Batch no :B11-5A1E
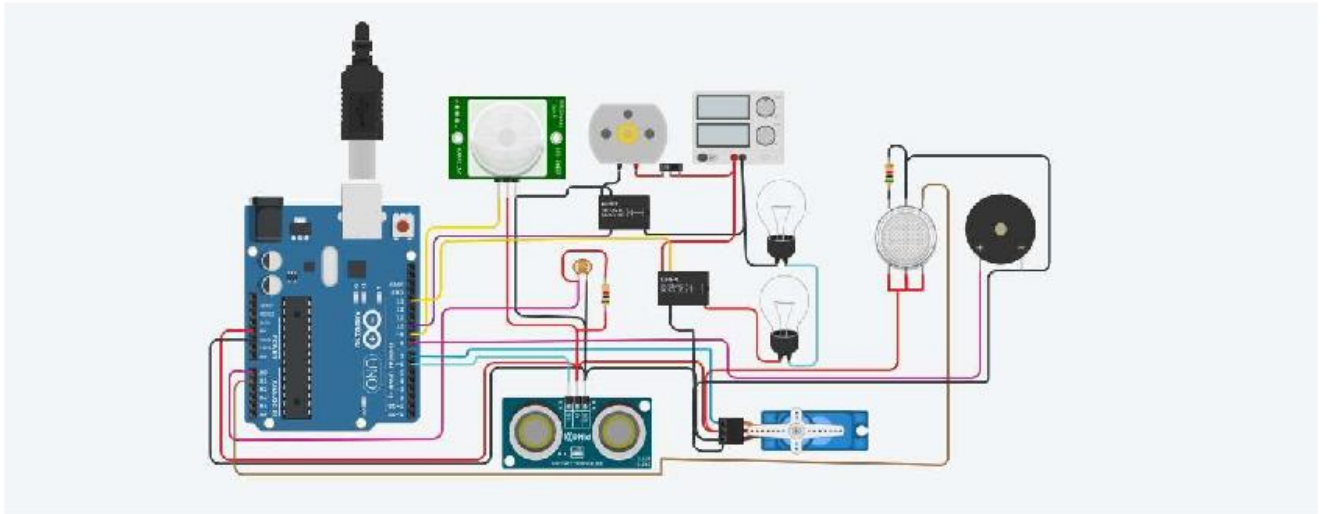
Submitted by :N.PRITHVI

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()

{
```

```arduino
  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);
```

```arduino
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 ---------//

//-----------------------------------------------------------
```

```cpp
  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

 }
```