AUTOMATIC FIRE FIGHTING ROBOT WITH SMS AND CALL ALERT USING IOT

/\*------ Arduino Fire Fighting Robot ver 2.0 Code by hobby project---- \*/

#include <Servo.h> //include servo.h library

#include <SoftwareSerial.h> //include SoftwareSerial.h library

Servo myservo;

int pos = 0;

boolean fire = false;

const String PHONE = "+91\*\*\*\*\*\*\*\*\*\*"; //use your number with country code

#define rxPin 2

#define txPin 3

SoftwareSerial sim800L(rxPin,txPin);

#define Left 4 // left sensor

#define Right 5 // right sensor

#define Forward 6 //front sensor

#define GAS\_SENSOR 7 //Gas sensor

#define LM1 8 // left motor

#define LM2 9 // left motor

#define RM1 10 // right motor

#define RM2 11 // right motor

#define pump 12 //water pumb

void setup()

{

Serial.begin(115200);

sim800L.begin(9600);

sim800L.println("AT");

delay(1000);

sim800L.println("AT+CMGF=1");

delay(1000);

pinMode(Left, INPUT);

pinMode(Right, INPUT);

pinMode(Forward, INPUT);

pinMode(GAS\_SENSOR, INPUT);

pinMode(LM1, OUTPUT);

pinMode(LM2, OUTPUT);

pinMode(RM1, OUTPUT);

pinMode(RM2, OUTPUT);

pinMode(pump, OUTPUT);

myservo.attach(13);

myservo.write(90);

while(sim800L.available()){

Serial.println(sim800L.readString());

}

}

void put\_off\_fire()

{

digitalWrite(LM1, HIGH);

digitalWrite(LM2, HIGH);

digitalWrite(RM1, HIGH);

digitalWrite(RM2, HIGH);

digitalWrite(pump,HIGH);

delay(500);

for (pos = 50; pos <= 110; pos += 1) {

myservo.write(pos);

delay(10);

}

for (pos = 110; pos >= 50; pos -= 1) {

myservo.write(pos);

delay(10);

}

digitalWrite(pump,LOW);

myservo.write(90);

fire=false;

}

void loop()

{

myservo.write(90); //Sweep\_Servo();

if (digitalRead(Left) ==1 && digitalRead(Right)==1 && digitalRead(Forward) ==1)

{

delay(500);

digitalWrite(LM1, HIGH);

digitalWrite(LM2, HIGH);

digitalWrite(RM1, HIGH);

digitalWrite(RM2, HIGH);

}

else if (digitalRead(Forward) ==0)

{

digitalWrite(LM1, HIGH);

digitalWrite(LM2, LOW);

digitalWrite(RM1, HIGH);

digitalWrite(RM2, LOW);

fire = true;

}

else if (digitalRead(Left) ==0)

{

digitalWrite(LM1, HIGH);

digitalWrite(LM2, LOW);

digitalWrite(RM1, HIGH);

digitalWrite(RM2, HIGH);

}

else if (digitalRead(Right) ==0)

{

digitalWrite(LM1, HIGH);

digitalWrite(LM2, HIGH);

digitalWrite(RM1, HIGH);

digitalWrite(RM2, LOW);

}

delay(400);//change this value to change the distance

if(digitalRead(GAS\_SENSOR)== 0)

{

Serial.println("Gas is Detected.");

send\_sms();

}

while (fire == true)

{

put\_off\_fire();

Serial.println("Fire Detected.");

make\_call();

}}

void make\_call()

{

Serial.println("calling....");

sim800L.println("ATD"+PHONE+";");

delay(20000); //20 sec delay

sim800L.println("ATH");

delay(1000); //1 sec delay

}

void send\_sms()

{

Serial.println("sending sms....");

delay(50);

sim800L.print("AT+CMGF=1\r");

delay(1000);

sim800L.print("AT+CMGS=\""+PHONE+"\"\r");

delay(1000);

sim800L.print("Gas Detected");

delay(100);

sim800L.write(0x1A);

delay(5000);

}

CIRCUIT DIAGRAM

