Mini Project

On

THIRD EYE USING ULTRASONIC SENSOR

Submitted by :

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Course : CSE with Specialization in AIML

ABSTRACT:

Third eye for binds is an innovation which helps the blind people to navigate with speed and confidence by detecting the nearby obstacles using the help of ultrasonic waves and notify them with buzzer sound or vibration. They only need to wear this device as a band or cloth. The intensity of vibration and rate of beeping increases with decrease in distance and this is a fully automated device.

MATERIALS REQUIRED:

Gloves raise an alarm when any object is on its side. In addition, it alarms when any object is in front of the user. Ultrasonic sensor will work as an input device sending data of obstacles to the Central Arduino System and find out the distance between the user and the obstacle .

HARDWARE SPECIFICATION:

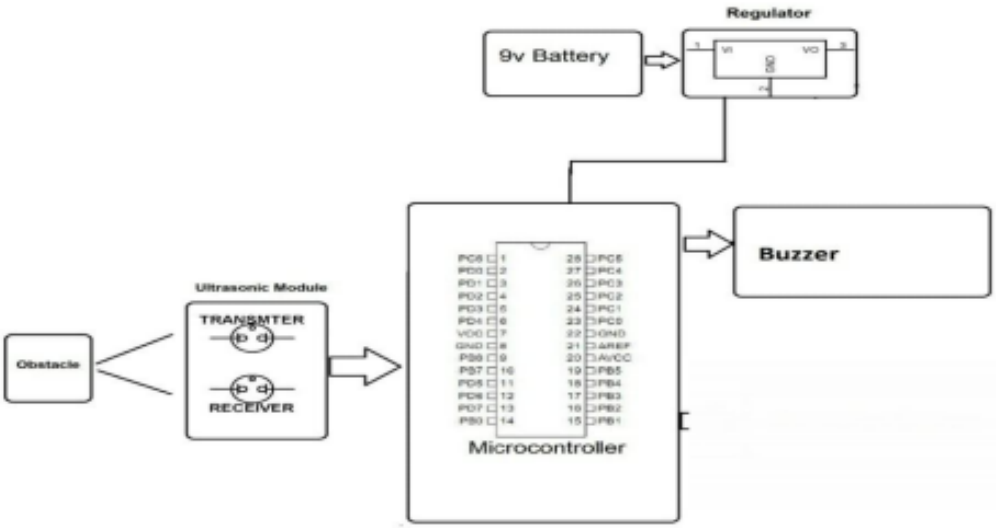
1. Buzzer.
2. Arduino nano.
3. Ultrasonic sensor.
4. Four header pins (female).
5. pcb board
6. On and off switch.
7. Battery holder and
8. Battery (3.7v)2

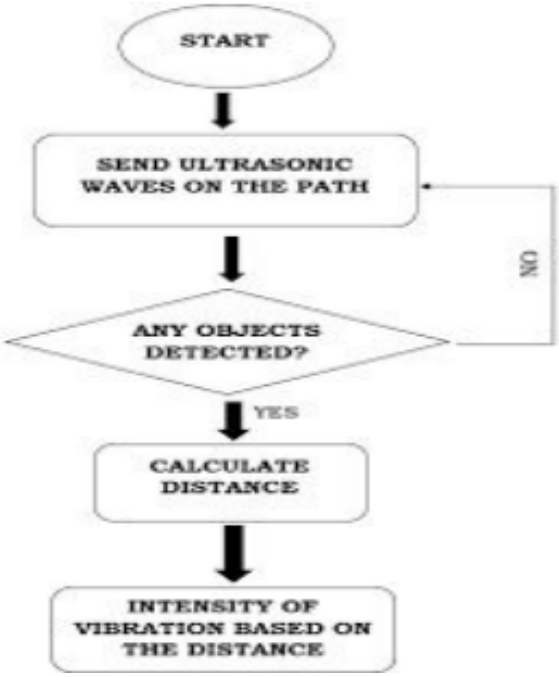
SOFTWARE SPECIFICATION:

1. Arduino Compiler

2. Language: C programming

BLOCK DIAGRAM:





ALGORITHM:

1.Ultrasonic VCC to Arduino 5v.
2.Ultrasonic GND to Arduino GND.
3.Ultrasonic TRIG to Arduino D11.
4.Ultrasonic ECHO to Arduino D10.
5.Buzzer POSITIVE (longer pin) to Arduino D8.
6.Buzzer NEGATIVE (smaller pin) to Arduino GND.
7. 9 volt battery POSITIVE to Toggle switch pin 1. 8. 9 volt battery NEGATIVE to DC male power jack(-). 9. Toggle switch pin 2 to DC male power jack (+).

PROGRAM SOURCE CODE:

```
//Smart Gloves
#include <NewPing.h>
#define TRIGGER_PIN 4
#define ECHO_PIN 3
#define MAX_DISTANCE 800
#define Buzzer 2 //BUZZER PIN
NewPing sonar(TRIGGER_PIN, ECHO_PIN, MAX_DISTANCE); void setup() {
 pinMode(Buzzer,OUTPUT);
 Serial.begin(9600);
}
void loop() {
 //delay(50);
 Serial.print("Ping: ");
 Serial.print(sonar.ping_cm());
 Serial.println("cm");
 if(sonar.ping_cm()<20){ //SET YOUR DISTANCE HERE
digitalWrite(Buzzer,HIGH);

 }
 else{
 digitalWrite(Buzzer,LOW);
 }
```

}

RESULT:

Thus Third eye using ultrasonic sensor is built successfully and the working is verified.