APRESENTAÇÃO PIC

1ª Reunião

WEBSITE

- https://forestfiredetection.online

ARQUITETURA DO SISTEMA

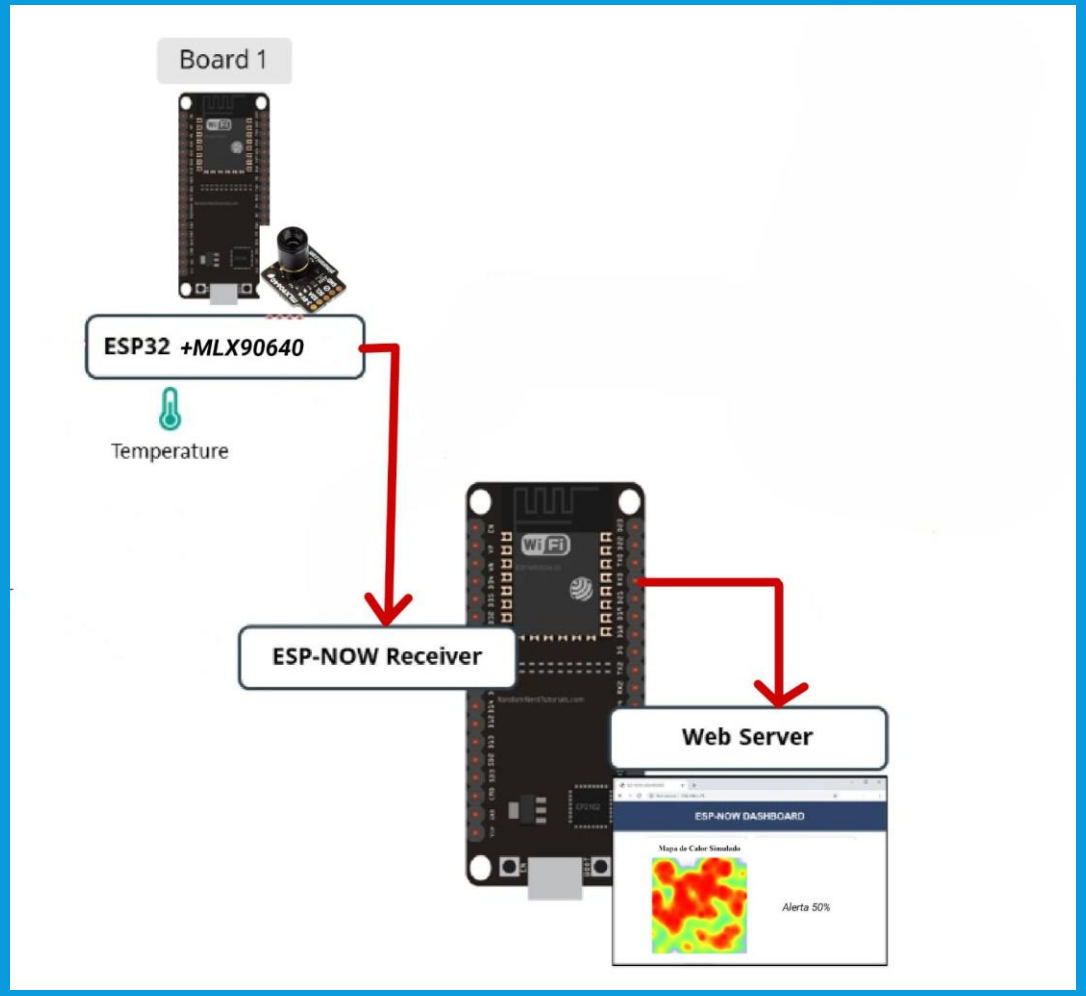
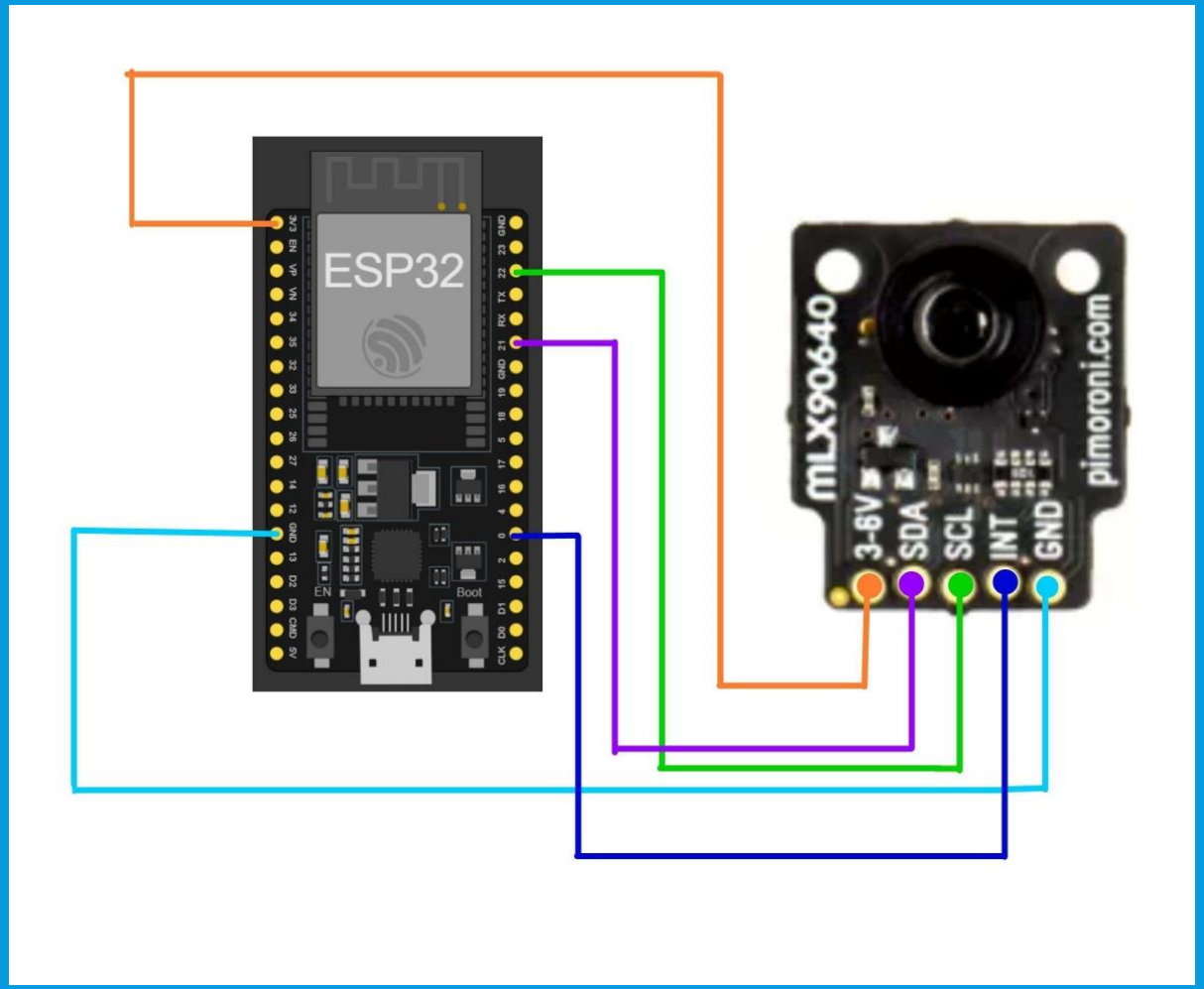


DIAGRAMA ESQUEMÁTICO



LISTA DE MATERIAL

Orçamento PIC

Orçamento máximo	300,00 €	300,00 €
Custo total	242,16 €	242,16 €
Está abaixo do orçamento por	57,84 €	

Item	Descrição	Custo	Qtd.	Montante	Notas
Câmara térmica	MLX90640 Thermal Camera Breakout	78,94 €	2	157,88 €	https://www.digikey.pt/pt/products/detail/pimoroni-ltd/PIM365/9606191?utm_adgroup=&utm_source=google&utm_medium=cpc&utm_campaign=PMax_Product_All%20Products&utm_term=&productid=9606
ESP32	ESP32 2.4GHz Dual-Mode WiFi and Bluetooth Development Board	12,18 €	3	36,54 €	https://www.ptrobotics.com/wifi/7074-esp32-24ghz-dual-mode-wifi-and-bluetooth-development-board.html
Breadboard		3,69 €	1	3,69 €	https://www.ptrobotics.com/breadboards/3090-breadboard-400-points-branco.html
Jumper Wires	Connected 6" M/M Pack of 20	3,08 €	1	3,08 €	https://www.ptrobotics.com/jumper-wires/4103-jumper-wires-connected-6-m-m-pack-of-20.html
Socket 5pin	PCB Socket 5Pin Single Row	0,18 €	2	0,36 €	https://www.ptrobotics.com/headers-e-sockets/3260-pcb-socket-5pin-single-row.html
Drone	Klack F185 Pro 4K Profesional hd Con	37,90 €	1	37,90 €	https://www.kuantokusta.pt/p/10388440/klack-mini-dron-klack-f185-pro-4k-profesional-hd-con-camara-de-tres-lados-para-evitar-obstaculos-kf185pro
Jumper Wires	20cm F/F Pack of 10 Random Color	2,71 €	1	2,71 €	https://www.ptrobotics.com/jumper-wires/2610-jumper-wires-premium-20cm-f-f-pack-of-10-random-color.html
Total				**242,16 €**	

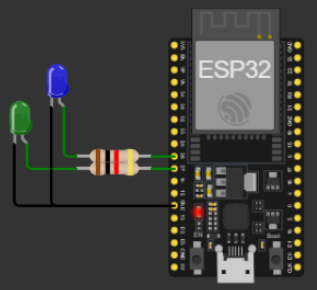
TESTE 1

esp32-http-server.ino ● | diagram.json | Library Manager

```
31    String response = R"(
32  <!DOCTYPE html>
33  <html>
34  <head>
35    <title>ESP32 Heatmap Demo</title>
36    <meta name="viewport" content="width=device-width, initial-scale=1">
37    <script src="https://cdn.jsdelivr.net/npm/heatmap.js@2.0.5/build/heatmap.min.js"></scr
38    <style>
39      body { text-align: center; }
40      #heatmap { width: 24px; height: 32px; margin: auto; } /* Aumenta o tamanho do contêi
41    </style>
42  </head>
43  <body>
44    <h1>ESP32 Heatmap</h1>
45    <div id="heatmap"></div>
46    <script>
47      var heatmapInstance = h337.create({
48        container: document.querySelector('#heatmap'),
49        radius: 2.2 // Ajusta o raio para melhor visualização
50      });
51
52      var data = {
53        max: 770, // Ajusta conforme a nova variação de valor
54        data: )";
55
56    response += heatmapData;
57
58    response += R"(
59      };
60      heatmapInstance.setData(data);
61    </script>
62  </body>
63  </html>
64  )";
```

Simulation

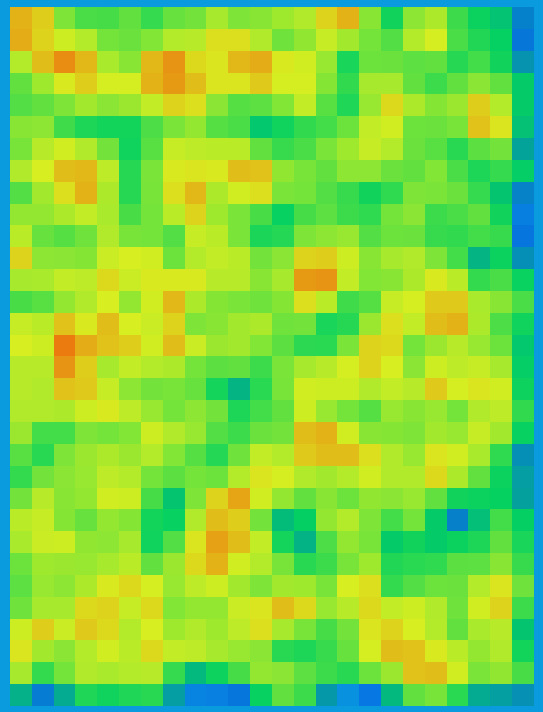
00:05.747 36%




```
load:0x3fff0030,len:1156
load:0x40078000,len:11456
ho 0 tail 12 room 4
load:0x40080400,len:2972
entry 0x400805dc
........Connected to WiFi
HTTP server started
```

TESTE 1

Nº Pixeis : 24x32 = 768

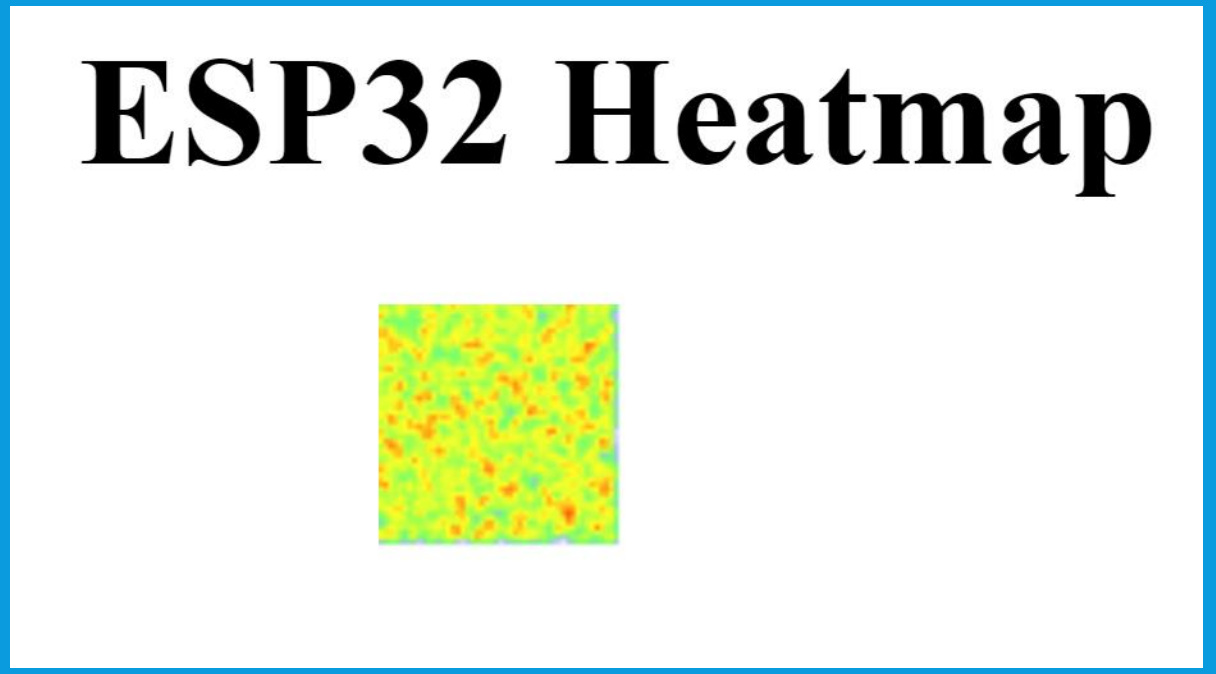


TESTE 2

```
  for(int i = 0; i < 50; i++) {
    for(int j = 0; j < 50; j++) {
      if(i > 0 || j > 0) data += ",";
      int value = random(0, 100); // Simula um valor de "calor"
      data += String("{x: ") + String(i) + ", y: " + String(j) + ", value: " + String(val
    }
  }
  data += "]";
  return data;
}

void sendHtmlWithHeatmap() {
  String heatmapData = getHeatmapData();

  String response = R"(
    <!DOCTYPE html><html>
      <head>
        <title>ESP32 Heatmap Demo 12</title>
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <script src="https://cdn.jsdelivr.net/npm/heatmap.js@2.0.5/build/heatmap.min.js">
        <style>
          body { text-align: center; }
          #heatmap {  width: 100px; height: 100px; margin: auto; }
        </style>
      </head>
```



ALERTAS

- Percentagem de pixéis com um valor maior ou igual a 100ºC
- 15%
- 30%
- 45%
- 60%
- 75%
- 90%
- 100%
- Nota: Mensagens personalizadas para cada percentagem