

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,

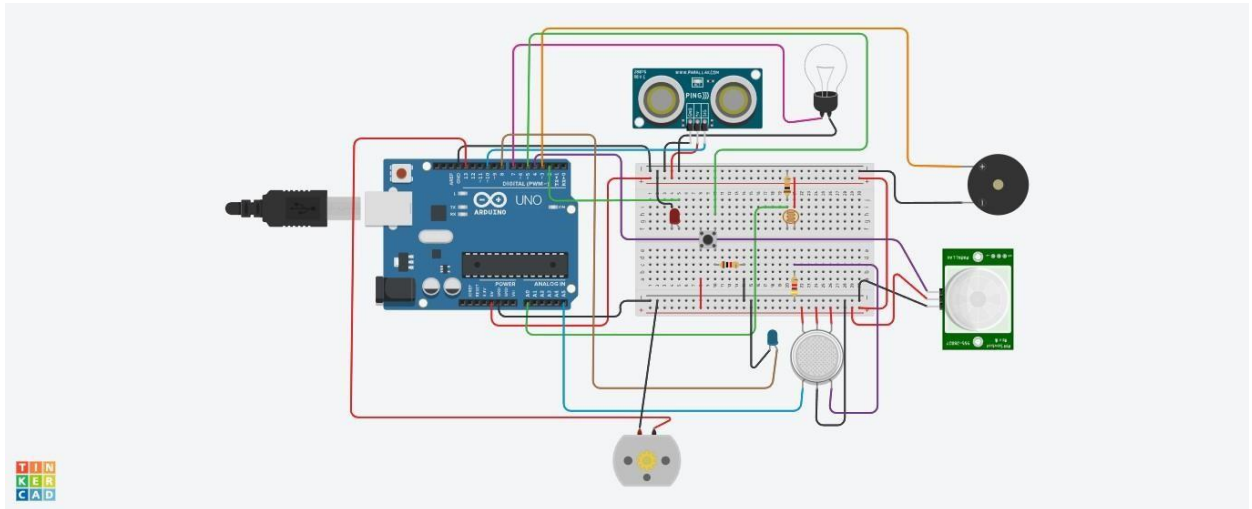
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Link :

<https://www.tinkercad.com/things/3Z1BzRZ4jH3-magnificent-juttuli-jofo/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;
}

```