0.00 HEIGHTOFFSET
0.00 EXTRANOISE

RGB LIGHTS

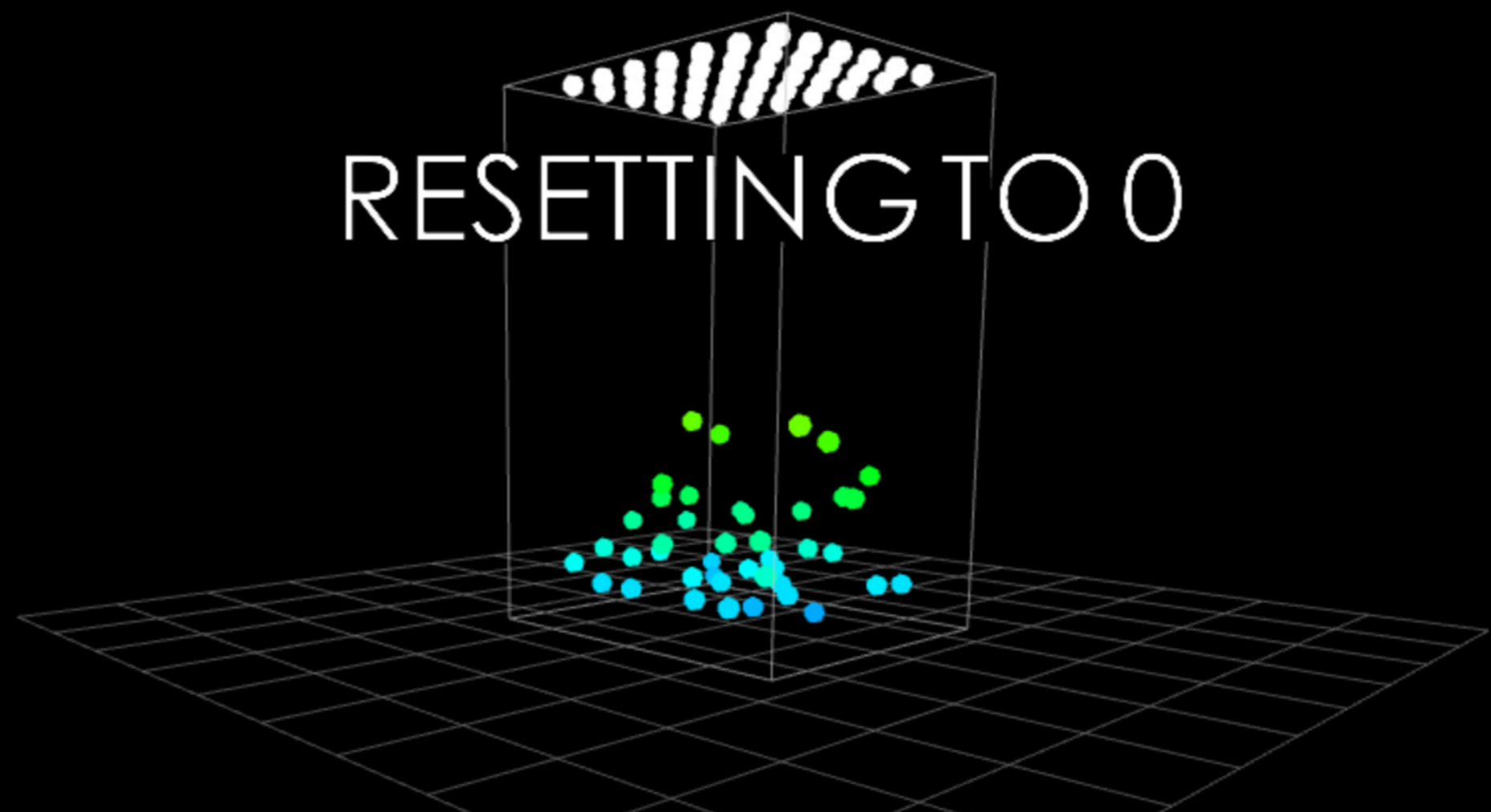
MANUAL VOLUME COLOURS DAILY

255
0
0
255

255
255
0
255

Day Gradients

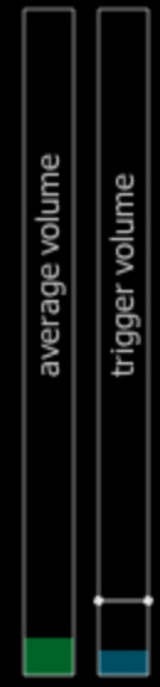
RESETTING TO 0



Amp1 = 60.14	18	48	24	51	32	72	21
Amp2 = 52.77	43	15	49	24	36	63	23
Freq1 = 0.32	27	59	91	26	21	10	65
Freq1 = 0.59999996	46	59	98	21	12	21	92
Time Speed = 0.003	34	31	69	26	45	48	100
DMX speed = 120	28	21	21	44	21	20	37
Average VOI = 5.0099998							

700.00 VOLUMESCALE
0.00 VOLUMEBOOST

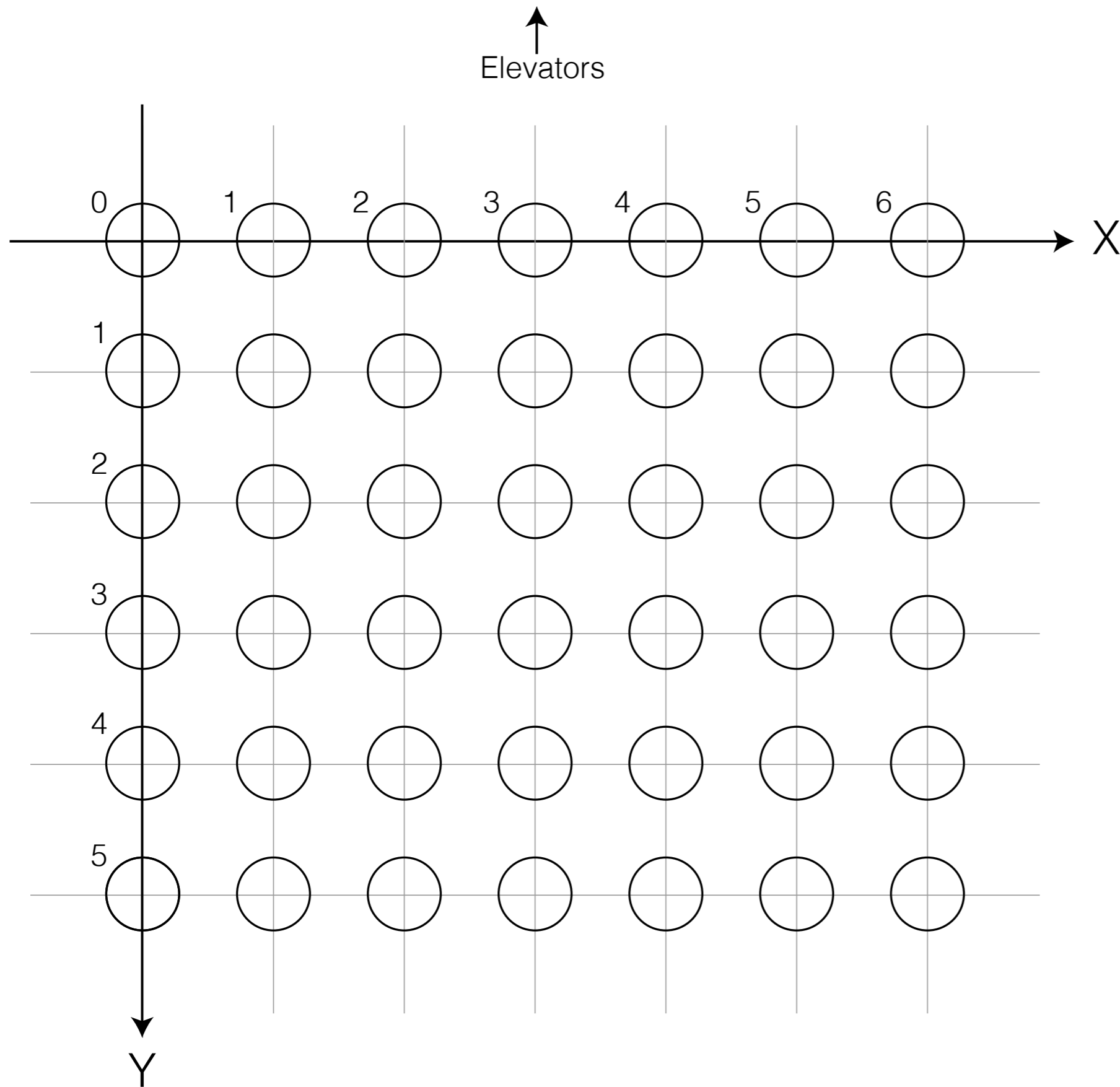
1.41 H
0.00 Y
0.83 Z
1200.00 TX
710.00 TY
-1780.00 TZ



Resetting

- All balls turn white and the winches return to their top position
- The winches must reset to calibrate their position in space
- The program automatically resets on startup
- And then every hour throughout the day
- This must happen this frequently as some winches can become out of sync with the rest.
- Some winches lose their position more frequently than others causing rogue balls.

Taking Control



The balls are controlled with a regular (x, y) grid with 7 in x and 6 in y .

However the balls are numbered starting from 0

The Height and Colour are controlled in relation to their (x, y) position

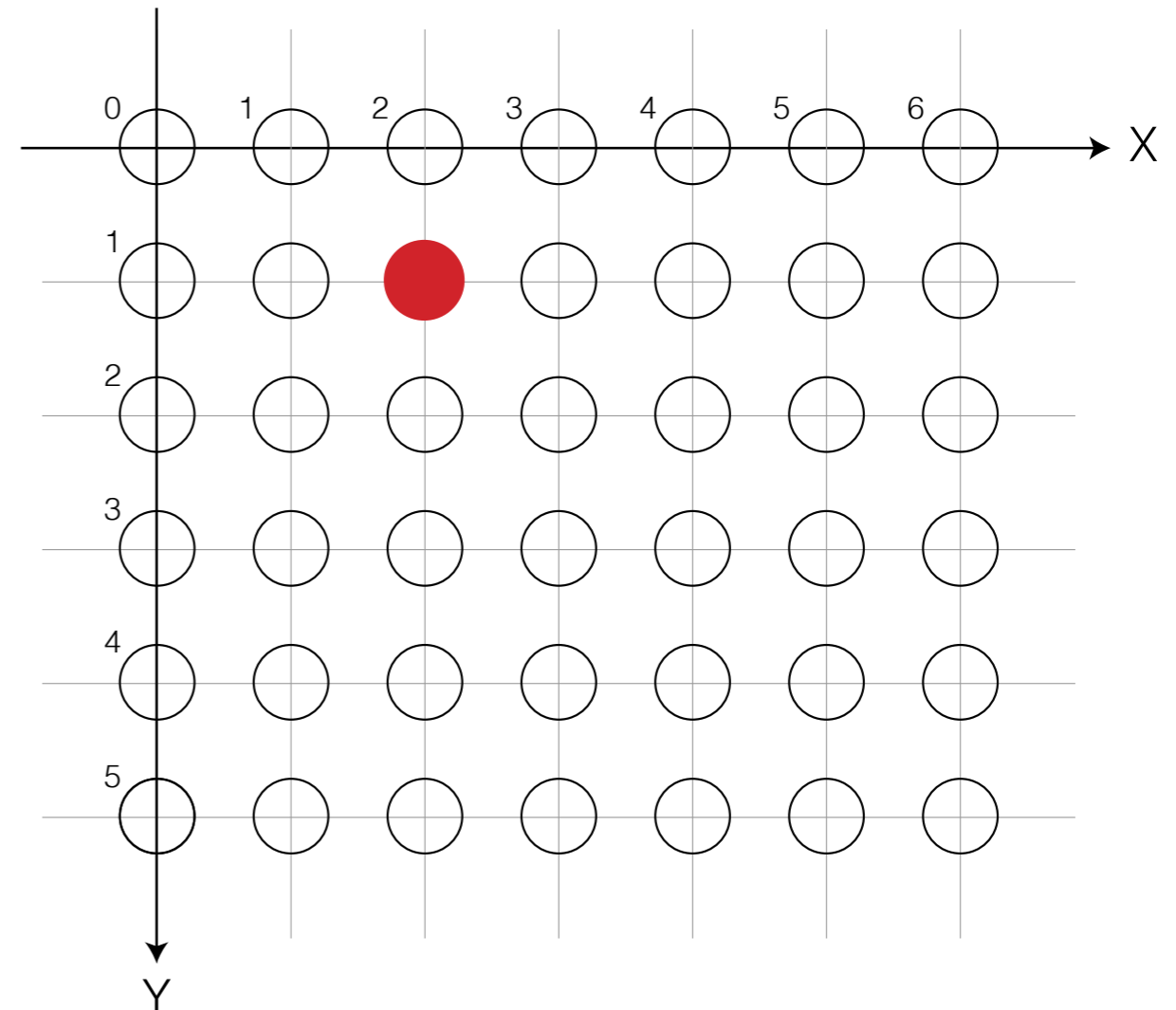
The variables to control height and color are thus:

Height: **ballZ[x][y]** = any integer between 0-255

Colour: **ballC[x][y]** = any RGB color in the form **color(r,g,b)**

Example:

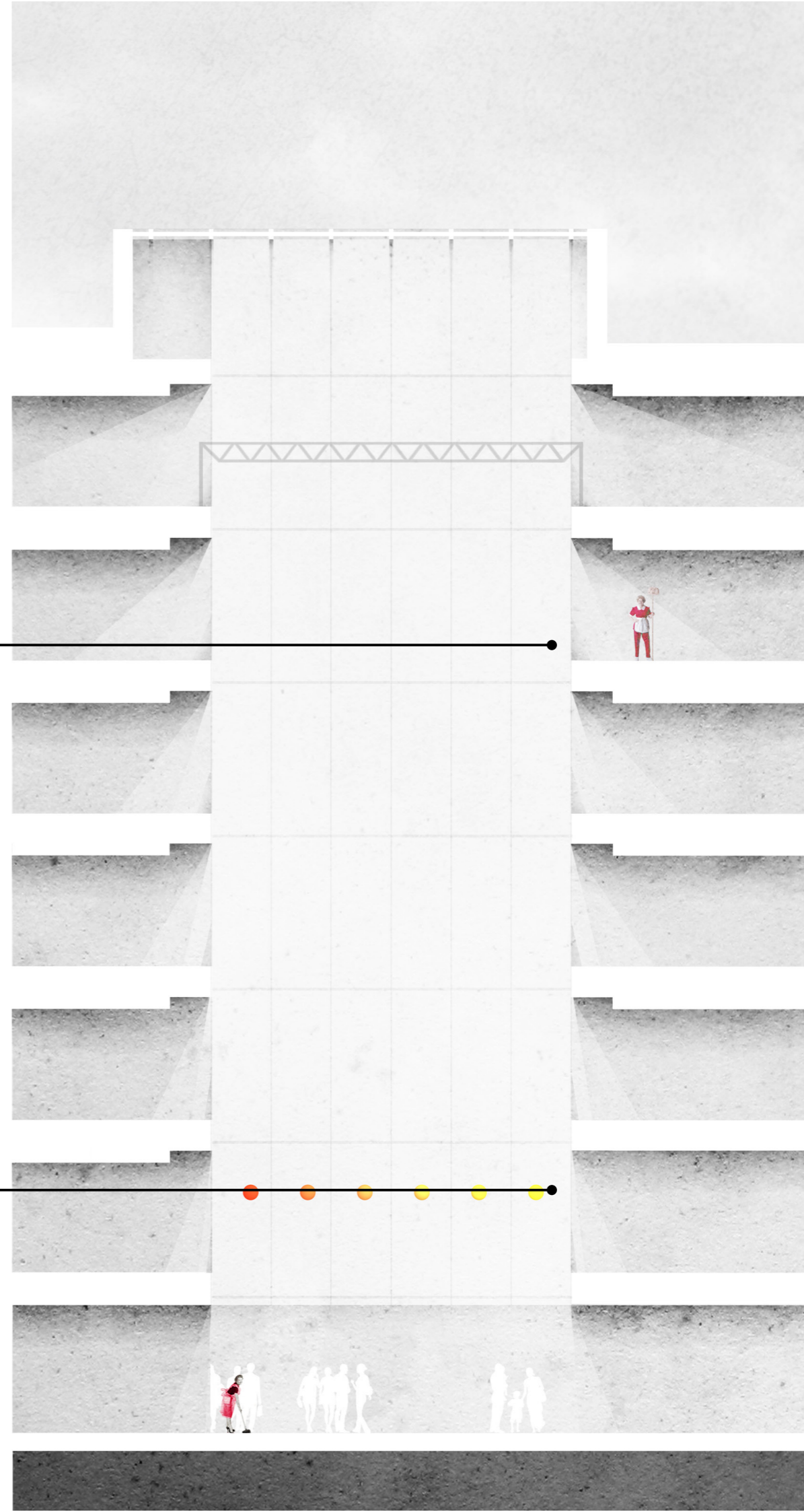
ballC[2][1] = color(255,0,0);



Height Values

Max = 255

Min = 0



Creating a function

The Height and Colour can be set as functions of:

x = x position

y = y position

t = variable time (speed of this controlled with a slider)

day(), **hour()**, **minute()** = current day/hour/minute etc.

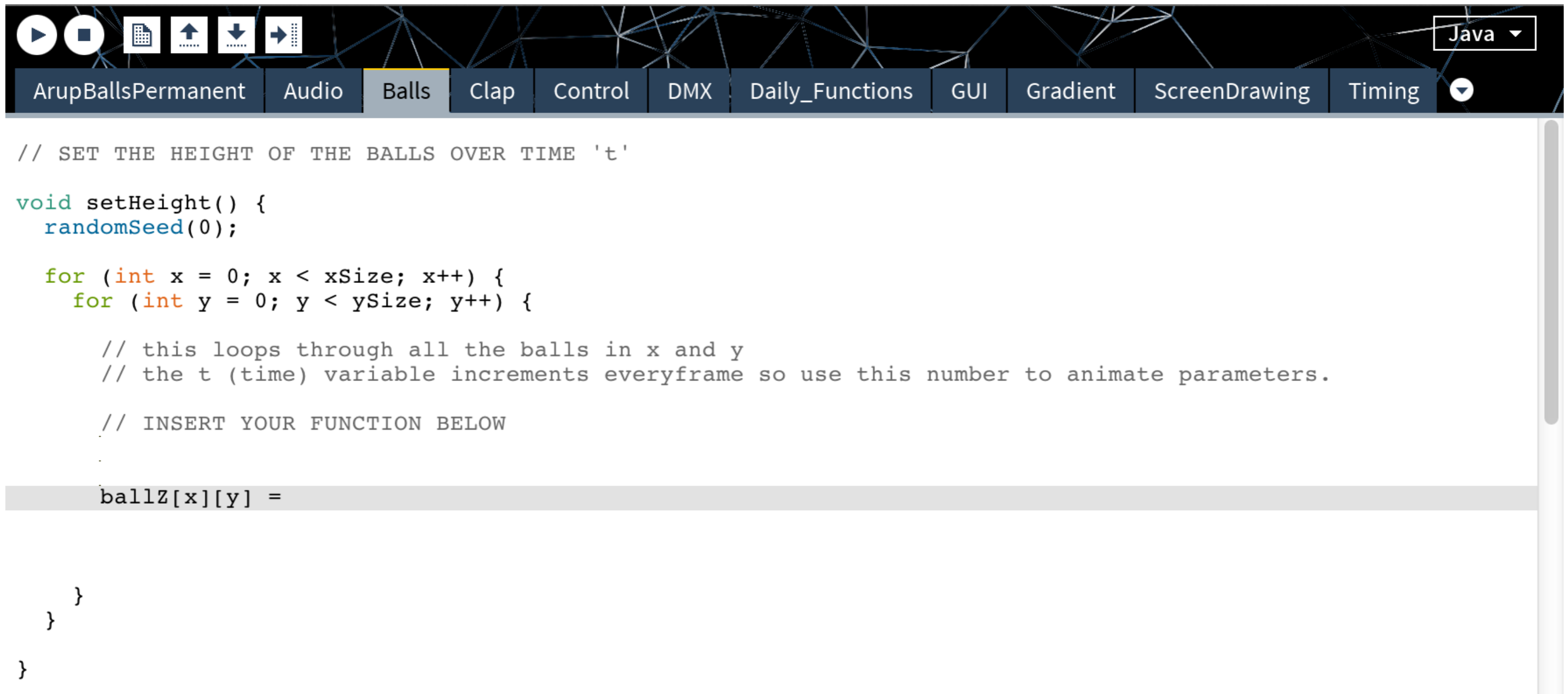
aveVol = average noise in cafe

logic conditionals eg. `if (day() == tuesday) ballC[x][y] = color(0,100,255);`

or any other variable you can think of/create.

Inserting and testing your functions

In the Balls tab of the Processing sketch you can insert your function to set Height and Colour

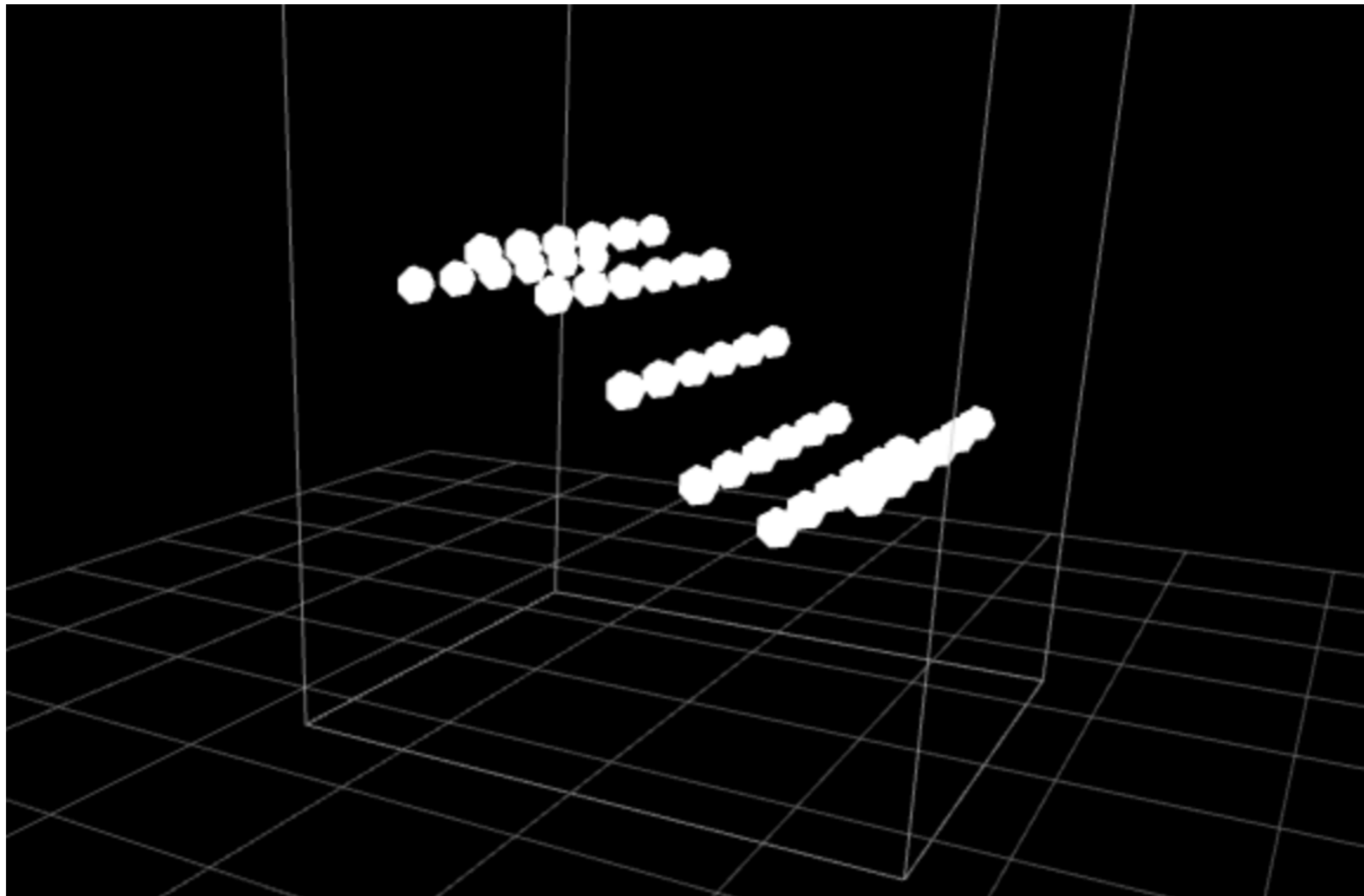


```
// SET THE HEIGHT OF THE BALLS OVER TIME 't'  
  
void setHeight() {  
  randomSeed(0);  
  
  for (int x = 0; x < xSize; x++) {  
    for (int y = 0; y < ySize; y++) {  
  
      // this loops through all the balls in x and y  
      // the t (time) variable increments everyframe so use this number to animate parameters.  
  
      // INSERT YOUR FUNCTION BELOW  
      .  
      .  
  
      ballZ[x][y] =  
  
    }  
  }  
}
```

Function example:

For example this function creates a gently oscillating sinewave along the x axis

```
ballZ[x][y] = 100 + 100*sin(t + x*0.1);
```



You can test your height and colour functions using the 3D simulation in the demo processing sketch.

Once you are ready you can copy these into the main computer on 5th to run them with the hardware.

