#include<SoftwareSerial.h> //Included SoftwareSerial Library

//Started mySerial SoftwareSerial

SoftwareSerial mySerial(6,7);

//#include "rfid.h"

int pin=2;

int access;

char id[1];

const int trigPin = 4;

const int echoPin = 5;

long duration;

int distance;

int counter, count1;

int current = 0;

int water;

int gas = 0;

int fn;

int gaslevel;

int waterlevel;

void setup() {

//Serial mySerial Begin at 9600 Baud

mySerial.begin(9600);

Serial.begin(9600);

pinMode(pin,INPUT);

pinMode(trigPin, OUTPUT); // Sets the trigPin as an Output

pinMode(echoPin, INPUT);

// rfidsetup();

}

void loop() {

//rfidloop();

access=digitalRead(pin);

while(access==0){

access=digitalRead(pin);

}

fn = dist();

if (fn == 1) {

while (fn == 1) {

counter++;

fn = dist();

delay(1000);

}

}

else {

if (counter > 2) {

count1 = count1 + 1;

counter = 0;

delay(10000);

check();

}

Serial.print("count");

Serial.println(count1);

gaslevel=mq135();

Serial.print("ppm=");

Serial.println(gaslevel);

waterlevel=level();

Serial.print("taki=");

Serial.println(waterlevel);

if (gaslevel > 200 || waterlevel > 200) {

call();

digitalWrite(3, HIGH);

}

}

delay(1000);

}

void check(){

fn = dist();

if (fn == 1) {

while (fn == 1) {

counter++;

fn = dist();

delay(1000);

}

if (counter > 2) {

count1 = count1 + 1;

counter = 0;

}

delay(10000);

check();

}

loop();

}

void call(){

id[0]='C';

mySerial.write(id,1);

delay(100);

Serial.print("count");

Serial.println(count1);

mySerial.write(count1);

delay(100);

id[0]='G';

mySerial.write(id,1);

delay(100);

Serial.print("ppm=");

Serial.println(gaslevel);

uint8\_t gLSB = gaslevel;

uint8\_t gMSB = gaslevel >> 8;

mySerial.write(gMSB);

mySerial.write(gLSB);

//mySerial.write(gaslevel);

delay(100);

id[0]='W';

mySerial.write(id,1);

delay(100);

Serial.print("taki=");

Serial.println(waterlevel);

mySerial.write(waterlevel);

delay(2000);

}

/////////

//////distance measurement

int dist() {

// Clears the trigPin

digitalWrite(trigPin, LOW);

delayMicroseconds(2);

// Sets the trigPin on HIGH state for 10 micro seconds

digitalWrite(trigPin, HIGH);

delayMicroseconds(10);

digitalWrite(trigPin, LOW);

// Reads the echoPin, returns the sound wave travel time in microseconds

duration = pulseIn(echoPin, HIGH);

// Calculating the distance

distance = duration \* 0.034 / 2;

// Prints the distance on the Serial Monitor

//Serial.print("Distance: ");

//Serial.println(distance);

//lcd.setCursor(0,1);

//lcd.print(distance);

//lcd.clear();

delay(100);

if (distance <= 50)

{

current = 1;

}

else {

current = 0;

}

return current;

}

////////air quality

int mq135()

{

gas = analogRead(A0);

//Serial.println(gas);

//float ppm = gasSensor.getPPM();

//digitalWrite(13,HIGH);

//Serial.print("CO2 ppm gas : ");

return gas;

}

////////waterlevel

int level()

{

water = analogRead(A1);

return water;

}