

Problem Statement :

IoT-Based, Gas Leakage Monitoring
and Alerting system in industries

Domain :

Internet of Things

Assignment 1 :

Smart home with at least two sensors and led,
buin TinkerCad

By,

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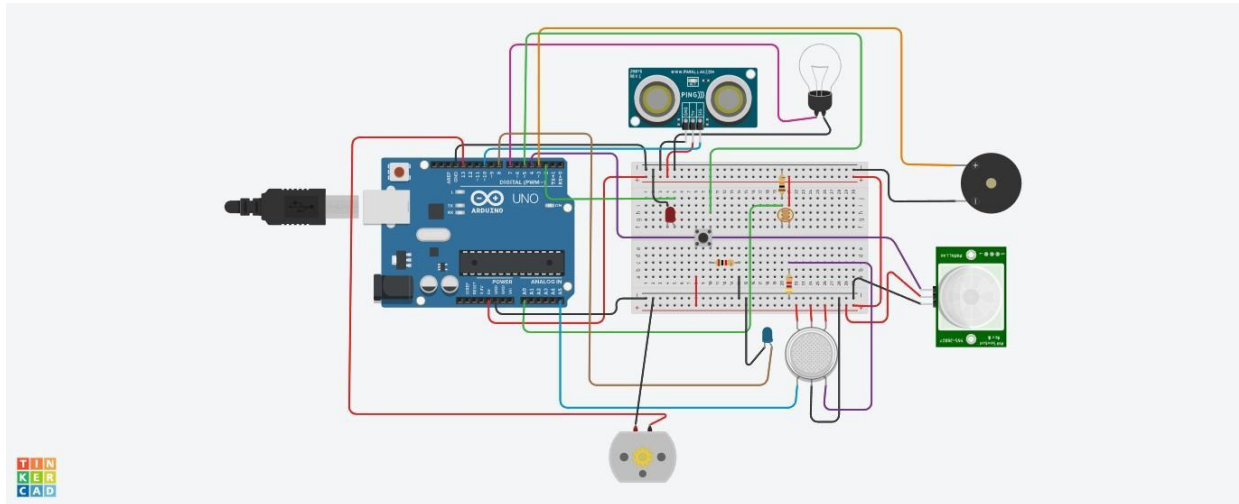
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Link :

<https://www.tinkercad.com/things/leAfHFjWkij-mighty-juttuli/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;
}

```