PROJECT DEVELOPMENT PHASE

DELIVERY OF SPRINT-3

```
#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[] = "Hari";
char  pass[]= "Srini";
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 second
    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);
  }
```

```
                                    flamesensor();

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