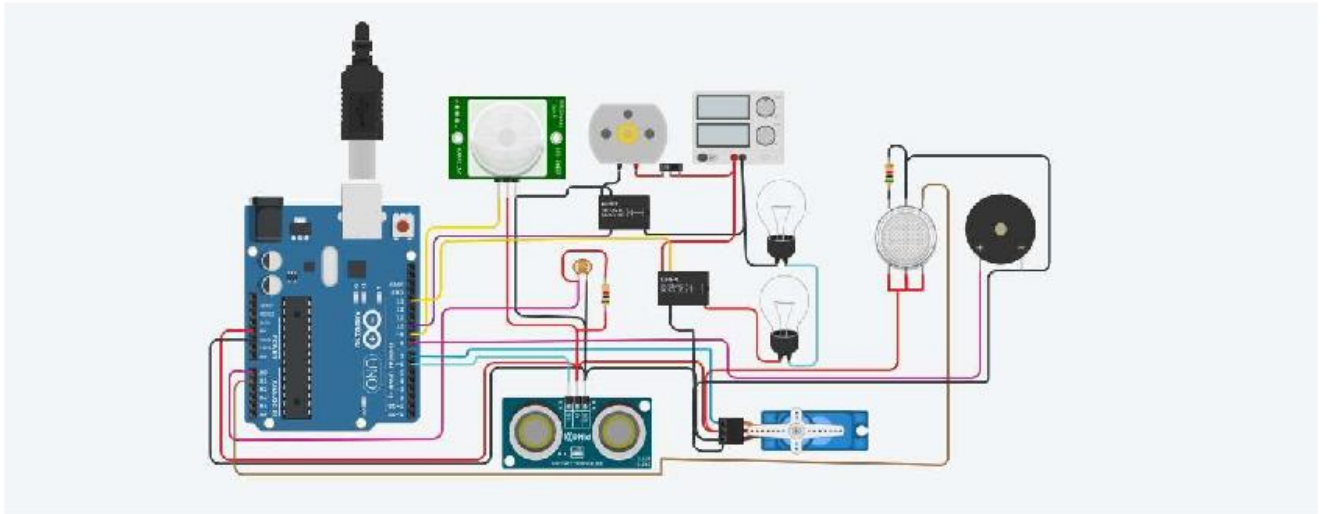


Batch no :B11-5A1E

Submitted by :D.ATCHAYA

IOT BASED CHILD SAFETY MONITORING AND NOTIFICATION SYSTEM

CIRCUIT DIAGRAM:



CIRCUIT CODE:

```
#include <Servo.h>
```

```
int output1Value = 0;  
  
int sen1Value = 0;  
  
int sen2Value = 0;  
  
int const gas_sensor = A1;  
  
int const LDR = A0;  
  
int limit = 400;  
  
long readUltrasonicDistance(int triggerPin, int echoPin)  
  
{  
  
pinMode(triggerPin, OUTPUT); // Clear the trigger  
  
digitalWrite(triggerPin, LOW);  
  
delayMicroseconds(2);  
  
// Sets the trigger pin to HIGH state for 10 microseconds  
  
digitalWrite(triggerPin, HIGH);  
  
delayMicroseconds(10);  
  
digitalWrite(triggerPin, LOW);  
  
pinMode(echoPin, INPUT);  
  
// Reads the echo pin, and returns the sound wave travel time in microseconds  
  
return pulseIn(echoPin, HIGH);  
  
}  
  
Servo servo_7;  
  
void setup()  
  
{
```

Serial.begin(9600); //initialize serial communication

pinMode(A0, INPUT); //LDR

pinMode(A1, INPUT); //gas sensor

pinMode(13, OUTPUT); //connected to relay

servo_7.attach(7, 500, 2500); //servo motor

pinMode(8, OUTPUT); //signal to piezo buzzer

pinMode(9, INPUT); //signal to PIR

pinMode(10, OUTPUT); //signal to npn as switch

pinMode(4, OUTPUT); //Red LED

pinMode(3, OUTPUT); //Green LED

}

void loop()

{

//-----light intensity control-----//

//-----

int val1 = analogRead(LDR);

if (val1 > 500)

{

digitalWrite(13, LOW);

Serial.print("Bulb ON = ");

Serial.print(val1);

```

}

else
{
    digitalWrite(13, HIGH);

    Serial.print("Bulb OFF = ");

    Serial.print(val1);

}

//-----

//----- light & fan control -----//

//-----

sen2Value = digitalRead(9);

if (sen2Value == 0)

{
    digitalWrite(10, LOW); //npn as switch OFF

    digitalWrite(4, HIGH); // Red LED ON, indicating no motion

    digitalWrite(3, LOW); //Green LED OFF, since no Motion detected

    Serial.print(" || NO Motion Detected " );

}

if (sen2Value == 1)

{
    digitalWrite(10, HIGH); //npn as switch ON

    delay(5000);

```

digitalWrite(4, LOW); // RED LED OFF

digitalWrite(3, HIGH); //GREEN LED ON , indicating motion detected

Serial.print(" || Motion Detected! ");

}

//-----

// ----- Gas Sensor -----//

//-----

int val = analogRead(gas_sensor); //read sensor value

Serial.print(" || Gas Sensor Value = ");

Serial.print(val); //Printing in serial monitor

//val = map(val, 300, 750, 0, 100);

if (val > limit)

{

tone(8, 650);

}

delay(300);

noTone(8);

//-----

//----- servo motor -----//

//-----

```
sen1Value = 0.01723 * readUltrasonicDistance(6, 6);  
  
if (sen1Value < 100)  
  
{  
  
servo 7.write(90);  
  
Serial.print(" || Door Open! ; Distance = ");  
  
Serial.print(sen1Value);  
  
Serial.print("\n");  
  
}  
  
else  
  
{  
  
servo 7.write(0);  
  
Serial.print(" || Door Closed! ; Distance = ");  
  
Serial.print(sen1Value);  
  
Serial.print("\n");  
  
}  
  
delay(10); // Delay a little bit to improve simulation performance  
  
}
```