

monsters,  
brievenbussen  
en andere onzin

# HTML TEST

HTML  TEST how well does your browser support html5?

your browser other browsers compare news device lab about the test

YOUR BROWSER SCORES **400** OUT OF 555 POINTS

You are using Safari 9.0.1 on OS X El Capitan 10.11

Correct? ✓ ✗

 Save results  Compare to...  Share  Donate

 semantics

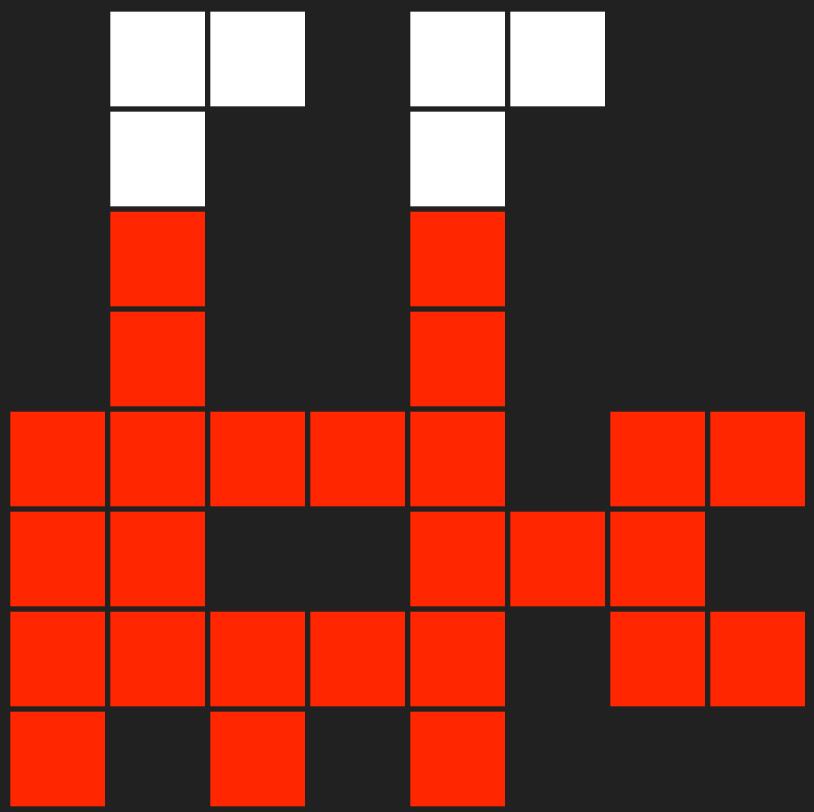
**Parsing rules** 5

<!DOCTYPE html> triggers standards mode Yes ✓

 multimedia

**Video** 35

video element Yes ✓



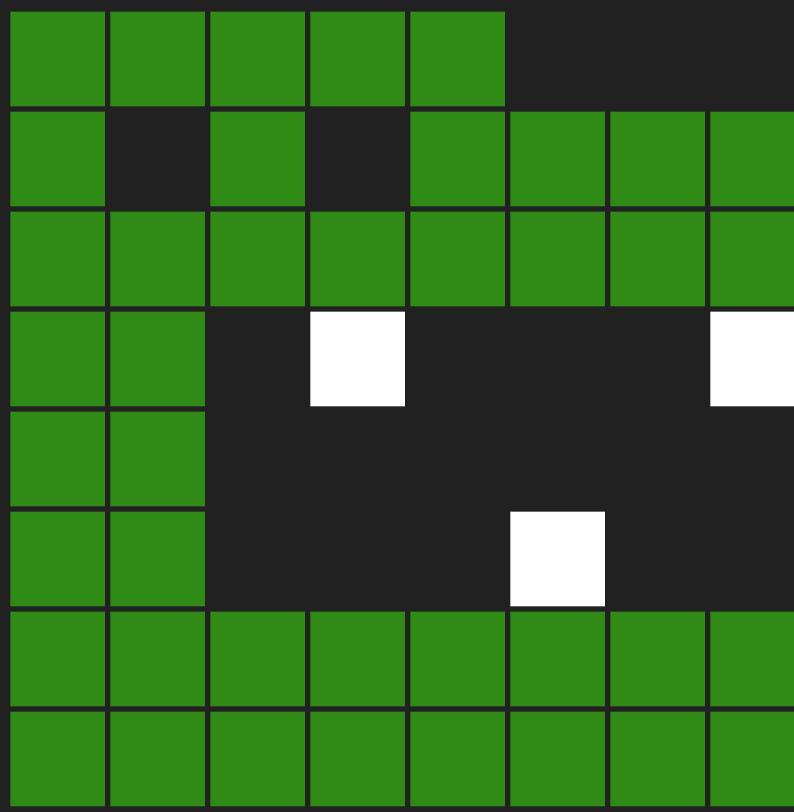
een nieuw huis







10 meter



het huis  
van de toekomst







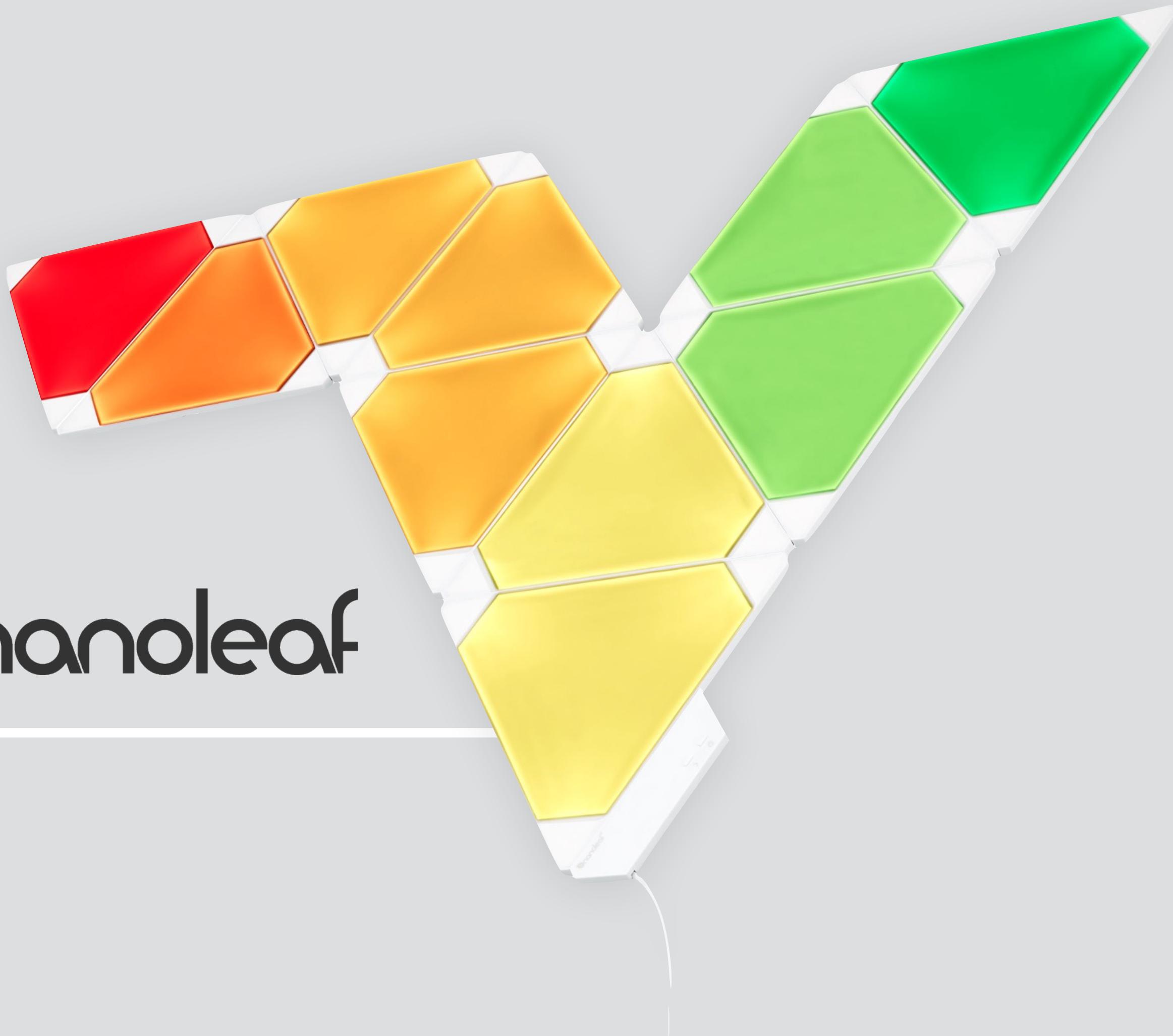
433MHz





PHILIPS  
Hue white  
and color

 zigbee





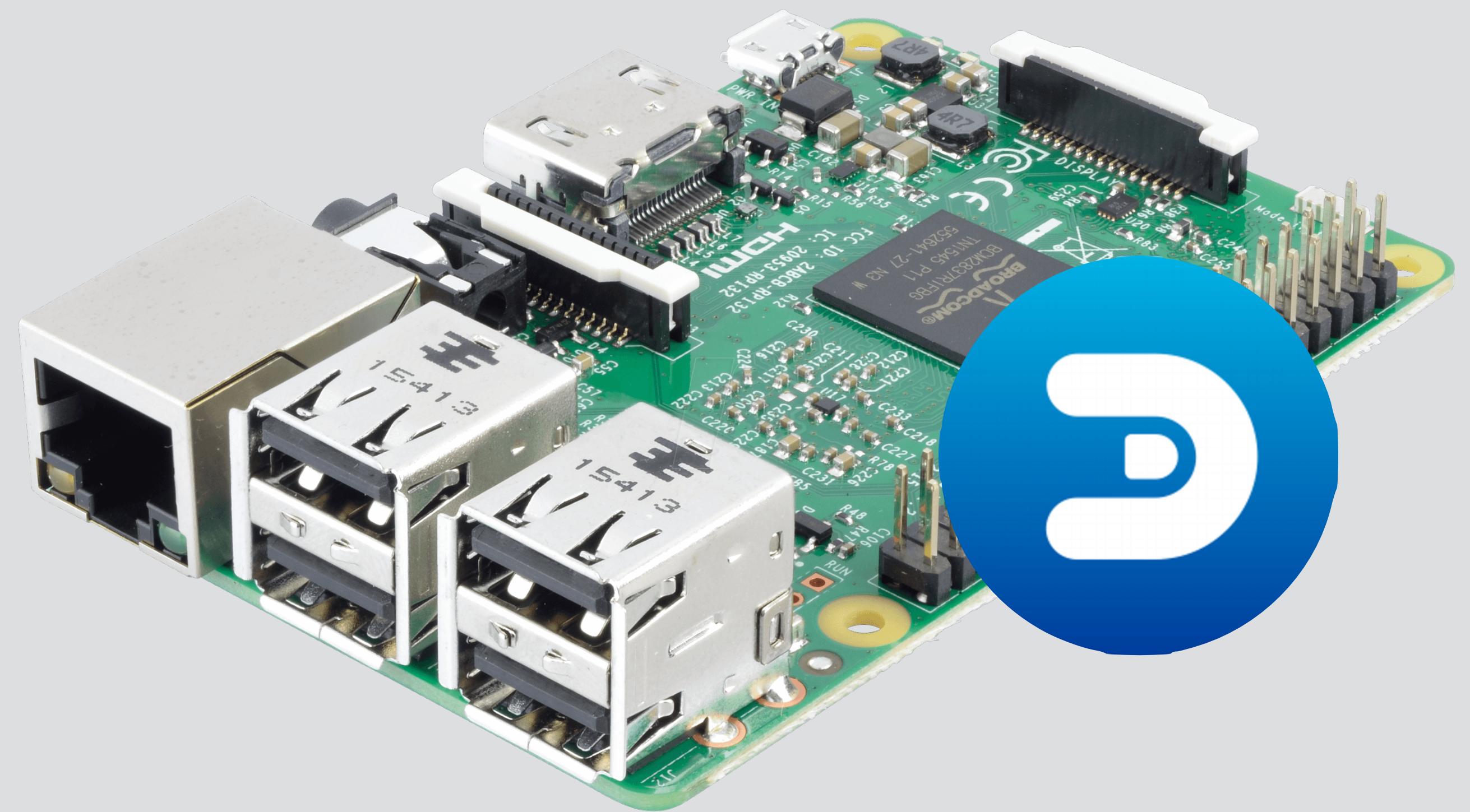
# SONOS

---





IoT is zo ongelofelijk saai



raspberry pi met domoticz

Domoticz V3.7165

2017-04-05 12:45:09 ☀ 07:00 ▼ 20:16

Room: All

Learn Light/Switch ▶

**Brievenbus** Closed

Last Seen: 2017-04-05 10:44:29  
Type: Lighting 2, AC, Contact

Log Edit Notifications

**Deurbel voor**

Last Seen: 2017-03-28 18:32:43  
Type: Chime, SelectPlus, Doorbell

Log Edit Notifications

**Keuken** Off

Last Seen: 2017-04-04 23:13:34  
Type: Lighting 2, AC, On/Off

Log Edit Timers Notifications

**Rookmelder 1** Normal

Last Seen: 2016-12-06 18:03:33  
Type: Security, KD101 smoke detector, Smoke Detector

Log Edit Timers Reset Notifications

**Rookmelder 2** Normal

Last Seen: 2016-12-24 20:10:25  
Type: Security, KD101 smoke detector, Smoke Detector

Log Edit Timers Reset Notifications

**Ventilator** Off

Last Seen: 2017-01-04 13:14:42  
Type: Lighting 1, ARC, On/Off

Log Edit Timers Notifications

**Kantoor Lichtstrip** Off

Last Seen: 2017-04-05 12:43:09  
Type: Lighting 2, AC, On/Off

Log Edit Timers Notifications

**Kerstster** Off

Last Seen: 2017-04-03 23:23:14  
Type: Lighting 1, ARC, On/Off

Log Edit Timers Notifications

**Bewegingssensor** Off

Last Seen: 2017-04-05 11:10:14  
Type: Lighting 2, AC, Motion Sensor

Log Edit Notifications

**Kippenverwarming** Off

Last Seen: 2017-03-25 13:13:57  
Type: Lighting 2, AC, On/Off

Log Edit Timers Notifications

**Pixel** On

Last Seen: 2017-03-28 08:03:52  
Type: Lighting 1, X10, On/Off

Log Edit Timers Notifications

**PowerOff** On

Last Seen: 2017-04-05 12:43:10  
Type: Lighting 2, AC, On/Off

Log Edit Timers Notifications

**Film & series** Off

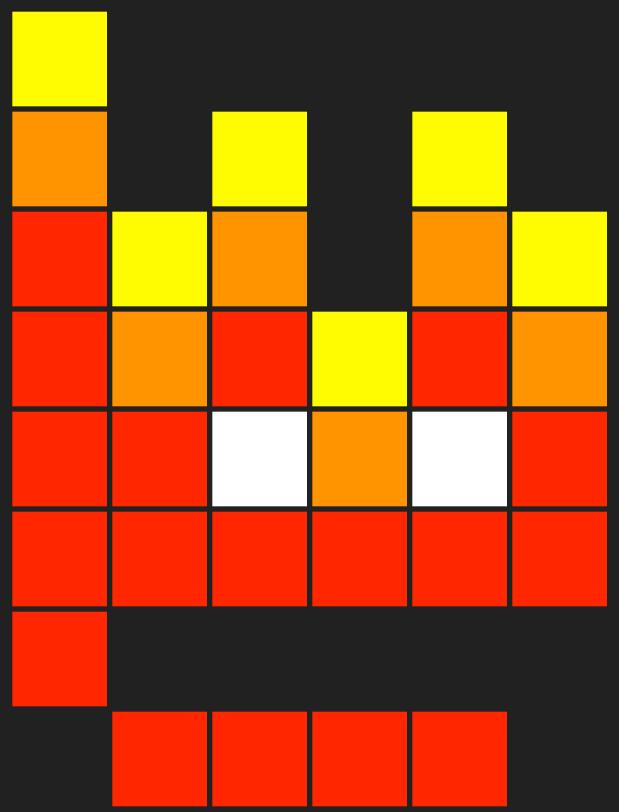
Last Seen: 2017-03-27 22:59:34  
Type: Lighting 2, AC, On/Off

Log Edit Timers Notifications

**Music** Off

Last Seen: 2017-04-05 12:43:11  
Type: Lighting 2, AC, On/Off

Log Edit Timers Notifications



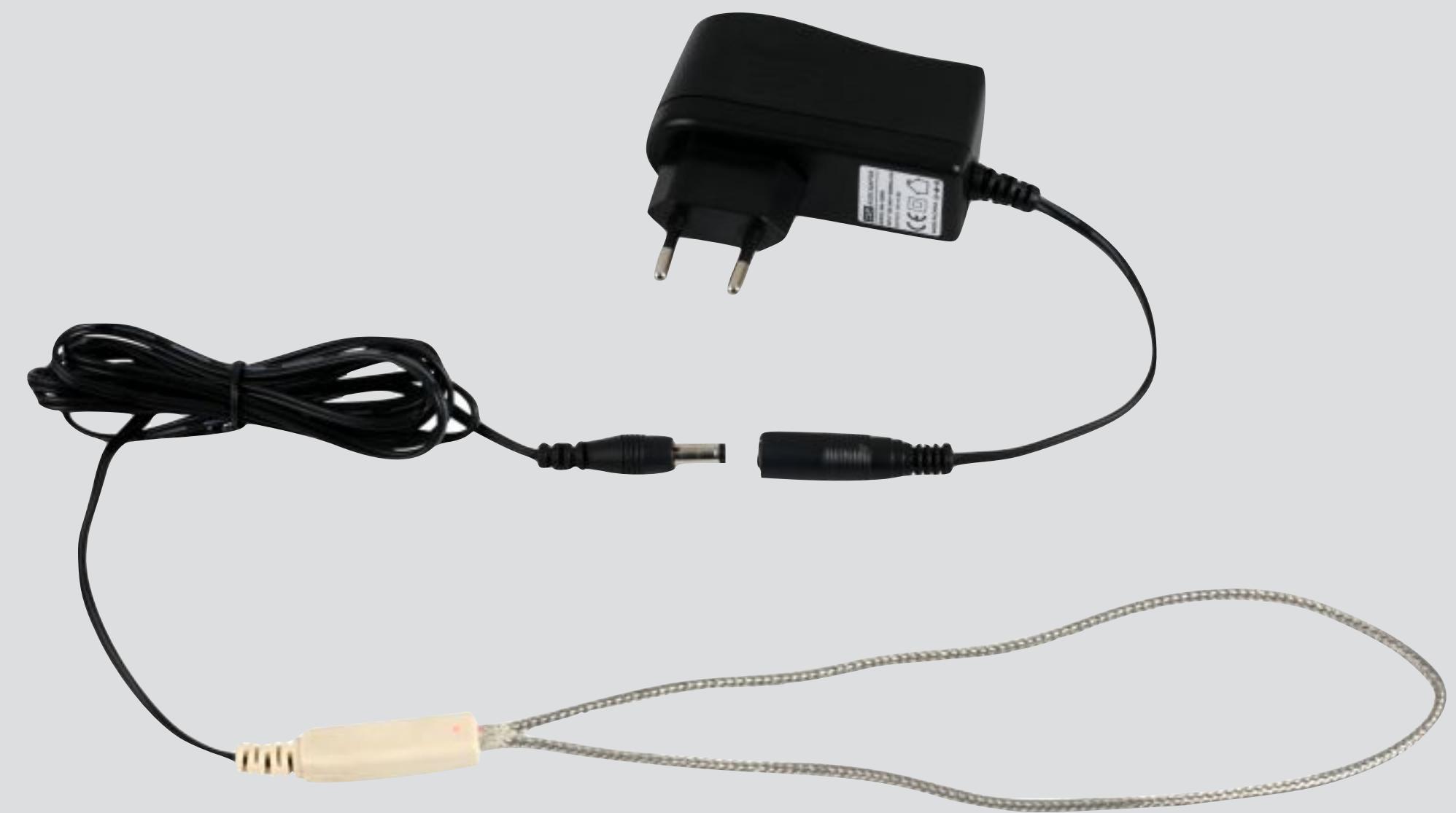
kippenverwarming



brrrr!



kippenwaterdrinkbak



kippenwaterdrinkbakverwarmselement



kippenwaterdrinkbakverwarmingselementschakelaar



kippenwaterdrinkbakverwarmingselementschakelaarthermometer



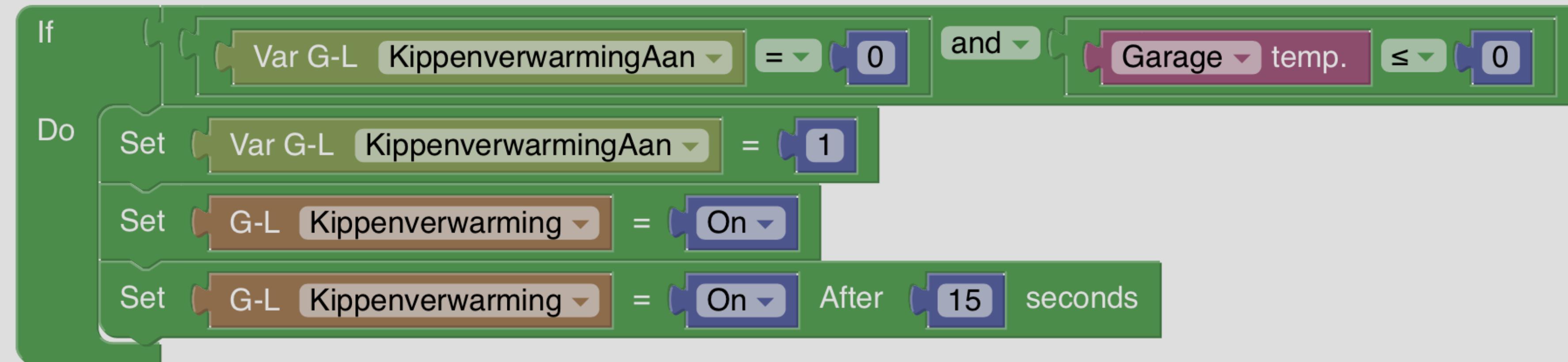


rfxcom

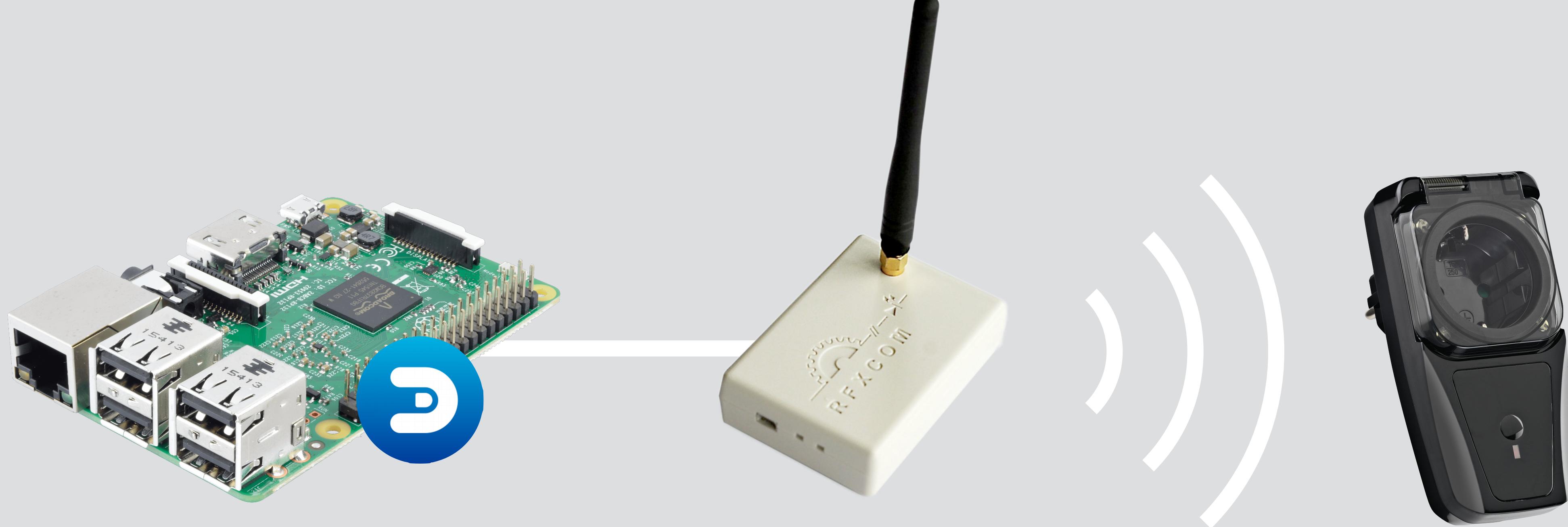
elke 30 seconden een “ping” met de temperatuur



temperatuur onder nul → zet de verwarming aan



zet klikaanklikuit schakelaar aan



12:30



PUSHOVER

Kippen  
Het is boven het  
vriespunt water-  
bakverwarming uit-  
gezet

Delete

The “S” in IoT stands for security

Domoticz V3.7165

Dashboard | Switches | Scenes | Temperature | Weather | Utility | Setup

Used

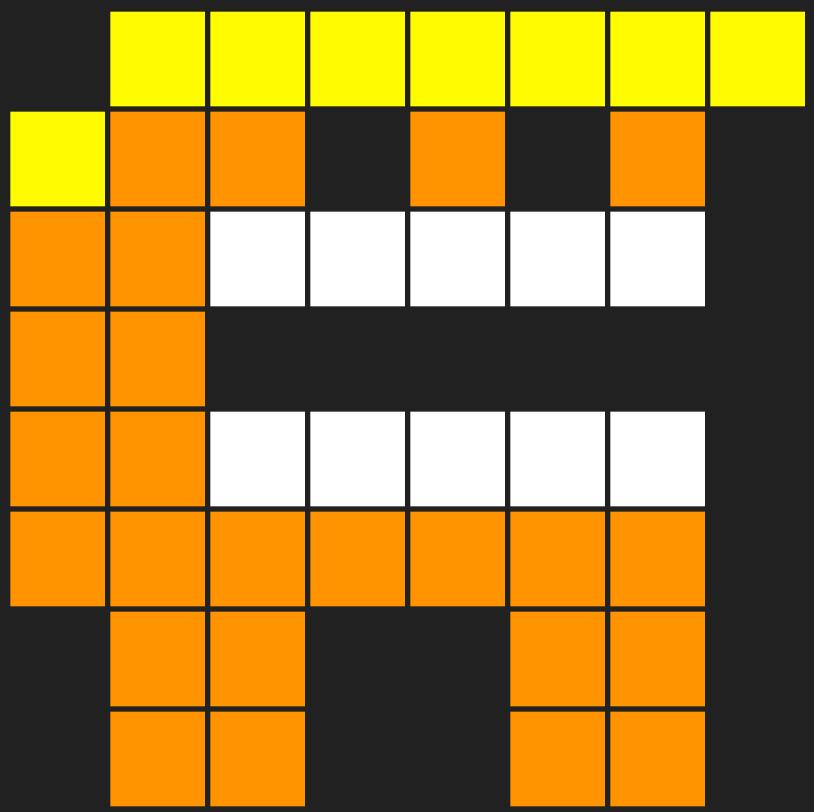
All Devices

Not Used

Show 25 entries

Search : rfx

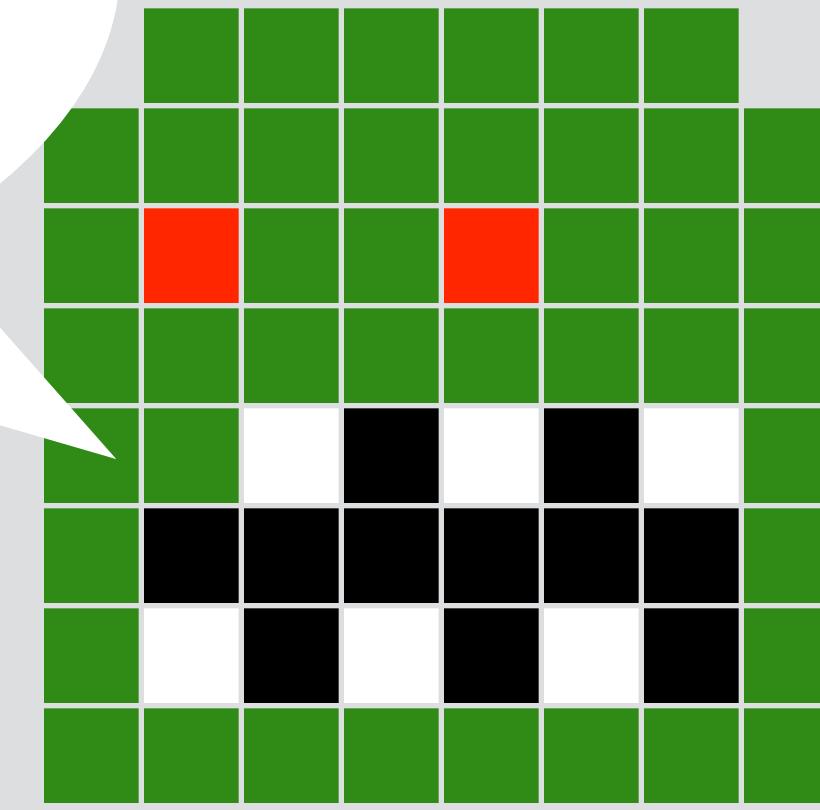
	Idx	Hardware	ID	Unit	Name	Type	SubType	Data				Last Seen
	180	RFXCOM	00FF	15	Unknown	Chime	ByronSX	On	4	-		2017-04-08 08:05:54
	204	RFXCOM	4F00	0	Unknown	UV	UVN800	0.0 UVI	4	100		2017-04-07 22:26:46
	233	RFXCOM	0000	0	Unknown	Chime	ByronSX	On	4	-		2017-04-07 17:16:25
	196	RFXCOM	8D00	0	Unknown	Wind	WGR800	315.00;NW;19;6;0.0;-2.3	4	100		2017-04-07 14:55:15
	372	RFXCOM	505F04	0	Unknown	Security	X10 security motion	Motion	4	100		2017-04-07 13:29:23
	371	RFXCOM	0024	0	Unknown	Chime	ByronSX	On	4	-		2017-04-07 08:34:27
	369	RFXCOM	03F3	10	Unknown	Chime	SelectPlus	On	4	-		2017-04-06 11:04:01
	370	RFXCOM	013D	39	Unknown	Chime	SelectPlus	On	5	-		2017-04-06 11:04:01
	365	RFXCOM	01D9	195	Unknown	Chime	SelectPlus	On	5	-		2017-04-06 11:04:00
	366	RFXCOM	006C	14	Unknown	Chime	SelectPlus	On	5	-		2017-04-06 11:04:00
	367	RFXCOM	0361	225	Unknown	Chime	SelectPlus	On	5	-		2017-04-06 11:04:00



de vurige  
heksenpot

**Doe-het-zelf IoT**

**BRAINS**



(oftewel microcontrollers)

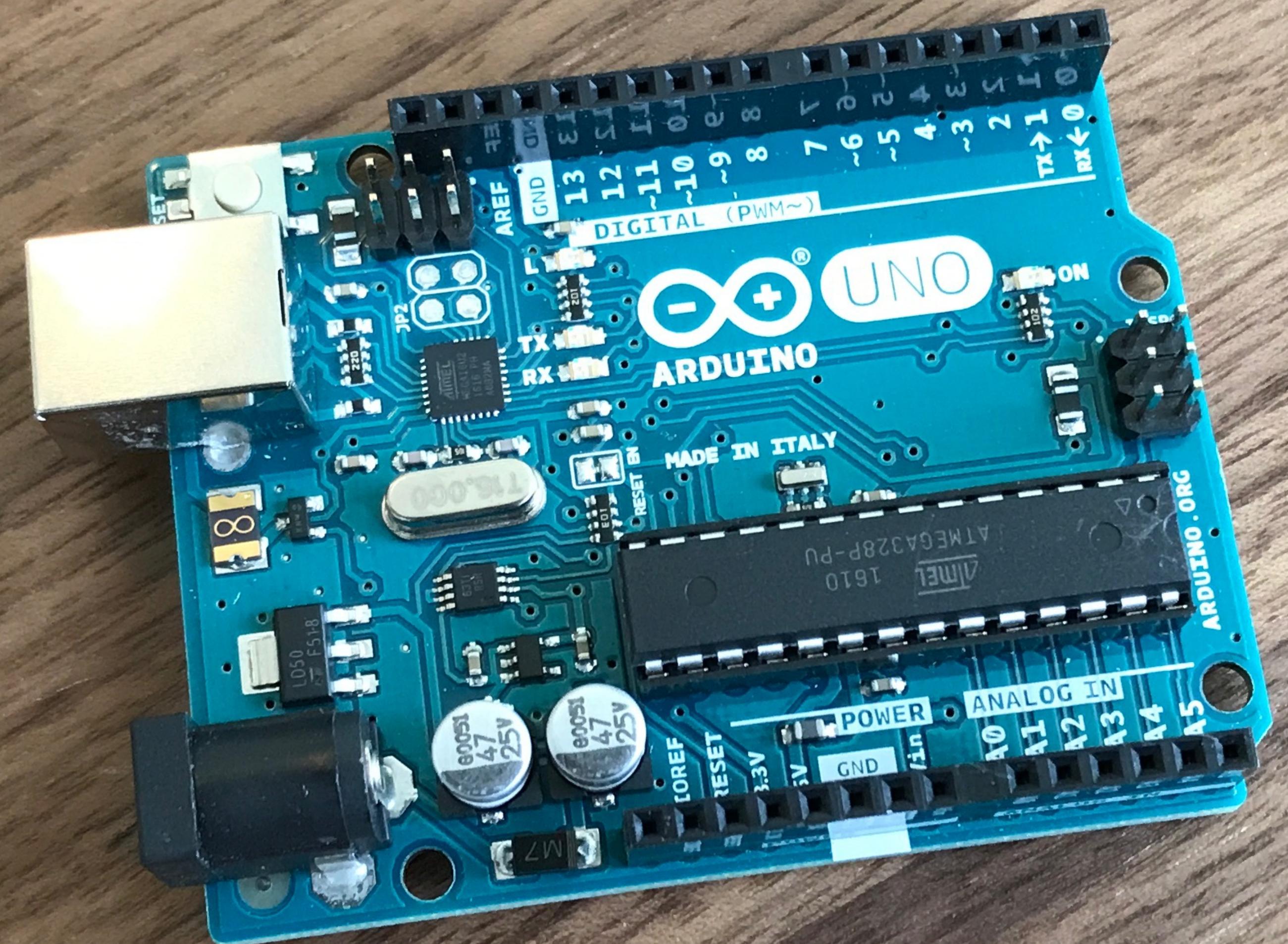
# Arduino Uno

ATmega238

16 Mhz

2 KB RAM

32 KB Flash



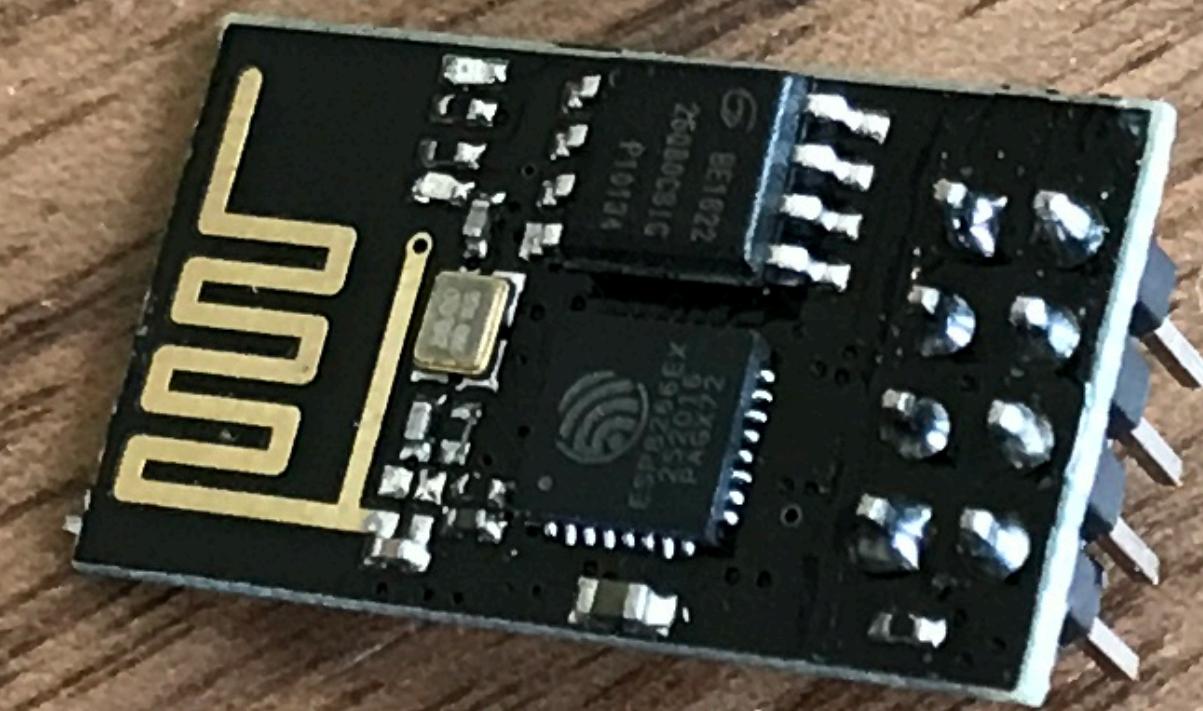
# ESP-01

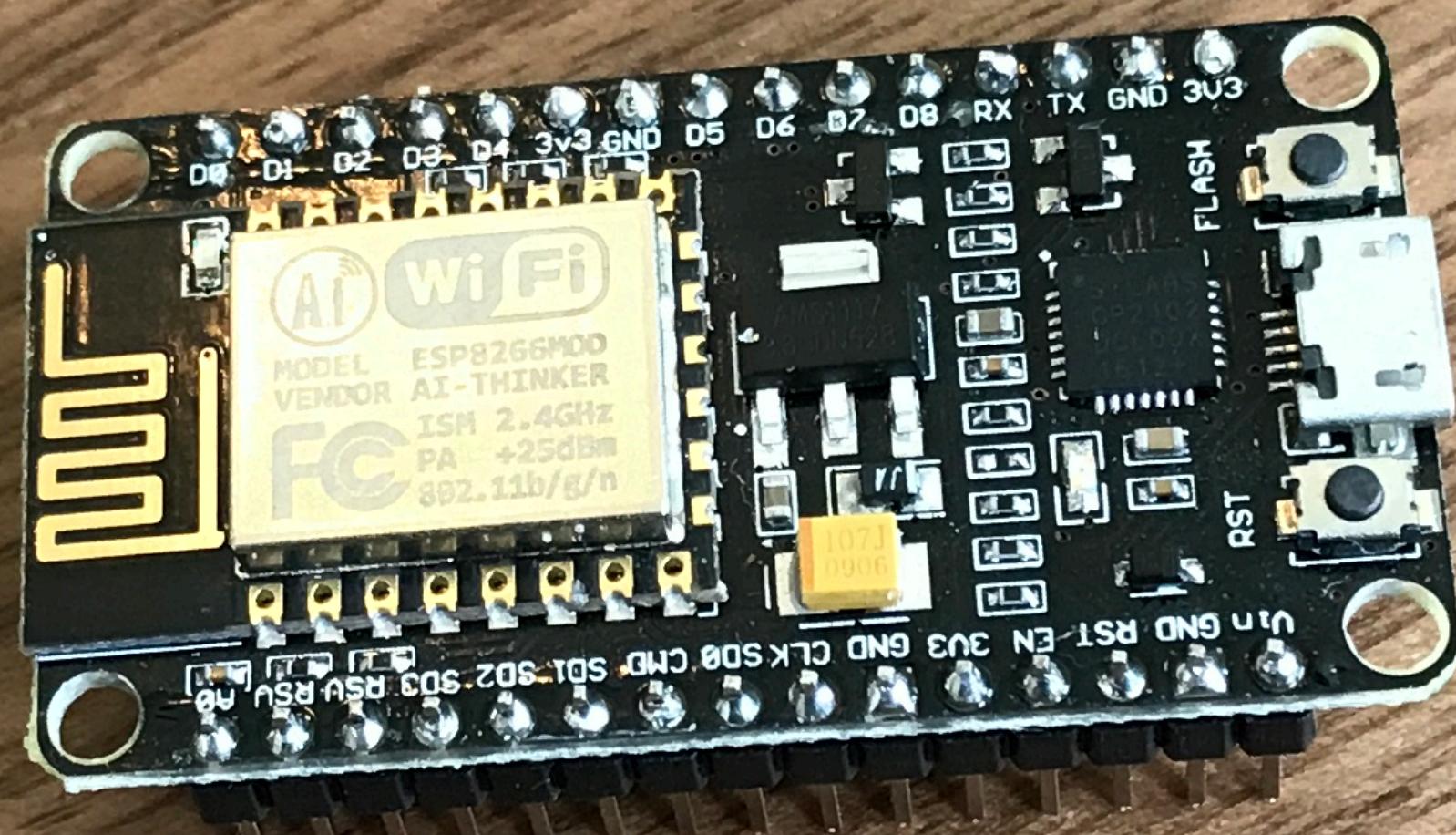
ESP 8266

80 Mhz

128 KB RAM

512 KB Flash





## NodeMCU

ESP 8266

80 Mhz

128 KB RAM

4 MB Flash

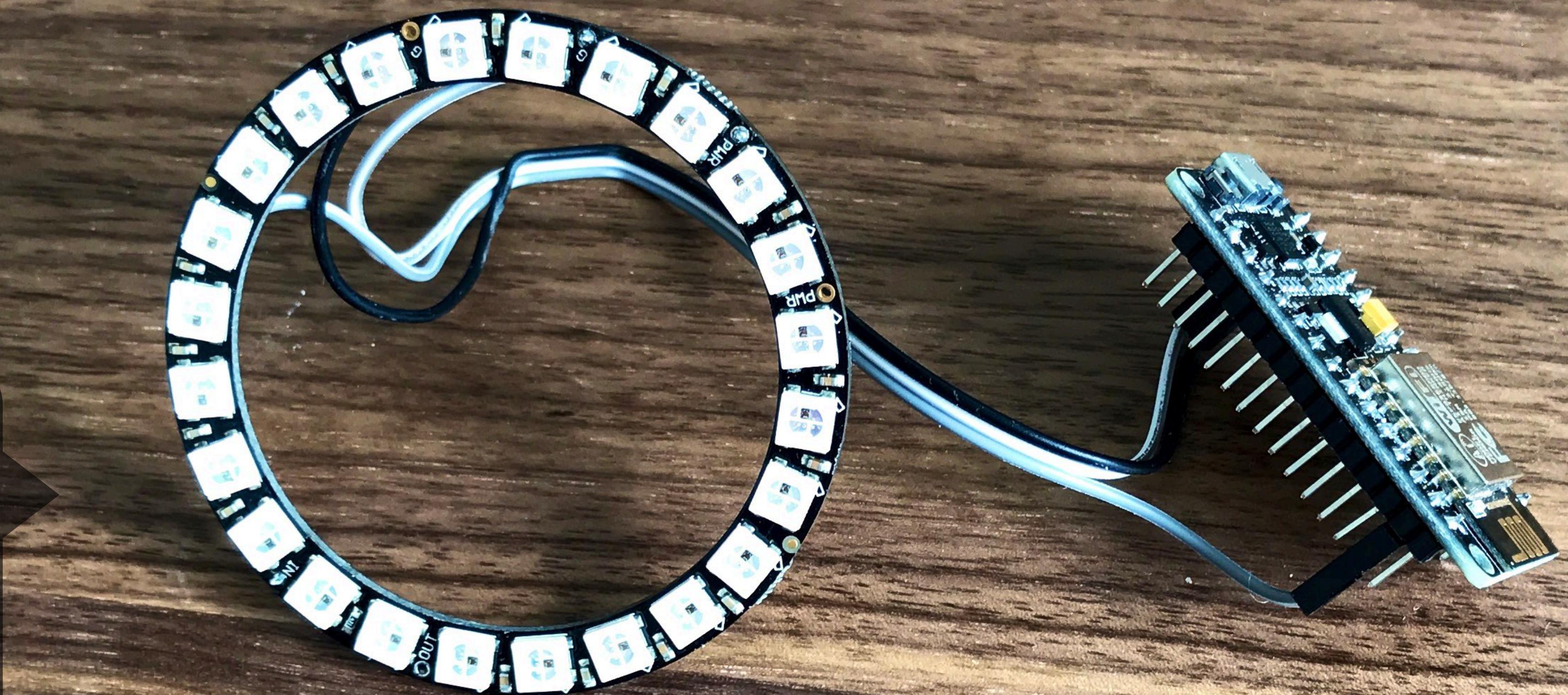




NodeMCU

## Neopixel

24 serieel  
geschakelde  
WS2812 RGB  
LEDs



```
#include <Adafruit_NeoPixel.h>

#define PIN      D1
#define PIXELS  24

Adafruit_NeoPixel strip = Adafruit_NeoPixel(PIXELS, PIN, NEO_GRB + NEO_KHZ800);

void setup(void) {
    strip.begin();
    strip.setBrightness(255);

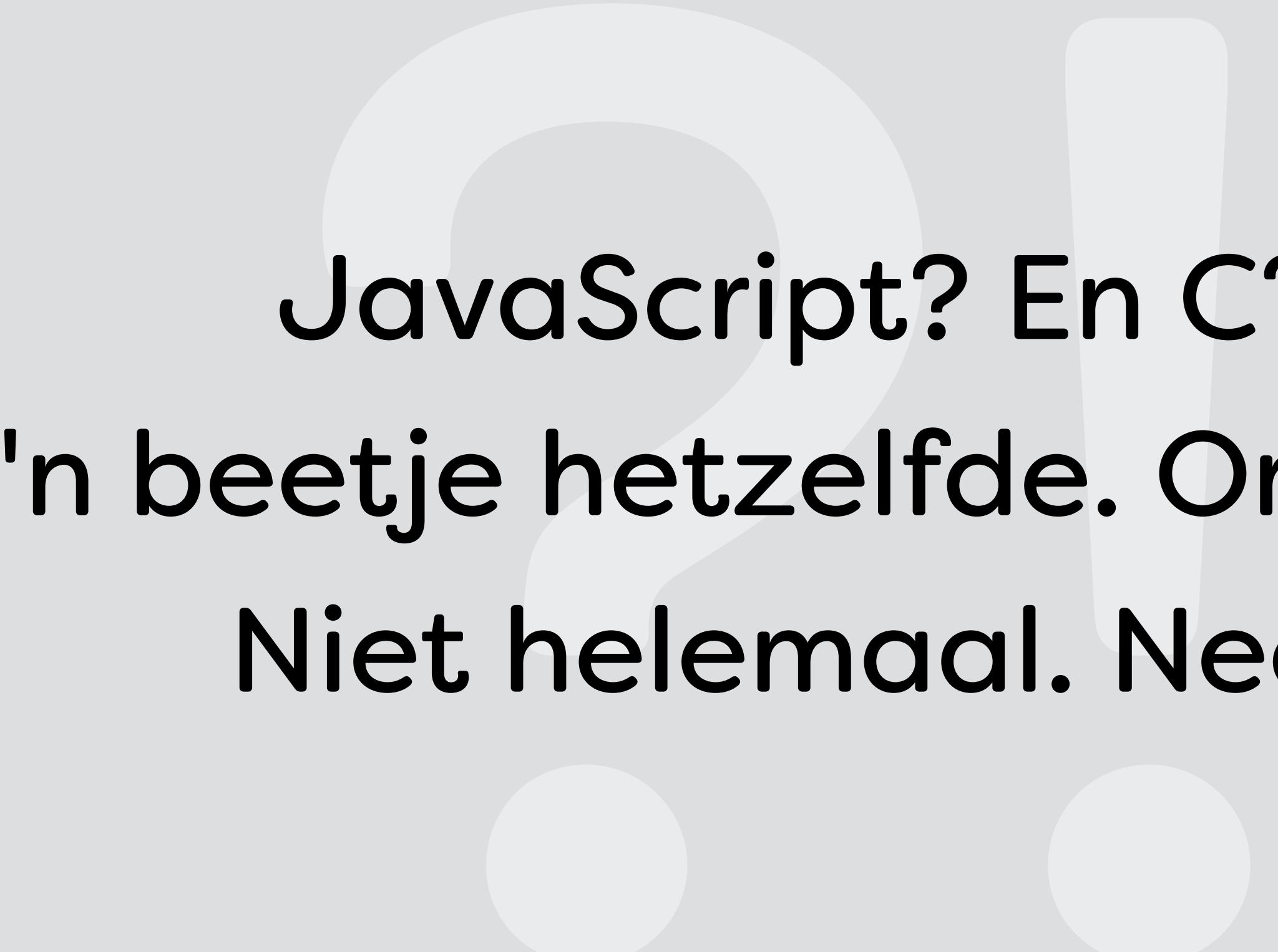
    strip.setPixelColor(0, strip.Color(0, 0, 255));
    strip.show();
}

void loop(void) {
}
```

```
int i = 0;

void setup(void) {
    strip.begin();
    strip.setBrightness(255);
}

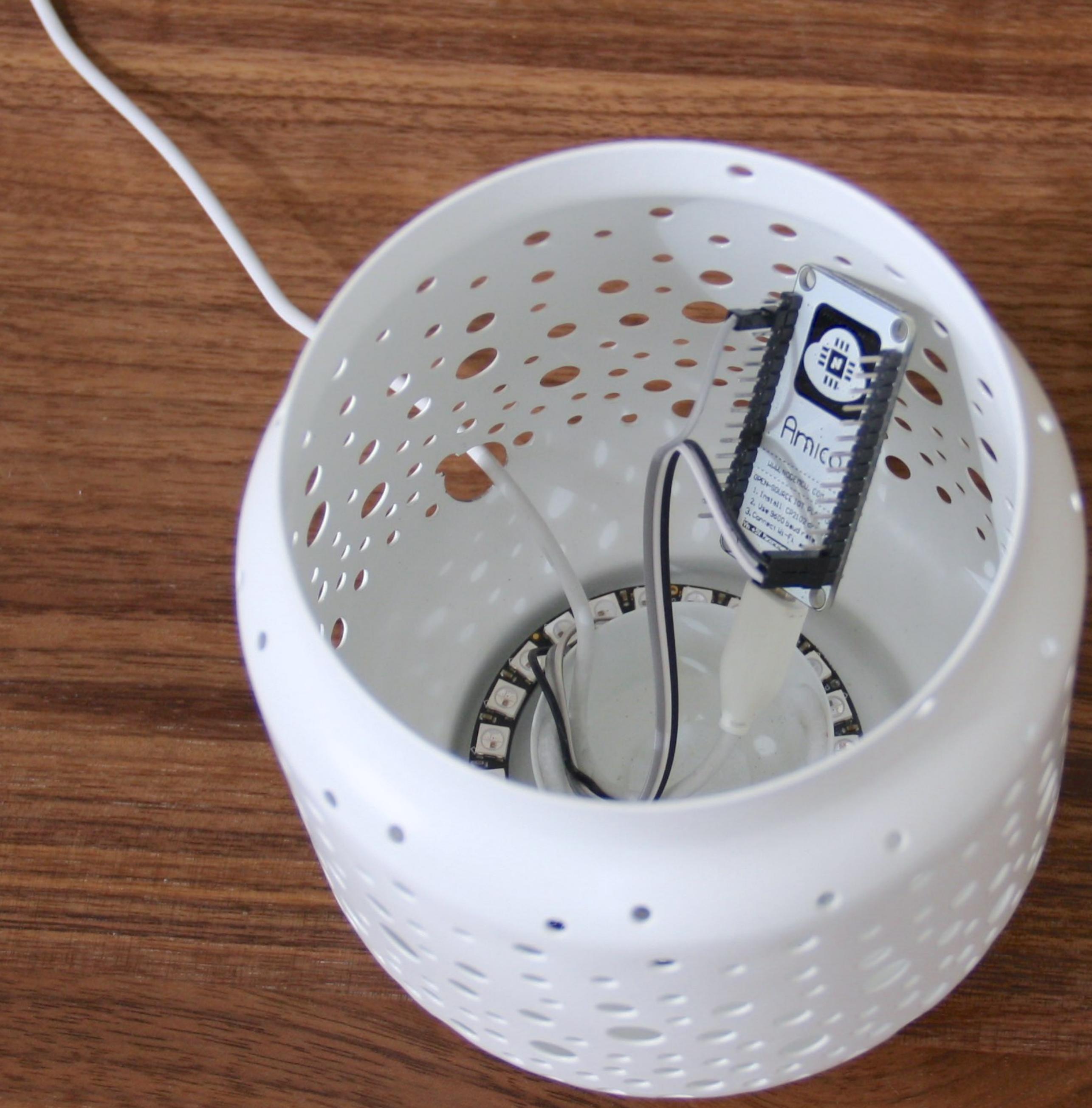
void loop(void) {
    i = (i + 1) % PIXELS;
    strip.setPixelColor(i % PIXELS, strip.Color(0, 0, 0));
    strip.setPixelColor((i + 1) % PIXELS, strip.Color(0, 0, 63));
    strip.setPixelColor((i + 2) % PIXELS, strip.Color(0, 0, 127));
    strip.setPixelColor((i + 3) % PIXELS, strip.Color(0, 0, 195));
    strip.setPixelColor((i + 4) % PIXELS, strip.Color(0, 0, 255));
    strip.show();
    delay(8);
}
```



JavaScript? En C?  
Zo'n beetje hetzelfde. Ongeveer.  
Niet helemaal. Nee.



IKEA  
**SOMMAR 2017**  
**theelichthouder**









WiFi is vast heel moeilijk...

```
const char* ssid = ".....";
const char* password = ".....";

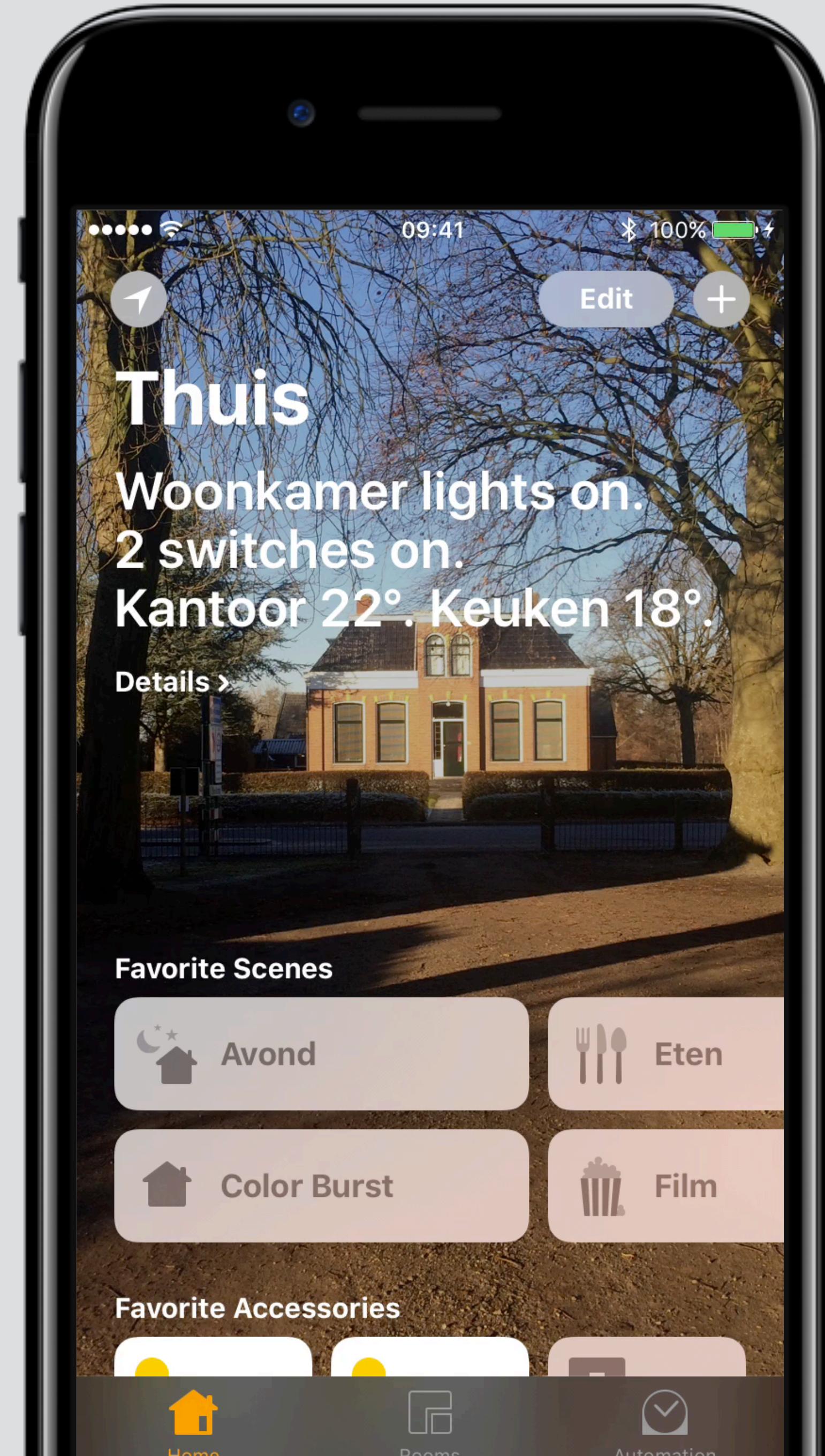
ESP8266WebServer server(80);

void setup(void) {
    WiFi.begin(ssid, password);
    while (WiFi.status() != WL_CONNECTED) delay(500);

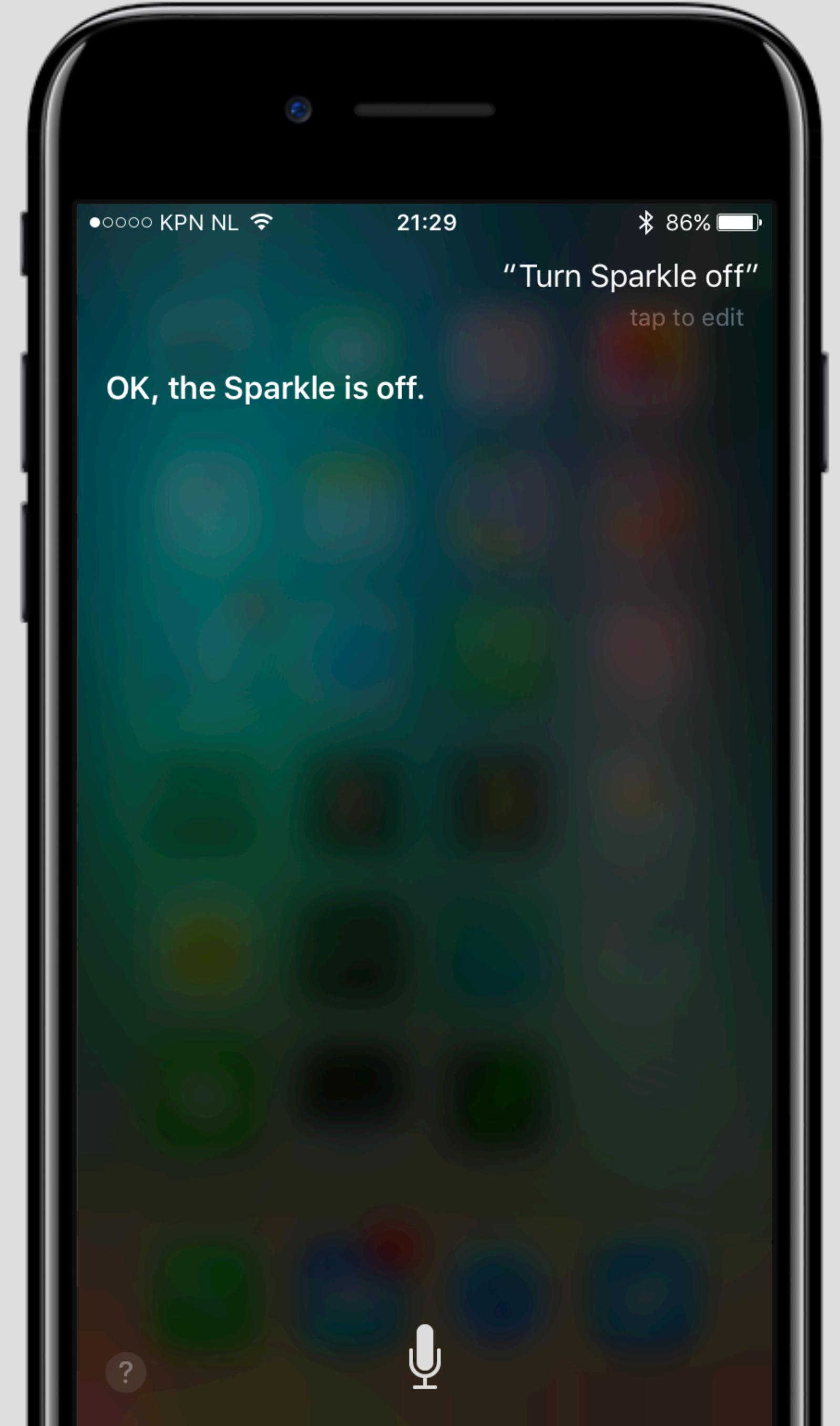
    server.on("/on", [](){ server.send(200, "text/plain", "on"); });
    server.on("/off", [](){ server.send(200, "text/plain", "off"); });
    server.begin();
}

void loop(void) {
    server.handleClient();
}
```

`http://sparkle.local/api?command=power&status`  
`command=power&on`  
`command=power&off`  
  
`command=brightness&status`  
`command=brightness&set=50`  
  
`command=color&status`  
`command=color&set=f34d0d`

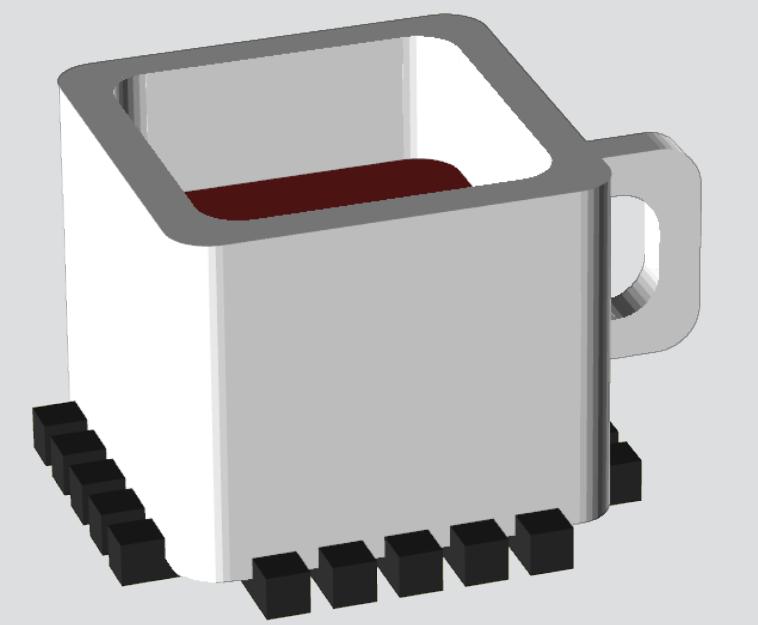


homebridge  
homebridge-better-http-rgb



siri

JS?



espruino

## ESPRUINO WEB IDE

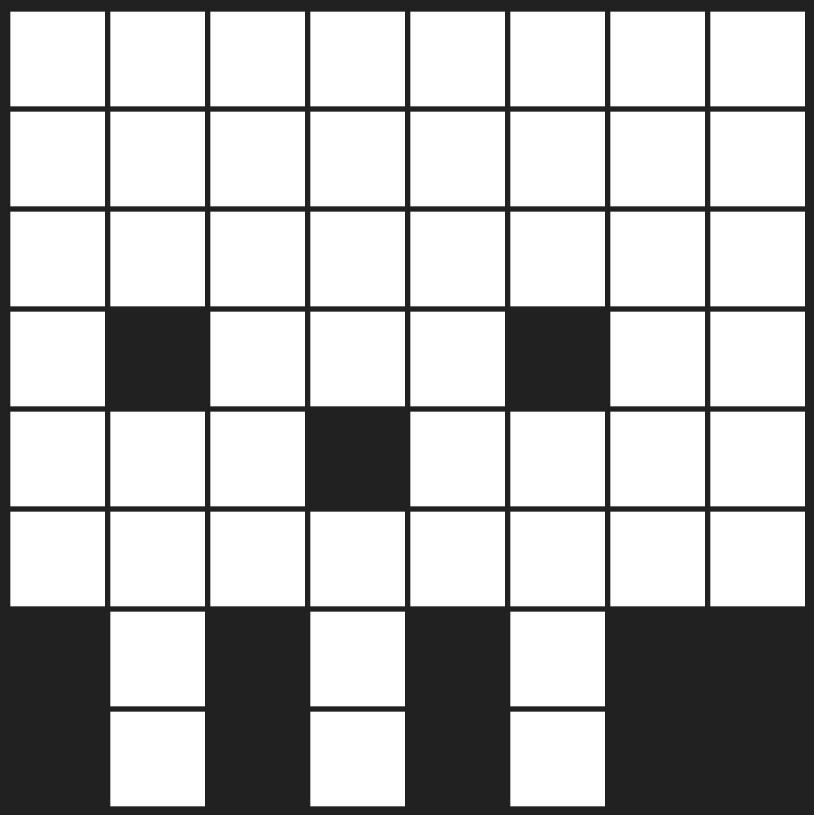
- □ ×

The screenshot shows the Espruino Web IDE interface. On the left, a terminal window displays a firework display and some system information:

```
>
[  ] [  ] [  ] [  ] [  ]
http://espruino.com
1v92 Copyright 2016 G.Williams
Espruino is Open Source. Our work is supported
only by sales of official boards and donations:
http://espruino.com/Donate
Flash map 4MB:512/512, manuf 0xef chip 0x4016
>
=undefined
>
```

On the right, a code editor displays a script for a Neopixel LED strip:

```
1 var neopixel = require("neopixel");
2
3 var pin = D5;
4 var color = { "r": 252, "g": 175, "b": 22 };
5
6 function fire(c) {
7   var buffer = new Uint8ClampedArray(24*3);
8
9   for (var i = 0; i < buffer.length; i = i + 3) {
10     var flicker = Math.random() * 100;
11     buffer[i] = c.g - flicker;
12     buffer[i+1] = c.r - flicker;
13     buffer[i+2] = c.b - flicker;
14   }
15
16   i = parseInt(Math.random() * 6) * 3;
17   buffer[i] = 0;
18   buffer[i+1] = 0;
19   buffer[i+2] = 0;
20
21   i = parseInt(Math.random() * 6) * 3 + 18;
22   buffer[i] = 0;
23   buffer[i+1] = 0;
24   buffer[i+2] = 0;
25
26   i = parseInt(Math.random() * 6) * 3 + 36;
27   buffer[i] = 0;
28   buffer[i+1] = 0;
29   buffer[i+2] = 0;
30
31   i = parseInt(Math.random() * 6) * 3 + 54;
32   buffer[i] = 0;
33   buffer[i+1] = 0;
34   buffer[i+2] = 0;
35
36   neopixel.write(pin, buffer);
37
38
39 setInterval(function () {fire(color);}, 200);
```



pixel monsters

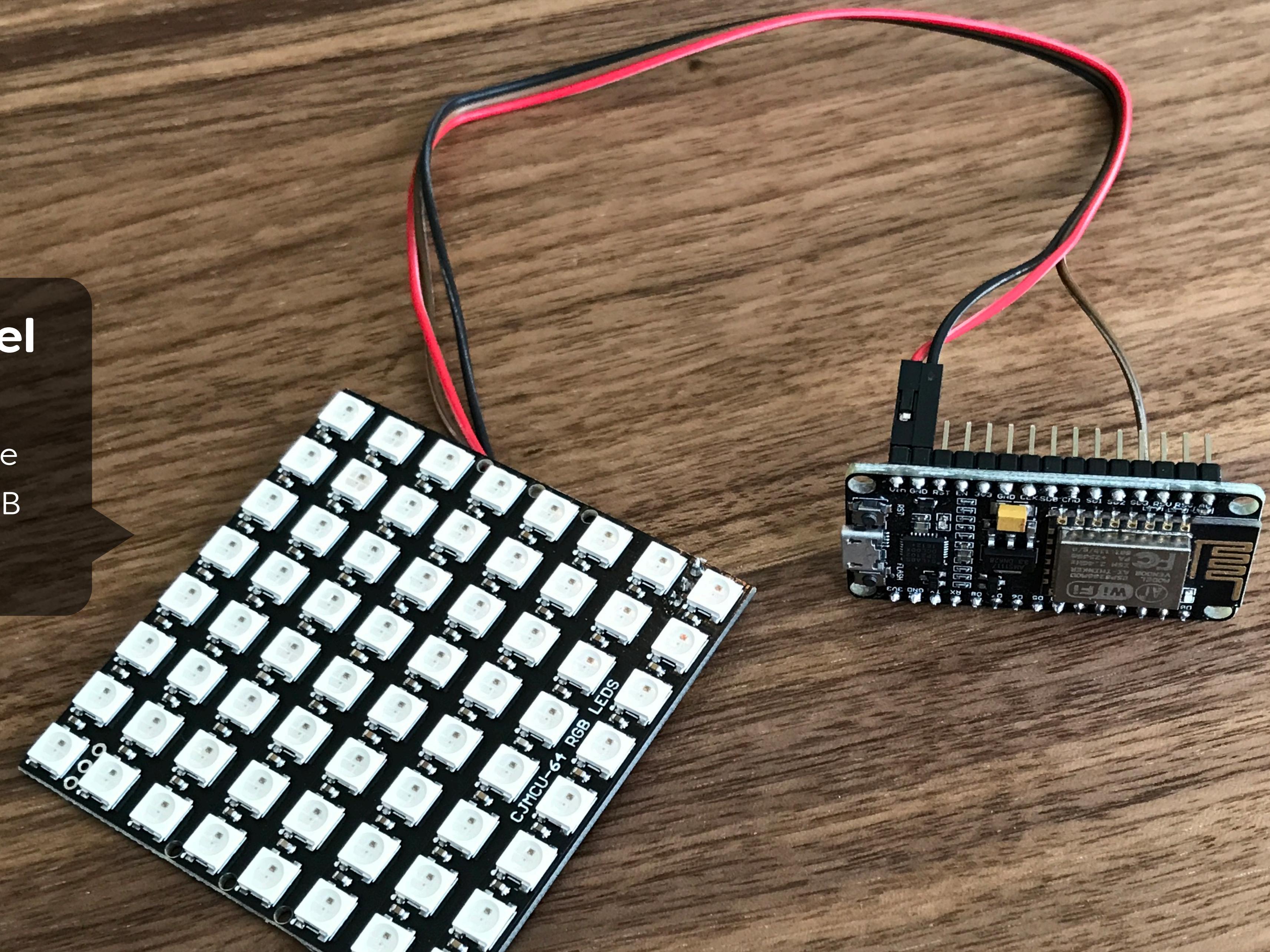
Prolight  
**12W plafondlamp**

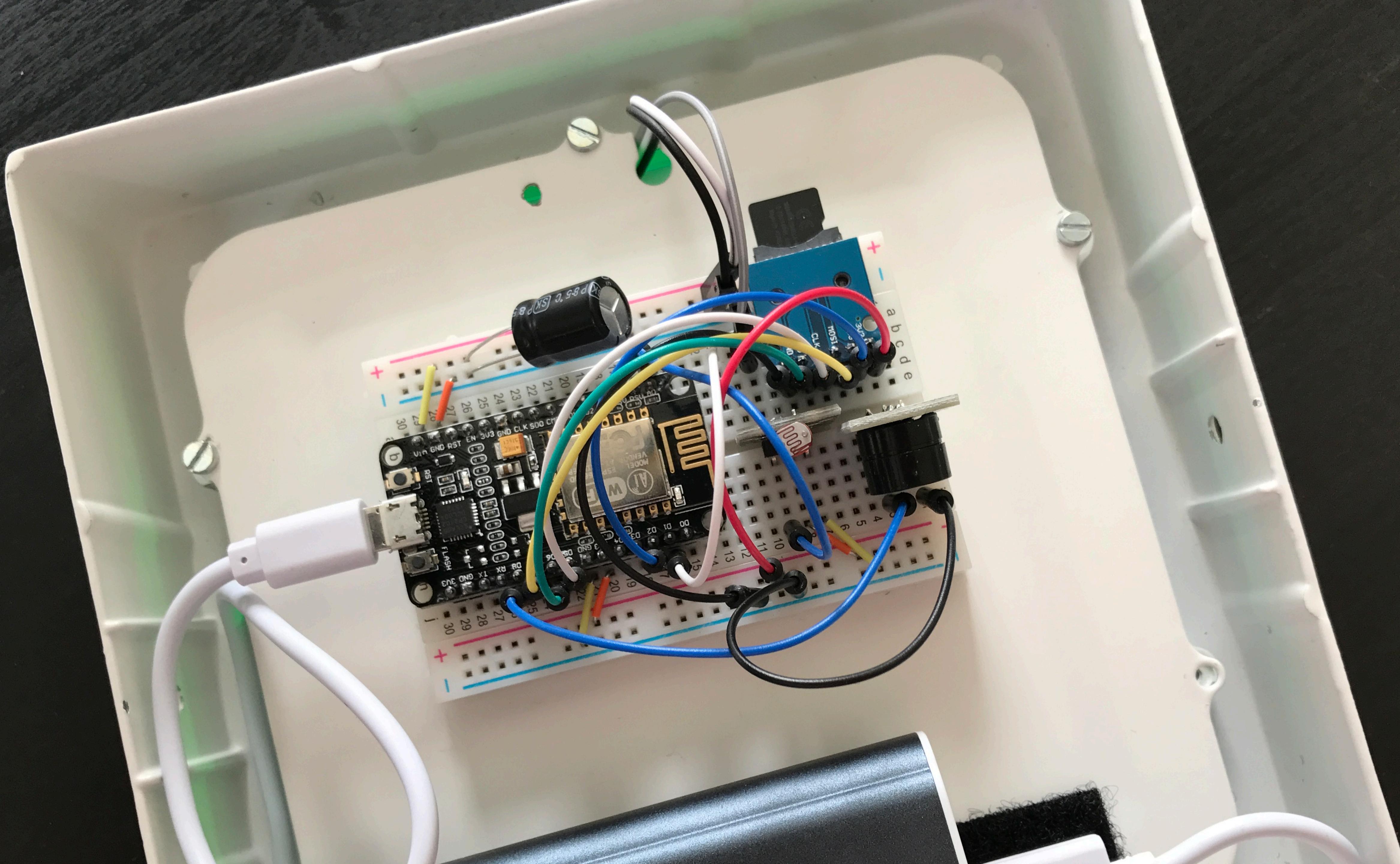


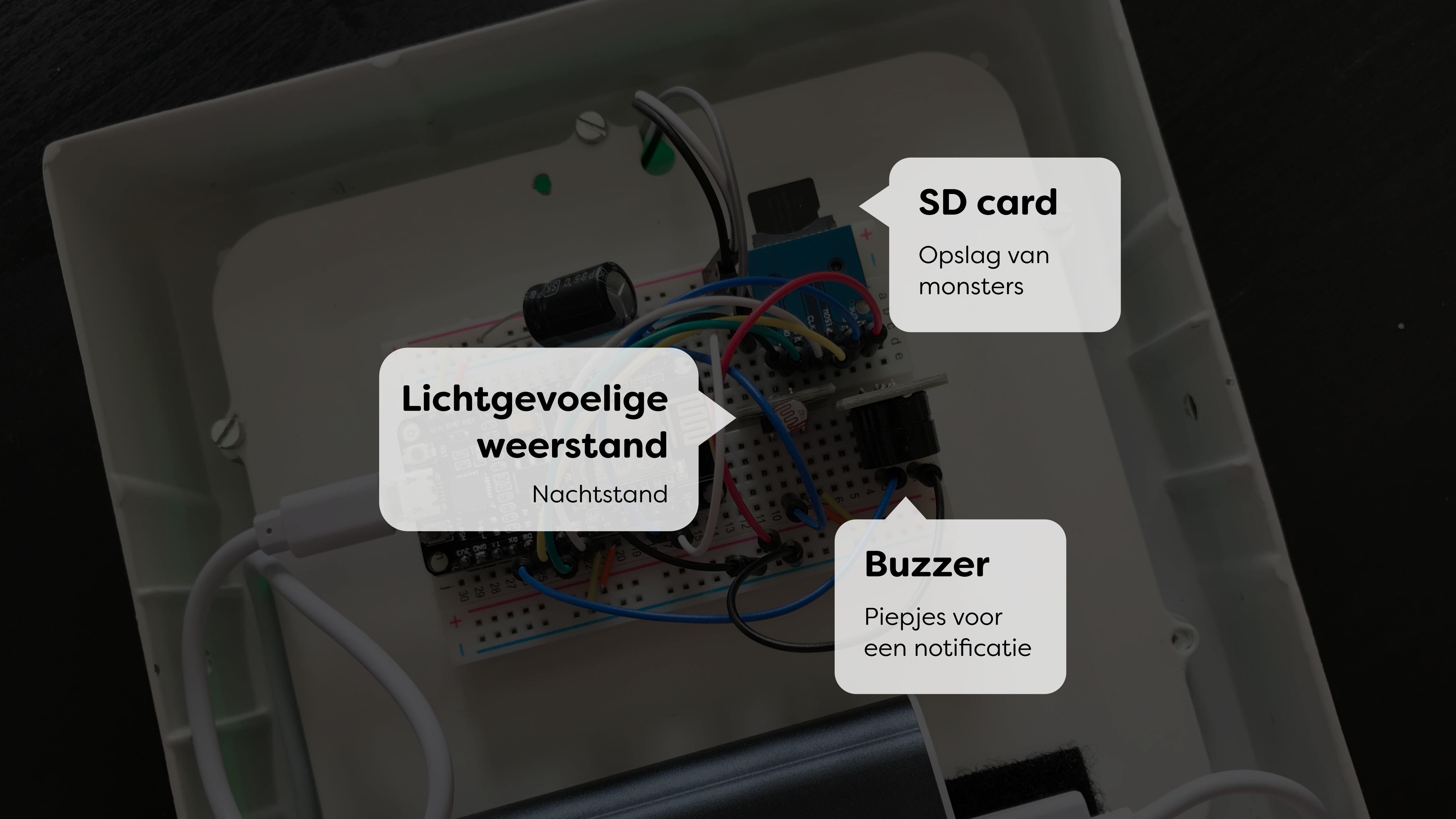


## Neopixel

64 serieel  
geschakelde  
WS2812 RGB  
LEDs

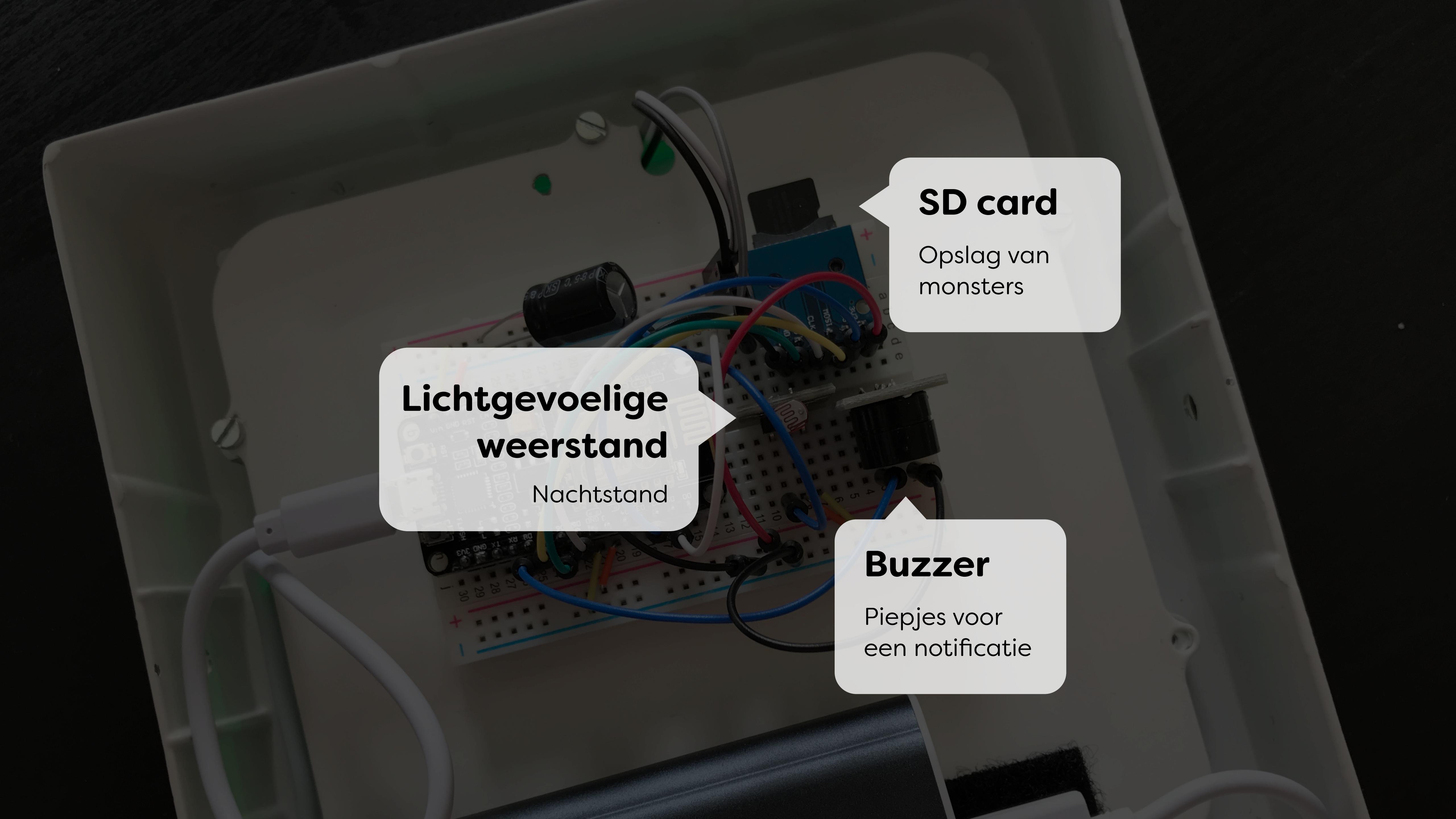






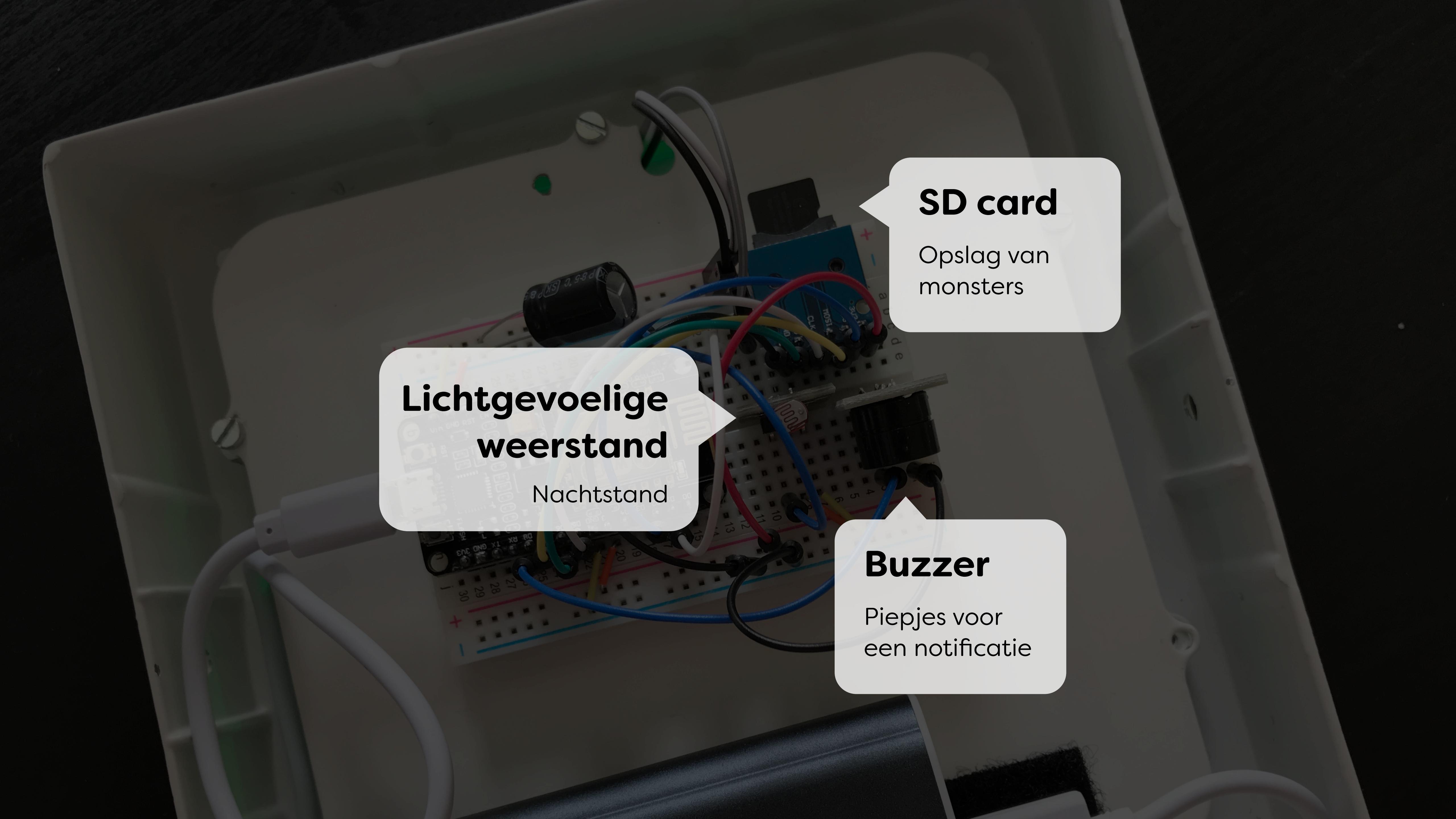
## Lichtgevoelige weerstand

Nachtstand



## Buzzer

Piepjes voor een notificatie



## SD card

Opslag van monsters



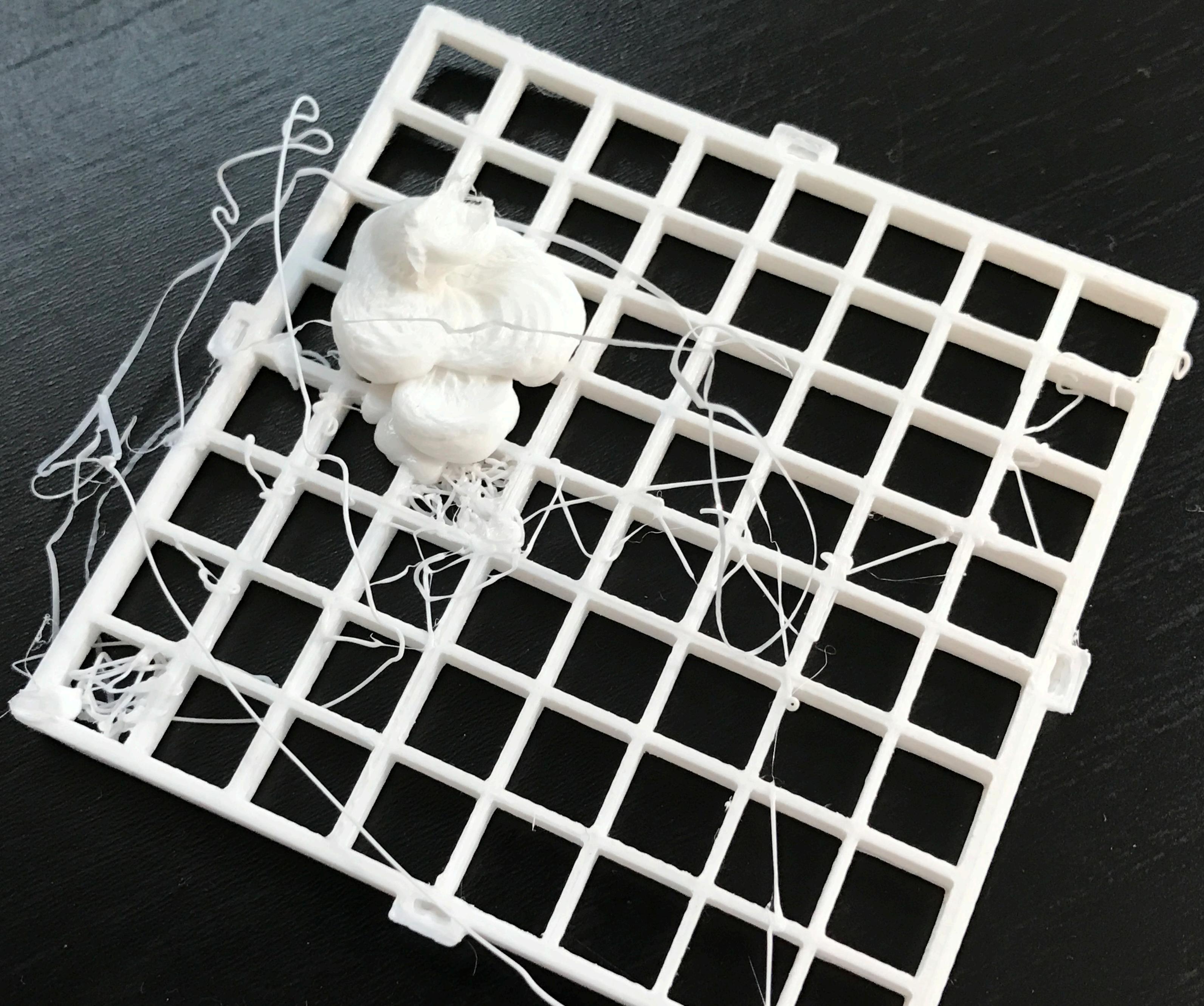
**BIGBOX**

V1.1

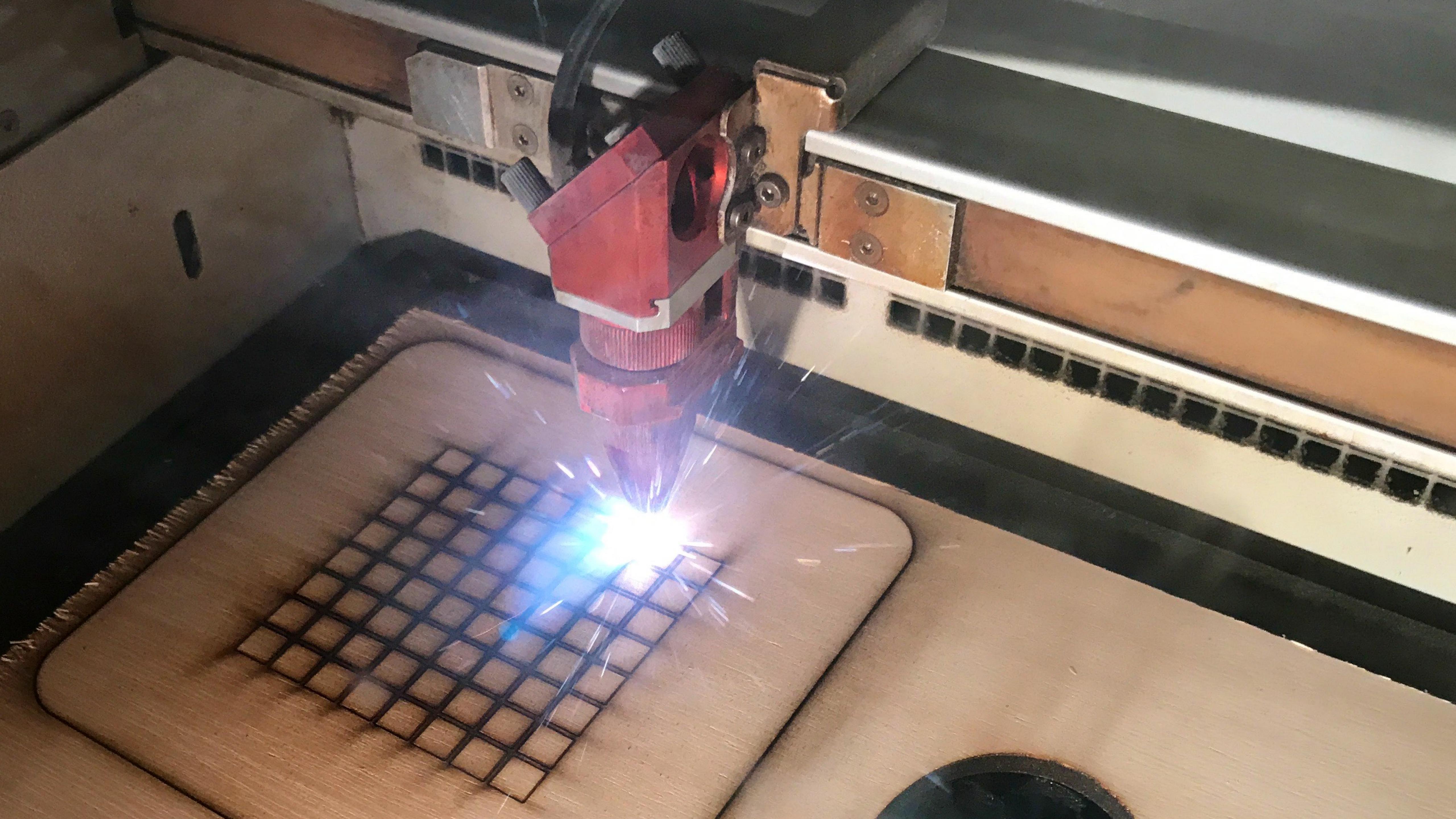
e3D

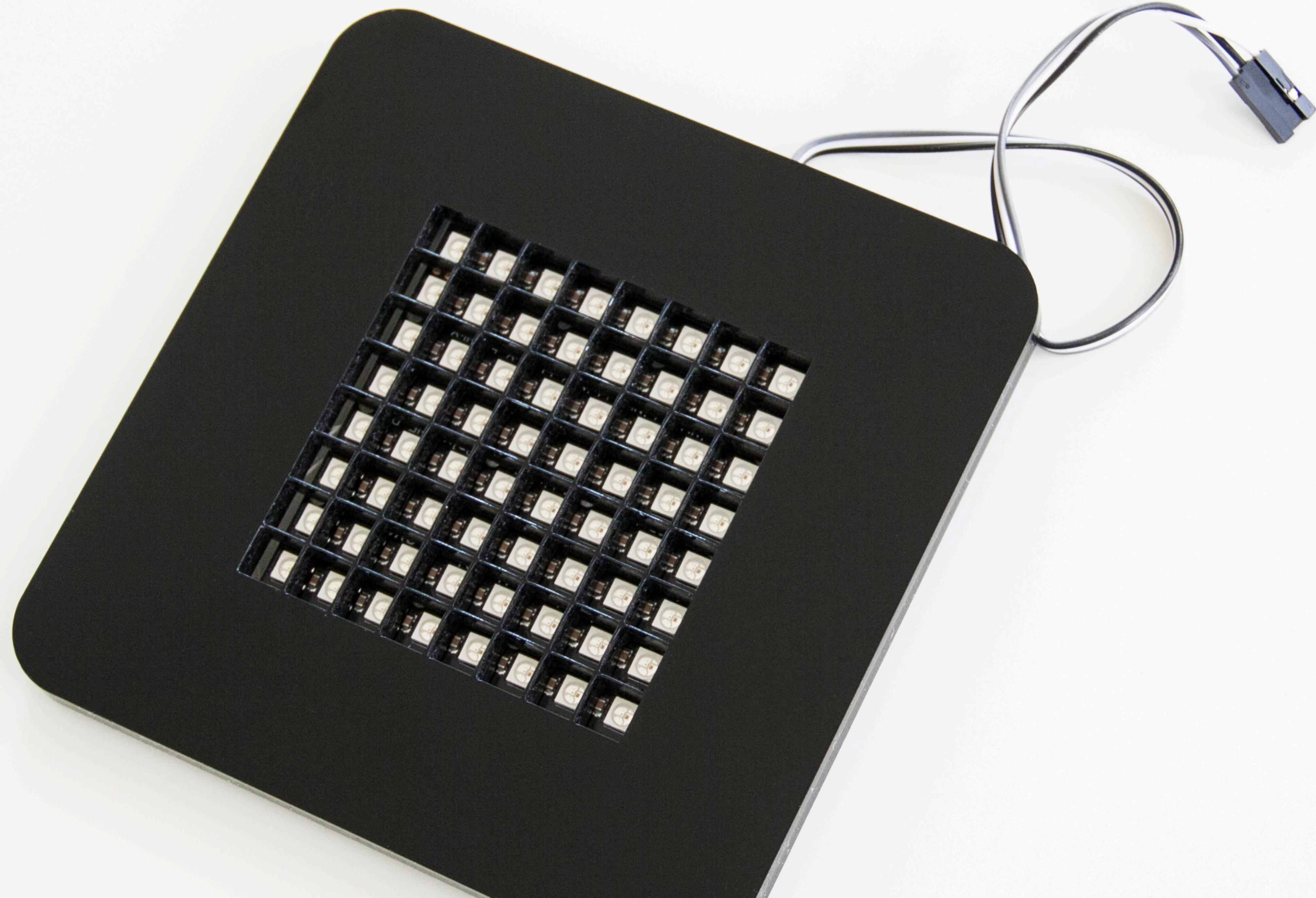
HOME(0,0)

90 100 110 120 130 140 150  
160



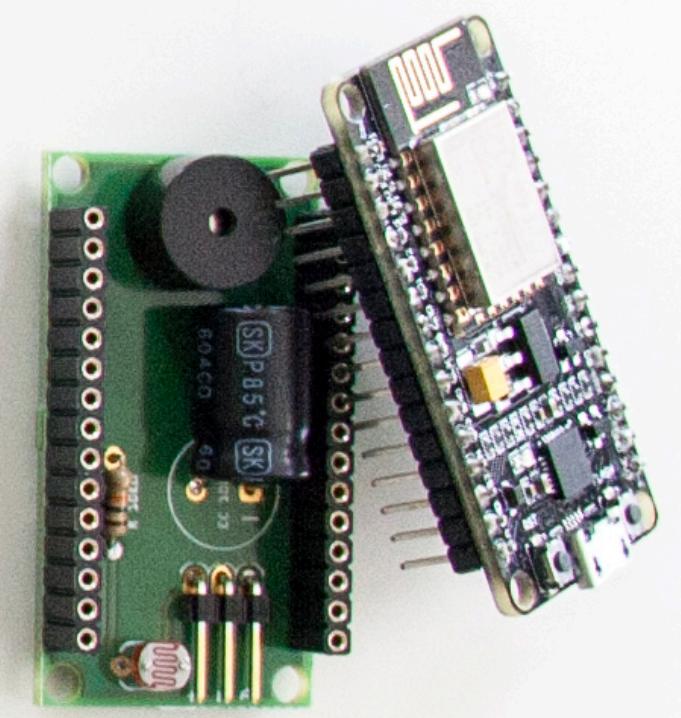
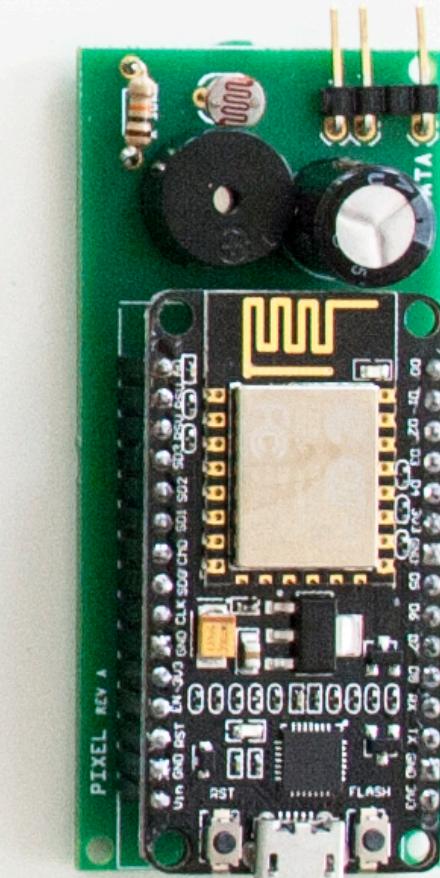
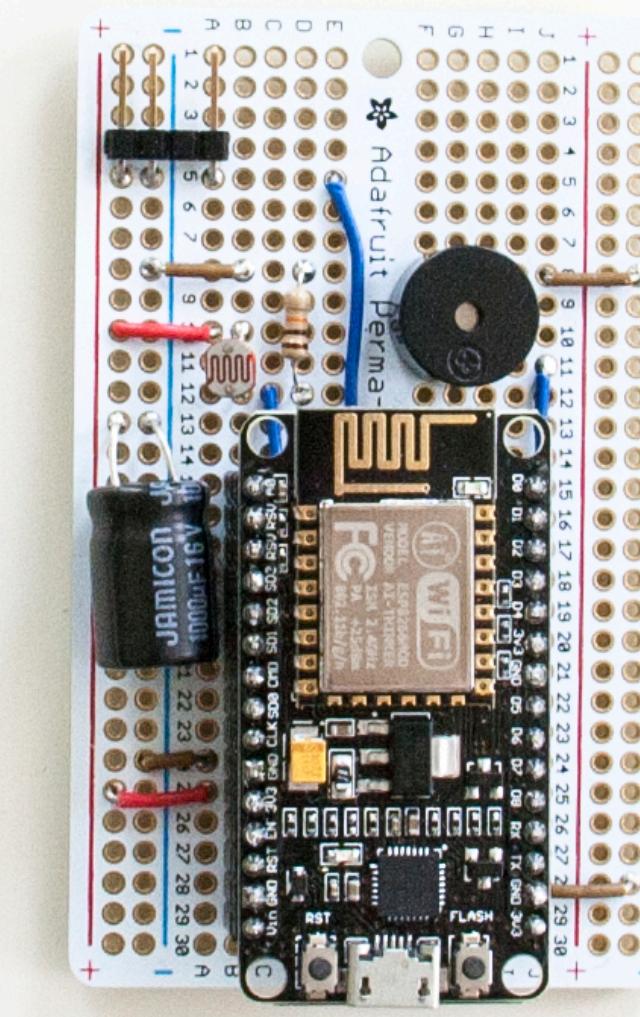
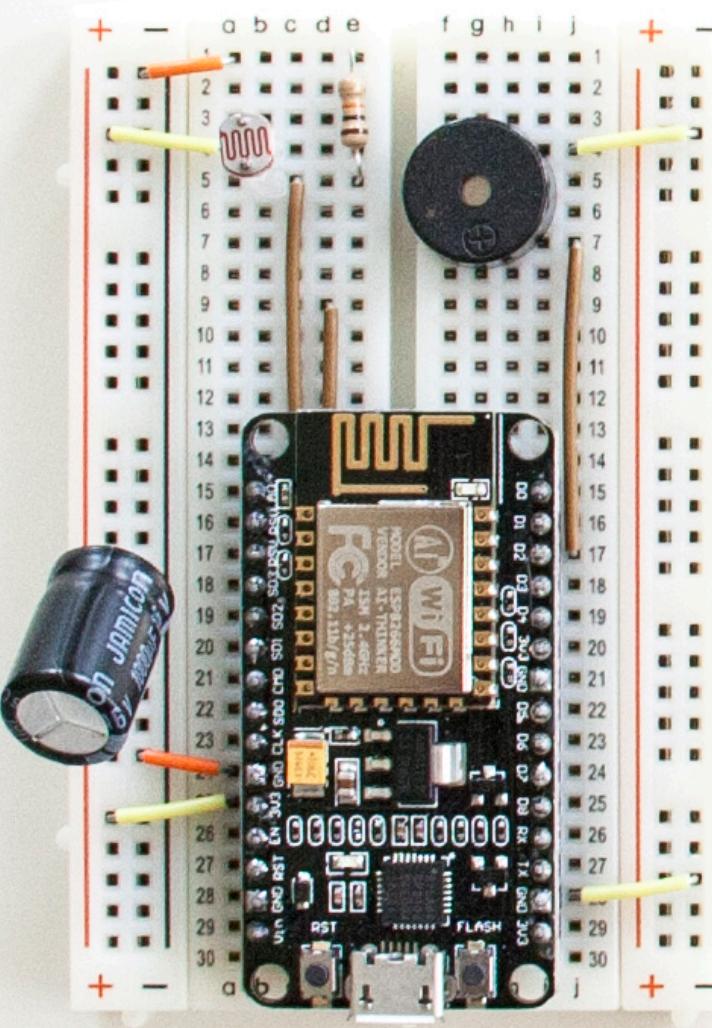
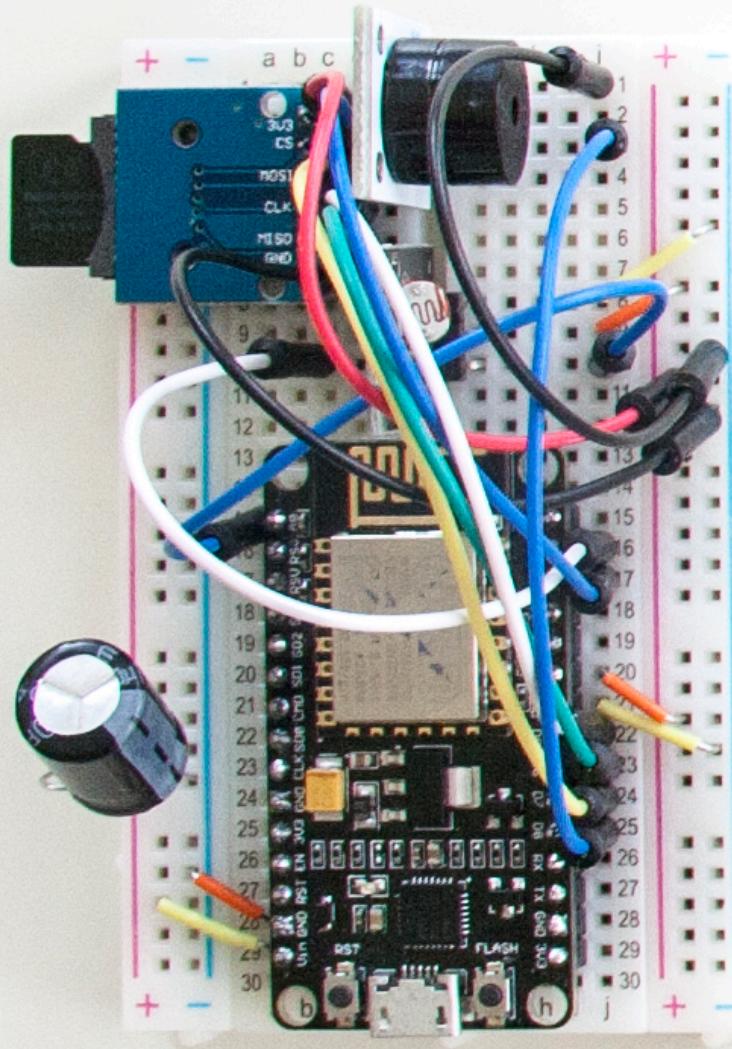




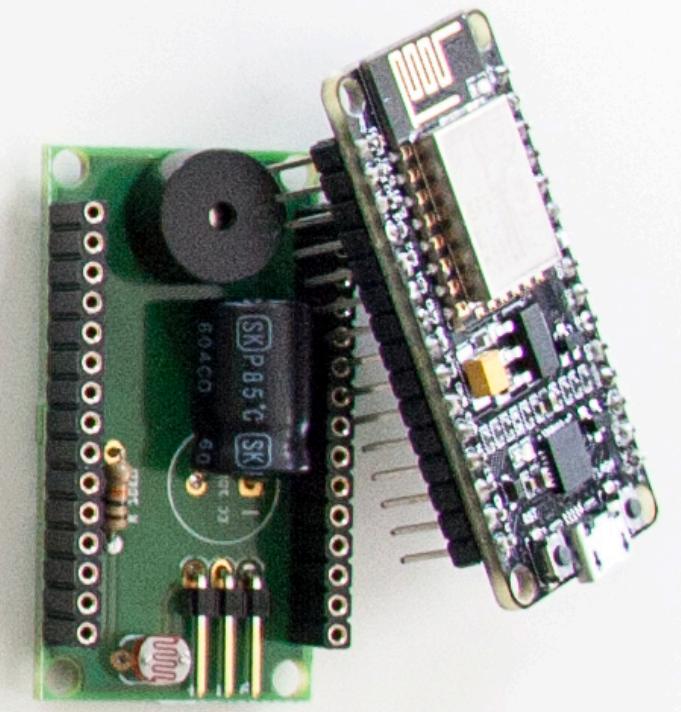
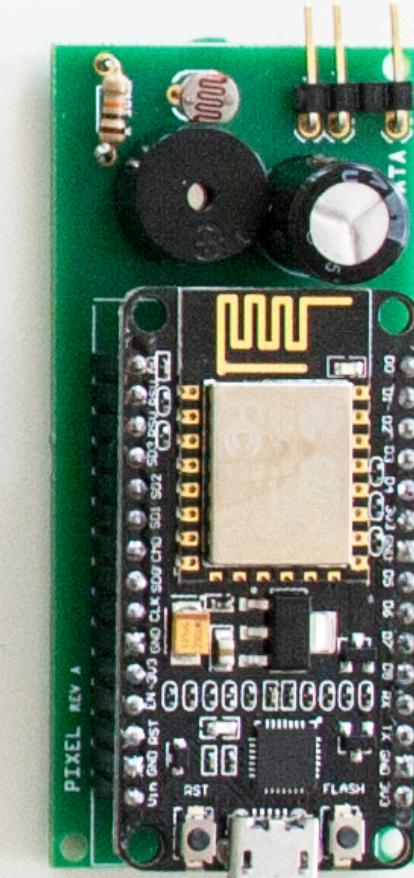
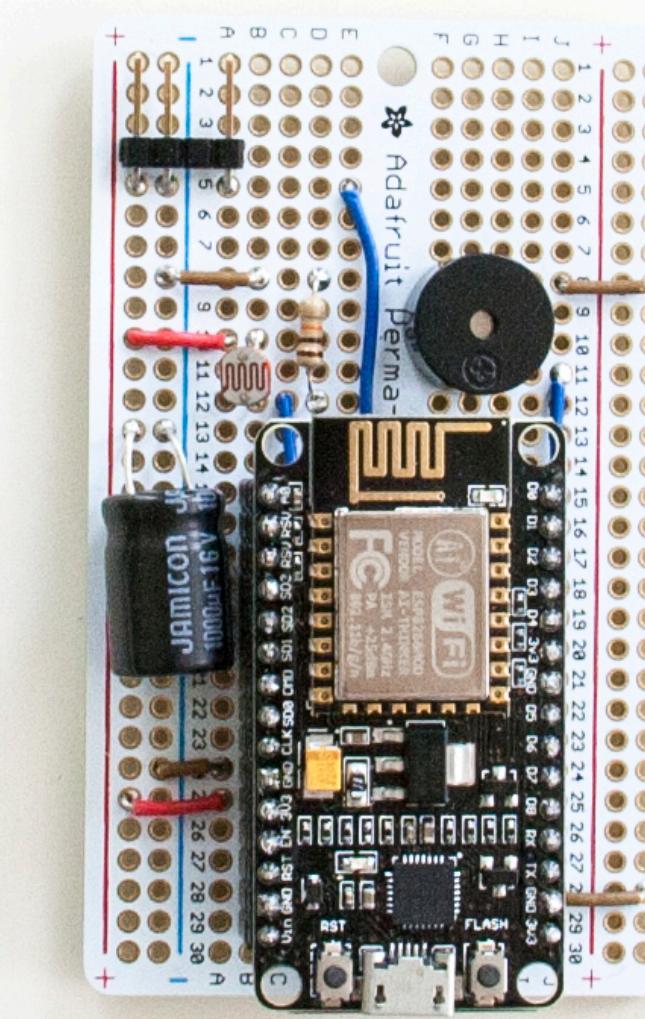
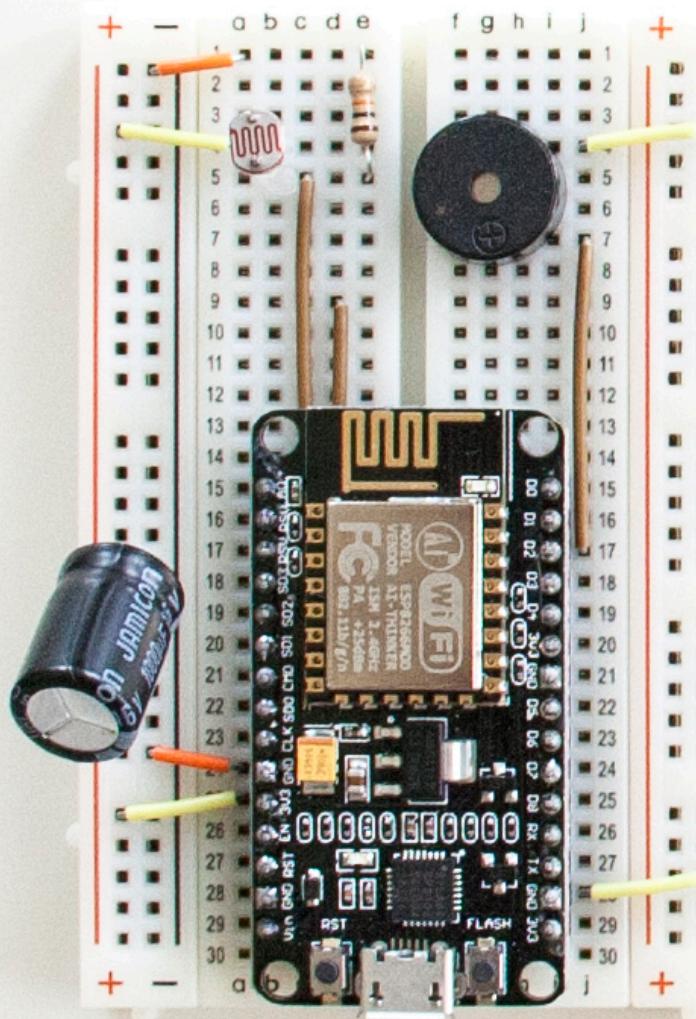
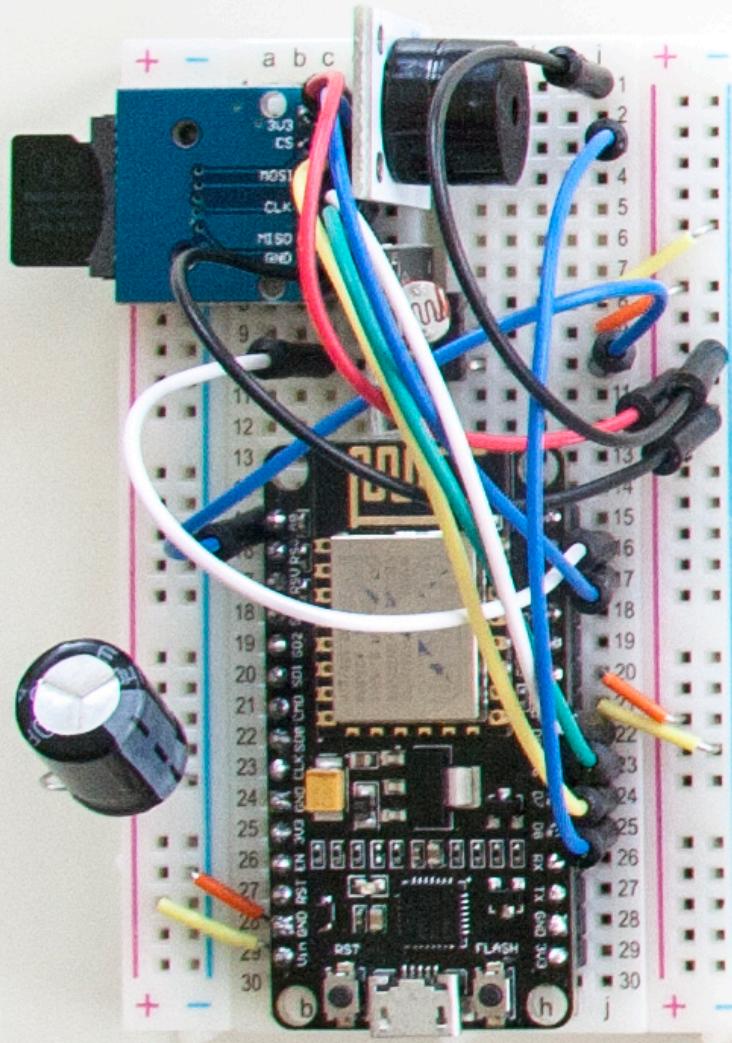




SONOS

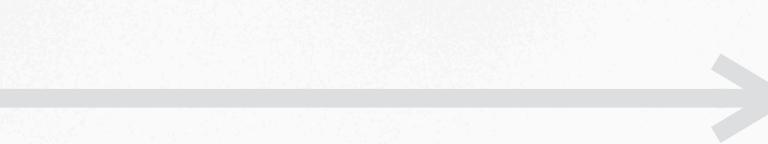


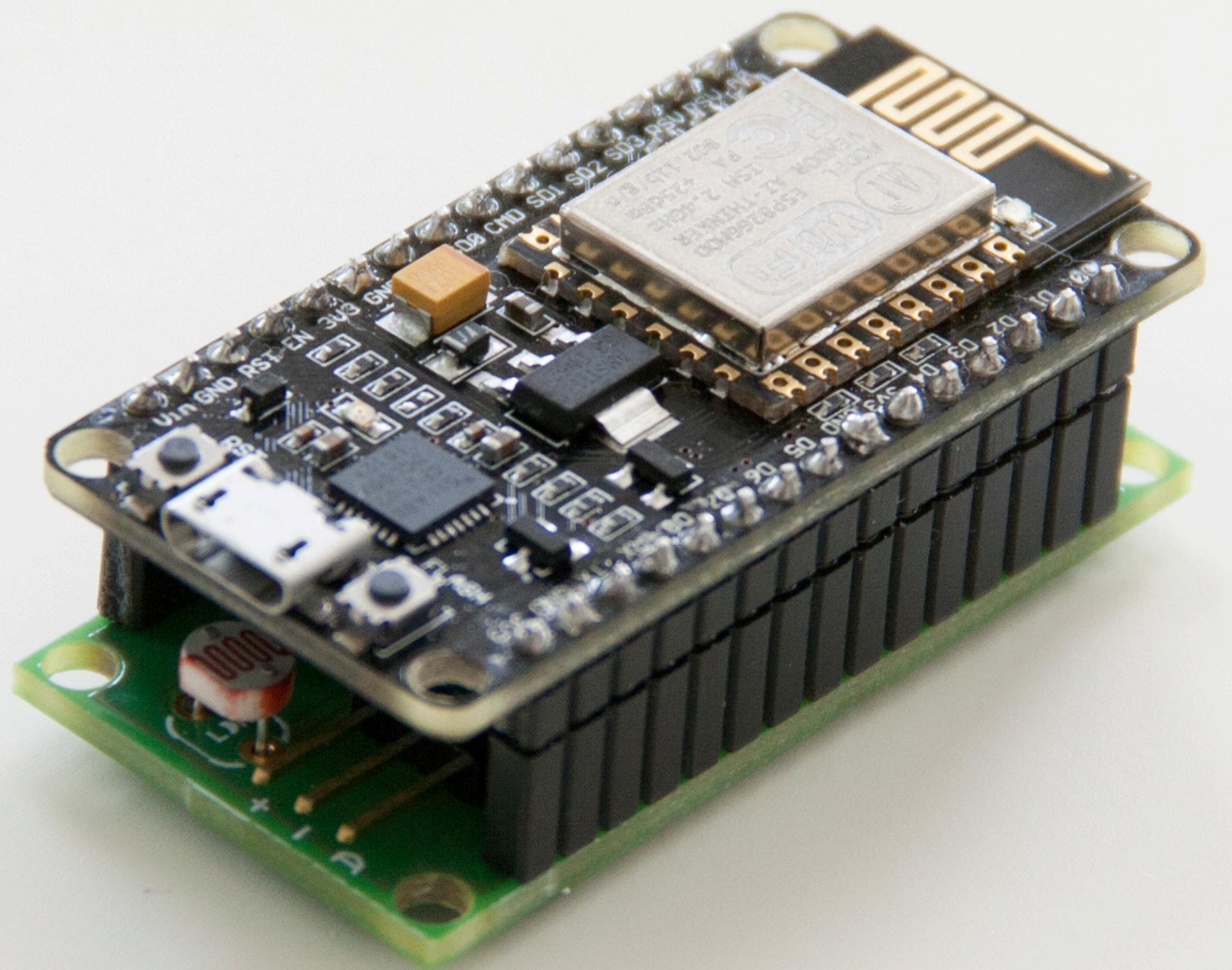
kan ik het meenemen in een vliegtuig?

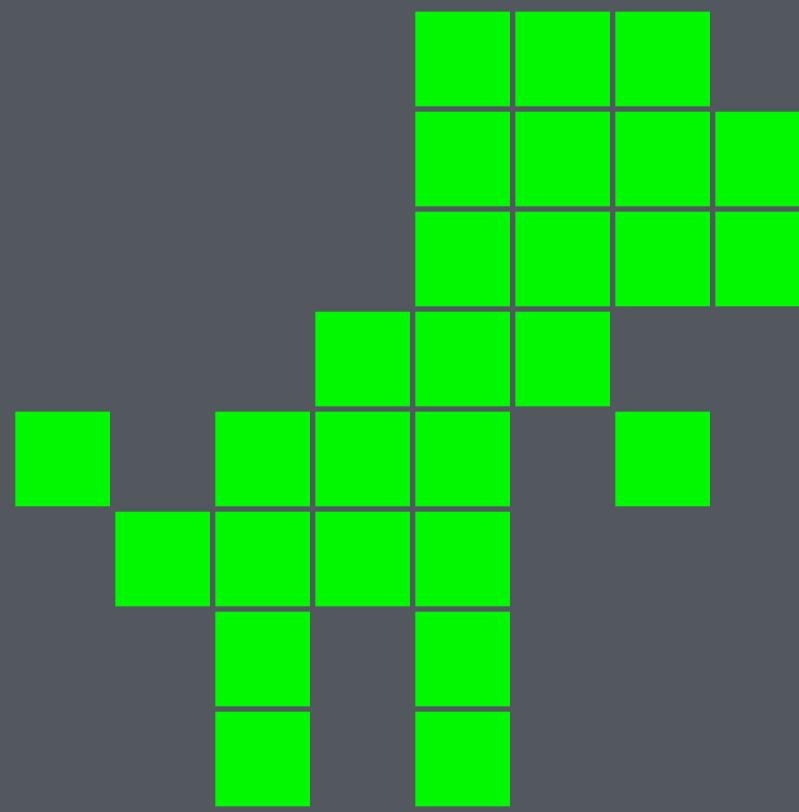


ben je gek geworden?

ja, geen probleem



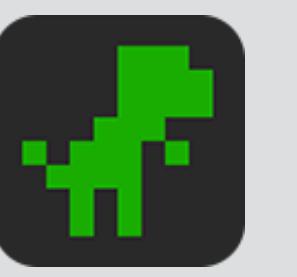
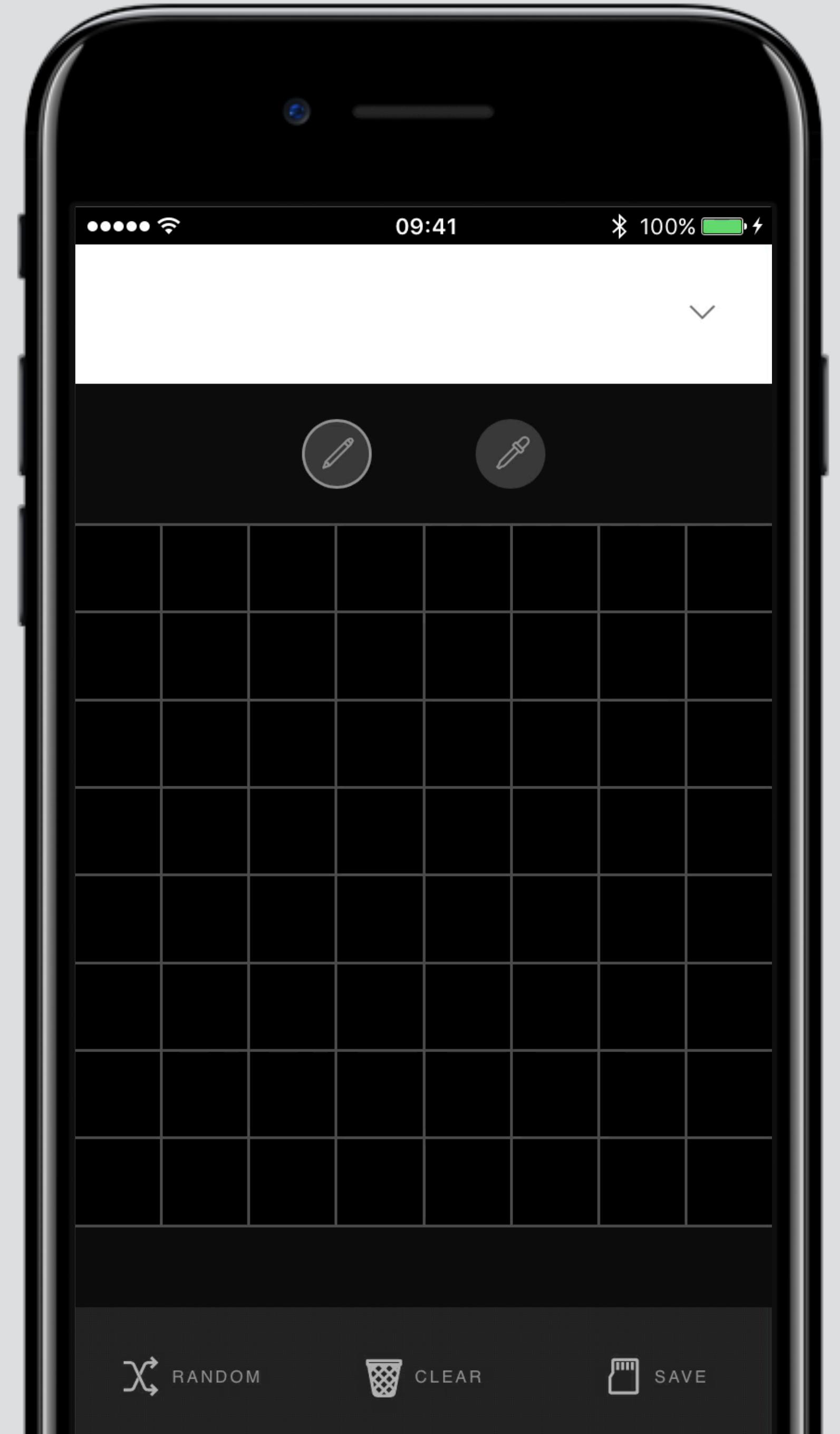




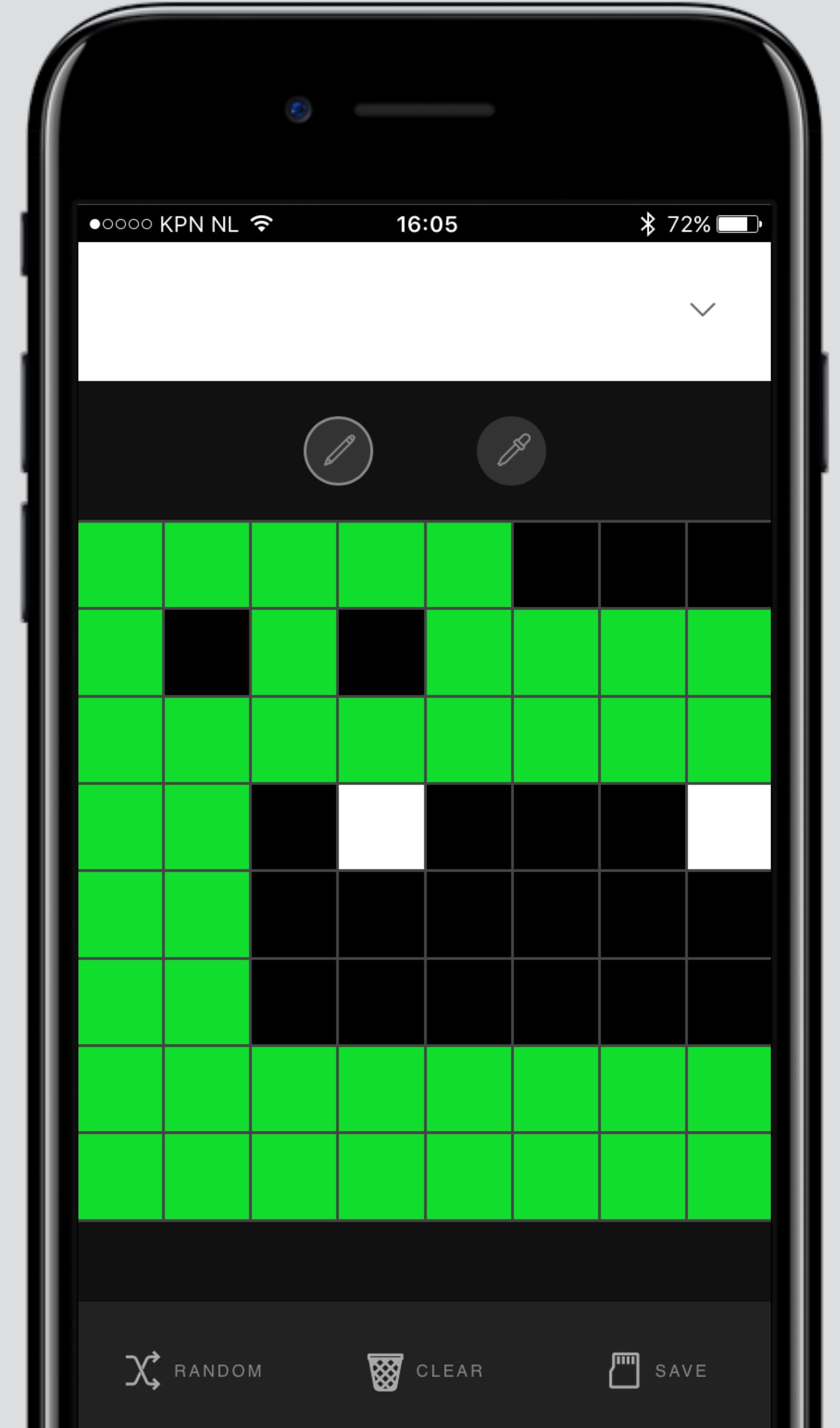
progressive  
web app

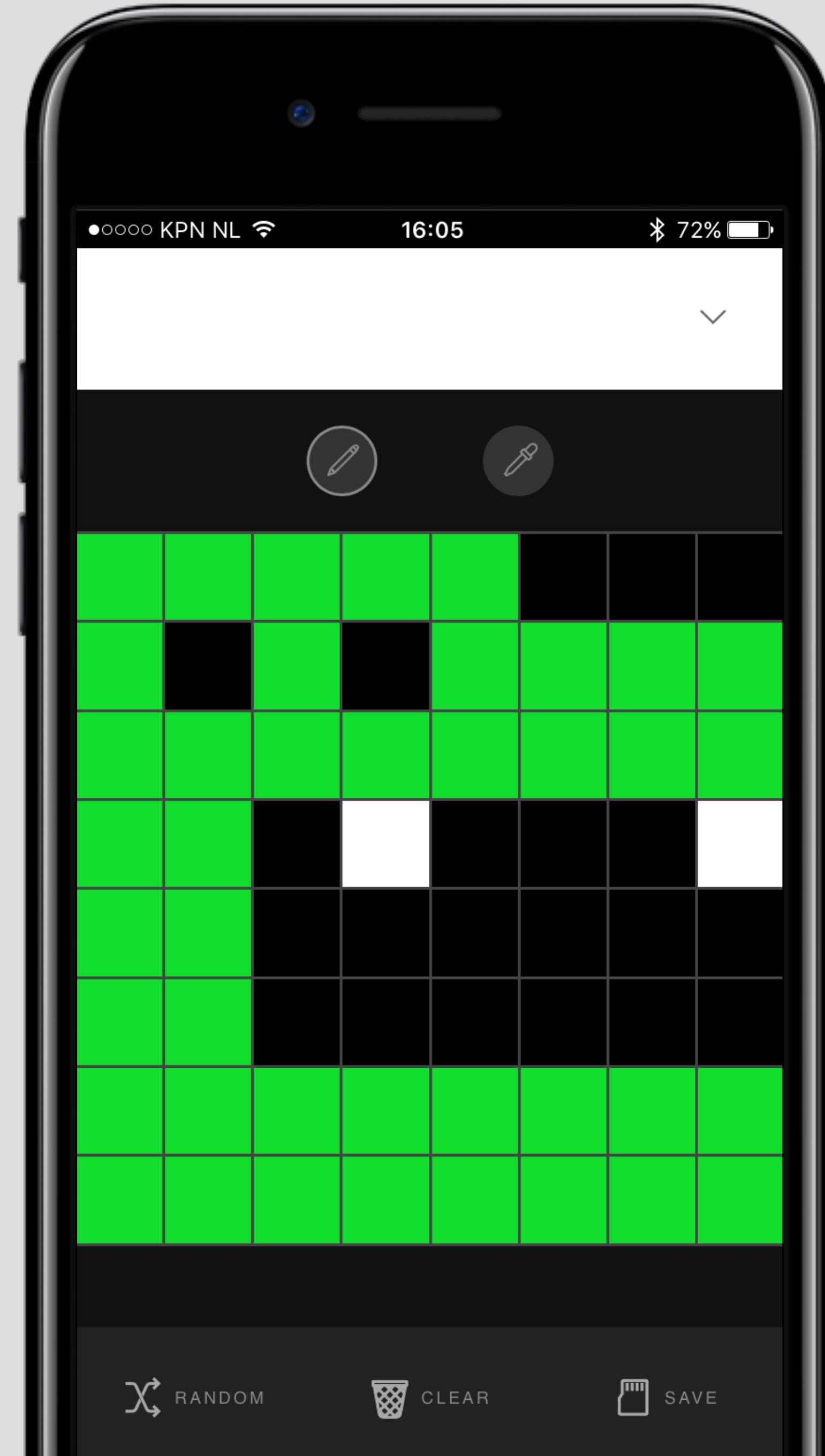


<http://pixel.local>



<http://pixel.local>



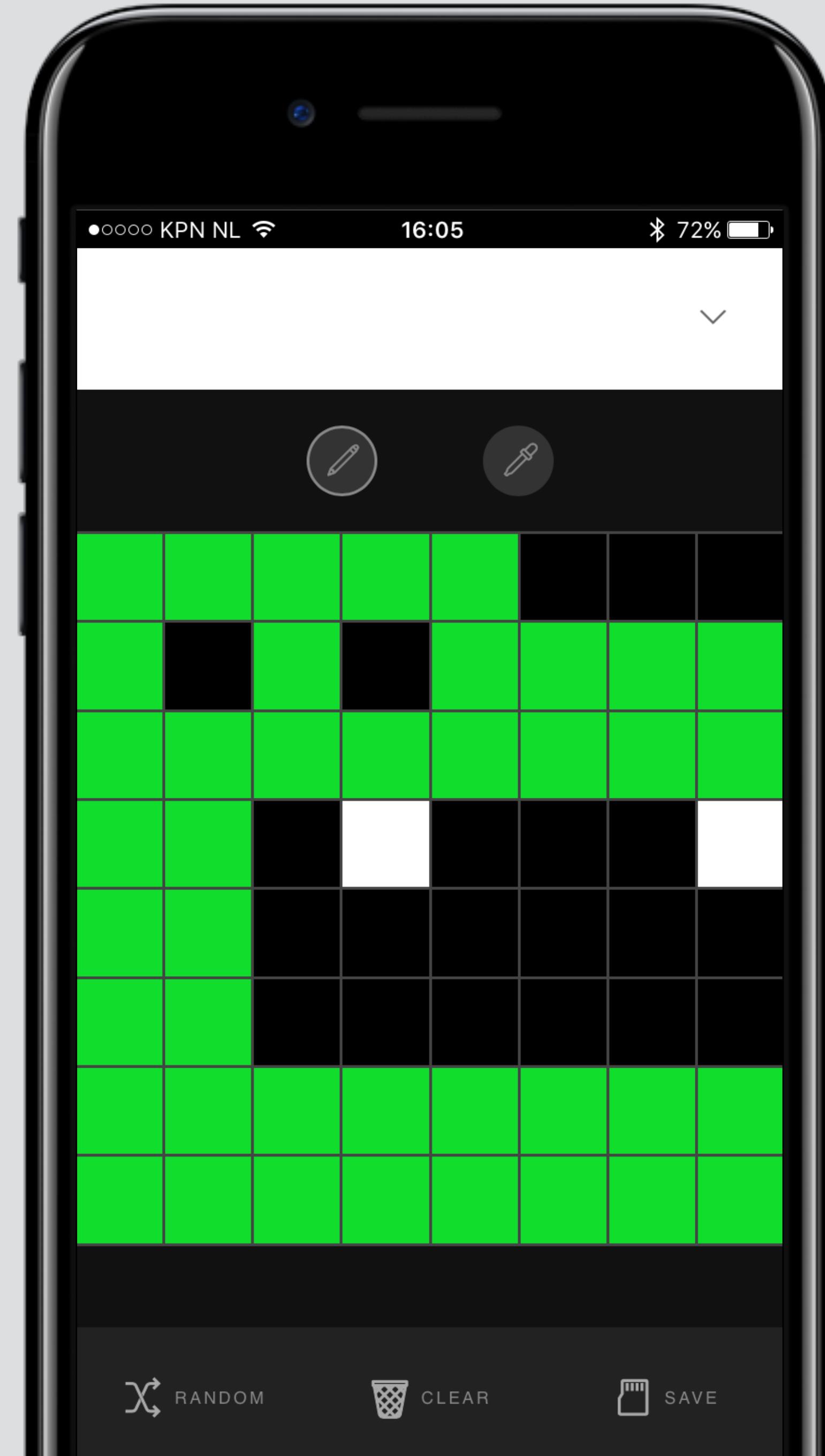


```
editor.addEventListener('touchstart', handleTouch);
editor.addEventListener('touchmove', handleTouch);

function handleTouch(e) {
    for (var i = 0; i < e.changedTouches.length; i++) {
        let elem = document.elementFromPoint(
            e.changedTouches[i].pageX,
            e.changedTouches[i].pageY
        );

        if (elem.tagName && elem.tagName == 'TD' &&
            editor.contains(elem))
        {
            drawPixel(elem);
        }
    }

    e.preventDefault();
}
```

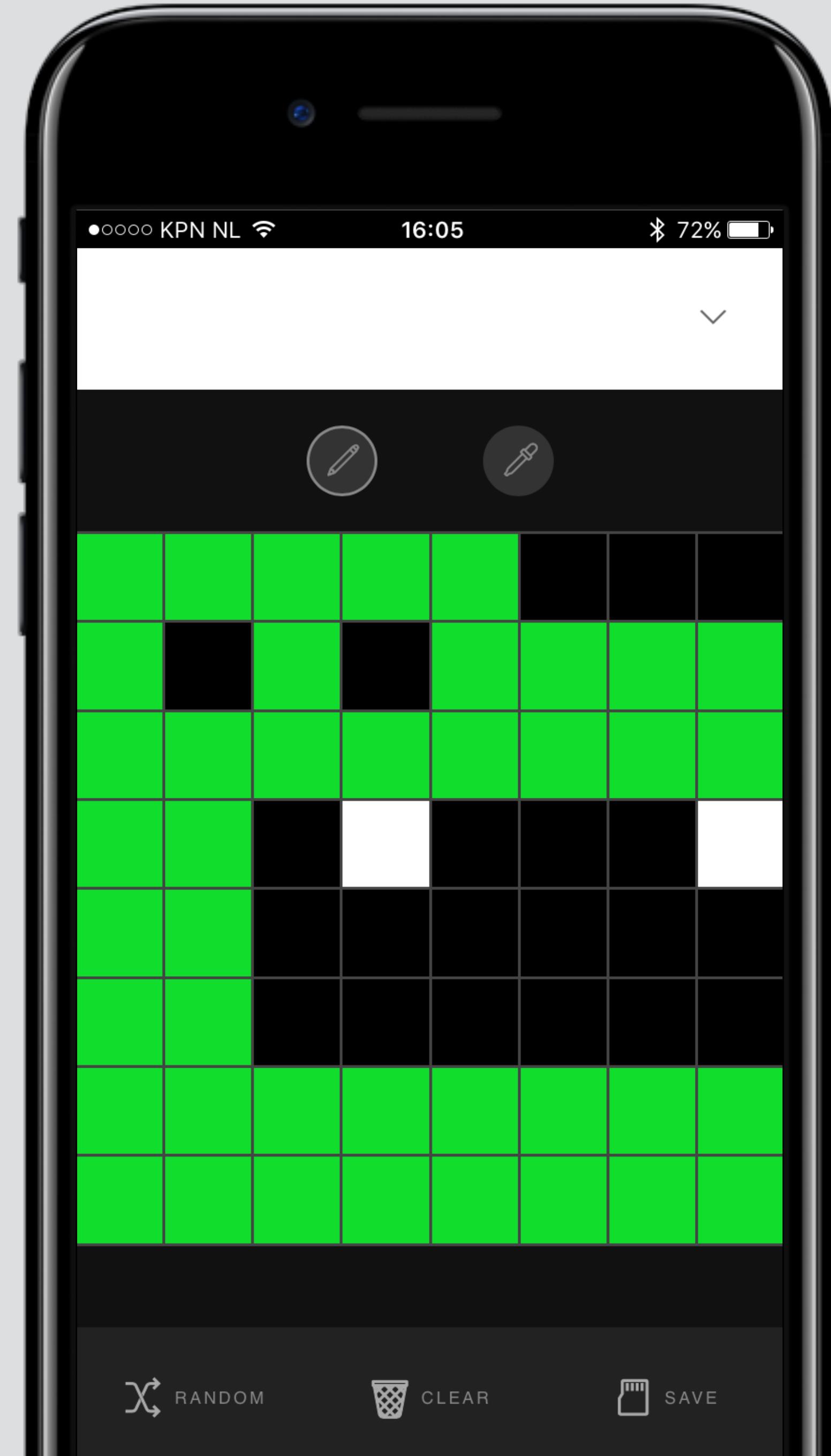


```
editor.addEventListener('touchstart', handleTouch);
editor.addEventListener('touchmove', handleTouch);

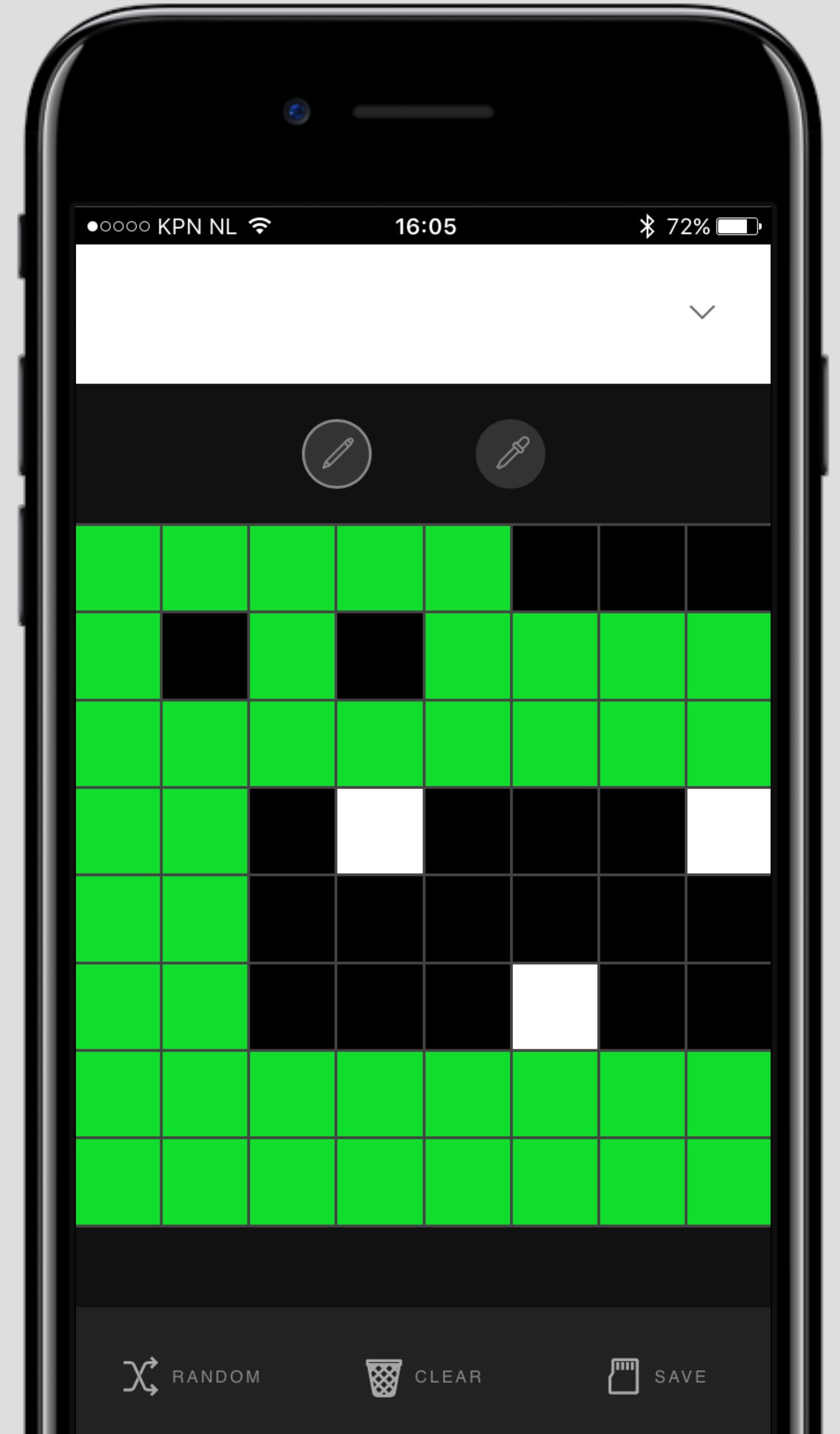
function handleTouch(e) {
    for (var i = 0; i < e.changedTouches.length; i++) {
        let elem = document.elementFromPoint(
            e.changedTouches[i].pageX,
            e.changedTouches[i].pageY
        );

        if (elem.tagName && elem.tagName == 'TD' &&
            editor.contains(elem))
        {
            drawPixel(elem);
        }
    }

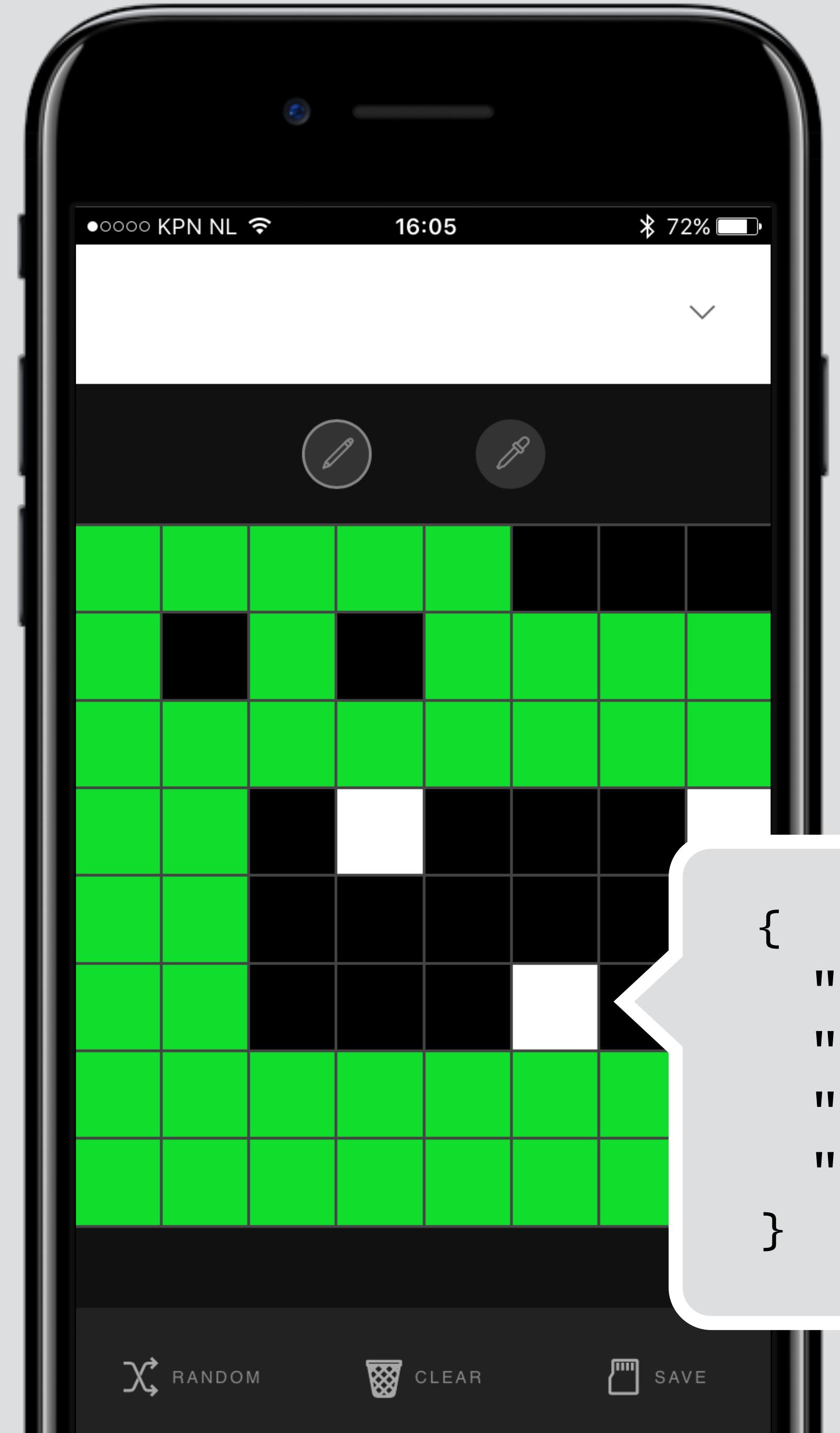
    e.preventDefault();
}
```



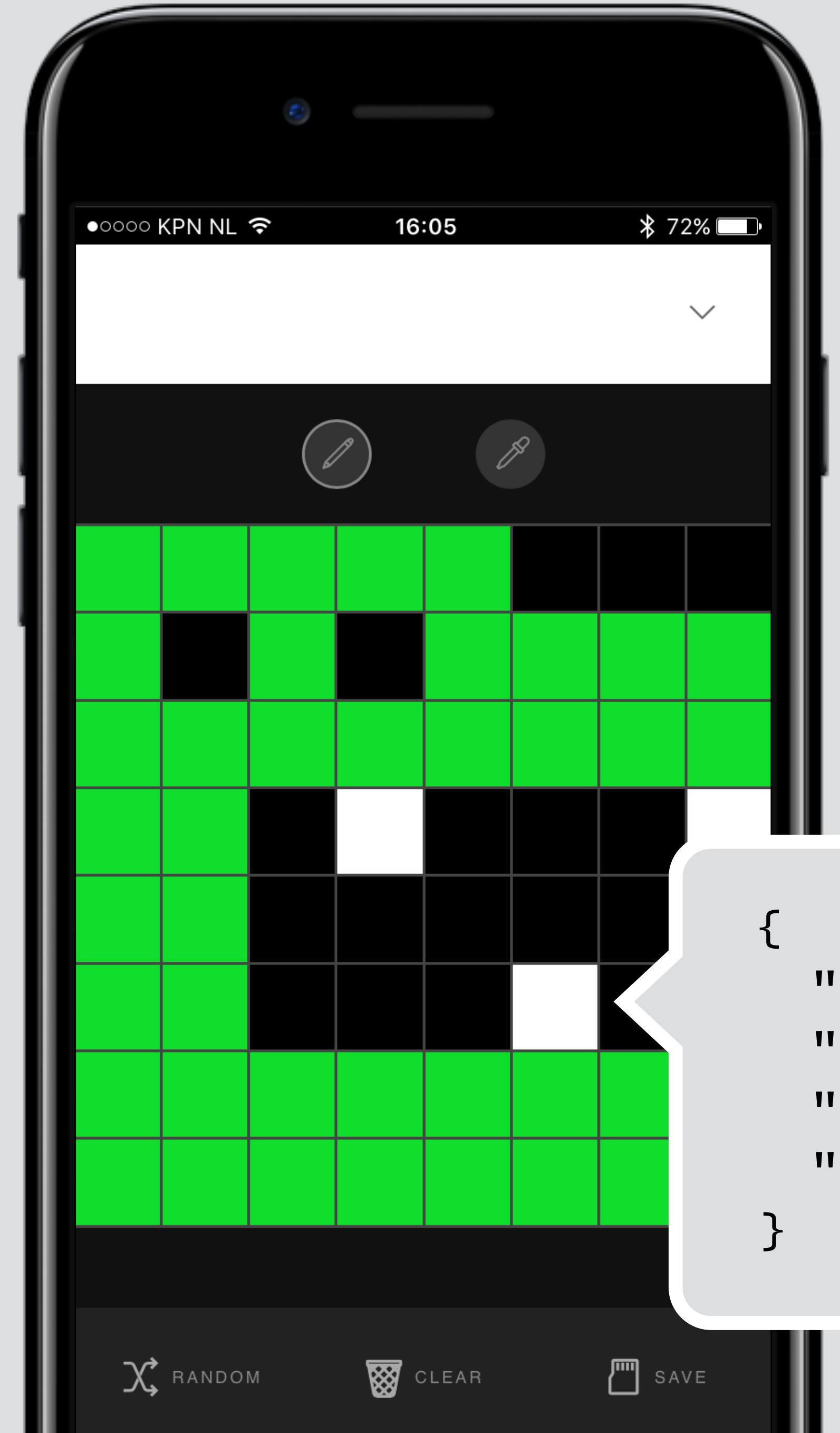
```
let socket = new WebSocket(  
    "ws://" + window.location.host + "/ws"  
);  
  
function drawPixel(elem) {  
    if (elem.dataset.color != currentColor) {  
        elem.dataset.color = currentColor;  
        elem.style.backgroundColor = '#' + currentColor;  
  
        socket.send(JSON.stringify({  
            command: "draw",  
            x: elem.dataset.x,  
            y: elem.dataset.y,  
            color: currentColor  
        }));  
    }  
}
```



```
let socket = new WebSocket(  
    "ws://" + window.location.host + "/ws"  
);  
  
function drawPixel(elem) {  
    if (elem.dataset.color != currentColor) {  
        elem.dataset.color = currentColor;  
        elem.style.backgroundColor = '#' + currentColor;  
  
        socket.send(JSON.stringify({  
            command: "draw",  
            x: elem.dataset.x,  
            y: elem.dataset.y,  
            color: currentColor  
        }));  
    }  
}
```

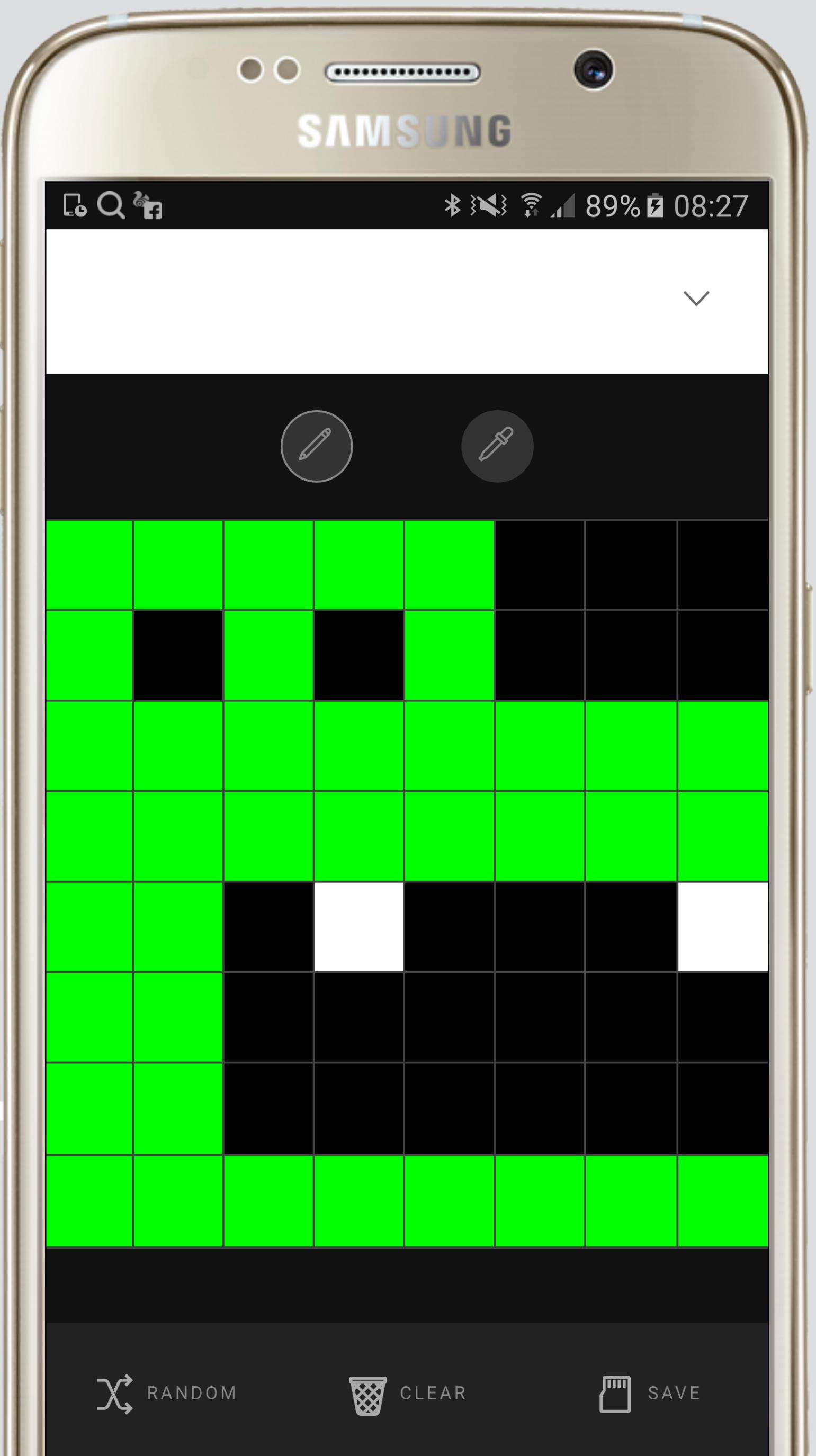


```
{  
  "command": "draw",  
  "x": 5,  
  "y": 5,  
  "color": "ffffff"  
}
```





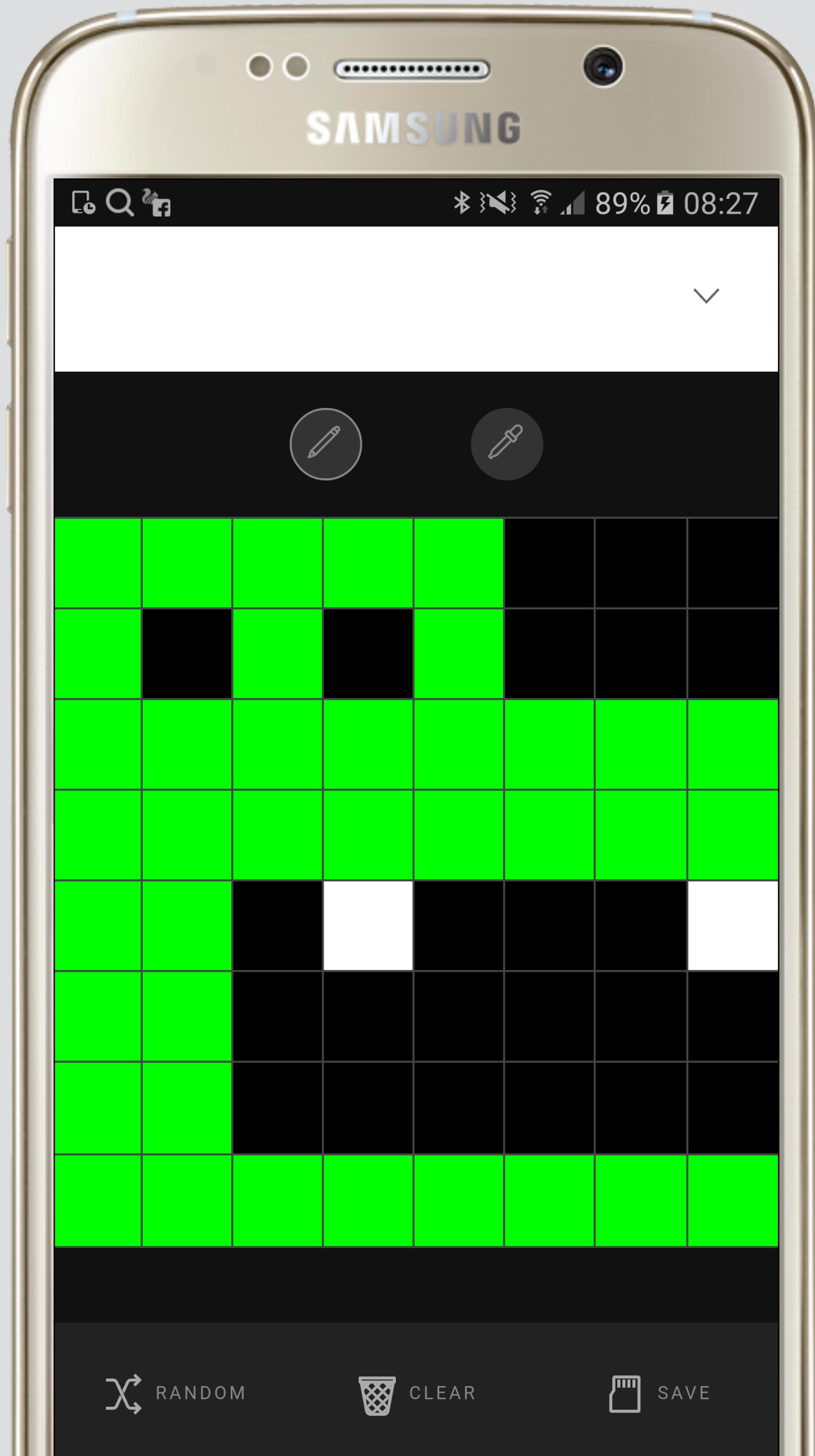




```
socket.onmessage = function(msg) {
  let data = JSON.parse(msg.data);

  if (data.command == "draw")
  {
    let elem = document.querySelector(
      'td[data-x=' + data.x + ']' +
      '[data-y=' + data.y + ']'
    );

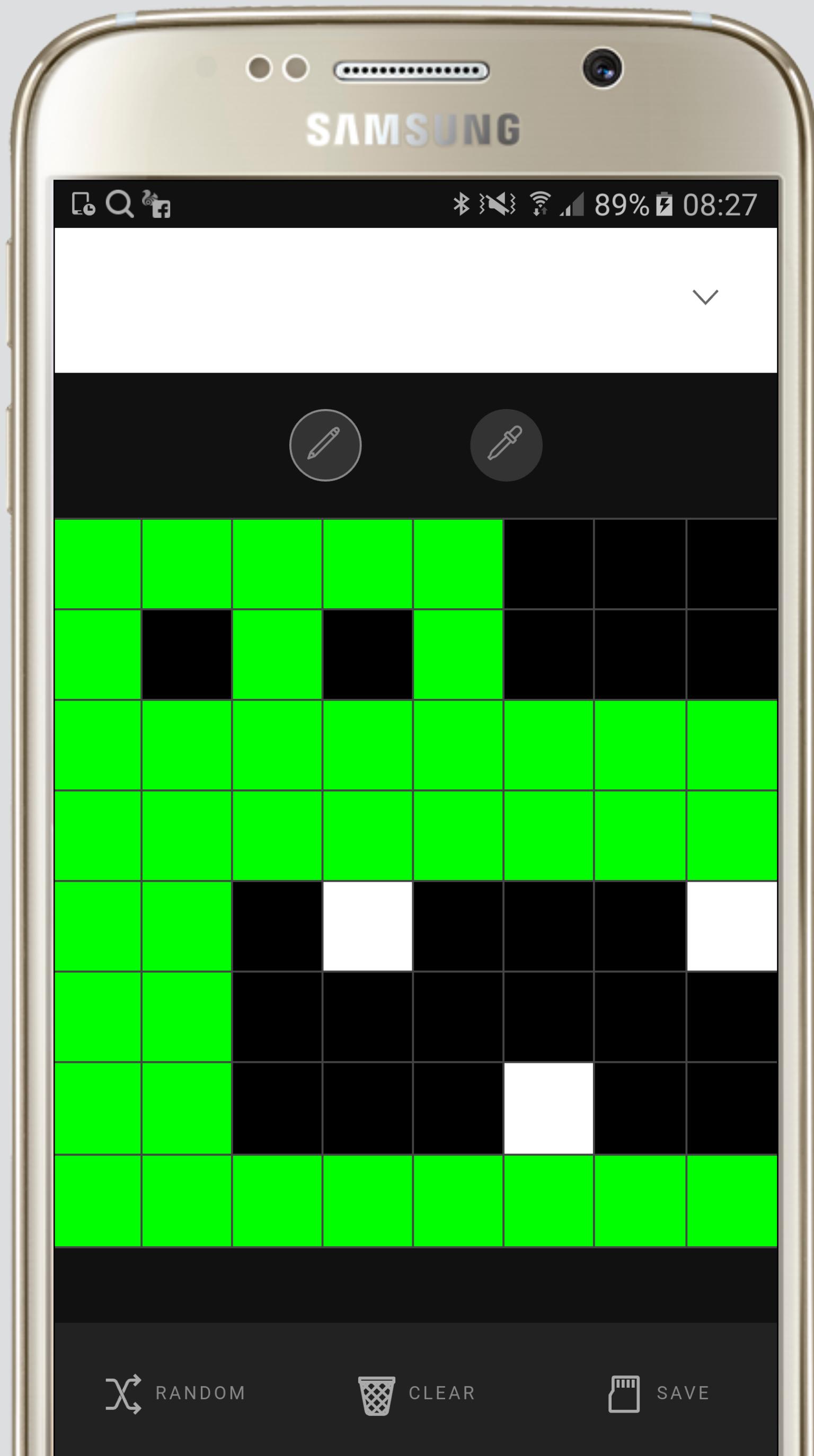
    elem.dataset.color = data.color;
    elem.style.backgroundColor = '#' + data.color );
  }
}
```



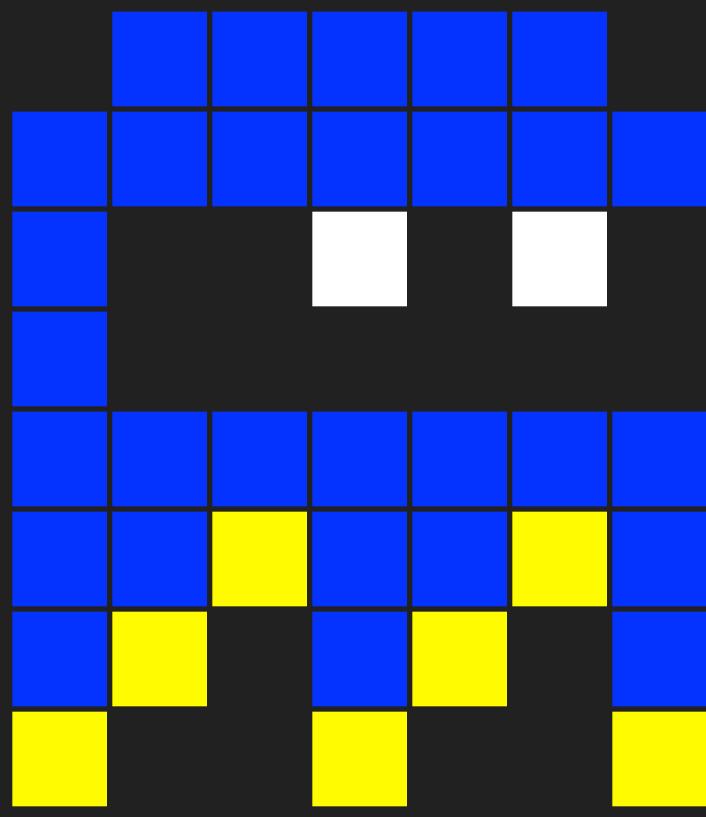
```
socket.onmessage = function(msg) {
  let data = JSON.parse(msg.data);

  if (data.command == "draw")
  {
    let elem = document.querySelector(
      'td[data-x=' + data.x + ']' +
      '[data-y=' + data.y + ']'
    );

    elem.dataset.color = data.color;
    elem.style.backgroundColor = '#' + data.color );
  }
}
```



demo



het mysterie  
van de  
spookbrievenbus



brieven      bus

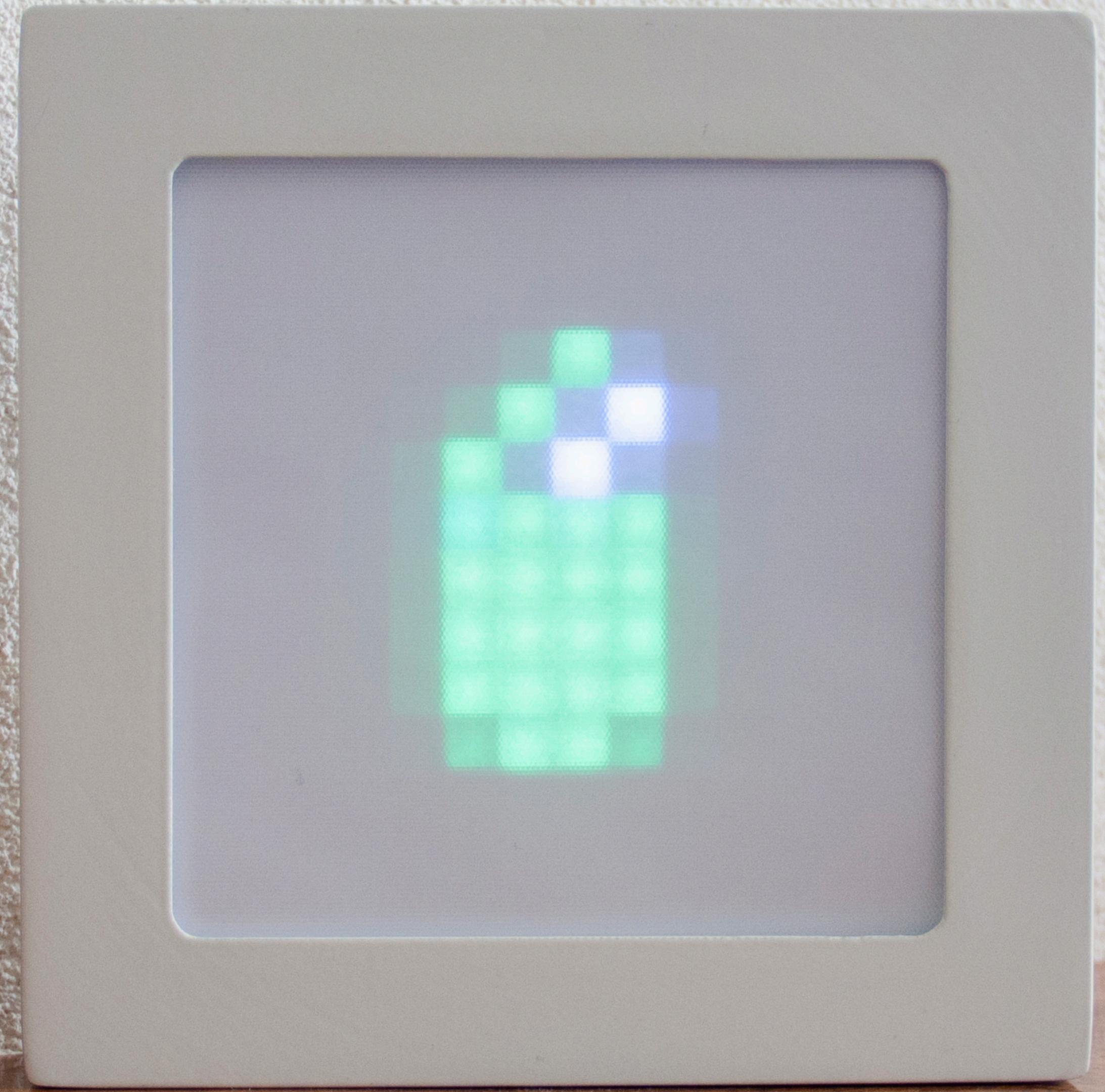


magneetcontact

bij openen van de deksel een signaal



`http://pixel.local/api?command=notify&icon=mailbox`







magneetcontact  
combineren met een  
bewegingsdetector?

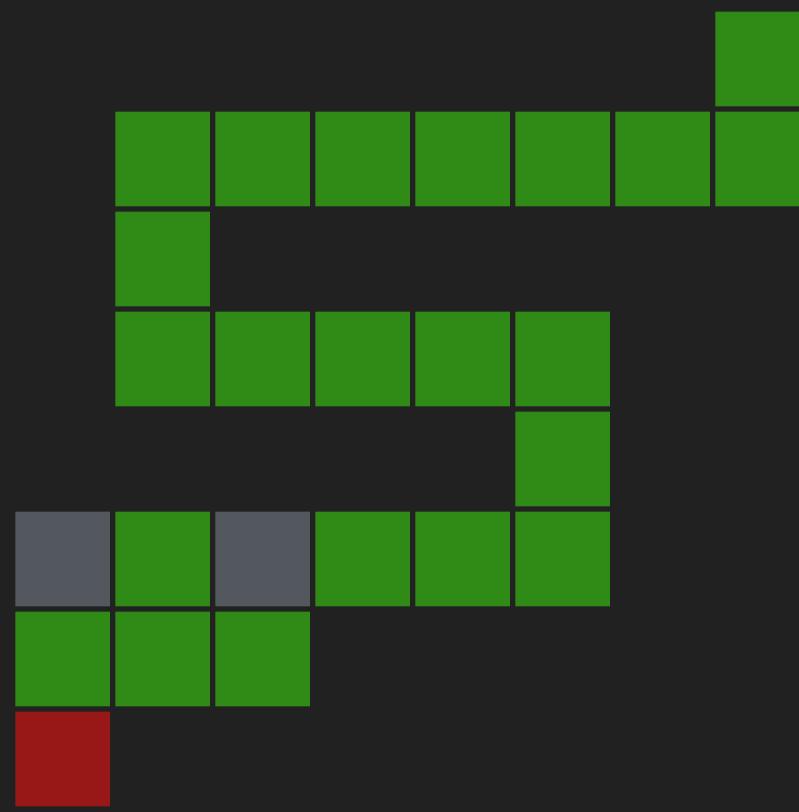
oplossing #1

magneetcontact  
uitzetten bij  
harde westenwind?

oplossing #2



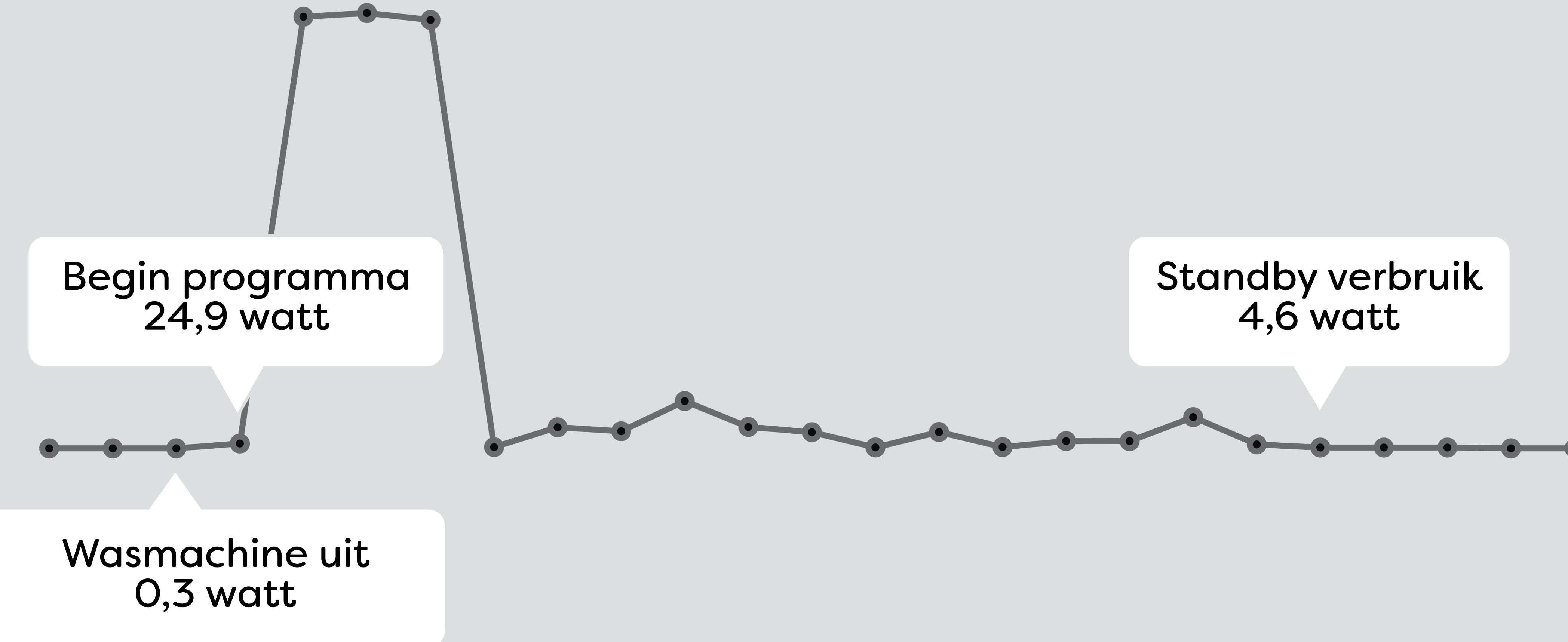
oplossing #3



de wispettige  
wasmachine







```
If [S-Z Wasmachine < actual.] > [5]
Do [Set Var S-Z WasmachineBezig = 1]
```

```
If [S-Z Wasmachine < actual.] < [5] and [Var S-Z WasmachineBezig = 1]
Do [Set Var S-Z WasmachineBezig = 0]
[Open url: http://pixel.local/api?command=notify&icon=shirt]
```

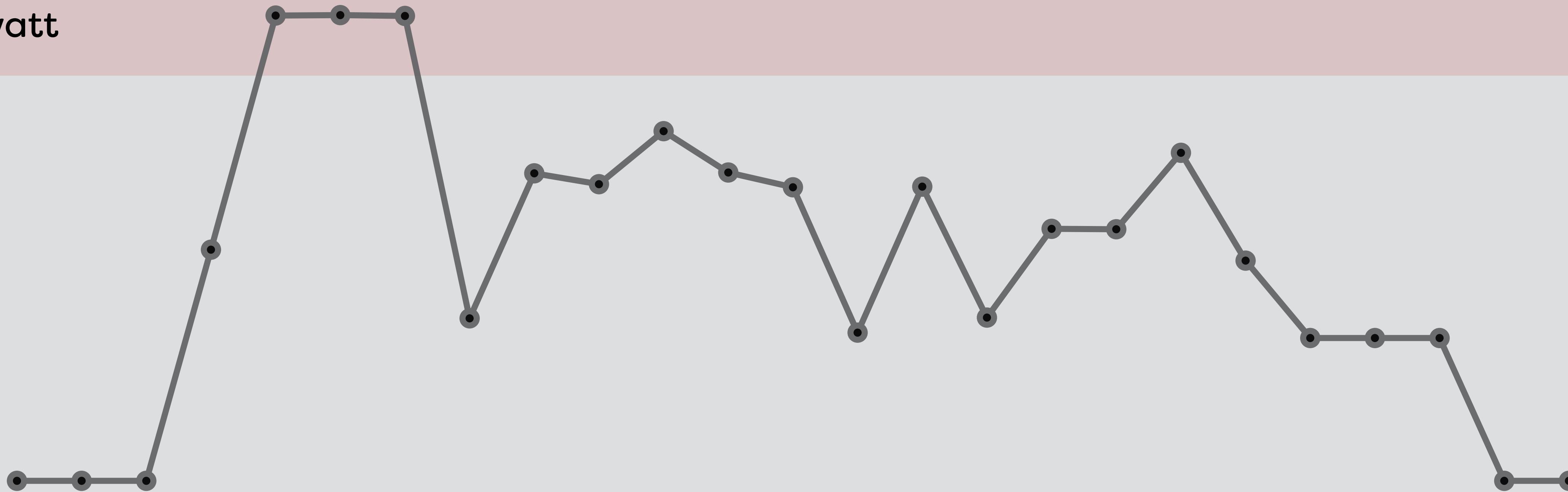


De was is klaar!

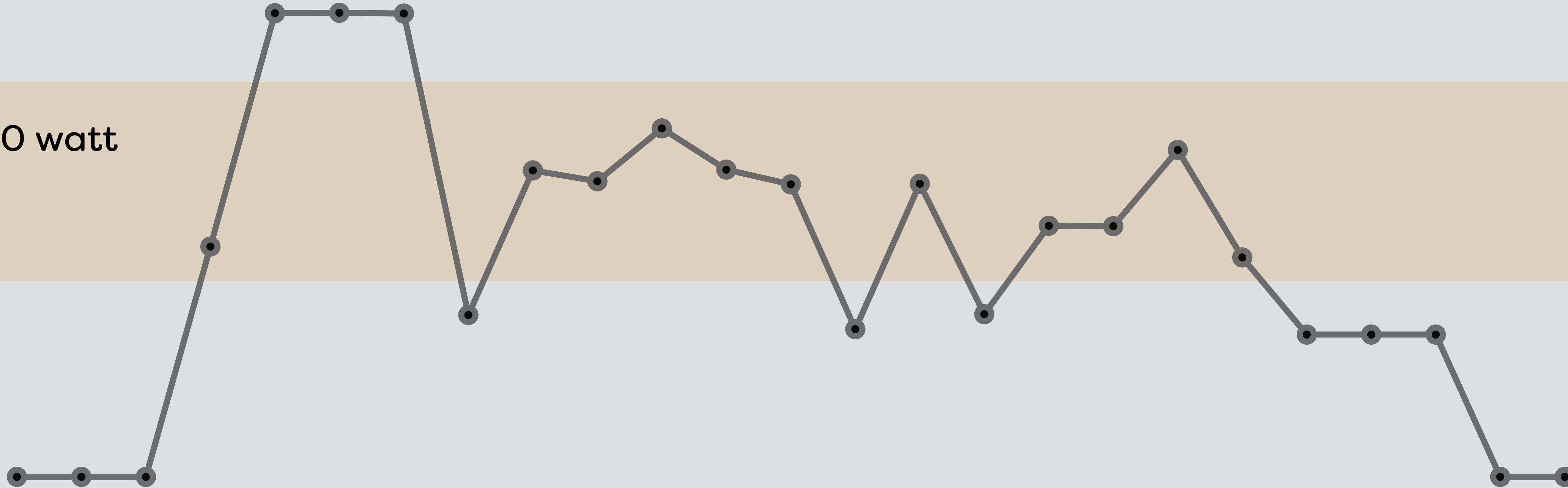


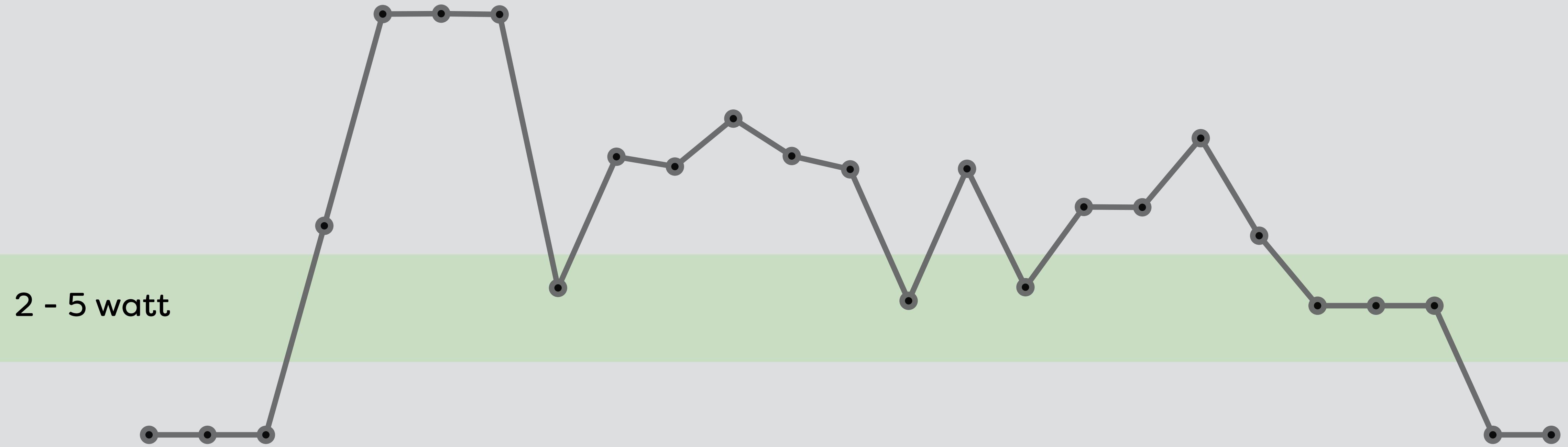


2000 watt



20 - 200 watt







```
If [S-Z Wasmachine ▾ actual. > v 5] and [Var S-Z WasmachineBezig ▾ ≠ v 1]
Do Set Var S-Z WasmachineBezig ▾ = 1
```

```
If [S-Z Wasmachine ▾ actual. < v 5] and [Var S-Z WasmachineBezig ▾ = v 1]
Do Set Var S-Z WasmachineBezig ▾ = 2
```

```
commandArray = {}

if (uservariables['WasmachineBezig'] == 2) then
    s = uservariables_lastupdate['WasmachineBezig']
    lastUpdate = os.time{
        year=string.sub(s, 1, 4), month=string.sub(s, 6, 7), day=string.sub(s, 9, 10),
        hour=string.sub(s, 12, 13), min=string.sub(s, 15, 16), sec=string.sub(s, 18, 19)
    }

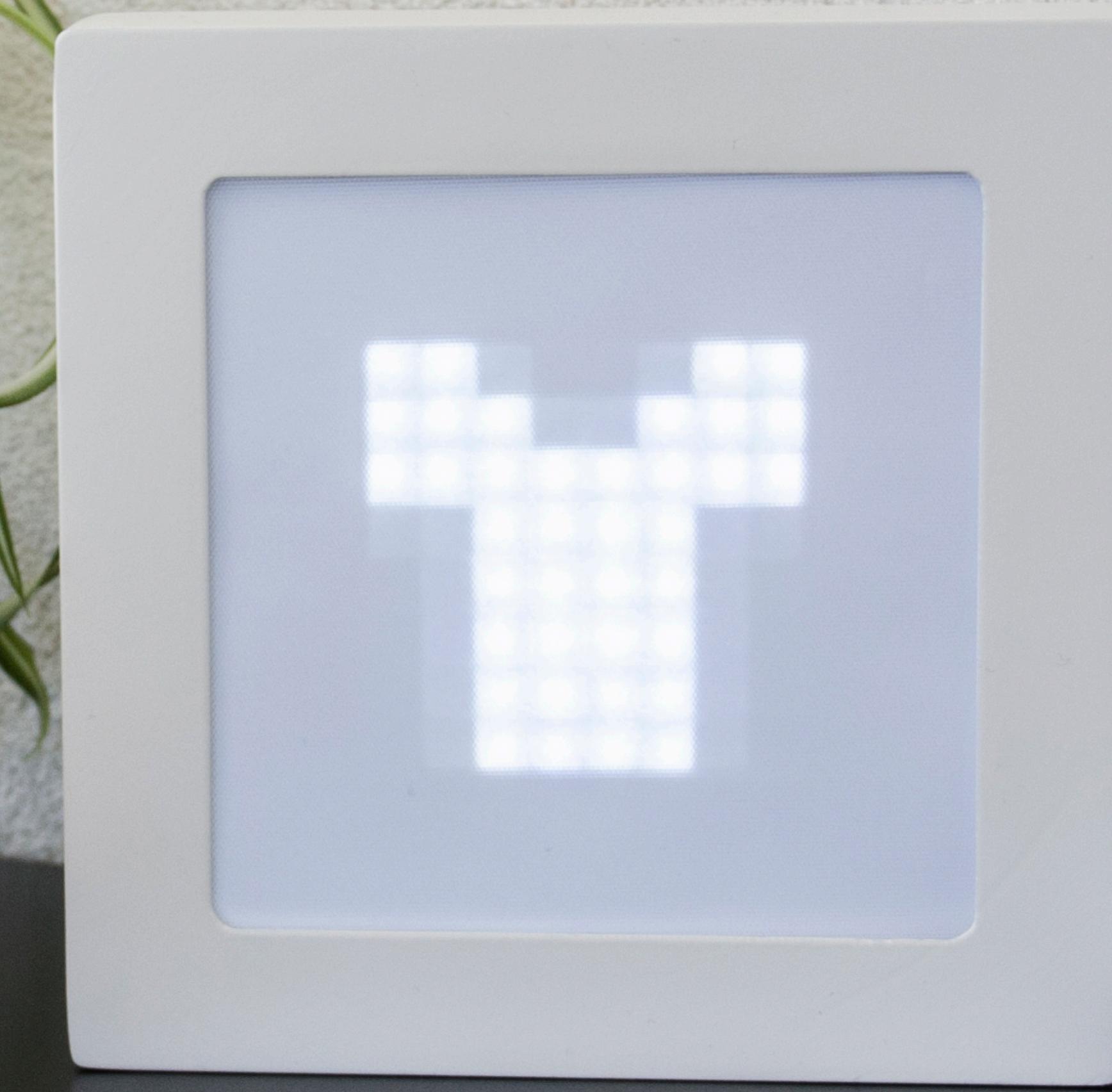
    difference = os.difftime (os.time(), lastUpdate)

    if (difference > 300) then
        commandArray['Variable:WasmachineBezig'] = '0'
        commandArray['OpenURL'] = 'pixel.local/api?command=notify&icon=shirt'
    end
end

return commandArray
```



De was is klaar!





bedankt!  
vragen?

@html5test