PROBLEM STATEMENT :

IOT BASED - REAL TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEM

DOMAIN :

Internet of Things

ASSIGNMENT 1:

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

By,

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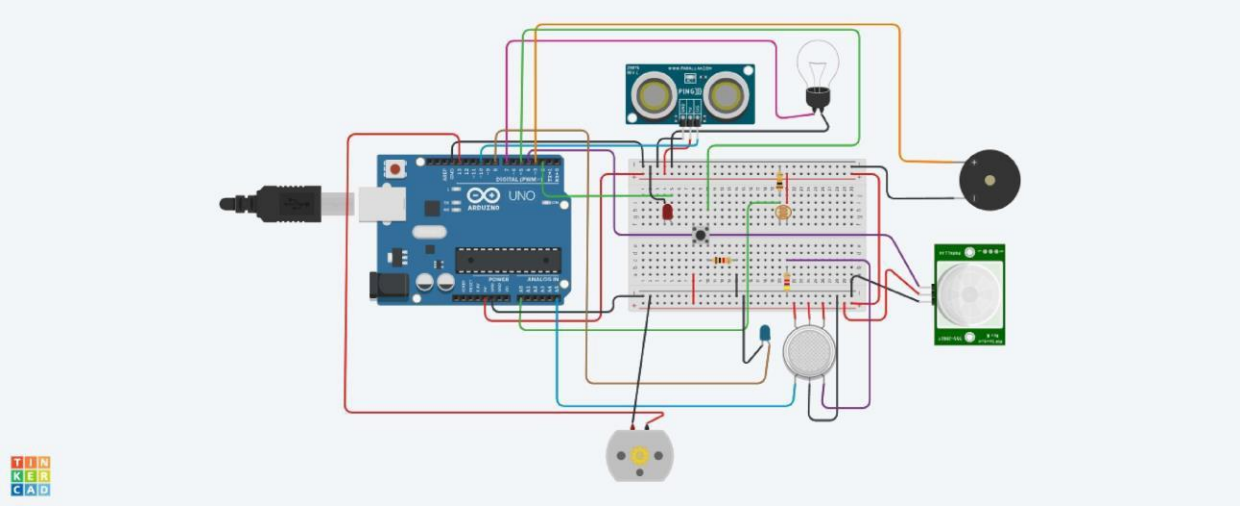
Link:

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