Project Title:-Vision for blind using ultrasonic sensors

Implementation steps:-

1. Coding: We are thinking to use Arduino Uno. As we know the Arduino Uno is a microcontroller board based on the ATmega328. {26th may- 6thJune}

2. Sensing the environment: Ultrasonic sensors can be used to calculate distance of the obstacles around the blind person to guide the user towards the available path. Number of ultrasonic sensors we intend to use is 3.The sensors would be attached to the stick .The three sensors in different directions would detect an obstade in the periphery of 10cm to 4m and they would wam when the obstade is within the range of 2.5 m. {4th may – 14th may}

Algorithm: - s=v/2t

3. Audio output: Output will be in the form of voice which the blind person can hear e.g., right, left etc. Speakers would be used for the purpose. (May focus on more than one language). {15th may – 25th may}

4. Assembling: In the form of walking stick (as per the requirements). {6thJune – 10thJune}

Timeline: 10thJune

Components required and their price estimate

1. Arduino Uno Board

2. Ultrasonic transducers and sensors

3. Speakers

4. Other components (rechargeable batteries etc.)

Price estimate: Rs.5000

What do you expect to learn by the end of the project?

We expect to learn the coding using Arduino Uno, something which is quite useful while working with electronics and robotics. Also use of ultrasonic transducers and sensors would help enhance our knowledge about them. Last but not the least if this works then it would be of great help to the society (especially blind).