

Group: 2CO21

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A Practical Activity Assignment Submitted  
For Engineering Design Project – II (UTA-014)

By

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Submitted to

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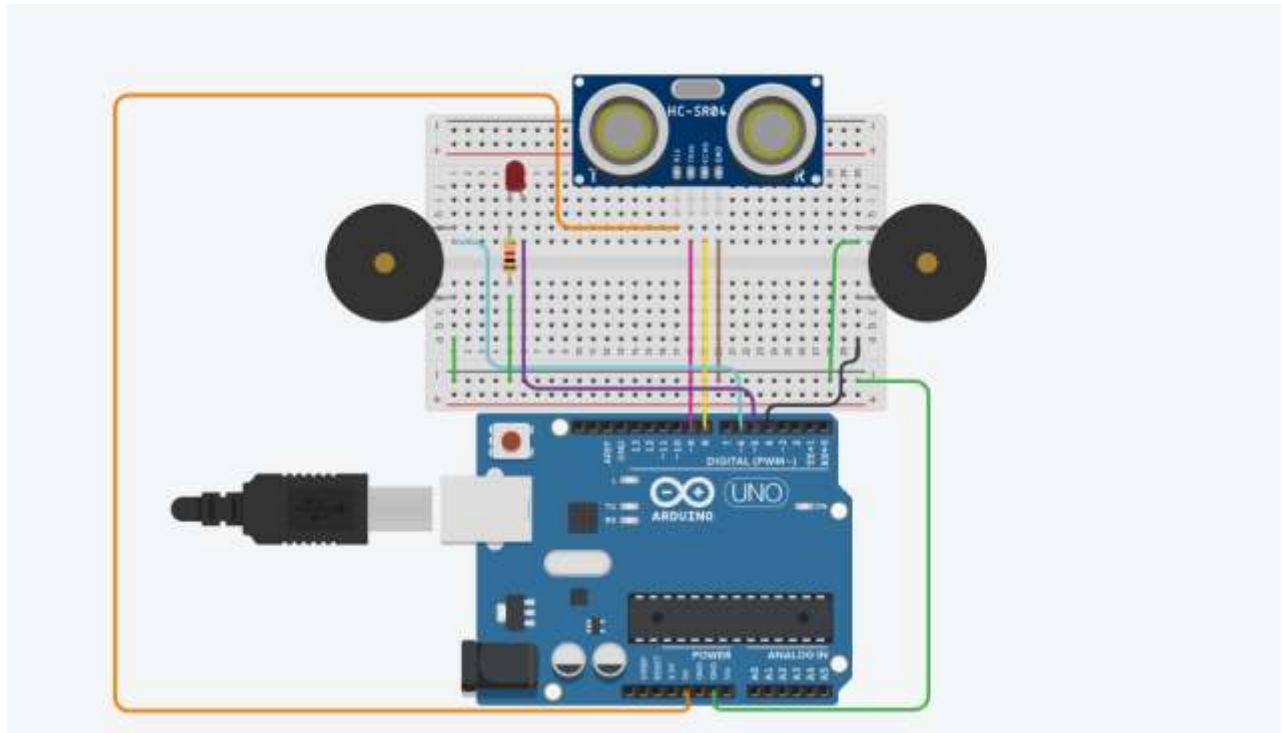


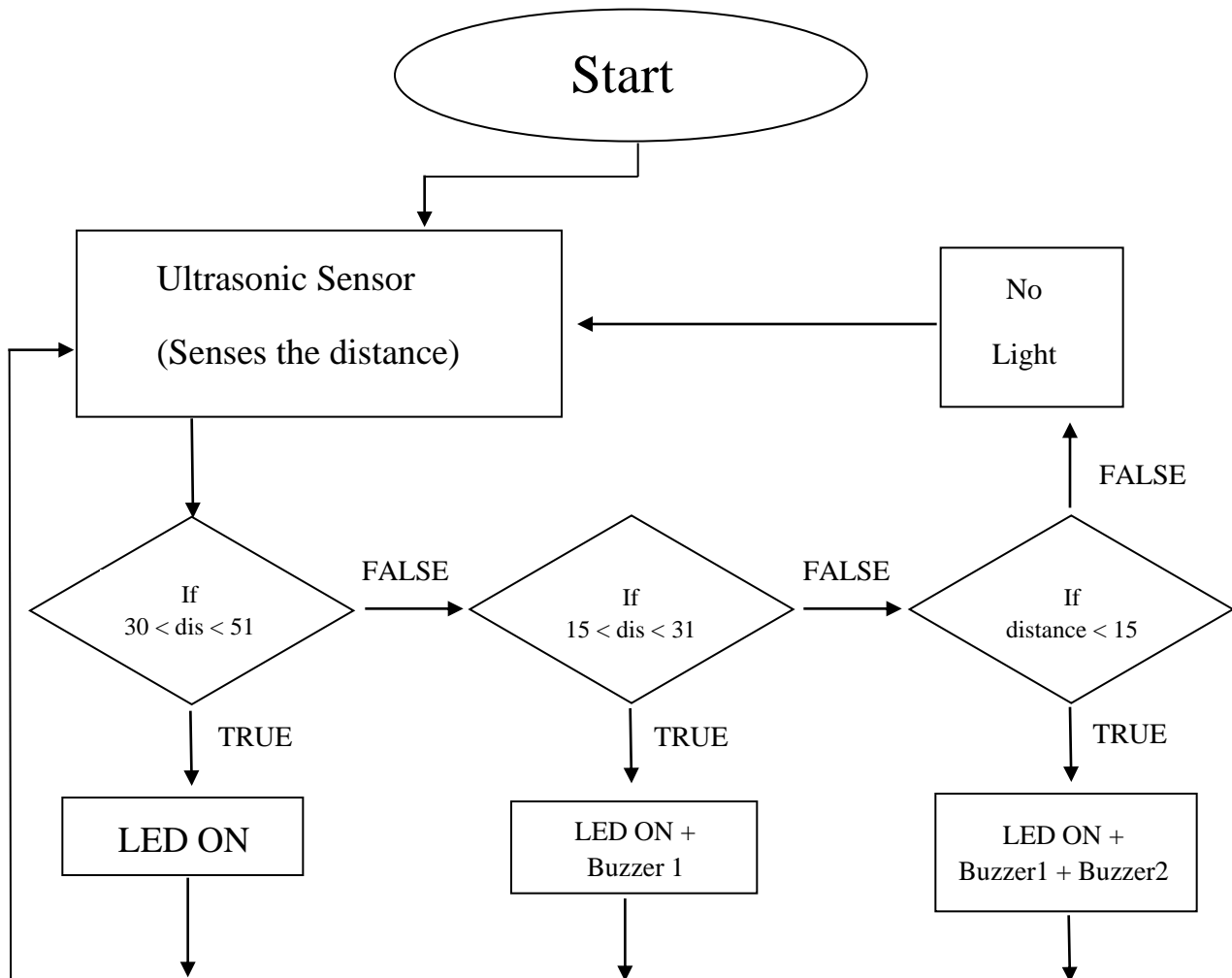
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY, (A  
DEEMED TO BE UNIVERSITY), PATIALA, PUNJAB  
INDIA**

**Jan-June 2021**

**Experiment:** Arduino Based blind stick

**Circuit design:**



**Logical workflow of diagram:**

**Code:**

```
#define trigPin 9

#define echoPin 8

#define Buzzer1 6

#define Buzzer2 4

#define Led1 5

int sound = 250;


void setup() {

  Serial.begin (9600);

  pinMode(trigPin, OUTPUT);

  pinMode(echoPin, INPUT);

  pinMode(Buzzer1, OUTPUT);

  pinMode(Buzzer2, OUTPUT);

  pinMode(Led1, OUTPUT);

}


void loop() {

  Serial.begin(9600);

  long duration, distance;

  digitalWrite(trigPin, LOW);

  delay(2);

  digitalWrite(trigPin, HIGH);
```

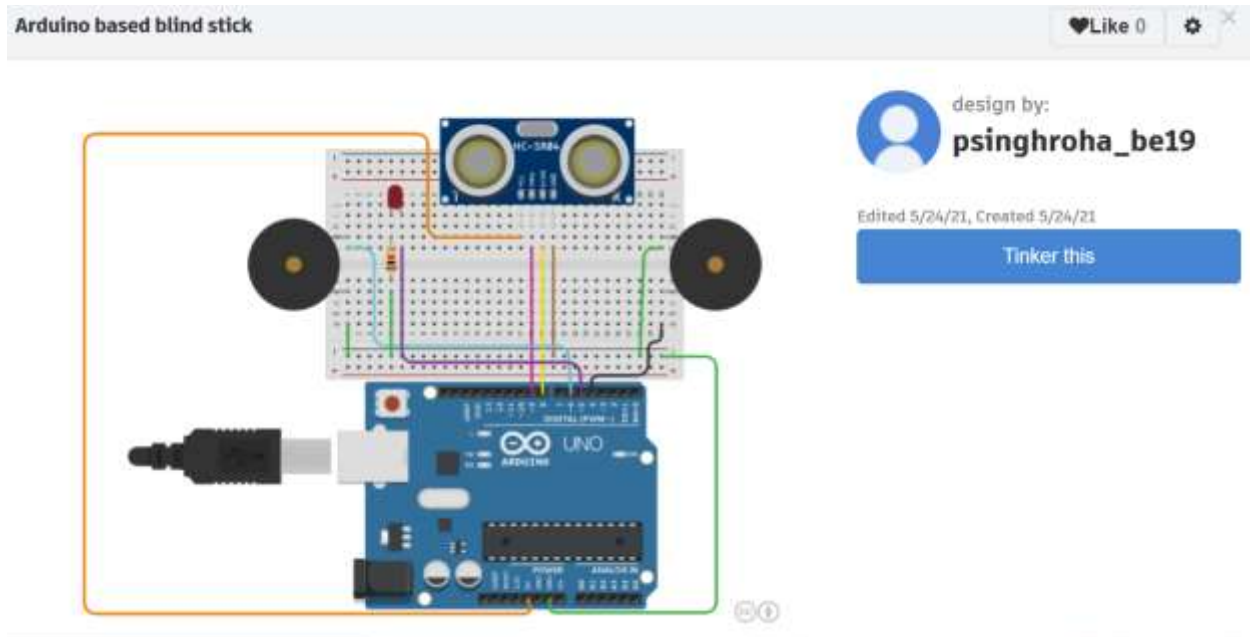
```
delay(10);  
digitalWrite(trigPin, LOW);  
duration = pulseIn(echoPin, HIGH);  
distance = (duration*0.034)/2;  
digitalWrite(Buzzer1, LOW);  
digitalWrite(Buzzer2, LOW);  
digitalWrite(Led1, LOW);  
  
if (distance<=50 && distance>30) {  
    digitalWrite(Led1, HIGH);  
    delay(500);  
}  
if (distance<=30 && distance>15) {  
    digitalWrite(Led1, HIGH);  
    delay(500);  
    digitalWrite(Buzzer1, HIGH);  
    delay(500);  
}  
if (distance<=15) {  
    digitalWrite(Led1, HIGH);  
    delay(500);  
    digitalWrite(Buzzer1, HIGH);  
    delay(500);
```

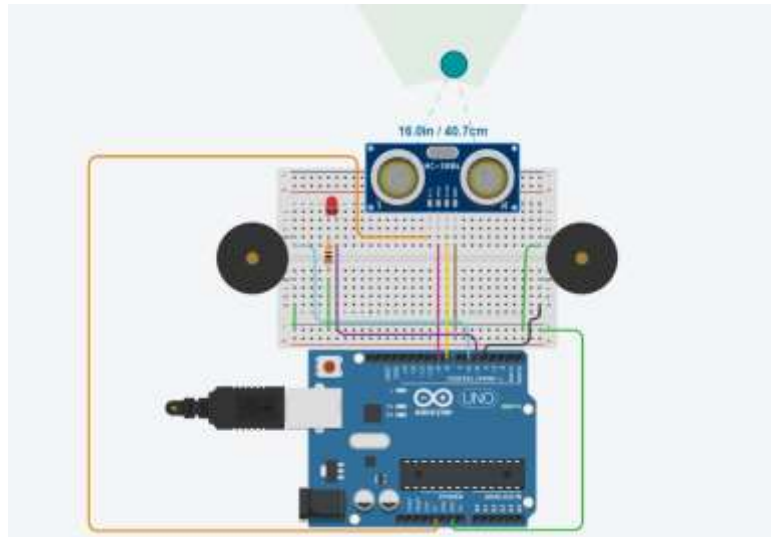
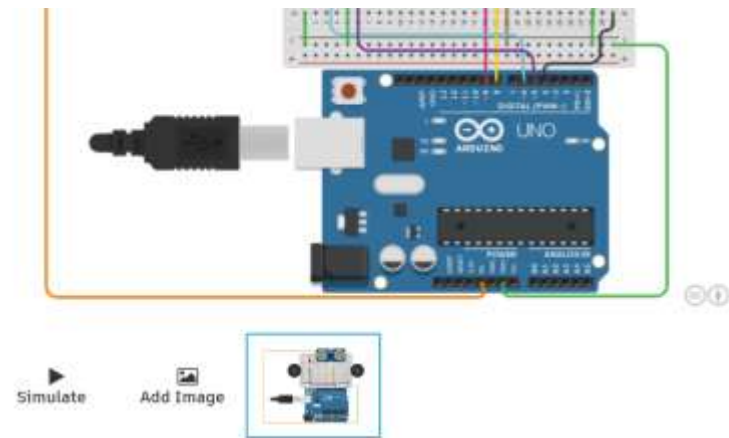
```
digitalWrite(Buzzer2, HIGH);  
  
delay(500);  
  
}  
  
}
```

### Components:

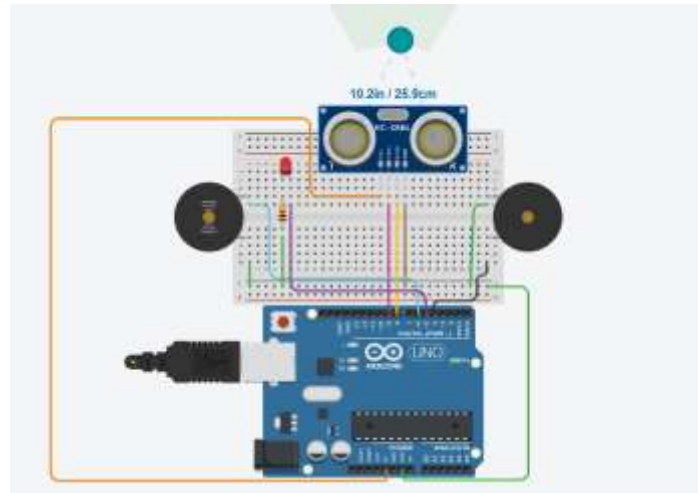
Name	Quantity
Arduino UNO	1
Breadboard	1
Ultrasonic Sensor HC-SR04	1
Buzzer	2
LED	1

### Tinkercad screenshot of the experiment:

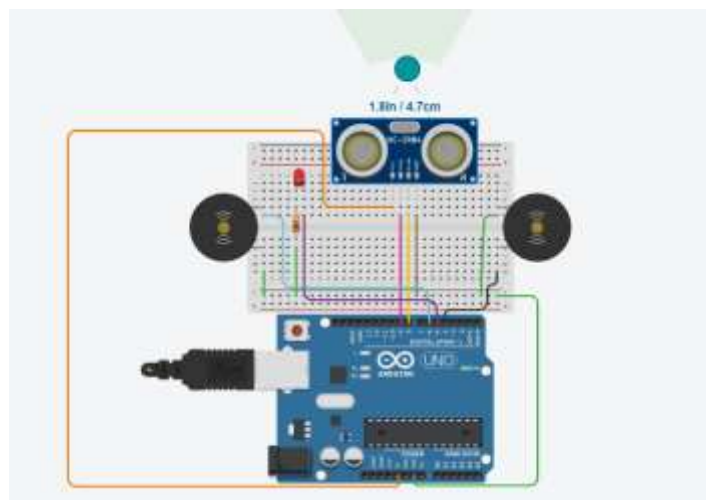




30 < distance < 50



$15 < \text{distance} < 30$



$\text{distance} < 15$

**Simulator video-link of the experiment:**

[https://drive.google.com/file/d/1cjfBFveaLT2NhmKVvg1F3dM0k\\_OlhnKc/view?usp=sharing](https://drive.google.com/file/d/1cjfBFveaLT2NhmKVvg1F3dM0k_OlhnKc/view?usp=sharing)



Thank You