I-STICK ASSISTANCE

Team Members:
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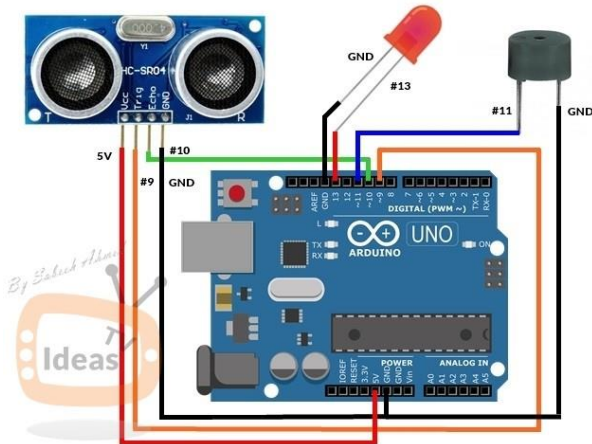Heena Afrin - 20wh1a1234
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- Help Blind People find obstacles which lie ahead of them with the help of ultrasonic sensor.

Components

- Arduino UNO
- HC-SR04 Ultrasonic Sensor
- Jumper Wires
- DC Buzzer
- 9V Battery
- Battery connector
- LED Diode
- PVC Pipe
- Cable Tie Clips

```
// defines pins numbers
const int trigPin = 9;
const int echoPin = 10;
const int buzzer = 11;
const int ledPin = 13;

// defines variables
long duration;
int distance;
int safetyDistance;


void setup() {
pinMode(trigPin, OUTPUT); // Sets the trigPin as an Output
pinMode(echoPin, INPUT); // Sets the echoPin as an Input
```

```
pinMode(buzzer, OUTPUT);
pinMode(ledPin, OUTPUT);
Serial.begin(9600); // Starts the serial communication
}


void loop() {
// Clears the trigPin
digitalWrite(trigPin, LOW);
delayMicroseconds(2);

// Sets the trigPin on HIGH state for 10 micro seconds
digitalWrite(trigPin, HIGH);
delayMicroseconds(10);
digitalWrite(trigPin, LOW);
```

```
      // Reads the echoPin, returns the sound wave travel
  time in microseconds
          duration = pulseIn(echoPin, HIGH);
// Calculating the distance
distance= duration*0.034/2;

safetyDistance = distance;
if (safetyDistance <= 5){
  digitalWrite(buzzer, HIGH);
  digitalWrite(ledPin, HIGH);
}
else{
  digitalWrite(buzzer, LOW);
  digitalWrite(ledPin, LOW);
}
```

```
// Prints the distance on the Serial Monitor
Serial.print("Distance: ");
Serial.println(distance);
}
```

I-stick

THANK YOU