

PROBLEM STATEMENT :

IoT Based Gas Leakage Monitoring And Alerting System

DOMAIN :

Internet of Things

ASSIGNMENT 1:

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

By,

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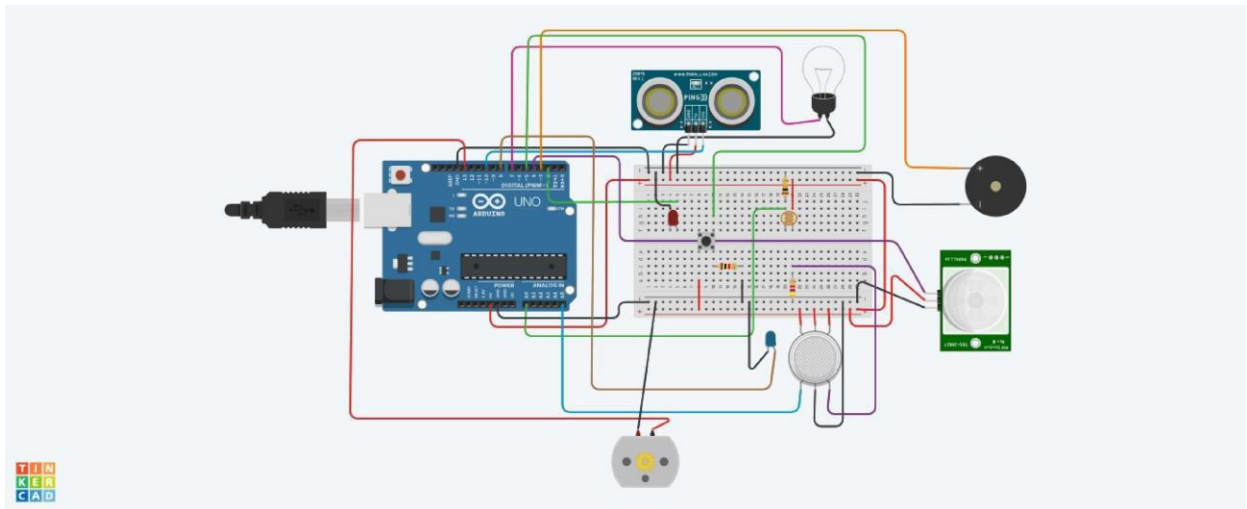
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Link:

https://www.tinkercad.com/things/39SEf7Fqr4h-terrific-luulia-%20%20%20%20%20%20%20%20%20amur/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;  
}
```