



VigilOffice

Third Assignment Lab IoT

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Objectives

- 01 Real time office monitoring
- 02 Dynamic management of devices
- 03 Control from Master node



VigilOffice Devices



Smart Parking

You can reserve your parking spot at any moment



Smart Lamp

Can be set as an Intrusion Detection device



Smart HVAC

Ensures optimal cooling and comfort for your environment

Parking Node's sensors and actuators



Avoidance sensor



Flood sensor



Flame sensor



LED

Lamp Node's sensors and actuators



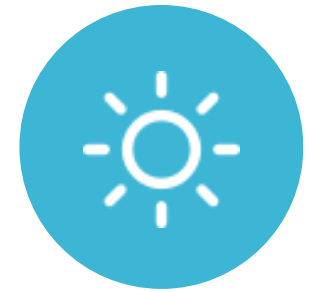
LED



Movement sensor
(pir)



Flame sensor



Light sensor

HVAC Node's sensors and actuators



Temperature sensor
(DHT11)



Humidity sensor
(DHT11)



Flame sensor

MQTT in depth



Topic	Method	Operation	Payload
/welcome	subscribe	Get the register topic	{registerTopic: "vigiloffice/register"}
/register	publish	Introduce to the master	none
/register/ MAC	subscribe	Get status and control topic	{statusTopic:"vigiloffice/ TYPE / MAC /status", controlTopic:"vigiloffice/ TYPE / MAC /control"}
/ TYPE / MAC /status	publish	Publish device status	none
/ TYPE / MAC /control	subscribe	Receive configuration	none
/lwt/ MAC	publish	Send lwt message	Device status json message (see appendix)

Control everything from the Web Server

Flame Sensor

Light reading interval
Current: 1000

Status

☒ Enabled
☐ Disabled

Flame state

Motion Detection

Status

☐ Enabled
☒ Disabled

Motion state

Light Sensor

Low light threshold
Current: 126/350

Light reading interval
Current: 3000

Status

☒ Enabled
☐ Disabled

State

RGB LED

Status

☒ Enabled
☐ Disabled

RGB State

ALARM

The alarm is:

☒ Enabled
☐ Disabled

State

Submit

Not only User to Machine

Parking status

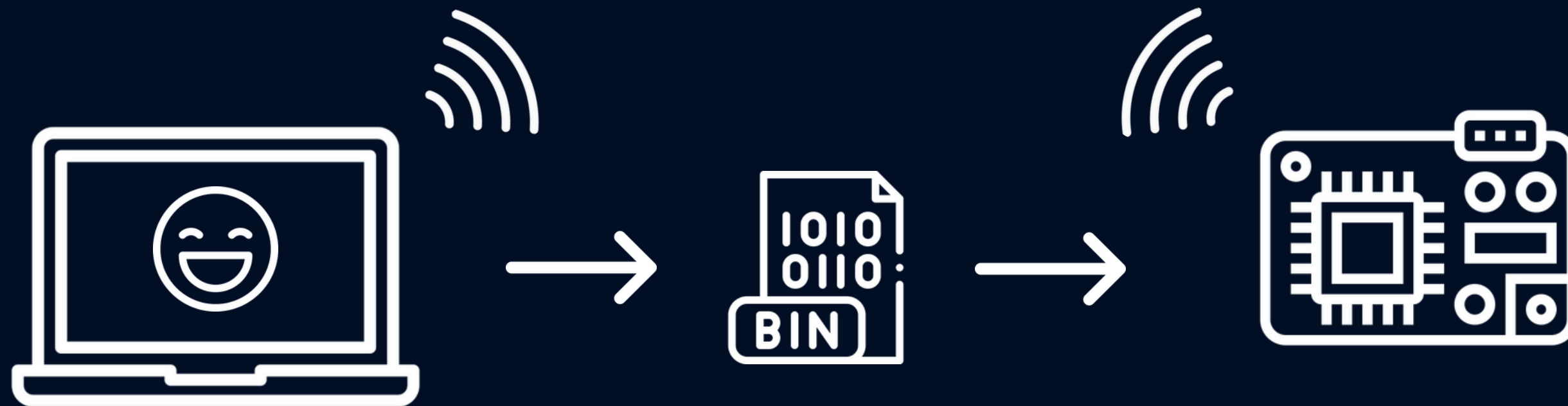
```
{
  "type": "parking",
  "macAddress": "2a:2b:2c:3d:3e:3f",
  "floodingSensor": {
    "status": 0,
    "enabled": true,
    "highThreshold": 100,
    "interval": 1000
  },
  "flameSensor": {
    "status": 0,
    "enabled": true,
    "interval": 1000
  },
  "avoidanceSensor": {
    "status": 0,
    "enabled": true
  },
  "rgbLed": {
    "status": 0,
    "enabled": true
  },
  "alarm": {
    "status": false,
    "enabled": true
  }
}
```



Register device

```
{
  "macAddress": "1a:2b:3c:4d:5e:6f",
  "type": "lamp"
}
```

OTA Updates



Thank you!

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