

# **CS50 Lights Controller**

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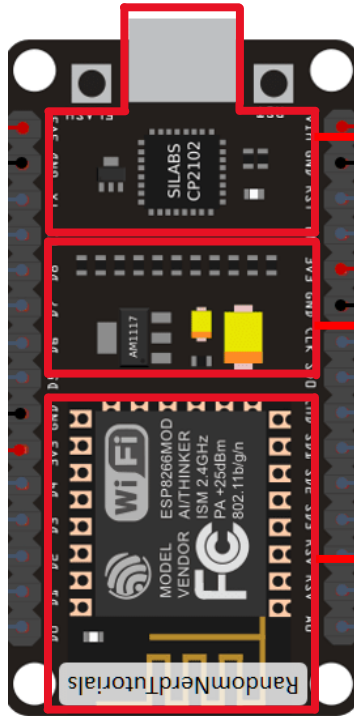
# **What will your software do?**

## **What features will it have?**

## **How will it be executed?**

- The device will review the current status of the lights of a house, and control these statuses (On/Off).
- It will have the ability to control the status of the lights from **any** device that has a browser.
- It will be run on any browser that handles HTTP requests and understands HTML5, CSS, and JavaScript.

## NodeMCU 1.0



**CP2102:** USB to UART converter

**AMS1117:** 3.3 V Power Suply

**ESP8266 (E-12):** WiFi Module





File Edit Sketch Tools Help

CS50\_FinalProject §

```
#include <ESP8266WiFi.h>
#include <ESP8266WebServer.h>
#include "LittleFS.h"
```

```
#define ON HIGH
#define OFF LOW
```

```
// WiFi connection Variables
char *ssid = "TONTOMAS";
char *pass = "1234567860";
IPAddress ESPiP;
```

```
// Assign pins to variables
uint8_t KITCHEN = 5;
uint8_t DININGROOM = 4;
uint8_t LIVINGROOM = 14;
uint8_t MASTER = 12;
```

```
// Server that will listen to port 80
ESP8266WebServer server(80);
```

```
void setup() {
```

```
// Init pins as outputs
pinMode(KITCHEN, OUTPUT);
pinMode(DININGROOM, OUTPUT);
pinMode(LIVINGROOM, OUTPUT);
pinMode(MASTER, OUTPUT);
```

```
// For debugging purposes, it is needed a serial channel to
// communicate with the computer's serial monitor: initialize
// and select a baud rate of 115200
Serial.begin(115200);
```

```
// Start the file system of the ESP
```

```

Uploading stub...
Running stub...
Stub running...
Changing baud rate to 460800
Changed.
Configuring flash size...
Auto-detected Flash size: 4MB
Compressed 3121152 bytes to 5094...
Writing at 0x00100000... (100 %)
Wrote 3121152 bytes (5094 compressed) at 0x00100000 in 0.2 seconds (effective 149384.4 kbit/s)...
Flash of data verified.

```

```
Leaving...
Hard resetting via RTS pin...
```

86 NodeMCU 1.0 (ESP-12E Module) on COM7

— ☐ ☒ ☐

COM7

Send

s\$1???#?n?▲?/?\$?b|??/?r?b?p?/?no?lNn???▲B?p?c1. ?{lp?n?/?▲/?l▲?/?▲▲B▲o?|/?▲?▲B?|~?

```
Configuring server ...
Connecting to WiFi network .....
WiFi Connection successful!
ESP IP Address: 192.168.0.4
```

```
HTTP server started ...
```

☒ Autoscroll ☐ Show timestamp

Both NL &amp; CR

115200 baud ▼

Clear output



# How it Works?

