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Registration Number : 181260120044 of 2018 - 2019

Roll Number : 12618002071 Session : 2018 - 2021

For 8th Semester B.Tech Examination 2021 in Information Technology

Compulsory Papers

Elective Papers

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INFO 4243 Cryptography & Network Security

INFO 4231 Comprehensive Viva Voce

BIOT 4281 Computational Biology

INFO 4291 Project - II

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Name of the Candidate : SOURIMA MALICK

Son / Daughter of : ASISKUMAR MALICK

Registration Number : 171260110237 of 2017 - 2018

Roll Number : 12617002053 Session : 2017 - 2021

For 8th Semester B.Tech Examination 2021 in Information Technology

Compulsory Papers

Elective Papers

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INFO 4231 Comprehensive Viva Voce

INFO 4291 Project - II

INFO 4243 Cryptography & Network Security

MATH 4281 Advanced Probability and Statistics

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04-08-2021

Blind Stick Navigator Using IOT

A project Report Submitted by:

Sourima Mallick Roll no = 12617002053 Registration no = 171260110237

Rohan Thapa Roll no = 12618002071 Registration no = 181260120044



Under the supervision of Prof. Uttam Kumar Dash

Department of Information Technology
HERITAGE INSTITUTE OF TECHNOLOGY, KOLKATA (An
Autonomous
Institute) under MAULANA ABUL KALAM AZAD UNIVERSITY OF
TECHNOLOGY

In partial fulfilment for the award of the degree
of
BACHELOR OF TECHNOLOGY
in
INFORMATION TECHNOLOGY



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We
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SOURIMA MALLICK

ROHAN THAPA

HERITAGE INSTITUTE OF TECHNOLOGY, KOLKATA
An Autonomous Institution
MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY



BONAFIDE CERTIFICATE

Certified that this project report “ BLIND STICK NAVIGATOR USING IOT” is the bonafide work of Sourima Mallick, Rohan Thapa who carried out the project work under my supervision.

Prof. Deep MalyaMukhopadhyay
PROJECT MENTOR
Dept. of Information Technology
Heritage Institute of Technology

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- What is Blind Stick Navigator?
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Introduction

Vision is the most important part of human physiology as 83% of information human being gets from the environment is via sight. The 2011 statistics by the World Health Organization (WHO) estimates that there are 285 million people in world with visual impairment, 39 million of which are blind and 246 with low vision.

Presently, blind people use a white stick as a tool for directing them when they move or walk. Here, we develop a tool which can serve as a blind stick being more efficient and helpful than the conventional one. This will assist the blind persons during the walk and provides an alarm if any hurdle is detected within the set range.

Literature Survey

Nowadays, the wearable health monitoring system is the main application of Internet of things . Likewise lots of wearable devices are designed for visually impaired people. In sensor assisted stick for the blind people describes about a wearable equipment which consists of a light weight blind stick and the obstacle detection circuit based on a sensor. It is mainly developed to help the blind person to move alone safely from one place to another and to avoid any obstacles that may be encountered. The device detects the fixed as well as moving objects and thus it may help to avoid accidents. The main component for the working of this system is the

infrared sensor which is used to scan a predetermined area around the blind person by emitting-reflecting waves.

How this project will help ?

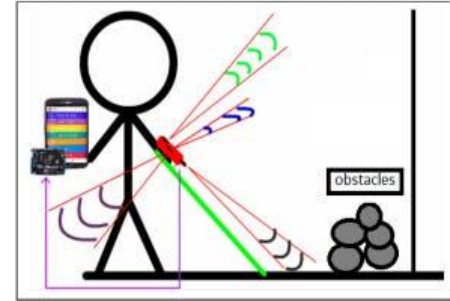
- Using this blind stick, a person can walk more confidently.
- This stick detects the object in front of the person and give response to the user through loud sound(buzzer).
- So, the person can walk without any fear. This device will be best solution to overcome their difficulties.

What is Blind Stick Navigator ?

Blind Stick Navigator is an innovative stick designed for visually disabled people for improved navigation.

We here propose an advanced blind stick that allows visually challenged people to navigate with ease using advanced technology.

A blind assist tool that provide obstacles notification and GPS location to the guardian / authority via SMS.



Basic Logic

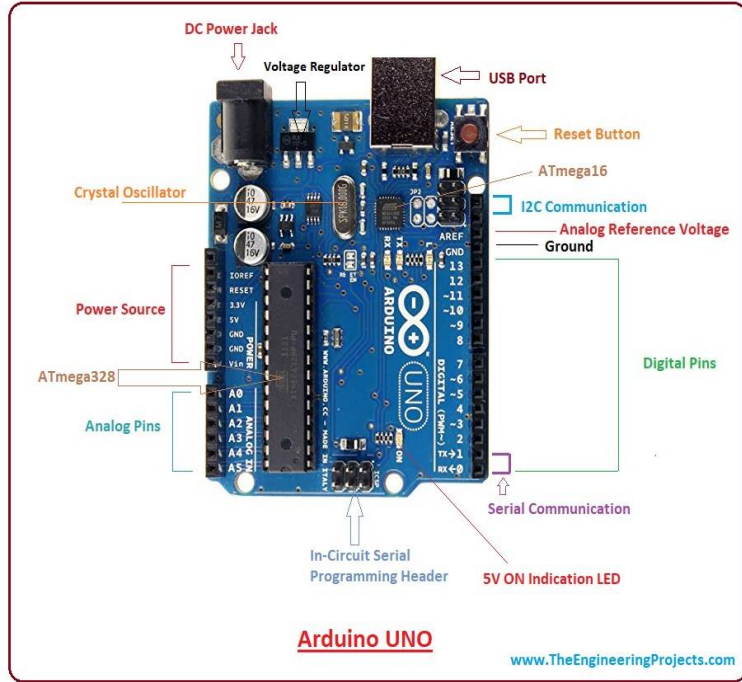
Ultrasonic Sensor with microcontroller interface is used which is connected to buzzer and LED Diode.

ATMEGA 16 as the main microcontroller is used

Components Used :---

- Arduino UNO
- HC-SRO4 Ultrasonic Sensor
- DC Buzzer
- Battery Connector
- LED Diode
- 9V Battery
- Jumper Wires
- Stick
- Cable Tie Clips

Arduino UNO



Arduino Uno is a microcontroller board based on the ATmega328P. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a USB connection, a power jack, an ICSP header and a reset button.

It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started..

"Uno" means one in Italian and was chosen to mark the release of Arduino Software (IDE) 1.0.

DC Buzzer



The Buzzer is a sounding device that can convert audio signals into sound signals.

BUZZER It consists of piezo crystals between two conductors. When a potential is applied across these crystals they push on one conductor and pull on the other. This, push and pull action, results in a sound wave

Ultrasonic Sensor



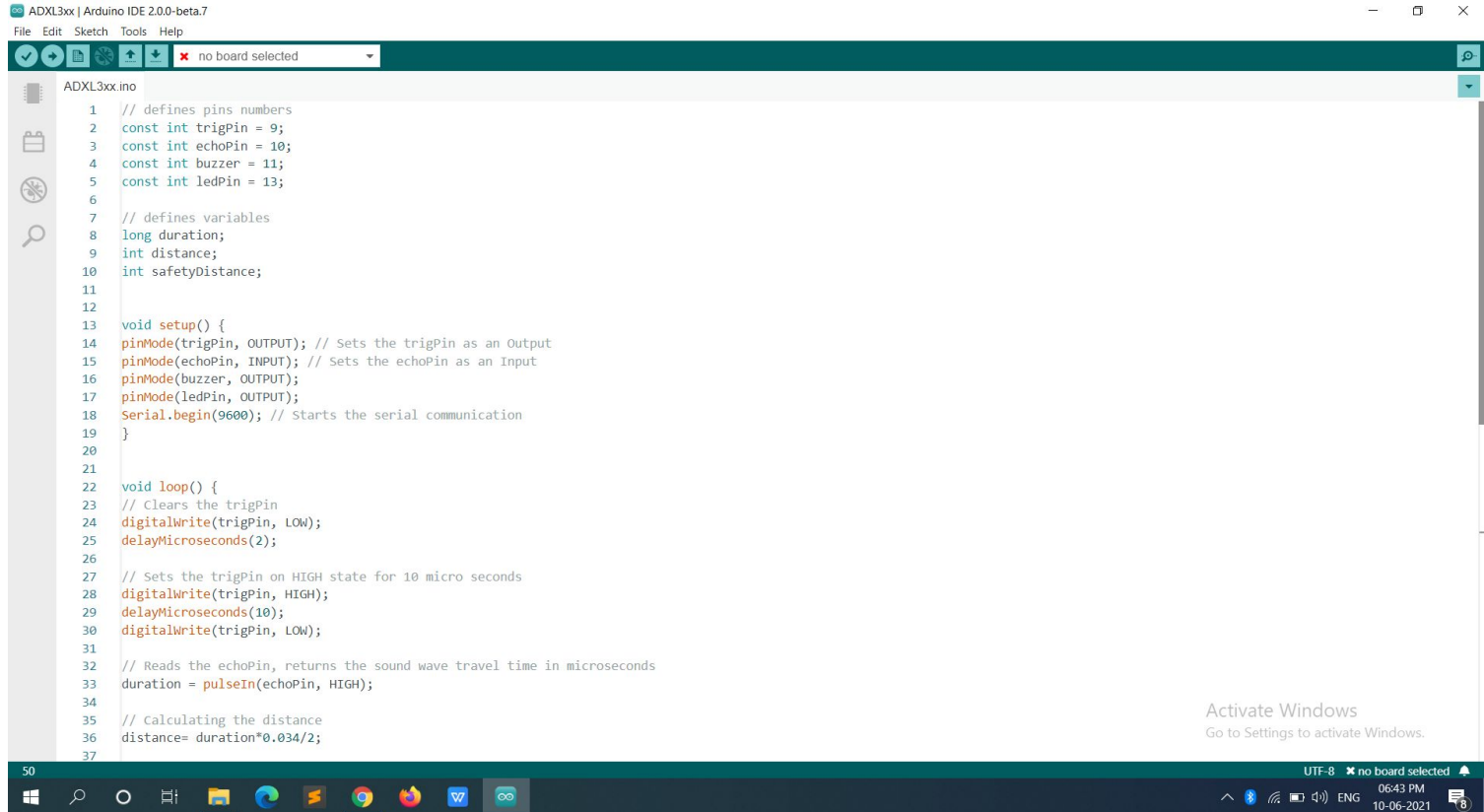
An ultrasonic sensor is an electronic device that measures the distance of a target object by emitting ultrasonic sound waves, and converts the reflected sound into an electrical signal. Ultrasonic waves travel faster than the speed of audible sound (i.e. the sound that humans can hear).

Ultrasonic sensors have two main components: the transmitter (which emits the sound using piezoelectric crystals) and the receiver (which encounters the sound after it has travelled to and from the target).

Software Used :-----

Arduino UNO 2.0.0-beta.7

Code for the project :



```
ADXL3xx.ino
1 // defines pins numbers
2 const int trigPin = 9;
3 const int echoPin = 10;
4 const int buzzer = 11;
5 const int ledPin = 13;
6
7 // defines variables
8 long duration;
9 int distance;
10 int safetyDistance;
11
12
13 void setup() {
14   pinMode(trigPin, OUTPUT); // Sets the trigPin as an Output
15   pinMode(echoPin, INPUT); // Sets the echoPin as an Input
16   pinMode(buzzer, OUTPUT);
17   pinMode(ledPin, OUTPUT);
18   Serial.begin(9600); // Starts the serial communication
19 }
20
21
22 void loop() {
23   // Clears the trigPin
24   digitalWrite(trigPin, LOW);
25   delayMicroseconds(2);
26
27   // Sets the trigPin on HIGH state for 10 micro seconds
28   digitalWrite(trigPin, HIGH);
29   delayMicroseconds(10);
30   digitalWrite(trigPin, LOW);
31
32   // Reads the echoPin, returns the sound wave travel time in microseconds
33   duration = pulseIn(echoPin, HIGH);
34
35   // Calculating the distance
36   distance= duration*0.034/2;
37
```

50

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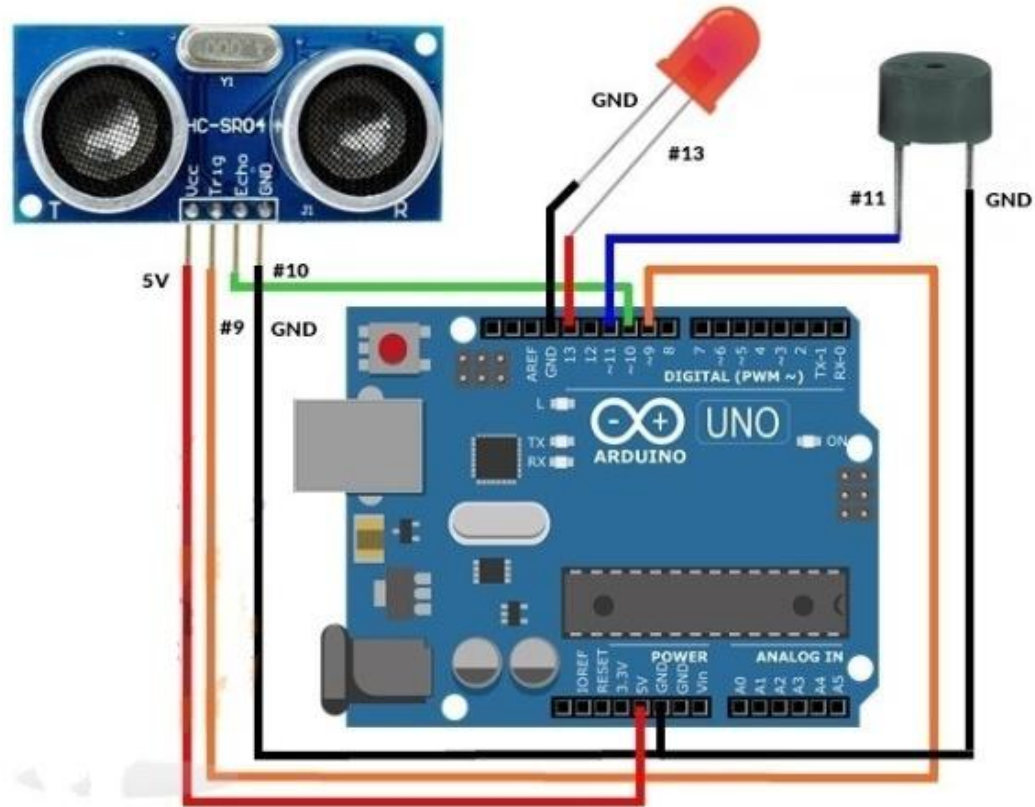
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ADXL3xx.ino

```
21
22 void loop() {
23   // Clears the trigPin
24   digitalWrite(trigPin, LOW);
25   delayMicroseconds(2);
26
27   // Sets the trigPin on HIGH state for 10 micro seconds
28   digitalWrite(trigPin, HIGH);
29   delayMicroseconds(10);
30   digitalWrite(trigPin, LOW);
31
32   // Reads the echoPin, returns the sound wave travel time in microseconds
33   duration = pulseIn(echoPin, HIGH);
34
35   // Calculating the distance
36   distance= duration*0.034/2;
37
38   safetyDistance = distance;
39   if (safetyDistance <= 5){
40     digitalWrite(buzzer, HIGH);
41     digitalWrite(ledPin, HIGH);
42   }
43   else{
44     digitalWrite(buzzer, LOW);
45     digitalWrite(ledPin, LOW);
46   }
47
48   // Prints the distance on the Serial Monitor
49   Serial.print("Distance: ");
50   Serial.println(distance);/*
51   ADXL3xx
52
53   Reads an Analog Devices ADXL3xx accelerometer and communicates the
54   acceleration to the computer. The pins used are designed to be easily
55   compatible with the breakout boards from SparkFun, available from:
56   http://www.sparkfun.com/commerce/categories.php?c=80
57
```

Activate Windows
Go to Settings to activate Windows.

Circuit Diagram



APPROX COST OF THIS PROJECT :---

- Ultrasonic Sensor = Rs.166
- Jumper Wires = Rs.119
- Connector = Rs.79
- Battery = Rs.157
- Arduino UNO = Rs.899
- Buzzer = Rs.89
- Led Diode = Rs.2
- Stick = Rs.50
- Cable Tie Clips = Rs.20

REFERENCES

G. Gayathri, M. Vishnupriya, R. Nandhini and M. Banupriya

“Smart Walking Stick for Visually Impaired.”

R. Radhika, P.G. Pai, S. Rakshitha and R. Srinath

“Implementation of Smart Stick for Obstacle Detection and

Navigation.” International Journal of Latest Research in

Engineering and Technology

Google and Wikipedia