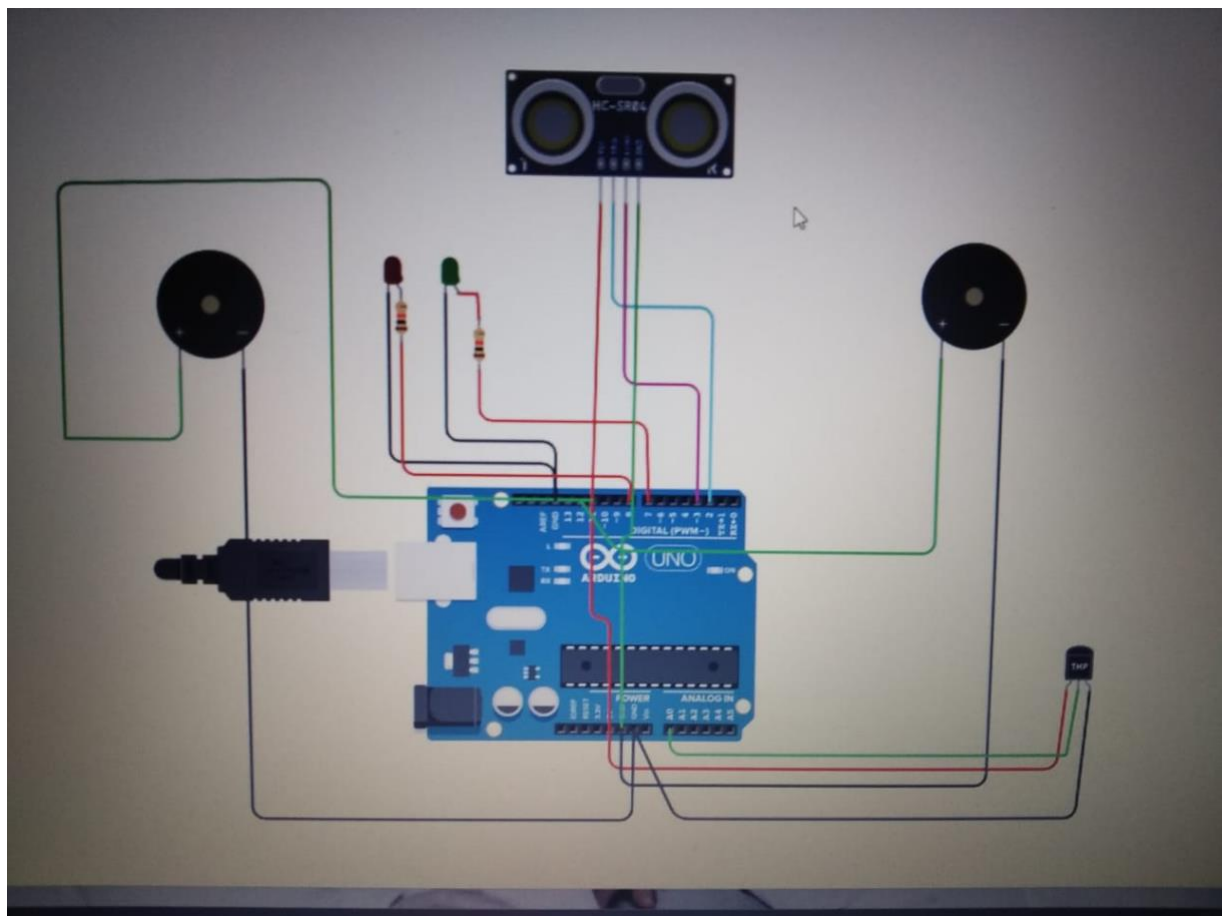


## **IBM - Nallaiya Thiran Project**

### **Assignment 1 - Smart Home**

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### Circuit Diagram:



### **Source Code :**

```
// C++ 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/lptVJl2fiLu>

### **Output:**

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.86

Temp Value: 24.71

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.88

