

PROJECT DEVELOPMENT PHASE

DELIVERY OF SPRINT-4

Date	7 November 2022
Team ID	PNT2022TMID8144
Project Name	Industry Specific Intelligence Fire Management System

```
#include <WiFi.h>
```

```
#include <Wire.h>
```

```
#include <SPI.h>
```

```
#include "ThingSpeak.h" #include
```

```
<WiFiClient.h>
```

```
unsigned long myChannelNumber = 2; const char * myWriteAPIKey  
= "25V40ZAPI6KIZFGY";
```

```
int LED_PIN = 32; // the current reading from the input pin
```

```
int BUZZER_PIN= 12; const int mq2
```

```
= 4; int
```

```
value = 0;
```

```
//Flame int flame_sensor_pin = 10 ;// initializing pin 10 as the sensor digital output  
pin int flame_pin = HIGH ; // current state of sensor
```

```
char ssid[] = "a"; char pass[] =
```

```
"n"; WiFiClient client;
```

```
#define PIN_LM35 39
```

```
#define ADC_VREF_mV 3300.0
```

```
#define ADC_RESOLUTION 4096.0
```

```
#define RELAY_PIN 17
```

```
#define RELAY_PIN1 27
```

```
void setup()
```

```
{
```

```
Serial.begin(115200);
```

```
pinMode(RELAY_PIN, OUTPUT); pinMode(RELAY_PIN1, OUTPUT);
```

```

    Serial.print("Connecting to ");
    Serial.println(ssid);
    WiFi.begin(ssid, pass);  int wifi_ctr
= 0;
    while (WiFi.status() != WL_CONNECTED)
    {
        delay(1000);
        Serial.print(".");
    }
    Serial.println("WiFi connected");
    ThingSpeak.begin(client);    pinMode(LED_PIN, OUTPUT);    pinMode(mq2,
INPUT);  pinMode ( flame_sensor_pin , INPUT ); // declaring sensor pin as input pin
for Arduino  pinMode(BUZZER_PIN, OUTPUT);
}

```

```

void temperature()
{
    int adcVal = analogRead(PIN_LM35);  float milliVolt = adcVal *
(ADC_VREF_mV / ADC_RESOLUTION);  float tempC = milliVolt /
10;  Serial.print("Temperature: ");
    Serial.print(tempC);
    Serial.print("°C");  if(tempC
> 60)
    {
        Serial.println("Alert");
        digitalWrite(BUZZER_PIN, HIGH); // turn on
    } else
    {
        digitalWrite(BUZZER_PIN, LOW); // turn on
    }
    int x = ThingSpeak.writeField(myChannelNumber,1, tempC, myWriteAPIKey);  }

```

```

void GasSensors()
{
    //mq2

    int gassensorAnalogmq2 = analogRead(mq2);
    Serial.print("mq2 Gas Sensor: ");

```

```

Serial.print(gassensorAnalogmq2);
Serial.print("\t");
Serial.print("\t");
Serial.print("\t");

if (gassensorAnalogmq2 > 1500)
{
    Serial.println("mq2Gas");    Serial.println("Alert");
digitalWrite(RELAY_PIN1, HIGH); // turn on fan 10 seconds    delay(100);
} else
{
    Serial.println("No mq2Gas");    digitalWrite(RELAY_PIN1,
LOW); // turn off fan 10 seconds    delay(100);

}

int a = ThingSpeak.writeField(myChannelNumber,4, gassensorAnalogmq2,
myWriteAPIKey);

}

void flamesensor()
{ flame_pin = digitalRead ( flame_sensor_pin ) ; // reading from the sensor if
(flame_pin == LOW ) // applying condition
{
Serial.println ( " ALERT: FLAME IS DETECTED" ) ;    digitalWrite (BUZZER_PIN,
HIGH ) ;// if state is high, then turn high the BUZZER } else
{
Serial.println ( " NO FLAME DETECTED " ) ;
digitalWrite (BUZZER_PIN , LOW ) ; // otherwise turn it low
} int value = digitalRead(flame_sensor_pin); // read the analog value from sensor

if (value ==LOW) {    Serial.print("FLAME");
digitalWrite(RELAY_PIN, HIGH);
} else {
    Serial.print("NO FLAME");    digitalWrite(RELAY_PIN,
LOW);
}

} void loop() {

```

```
temperature(); GasSensors(); flamesensor();  
}
```

LOGIN CODE

```
<!DOCTYPE html>  
<html xmlns="http://www.w3.org/1999/xhtml">  
<head>  
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />  
<title>Welcome To Login Form</title>  
  
<!-- Complete css for whole page. -->  
<style type="text/css">  
/* body css for whole page */  
body  
{  
margin:0px;  
background-image: url("https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.projects.ed.ac.uk%2Fproject%2Fcsg013&psig=AOvVaw2Zlud0tkiB8qE7PAATcOUg&ust=1668527229576000&source=images&cd=vfe&ved=0CBAQjRxqFwoTCPDglLmCrvsCFQAAAAAdAAAAABAE");  
background-size: cover;  
color:#f9fcf5;  
font-family:Arial, Helvetica, sans-serif;  
}  
#main{width:600px; height:260px; margin-left:auto; margin-right:auto;  
border-radius:5px; padding-left:10px; margin-top:100px;
```

```
border-top:3px double #f1f1f1; border-bottom:3px double #f1f1f1;border-
right:3px double #f1f1f1;border-left:3px double #f1f1f1; padding-
top:20px;
background: #fff;
}
```

```
#main table{font-family:"Comic Sans MS", cursive;}
```

```
/* css code for textbox */
```

```
#main .tb{
    height: 28px;
    width: 230px;
    border: 1px solid #262b28;
    color: #27a465;
    font-weight: bold;
    opacity: 0.9;
    padding: 0 10px;
}
```

```
#main .tb:focus{height:28px; border:1px solid #27a465; outline:none;
border-left:5px solid #f7f7f7;}
```

```
/* css code for button*/
```

```
#main .btn{width:60%; height:32px; outline:none; font-weight:bold;
border:0px solid #27a465; text-shadow: 0px 0.5px 0.5px #fff;
    border-radius: 2px; font-weight: 600; color: white; letter-spacing: 1px;
font-size:14px;
    background-color:black; -webkit-transition: 1s; -moz-transition: 1s;
transition: 1s;}
```

```
#main .btn:hover{background-color:white; outline:none; border-radius:
2px; color:#f1f1f1; border:1px solid #f1f1f1;-webkit-transition: 1s; -moz-
transition: 1s; transition: 1s; }
```

```
</style>
```

```
<!-- Css ending here. -->
```

```
<!-- Complete javascript for login. -->
```

```
<!-- Add url of javascript -->
```

```
<script type="text/javascript" src="http://code.jquery.com/jquery-1.6.min.js"></script>
```

```
<!-- Java Script -->
```

```
<script>
```

```
function login()
```

```
{
```

```
var uname = document.getElementById("email").value;
```

```
var pwd = document.getElementById("pwd1").value;
```

```
var filter = /^[a-zA-Z0-9_\.\-]+\@((([a-zA-Z0-9\-\-])+\.)+([a-zA-Z0-9]{2,4})+)$/;
```

```
if(uname == "")
```

```
{
```

```
alert("please enter user name.");
```

```
}
```

```
else if(pwd=="")
```

```
{
```

```
    alert("enter the password");
```

```
}
```

```
else if(pwd=="Athulya" && uname=="Athulya" )
```

```
{
```

```
alert('Login Success...Redirecting to Dashboard');
```

```
    //Redirecting to other page or webste code or you can set your own html page.
```

```
    window.location = "https://node-red-jleja-2022-11-04.eu-gb.mybluemix.net/ui/";
```

```
}
```

```
else
```

```
{
```

```
    alert("Invalid Login Credentials");
```

```
}
```

```
}
```

```
function clearFunc()
```

```
{
```

```
document.getElementById("email").value="";
```

```
document.getElementById("pwd1").value="";  
}
```

```
</script>
```

```
<!-- Javascript ending here.. -->
```

```
</head>
```

```
<body>
```

```
<!-- Main div code -->
```

```
<div id="main">
```

```
<div class="h-tag">
```

```
<h2><center style="color: black;">Login Form</center></h2>
```

```
</div>
```

```
<!-- Login box -->
```

```
<div class="login">
```

```
<table cellpadding="2" cellspacing="2" border="0">
```

```
<tr>
```

```
<td style="color: black;">User Name :</td>
```

```
<td><input type="text" placeholder="Enter User Name" id="email"  
class="tb" /></td>
```

```
</tr>
```

```
<tr>
```

```
<td style="color: black;">Password :</td>
```

```
<td><input type="password" placeholder="Enter Password" id="pwd1"  
class="tb" /></td>
```

```
</tr>
```

```
<tr>
```

```
<td></td>
```

```
<td>
```

```
<input type="submit" value="Login" class="btn" onClick="login()  
/></td>
```

```
</tr>
```

```
</table>
```

```
</div>
```

```
<!-- login box div ending here.. -->
```

```

</div>
<!-- Main div ending here... -->
<script>
  (function(i,s,o,g,r,a,m){i['GoogleAnalyticsObject']=r;i[r]=i[r]||function()
  {
    (i[r].q=i[r].q||[]).push(arguments)},i[r].l=1*new
Date();a=s.createElement(o),
    m=s.getElementsByTagName(o)
[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m)

  })(window,document,'script','https://www.google-analytics.com/analytics.
js','ga');

  ga('create', 'UA-88667581-1', 'auto');
  ga('send', 'pageview');
</script>
</body>
</html>

```

DIAGRAM.JSON

```

{
  "version": 1,
  "author": "พิทักษ์ สัตติวรณณะ",
  "editor": "wokwi",
  "parts": [
    { "type": "wokwi-esp32-devkit-v1", "id": "esp", "top": -96.39, "left":
-7.47, "attrs": {} },
    {
      "type": "wokwi-ntc-temperature-sensor",
      "id": "ntc1",

```



```

    "top": -105.69,
    "left": 146.71,
    "rotate": 90,
    "attrs": {}
  },
  {
    "type": "wokwi-led",
    "id": "led1",
    "top": -30.93,
    "left": -84.06,
    "attrs": { "color": "red" }
  },
  {
    "type": "wokwi-resistor",
    "id": "r1",
    "top": 101.21,
    "left": -121.88,
    "attrs": { "value": "5600" }
  }
],
"connections": [
  [ "esp:TX0", "$serialMonitor:RX", "", [ ] ],
  [ "esp:RX0", "$serialMonitor:TX", "", [ ] ],
  [ "r1:1", "led1:C", "green", [ "h-7.64", "v2.81" ] ],
  [ "led1:A", "esp:D14", "green", [ "v0" ] ],
  [ "r1:2", "esp:GND.2", "green", [ "h0" ] ],
  [ "ntc1:GND", "esp:GND.2", "black", [ "v0" ] ],
  [ "ntc1:VCC", "esp:VIN", "red", [ "v0" ] ],
  [ "esp:D32", "ntc1:OUT", "green", [ "h-33.04", "v-80.52", "h165.33",
"v101.33" ] ]
]
}

```