|  |
| --- |
|  |
| # include <SoftwareSerial.h> |
|  | #include <ESP8266WiFi.h> |
|  | #include <TinyGPS.h> |
|  | #include <DHT.h> // including the library of DHT11 temperature and humidity sensor |
|  | #define DHTTYPE DHT11 // DHT 11 #define dht\_dpin 0 |
|  | # define dht\_dpin 0 |
|  | char auth[] = "YourAuthToken"; |
|  | char pass[] = "YourPassword"; |
|  | float lat ,lon ; // create variable for latitude and longitude object |
|  | SoftwareSerial gpsSerial(3,4);//rx,tx |
|  | TinyGPS gps; // create gps object |
|  | int flamePin = 11; |
|  | int Flame = LOW; |
|  | int flag1=0; |
|  | int flag2=0; |
|  | // for gas |
|  | int redLed=12; |
|  | int greenLed=11; |
|  | int smokeA0=A0; |
|  | //Threshold value |
|  | int sensorThres=400; |
|  | // for dht11 |
|  | DHT dht(dht\_dpin, DHTTYPE); |
|  |  |
|  | void setup() |
|  |  |
|  | { |
|  | Serial.begin(9600); |
|  | pinMode(flamePin, INPUT); |
|  | pinMode(redLed,OUTPUT); |
|  | pinMode(greenLed,OUTPUT); |
|  | pinMode(smokeA0,INPUT); |
|  | dht.begin(); |
|  |  |
|  | Serial.println("Humidity and temperature\n\n"); |
|  |  |
|  | Serial.println("The GPS Received Signal:"); |
|  | //gpsSerial.begin(9600); // connect gps sensor |
|  | Firebase.begin(FIREBASE\_HOST, FIREBASE\_AUTH); |
|  | delay(900); |
|  |  |
|  | } |
|  | void loop() |
|  | { |
|  | Flame = digitalRead(flamePin); |
|  | if (Flame== HIGH && flag1==0){ |
|  | Serial.println("Fire!!!"); |
|  | flag1 = 1; |
|  | } |
|  | else{ |
|  | Serial.println("No worries!"); |
|  | flag1=0; |
|  | } |
|  | // for gas |
|  | int analogSensor=analogRead(smokeA0); |
|  | Serial.print("Pin A0:"); |
|  | Serial.println(analogSensor); |
|  | //check the value and compare with threshold value |
|  | if(analogSensor>sensorThres) |
|  | { |
|  | digitalWrite(redLed,HIGH); |
|  | digitalWrite(greenLed,LOW); |
|  | flag2=2; |
|  | } |
|  | else |
|  | { |
|  | digitalWrite(redLed,LOW); |
|  | digitalWrite(greenLed,HIGH); |
|  | flag2=0; |
|  | } |
|  | delay(100); |
|  | // for dht11 |
|  | float th = 50; |
|  | float h = dht.readHumidity(); |
|  | float t = dht.readTemperature(); |
|  | Serial.print("Current humidity = "); |
|  | Serial.print(h); |
|  | Serial.print("% "); |
|  | Serial.print("temperature = "); |
|  | Serial.print(t); |
|  | Serial.println("C"); |
|  | if(t>th){ |
|  | Serial.print("Worries"); |
|  | } |
|  | delay(900); |
|  | //Serial.println("Flame is") |
|  | while(gpsSerial.available()){ // check for gps data |
|  | if(gps.encode(gpsSerial.read()))// encode gps data |
|  | { |
|  | gps.f\_get\_position(&lat,&lon); // get latitude and longitude |
|  | // display position |
|  |  |
|  |  |
|  | Serial.print(lat); |
|  | Serial.print(" "); |
|  | Serial.print(lon); |
|  | Serial.print(" "); |
|  |  |
|  |  |
|  | } |
|  | } |
|  |  |
|  | String latitude = String(lat,6); |
|  | String longitude = String(lon,6); |
|  | Serial.println(latitude+";"+longitude); |
|  | delay(1000);  } |
|  |  |