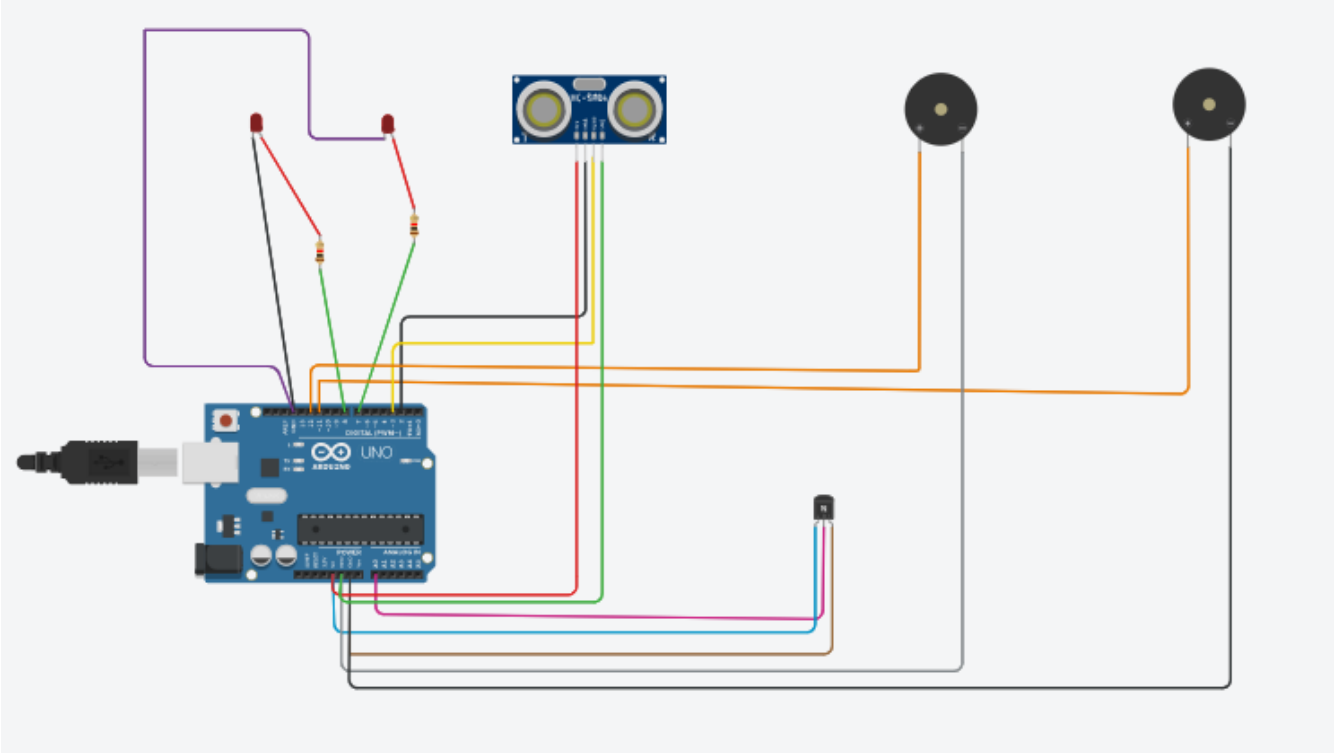
IBM - Nallaiya Thiran Project

Assignment 1 – Smart Home

- ANU L S

- 960219106025

CIRCUIT DIAGRAM :



SOURCE CODE :

```
int t=2;
int e=3;
void setup()
{
 Serial.begin(9600);
 pinMode(t,OUTPUT);
```

```
 pinMode(e,INPUT);
 pinMode(12,OUTPUT);
}
void loop()
{

 //ultrasonic sensor
 digitalWrite(t,LOW);
 digitalWrite(t,HIGH);
 delayMicroseconds(10);
 digitalWrite(t,LOW);
 float dur=pulseIn(e,HIGH);
 float dis=(dur*0.0343)/2;
 Serial.print("Distance is: ");
 Serial.println(dis);

 //LED ON
 if(dis>=60)//(in terms of centimeter)
 {
 digitalWrite(8,HIGH);
 digitalWrite(7,HIGH);
 }

//Buzzer For ultrasonic Sensor
 if(dis>=60)
 {
 for(int i=0; i<=5; i=i+1)
 {
 tone(12,i);
```

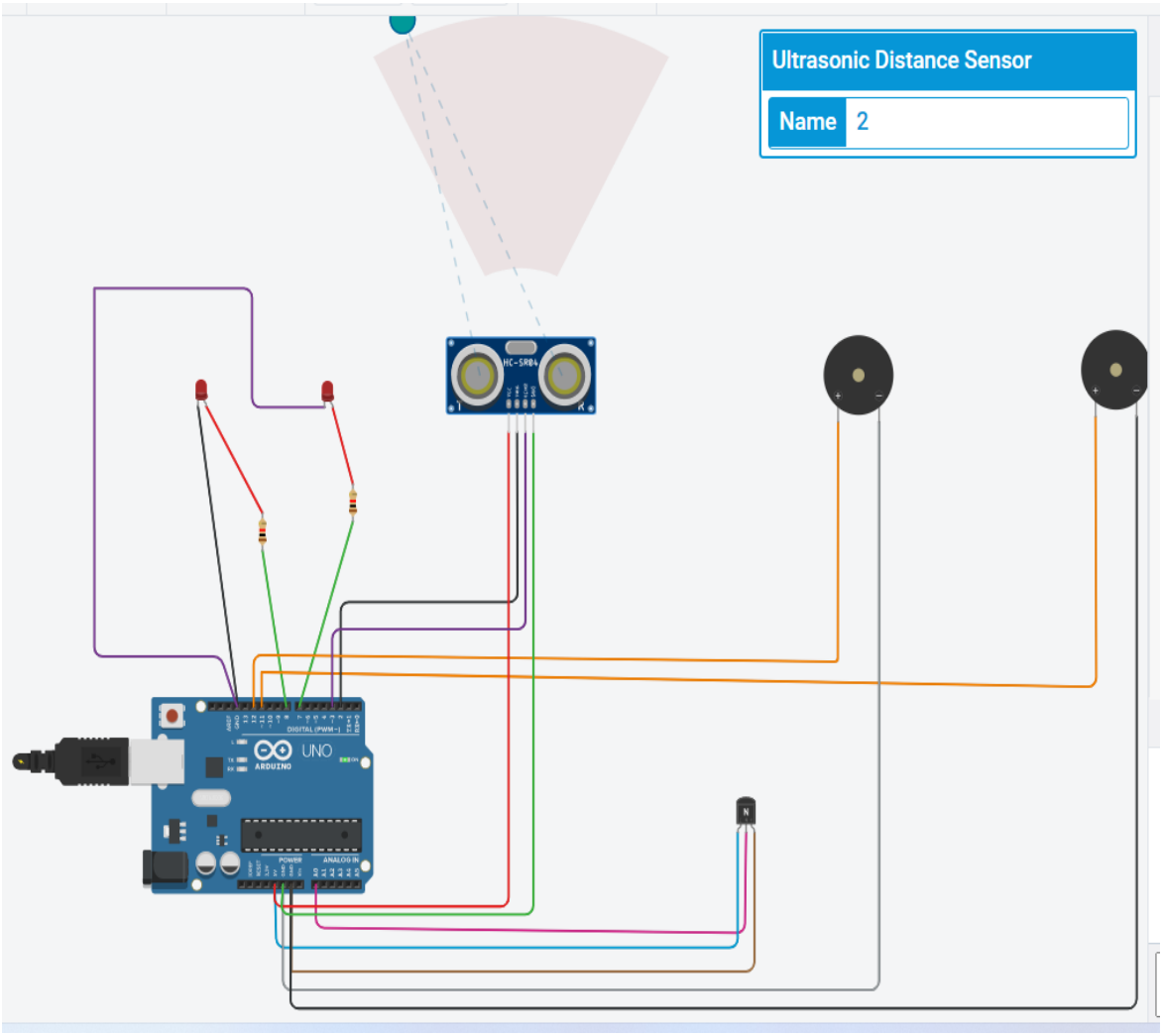
```
delay(1000);
noTone(12);
delay(1000);
}
}

//Temperate Sensor
double a= analogRead(A0);
double t=(((a/1024)*5)-0.5)*100;
Serial.print("Temp Value: ");
Serial.println(t);
delay(1000);

//LED ON
if(t>=20)//(in terms of celsius)
{
digitalWrite(8,HIGH);
digitalWrite(7,HIGH);
}

//Buzzer for Temperature Sensor
if(t>=20)
{
for(int i=0; i<=5; i=i+1)
{
tone(12,i);
delay(1000);
noTone(12);
delay(1000);
```

```
}
}
//LED OFF
if(t<20)
{
digitalWrite(8,LOW);
digitalWrite(7,LOW);
}
}
```

TINKERCAD LINK :

https://www.tinkercad.com/things/j14w2umnVBO-smashing-kup-kasi/editel?tenant=circuits

OUTPUT


Ultrasonic Distance Sensor
Name 2
HC-SR04
UNO
ARDUINO