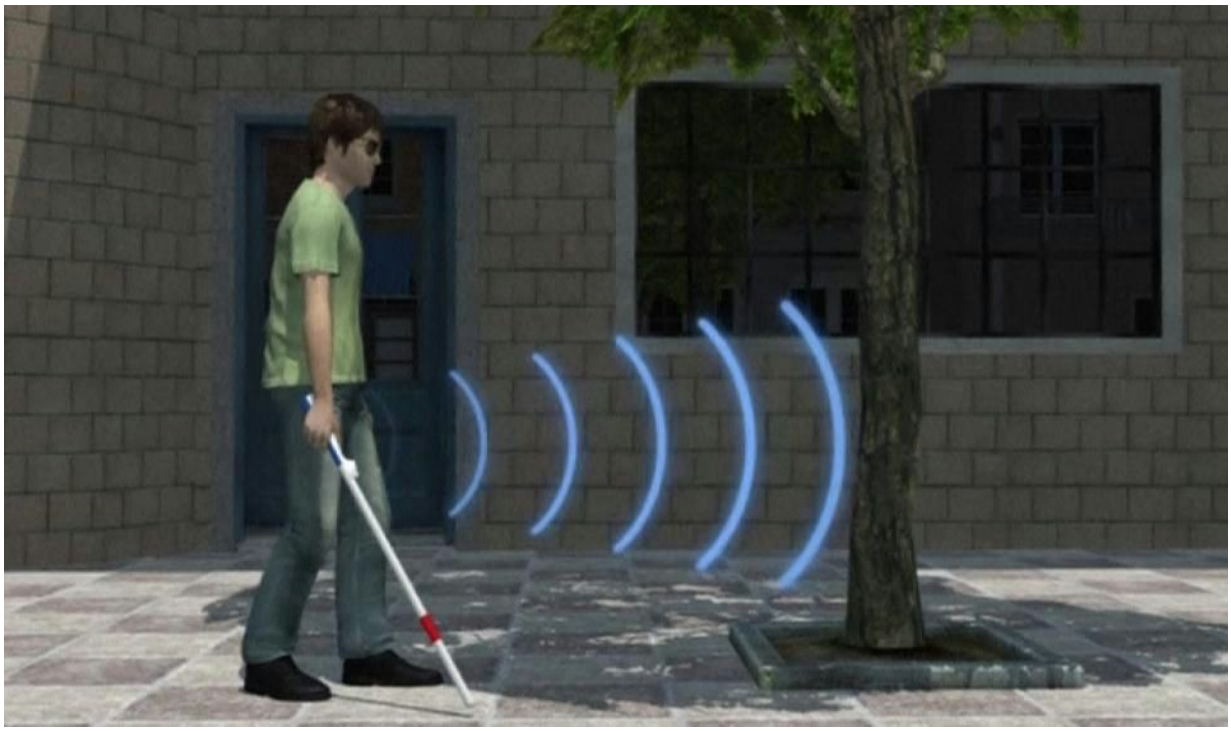
SMART CANE FOR BLIND PERSON

Introduction:

Visually impaired people usually use a white cane as a mobility tool. Some students from ITU tried to redesign it and make a cost effective navigation tool that is better than a plain old white cane. They called it the Smart cane. Smart cane senses the obstacles and vibrates if it's too close to an obstacle. In this way, the blind person gets a clue whether there is anything in front of them. Smart cane contains a vibratory motor, a stick and ultrasonic sensor. All of it is connected to Arduino UNO.

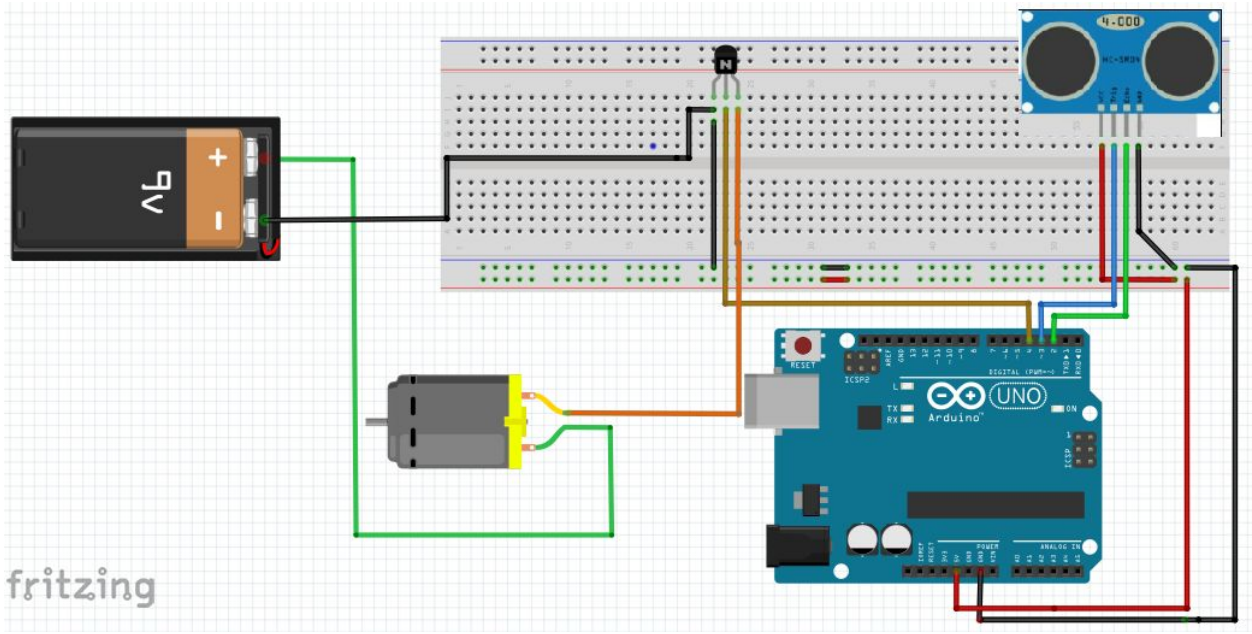


Components:

- Vibrating DC Motor

- Arduino UNO
- Ultrasonic Sensor HC-SR04
- Stick
- Transistor
- Resistor

Here is the schematic diagram that you need to follow.



Steps to follow:

- Make sure you have Arduino IDE installed.
- Connect Arduino to your laptop, verify and upload example code of blink to see if your arduino uno is working. (refer to intro to arduino and electronics.pdf in dropbox folder for help).

- Use the above schematic to make the circuit on breadboard.
- In the schematic above:
  - Red wires are connected to 5V; black wires to the ground.
  - Yellow one is connected between dc motor and collector of transistor (search 2n 3904 datasheet on internet).
  - Green one is connected between sensor's echo pin and Arduino's digital pin number 2.
  - Blue wire is connected between sensor's echo pin and Arduino's digital pin number 3.
- Run the provided code and see if the motor moves when brought close to an obstacle.

Code:

The code is inside the subfolder named smartcane.

BEST OF LUCK ☺