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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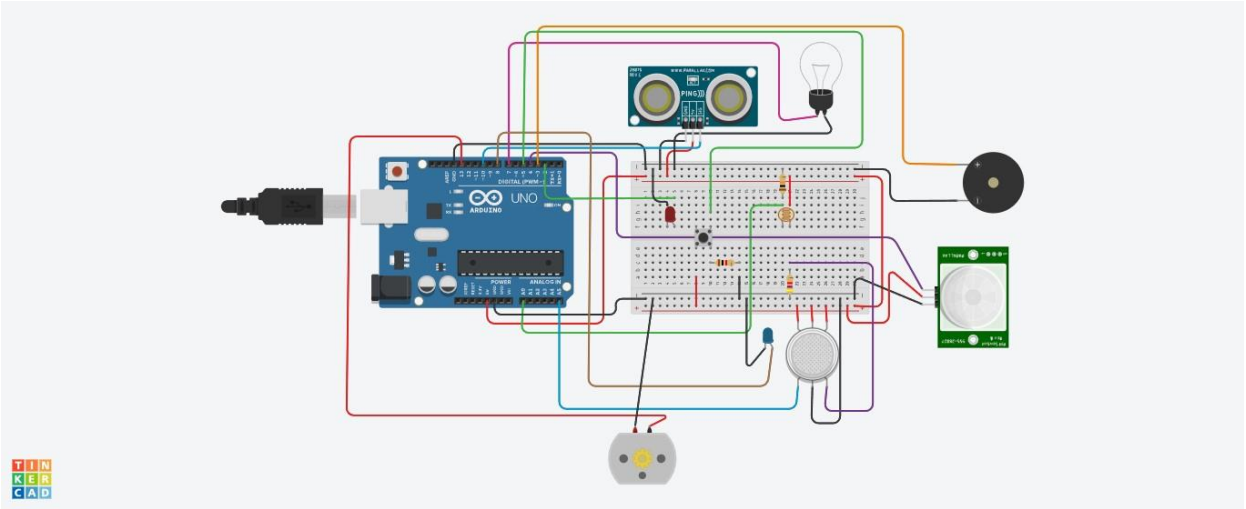
Link :

https://www.tinkercad.com/things/1241iu5qmoZ-smashing-lappi-uusam/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;
}
```