Smart Walking Stick for the Visually Impaired

Components Required:

Ultrasonic sensor

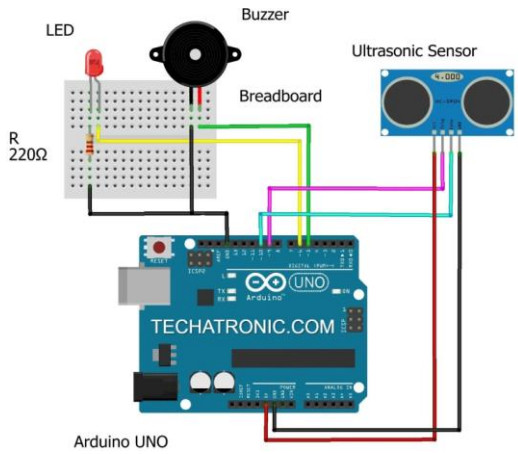
Arduino

Jumper Wires

Bluetooth terminal

Buzzer

Circuit Diagram:



Procedure:

- Please make the connections according to the given **Smart blind stick circuit diagram**.
- Attach the 5-volts and GND pins of the Arduino to the VCC and GND pins of the ultrasonic sensor.
- Connect the TRIG and ECHO pins of the ultrasonic sensor with the digital-9 and digital-10 pins of the Arduino.
- Join the positive and negative wire of the buzzer with the digital-5 and GND pins of the Arduino.
- Attach the positive leg of the LED with the digital-6 pin of the Arduino and the negative leg of the LED with the GND pin of the Arduino through a 220-ohm resistor.
- You can use a breadboard for making common connections. Power the Arduino board using DC batteries.

Arduino Code:

```
const int trigPin = 9;

const int echoPin = 10;

long duration;
```

```
int distanceCm,
distanceInch;
void setup()
{
Serial.begin(9600);
pinMode(trigPin, OUTPUT);
pinMode(echoPin, INPUT);
pinMode(6, OUTPUT); // Connect LED Pin D6
pinMode(5, OUTPUT); // Connect Buzzer Pin D5
}
void loop()
{
digitalWrite(trigPin, LOW);
delayMicroseconds(2);
digitalWrite(trigPin, HIGH);
delayMicroseconds(10);
digitalWrite(trigPin, LOW);
duration = pulseIn(echoPin, HIGH);
distanceCm= duration*0.034/2;
distanceInch = duration*0.0133/2;
Serial.println("Distance: ");
Serial.println(distanceCm);
delay (100);
if(distanceCm < 25) // You can Change the value
{
digitalWrite(5, HIGH); // Buzzer ON
digitalWrite(6, HIGH); // LED ON
}
 else {
digitalWrite(5,LOW); // Buzzer OFF
digitalWrite(6,LOW); // LED OFF
```

```
}
 }
```

Output: