

## **PROBLEM STATEMENT :**

Iot Based Signs with smart connectivity for better road safety

## **DOMAIN :**

Internet of Things

## **ASSIGNMENT 1:**

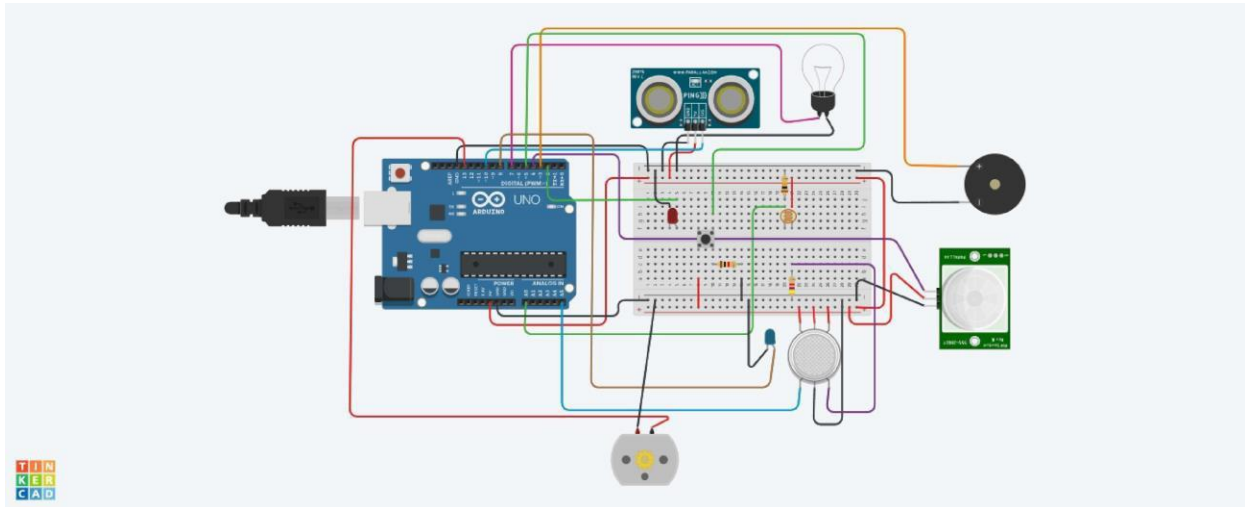
Smart home with at least two sensors and led, buzzer in TinkerCad

**By,**

SANJAI .M ( 623519106031)  
ARULKUMAR .V ( 623519106003)  
ANANDHARAJ .M (623519106001)  
BOOBALAN .A (623519106006)

Link: [https://www.tinkercad.com/things/39SEf7Fqr4h-terrific-luulia-amur/editel?sharecode=FKQR\\_ZuHMpvx0HiLrnRJ0Iagb3g2hb1sZ9oTxZPFFAo](https://www.tinkercad.com/things/39SEf7Fqr4h-terrific-luulia-amur/editel?sharecode=FKQR_ZuHMpvx0HiLrnRJ0Iagb3g2hb1sZ9oTxZPFFAo)

## CIRCUIT DIAGRAM :



## ARDUINO UNO CODE:

```
const int pingPin = 10;

const int ledUS = 2;

const int light = 7;

const int pirsensor = 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(pirsensor, INPUT);
```

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

void loop()
{
    long duration, cm;
    int valLight = analogRead(photoSensor);
    int valPIR= digitalRead(pirsensor);
    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;  
  
}
```