Batch no :B11-5A1E

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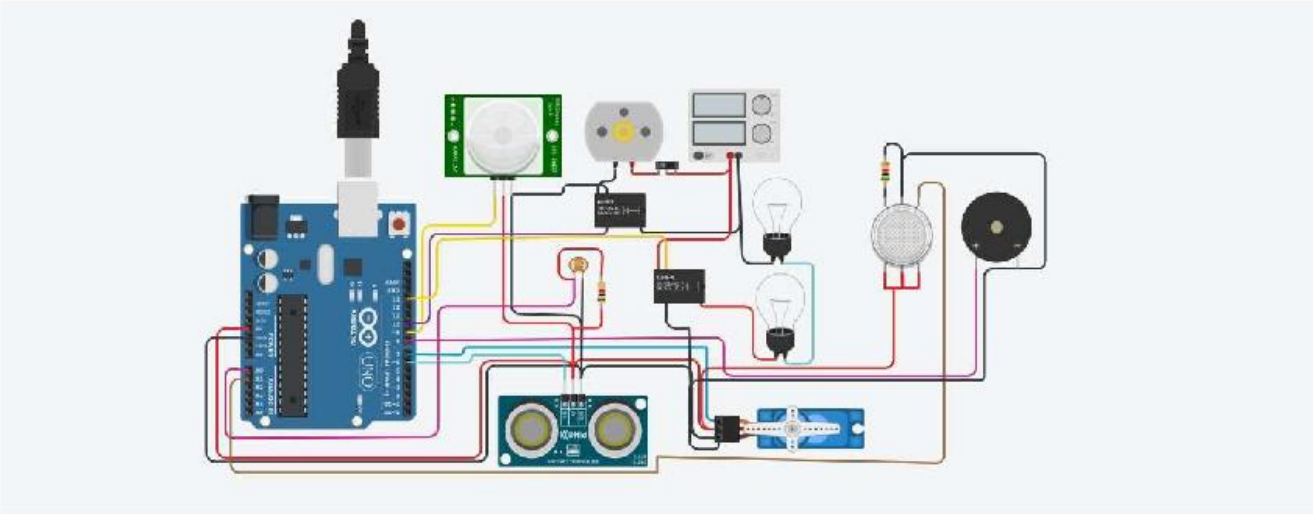
IOT BASED CHILD SAFETY MONITORING AND NOTIFICATION SYSTEM

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
}
```