

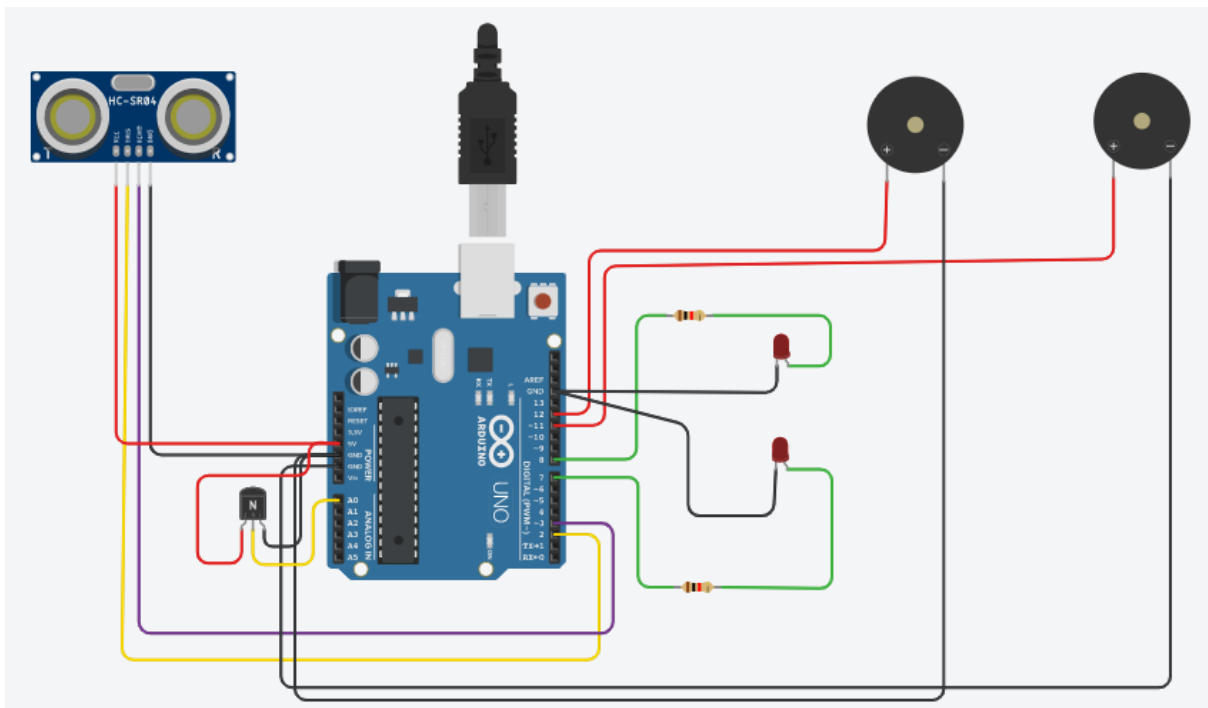
IBM - Nallaiya Thiran Project Assignment 1

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>=100)

{

digitalWrite(8,HIGH);

digitalWrite(7,HIGH);

}


//Buzzer for ultrasonic Sensor

if(dis>=100)

{

for(int i=0; i<=30000; i=i+10)

{

```

```
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>=100)  
{  
    digitalWrite(8,HIGH);  
    digitalWrite(7,HIGH);  
}
```

//Buzzer for Temperature Sensor

```
if(t>=100)  
{  
    for(int i=0; i<=30000; i=i+10)  
    {  
        tone(12,i);
```

```

delay(1000);

noTone(12);

delay(1000);

}

}

//LED OFF

if(t<100)
{
    digitalWrite(8,LOW);

    digitalWrite(7,LOW);

}

}

```

TINKERCAD LINK

<https://www.tinkercad.com/things/bwWGTcBZqHl-daring-fyyran/editel?tenant=circuits>

OUTPUT

```

Distance is: 6.00
Temp Value: -49.51
Distance is: 6.19
Temp Value: -49.51
Distance is: 6.19
Temp Value: -49.51
Distance is: 6.19
Temp Value: -49.51
Distance is: 6.00
Temp Value: -49.51
Distance is: 6.00
Temp Value: -49.51
Distance is: 6.19
Temp Value: -49.51
Distance is: 6.19
Temp Value: -49.51
Distance is: 6.19
Temp Value: -49.51
Distance is: 6.00
Temp Value: -49.51
Distance is: 6.00
Temp Value: -49.51
Distance is: 6.19
Temp Value: -49.51
Distance is: 6.19
Temp Value: -49.51
Distance is: 58.04
Temp Value: -49.51
Distance is: 58.04
Temp Value: -49.51
Distance is: 58.04
Temp Value: -49.51
Distance is: 57.85
Temp Value: -49.51

```

