DEVELOP THE CODE

The Arduino code is successfully developed.

```
#define BLYNK_AUTH_TOKEN "V7n_OUDHMQyQH4lhFPo0wQjrVtpgSIu2"
#define BLYNK_PRINT Serial
#include <WiFi.h>
#include <Wire.h>
#include <SPI.h>
#include "ThingSpeak.h"
#include <WiFiClient.h>
#include <BlynkSimpleEsp32.h>
#include "twilio.hpp"
bool success;
// Values from Twilio (find them on the dashboard)
static const char *account_sid = "AC81129e9ae95e871e1a75e0460ac07bf3";
static const char *auth_token = "29ec1c1ce54c88b4d4b1704bb5f74cc8";
// Phone number should start with +13862725645";
static const char *from_number = "+13862725645";
// Phone number should start with "+<countrycode>"
static const char *to_number = "+919150429149";
//static const char *message = "Alert";
String response;
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;
char auth[] = BLYNK_AUTH_TOKEN;
WiFiClient client;
```

```
BlynkTimer timer;
Twilio *twilio;



//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[] = "Amirtha";
char pass[] = "Amirtharavi";
#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");
Blynk.begin("V7n_OUDHMQyQH4lhFPo0wQjrVtpgSIu2", ssid, pass);
timer.setInterval(2500L,temperature);
timer.setInterval(2500L,GasSensors);
timer.setInterval(2500L,flamesensor);
twilio = new Twilio(account_sid, auth_token);
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
success=twilio->send_message(to_number, from_number, "Temperature over 60C!", response);
Blynk.email("amirthavarshiniravi@gmail.com", "Alert", "Temperature over 60C!");
}
else
{
digitalWrite(BUZZER_PIN, LOW); // turn on
}
```

```
Blynk.virtualWrite(V0,tempC);
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");
Blynk.email("amirthavarshiniravi@gmail.com", "Alert", "FLAMMABLE GAS EXCEEDED LIMIT");
Serial.println("mq2Gas");
Serial.println("Alert");
digitalWrite(RELAY_PIN1, HIGH); // turn on fan 10 seconds
success=twilio->send_message(to_number, from_number,"FLAMMABLE GAS EXCEEDED LIMIT", response);
delay(100);
}
else
{
Serial.println("No mq2Gas");
digitalWrite(RELAY_PIN1, LOW); // turn off fan 10 seconds
```

```
delay(100);


}
Blynk.virtualWrite(V3,gassensorAnalogmq2);
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 (BUZZER_PIN, HIGH ) ;// if state is high, then turn high the BUZZER
Blynk.email("amirthavarshiniravi@gmail.com", "Alert", "FLAME DETECTED");
success=twilio->send_message(to_number, from_number,"FLAME DETECTED", response);
}


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);

}

int a = ThingSpeak.writeField(myChannelNumber,2, flame_pin, myWriteAPIKey);

}


void loop()

{

temperature();

GasSensors();

flamesensor();

}
```

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