**PROBLEM STATEMENT**

The problem faced by the visually impaired is incomparable because they cannot adapt as well to the environment. Blind individuals struggle when travelling from place to place and rely on predefined and repetitive routes with minimum obstacles to lead them to their destinations without assistance. Therefore it is important to have navigation devices that allow visually impaired individuals to maneuver and be directed throughout their journey independently and inform their current location.

The current aid present for the visually impaired is just a stick for navigation. This stick doesn’t help in proper detection of objects. Even the concerned members of these users are unaware of the location and status of the user.

**PROPOSED SOLUTION**

The solution we are proposing is to use Arduino with ultrasonic sensors and a NODE MCU with a GPS module. The ultrasonic sensor helps to find the object in front of the user and also the distance of the object from the user and further alerts the user by a buzzer. The GPS module tracks the location of the user and helps in navigation for the user. It also sends the location of the user to other concerned people who can track the user location. This GPS also helps against theft as the location of the stick can be located from the application.

**OBJECTIVES**

1. Device needs to be portable.

2. To inform user of current location.

3. To inform user of potential hazards and obstacles in their travel.

4. Easy to use: User can interact with device without prior knowledge.

5. To give information of location to the family members of the visually aid by android application.

**TECHNOLOGY STACK**

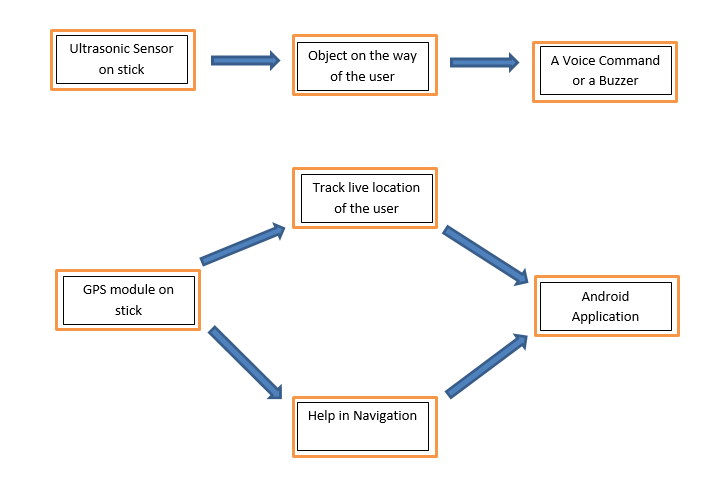
1. HARDWARE

* Arduino Uno
* Node MCU
* HCSR-04 Ultrasonic Sensors
* Neo-6M GPS Module
* Buzzer

1. SOFTWARE

* Arduino IDE
* TinyGPS++ Library for GPS
* Blynk Application and Libraries
* IFTTT

**USE CASE**



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