

## Arduino\_Processing\_kinect

```
import processing.serial.*;
import org.openkinect.freenect.*;
import org.openkinect.freenect2.*;
import org.openkinect.processing.*;
import org.openkinect.tests.*;
```

```
Serial port;
Kinect kinect;
```

```
float deg;
float val;
```

```
void setup() {
  frameRate(24);
  size(1920, 1440);
```

```
String arduinoPort = Serial.list()[3];
port = new Serial(this, arduinoPort, 9600);
```

```
kinect = new Kinect(this);
kinect.initDepth();
deg = kinect.getTilt();
}
```

```
void draw() {
  if (port.available() > 0) {
    val = port.read();
    val = map(val, 0, 255, 3, 30);
```

```
    println(val);
    background(255);
```

```
    PImage img = kinect.getDepthImage();
    image(img, 0, 0);
```

```
    int skip = 1+ int(val);
    for (int x = 0; x < img.width; x+= skip) {
      for (int y = 0; y < img.height; y+= skip) {
        int index = x + y*img.width;
        float b = brightness(img.pixels[index]);
        fill(b);
        rect(x, y, skip, skip);
      }
    }
```

```
  }
  for (int x = 0; x < img.width; x+= skip) {
    for (int y = 0; y < img.height; y+= skip) {
      int index = x + y*img.width;
```

```

float b = brightness(img.pixels[index]);
fill(b);
rect(x+640, y, skip, skip);
}
}
for (int x = 0; x < img.width; x+= skip) {
  for (int y = 0; y < img.height; y+= skip) {
    int index = x + y*img.width;
    float b = brightness(img.pixels[index]);
    fill(b);
    rect(x+1280, y+480*2, skip, skip);
  }
}
for (int x = 0; x < img.width; x+= skip) {
  for (int y = 0; y < img.height; y+= skip) {
    int index = x + y*img.width;
    float b = brightness(img.pixels[index]);
    fill(b);
    rect(x+640*2, y+480, skip, skip);
  }
}
for (int x = 0; x < img.width; x+= skip) {
  for (int y = 0; y < img.height; y+= skip) {
    int index = x + y*img.width;
    float b = brightness(img.pixels[index]);
    fill(b);
    rect(x+640*2, y, skip, skip);
  }
}
for (int x = 0; x < img.width; x+= skip) {
  for (int y = 0; y < img.height; y+= skip) {
    int index = x + y*img.width;
    float b = brightness(img.pixels[index]);
    fill(b);
    rect(x, y+480, skip, skip);
  }
}
for (int x = 0; x < img.width; x+= skip) {
  for (int y = 0; y < img.height; y+= skip) {
    int index = x + y*img.width;
    float b = brightness(img.pixels[index]);
    fill(b);
    rect(x+640, y+480, skip, skip);
  }
}
for (int x = 0; x < img.width; x+= skip) {
  for (int y = 0; y < img.height; y+= skip) {
    int index = x + y*img.width;

```

```
float b = brightness(img.pixels[index]);  
fill(b);  
rect(x+640, y+480*2, skip, skip);  
}  
}  
for (int x = 0; x < img.width; x+= skip) {  
  for (int y = 0; y < img.height; y+= skip) {  
    int index = x + y*img.width;  
    float b = brightness(img.pixels[index]);  
    fill(b);  
    rect(x, y+480*2, skip, skip);  
  }  
}  
}
```

```
deg = val;  
deg = constrain(deg, 0, 30);  
kinect.setTilt(deg);
```

```
}//last in draw()
```