

IBM-Nalaiya Thiran Assignment-1

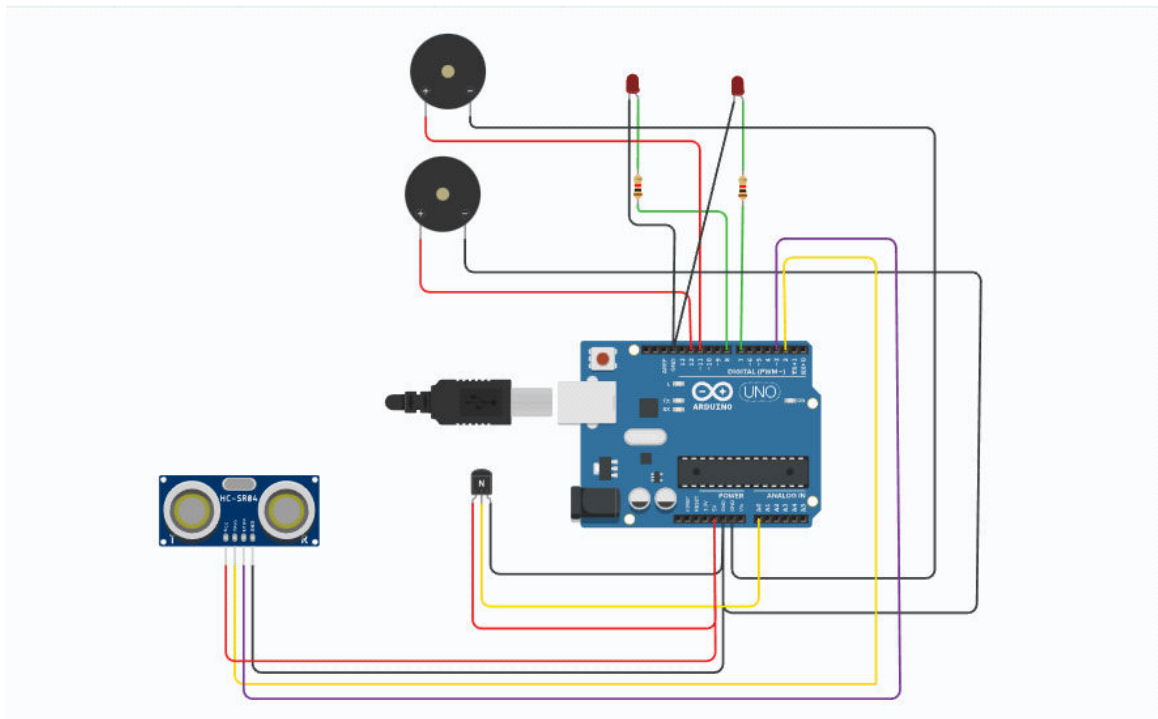
SMART HOME

Submitted By

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CIRCUIT DIAGRAM



// 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(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/2eV3GhELBsA-amazing-densor-kieran/editel?tenant=circuits>

OUTPUT

```
Distance is: 98.61
Temp Value: -49.51
Distance is: 98.61
Temp Value: -49.51
Distance is: 98.44
Temp Value: -49.51
Distance is: 98.61
Temp Value: -49.51
Distance is: 98.61
Temp Value: -49.51
Distance is: 98.42
Temp Value: -49.51
Distance is: 98.61
Temp Value: -49.51
Distance is: 98.61
Temp Value: -49.51
Distance is: 98.39
Temp Value: -49.51
Distance is: 98.42
Temp Value: -49.51
Distance is: 98.61
Temp Value: -49.51
Distance is: 98.42
Temp Value: -49.51
Distance is: 98.61
Temp Value: -49.51
Distance is: 98.61
Temp Value: -49.51
Distance is: 109.86
Distance is: 85.90
Temp Value: -49.51
Distance is: 85.90
Temp Value: -49.51
Distance is: 86.09
Temp Value: -49.51
Distance is: 85.87
```

