

**Problem Statement :**

IoT-Based Signs with Smart connectivity for  
Better Road Safety.

**Domain :**

Internet of Things

**Assignment 1 :**

Smart home with at least two sensors and  
led, buzzer in TinkerCad

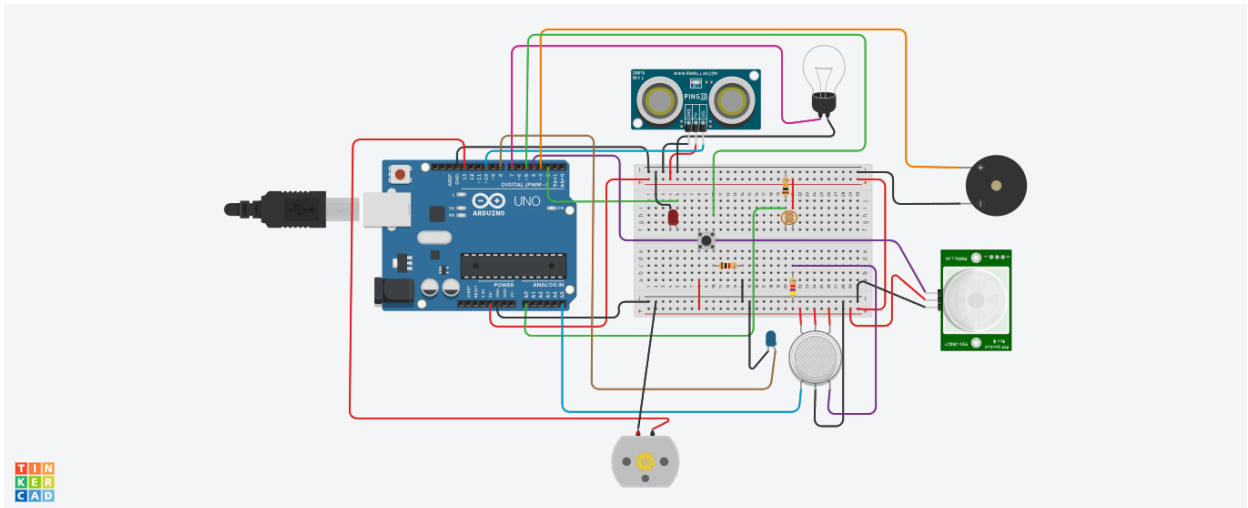
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**Link :**

<https://www.tinkercad.com/things/1kZV0Sf9Set-daring-kieran-borwo/editel?tenant=circuits>

**Circuit diagram :**



## Arduino Uno Code :

```
const int pingPin = 10;

const int ledUS = 2;

const int light = 7;

const int pir = 4;

#define photoSensor A0

#define buzzer 3

int const PINO_SGAS = A5;

int const ledGas = 8;

int const button = 5;

int const motor = 13;

void setup()

{

    pinMode(ledUS, OUTPUT);

    pinMode(light, OUTPUT);

    pinMode(buzzer, OUTPUT);

    pinMode(ledGas, OUTPUT);

    pinMode(motor, OUTPUT);

    pinMode(pir, INPUT);
```

```

pinMode(button, INPUT);
pinMode(photoSensor, INPUT);
Serial.begin(9600);
}

void loop()
{
    long duration, cm;
    int valLight = analogRead(photoSensor);
    int valPIR= digitalRead(pir);
    int valGAS = analogRead(PINO_SGAS);
    valGAS = map(valGAS, 300, 750, 0, 100);
    int valBt = digitalRead(button);
    pinMode(pingPin, OUTPUT);
    digitalWrite(pingPin, LOW);
    delayMicroseconds(2);
    digitalWrite(pingPin, HIGH);
    delayMicroseconds(5);
    digitalWrite(pingPin, LOW);
    pinMode(pingPin, INPUT);
    duration = pulseIn(pingPin, HIGH);
    cm = microsecondsToCentimeters(duration);
    if(cm < 336){
        digitalWrite(ledUS, HIGH);
    }else{
        digitalWrite(ledUS, LOW);
    }
    if(valLight < 890){
        digitalWrite(light, HIGH);
    }else{

```

```
    digitalWrite(light, LOW);
}
if(valPIR == 1){
    digitalWrite(buzzer, HIGH);
}else{
    digitalWrite(buzzer, LOW);
}
if(valBt == 1){
    digitalWrite(motor, HIGH);
}else{
    digitalWrite(motor, LOW);
}
if(valGAS > 20){
    digitalWrite(ledGas, HIGH);
}else{
    digitalWrite(ledGas, LOW);
}
Serial.print(valPIR);
Serial.println();
}
long microsecondsToCentimeters(long microseconds) {
    return microseconds / 29 / 2;
}
```