Problem Statement

REAL - TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEM

Domain :

Internet of Things

Assignment 1:

A Smart home in tinkercad with two sensors , an led and buzzer

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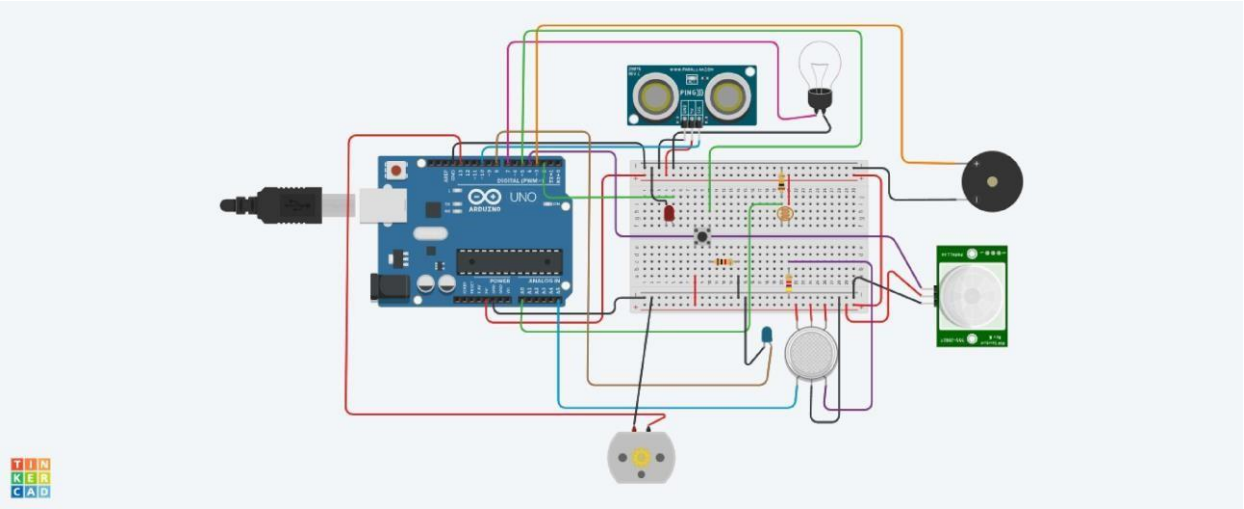
Link: https://www.tinkercad.com/things/39SEf7Fqr4h-terrific-luulia-amur/editel?sharecode=FKQR_ZuHMpvx0HiLrnrJ0Iagb3g2hb1sZ9oTxZPFFAo

Circuit diagram



Arduino Uno Code:

```
const int pingPin = 10;
const int 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(PIN0 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);
```

```
 }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;
```