

PROJECT DEVELOPMENT PHASE

DELIVERY OF SPRINT-1

Date	27 October 2022
Team ID	PNT2022TMID36617
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 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[] = "Jenito";
char pass[] = "Jose Jenito";
WiFiClient client;
#define PIN_LM35 39
#define ADC_VREF_mV 3300.0
#define ADC_RESOLUTION 4096.0
```

```
void setup()
{
  Serial.begin(115200);
  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");  
  }  
  else
```

```

{
  Serial.println("No mq2Gas");
}

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 DETECTED" ) ;
    digitalWrite ( buz_pin , HIGH ) ;// if state is high, then turn high the
    BUZZER }

  else
  {
    Serial.println ( " NO FLAME DETECTED " ) ; digitalWrite (
    buz_pin , LOW ) ; // otherwise turn it low
  }
}

void loop() {
  temperature(
)
;
  GasSensors()
;
  flamesensor()
;
}

```