PROJECT DEVELOPMENT PHASE - DELIVERY OF SPRINT-2

Date	30 October 2022
Team ID	PNT2022TMID09975
Project Name	Industry Specific Intelligent 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 inputpin
int BUZZER_PIN= 12;
const int mq2 =4;
int value = 0;

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

char ssid[] = "jenito";
char pass[] ="jose
jenito"; 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 forArduino
  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); // turnon
  }
  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 GasSensor: ");
  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 thesensor if
(flame_pin == LOW ) // applying condition
{
Serial.println ( " ALERT: FLAME 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(
  );
}
```