PROBLEM STATEMENT :

IoT Gas leakage monitoring and alerting system

DOMAIN :

Internet of Things

ASSIGNMENT 1:

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

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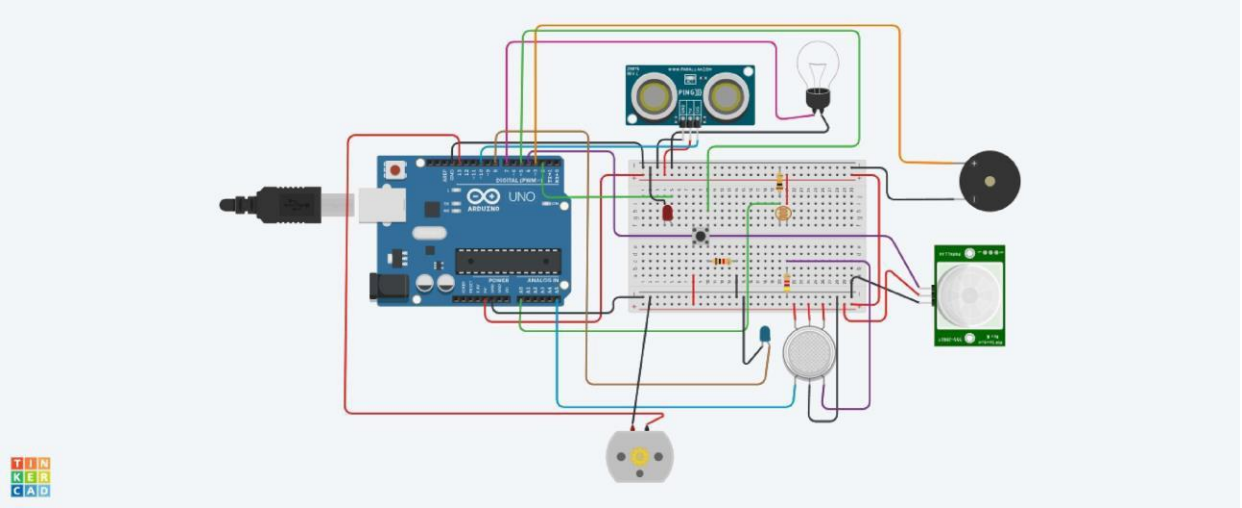
Link: https://www.tinkercad.com/things/39SEf7Fqr4h-terrific-luulia-amur/editel?sharecode=FKQR_ZuHMpvx0HiLrnrJ0Iagb3g2hb1sZ9oTxZPFFAo

CIRCUIT DIAGRAM :



ARDUINO UNO CODE:

```
const int pingPin = 10;

const int IedUS = 2;

const int light = 7;

const int pir = 4;

#define photosensor A0
#define buzzer 3
intconst PINO SGAS = A5;
int const IedGas =8;
int const button = 5;
int const motor =13;
void setup()


  pinMode(IedUS, OUTPUT);
  pinMode(light, OUTPUT);
  pinMode(buzzer, OUTPUT);
  pinMode(IedGas, OUTPUT);
  pinMode(motor, OUTPUT);
```

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

void loop()

  long duration, cm;
  int valLight = anaIogRead(photoSensor);
  int vaIPIR= digitaIRead(pir);
  intvaIGAS =anaIogRead(PIN0 SGAS);
  vaIGAS = map(vaIGAS, 300, 750, 0, 100);
  int valBt = digitaIRead(button);
  pinMode(pingPin, OUTPUT);
  digitaIWrite(pingPin, LOW);
  deIayMicroseconds(2);
  digitaIWrite(pingPin, HIGH);
  deIayMicroseconds(5);
  digitaIWrite(pingPin, LOW);
  pinMode(pingPin, INPUT);
  duration = puIseIn(pingPin, HIGH);
  cm = microsecondsToCentimeters(duration);
  if(cm < 336)(
    digitaIWrite(IedUS,  HIGH);
  }eIse(
    digitaIWrite(IedUS,  LOW);

  if(vaILight < 890)(
    digitaIWrite(light, HIGH);
```

```
  }eIse(
    digitaIWrite(light,  LOW);

  if(vaIPIR == 1)(
    digitaIWrite(buzzer,  HIGH);
  }eIse(
    digitaIWrite(buzzer,  LOW);

  if(vaIBt == 1)(
    digitaIWrite(motor, HIGH);
  }eIse(
    digitaIWrite(motor,  LOW);

  if(vaIGAS > 20)(
    digitaIWrite(IedGas,  HIGH);
  }eIse(
    digitaIWrite(IedGas,  LOW);

  Serial.print(vaIPIR);
  Serial.println();

long microsecondsToCentimeters(long microseconds) (   return
  microseconds / 29 /  2;
```