**PROJECT PROPOSAL**

**FOR CONSIDERATION UNDER**

**EXTERNAL FUNDING SCHEME**

**SSN College of Engineering**

**WI-FI NAVIGATION SYSTEM FOR THE VISUALLY CHALLENGED**

**SUBMITTED BY**

M.NAVEEN NARAYANAN 312214106066

V.PRAKASH 312214106073

R.RAVISHANKAR 312214106085

P.SIVASANKAR 312214106102

S.SOMASUNDAR 312214106104

K.VIMAL RAJ 312214106125

**Project Guide:**

**S.JOSEPH GLADWIN, ASSISTANT PROFESSOR**

**R.RAJAVEL,ASSOCIATE PROFESSOR**

**Department of Electronics and Communication Engineering**

**SSN College of Engineering, Kalavakkam,**

**Tamil Nadu, Pin – 603110.**

Abstract

Visually challenge people all over the world face difficulty in finding an unknown location. They are dependent on others for guiding them to their required place. This may lead to accidents and cause difficulties to people. This problem can be avoided by the “Wi-Fi Based Navigation System for the Visually Challenged “, which aims to provide vocal assistance to the visually challenged via a device. Based on the location of the person a voice message is sent to the device which can be heard through a headphone and the visually challenged person can move about freely without any hassles and reach the particular location safely.

**INTRODUCTION:**

**CHALLENGES BEING FACED BY THE VISUALLY IMPAIRED PERSONS**

**1) WANT OF FREE MOBILITY**

**2) QUICK ACCESS TO THE DESTINATION**

**3) UNABLE TO AVAIL BENEFITS OF TECHNOLOGY.**

**4) UNABLE TO FEEL THE VISUAL ENJOYMENTS.**

**1) Want of Free mobility is the first and foremost challenge for the visually impaired.**

Visually unable people facing the lack free mobility. This is causing hindrance even to meet out their day to day activities.

As well, visually unable people must learn every detail about the home environment. Large obstacles such as tables and chairs must remain in one location to prevent injury. If a blind person lives with others, each member of the household must diligently keep walkways clear and all items in designated locations.

The challenges of yesterday become the opportunities of today. The sensor attached sticks helps them in their moving.

**2) QUICK ACCESS TO THE DESTINATION**

Visually unable people cannot reach the destination in time, because, they had difficulties in finding out the required transportation and its stoppages. Even after reaching the Bus Stop or Railway station, he has to find out the bus number and whether it goes to his destination. Because of loss of time in finding out the bus number etc. he had to miss number of buses and to avail the help of others, since our transports are not having any audio system to announce the bus number and its routes. Because of this, visually unable persons reach their destinations belatedly and sometime, they might reach the wrong destinations thereby losing their opportunities.

As visually impaired people, they are taught to see life as a challenge; to face it and fight for their independence. This means to be persistent in what is important to them: equality and non-discrimination. Through this ongoing fight, many changes such as improved accessibility technology Braille and tools to help in daily living skills have aided them in showing the world that they can do the same things as anyone else.

With new opportunities however, comes the challenge that these opportunities are not foolproof. With our technology comes a dependence on electricity, which is greater than anyone else and is limited to where we can access these technologies. It remains impossible for them to simply browse the books in a bookstore; the scanners needed to accomplish this are too large to transport for such a task. They have to depend upon another person to do such things on their behalf.

They need to face oncoming problems with the right attitude. Attitude is what has allowed them to meet challenges in the past and have them transformed into opportunities.

Vision impairments can result from a variety of causes, including congenital conditions, injury, eye disease, and brain trauma, or as the result of other conditions such as diabetes and multiple sclerosis.

Bottom of Form

Test adaptation is another concern for blind students. Students will usually have a preference for taking tests. These preferences often involve either a reader or a taped Braille test. The student will either type the answers or dictate them to a proctor to record. Some may prefer to Braille their answers first and then read them for a scribe to record in longhand. Whatever method is proposed, the student and faculty member should agree early in the semester about how the student’s academic work would be evaluated.

**UNABLE TO AVAIL THE BENEFITS OF TECHNOLOGY DEVELOPMENTS.**

An ordinary person can use web pages and search and find out his requirements. But visually unable persons cannot use this technology and he has to depend upon others to view web page and search for his requirements. Likewise, visually challenged persons cannot use the present day developments in software world.

This certainly alleviates their career developments and stalls their goals in their life so as to compete with the ordinary person.

**UNABLE TO FEEL THE VISUAL ENJOYMENTS**

**Visually** challenged persons cannot enjoy the plenty of greeneries and sceneries presented by Thee to this world.

The aforementioned challenges being faced by Visually Impaired persons can be resolved by the

“**Wi-Fi Based Navigation System for the Visually Challenged** “,

which aims to provide vocal assistance to the visually challenged via a device. Based on the location of the person a voice message is sent to the device which can be heard through a headphone and the visually challenged person can move around freely without any hassles and reach the destination in time safely without any support from others.

The plan of work for the proposed project:

The wireless routers will be placed at different junctions in the building and all these routers will be connected to a common server through a switch. This database server will contain different audio files that have the details about the directions to be followed at different places in the building. The user will be provided with a wireless transceiver that has both a transmitter and a receiver. So whenever a transceiver is brought near a router it can pair up with the nearby router’s wireless network in the building. When the transceiver is paired up with the router, the corresponding MAC address of the router is sent to the server. This MAC address is unique for each router; hence the server can identify the connected router. Once the router is identified the audio file with the required directions to be followed will be sent back to the desired transceiver. The received audio file could be played using a headphone connected to the transceiver through the audio jack. When the user moves away from the router, the transceiver will now get connected to the next router and once again the required audio file will be provided by the server.

BLOCK DIAGRAM:

**SERVER**

**SWITCH**

**Wi-Fi**

**ROUTER**

**Wi-Fi**

**ROUTER**

**Wi-Fi**

**ROUTER**

**Wi-Fi**

**ROUTER**

Wi-Fi

Transceiver

Images of the Proposed Model.

  

References:

1. **Application of Wi-Fi based Indoor Positioning System**

**in Handheld Directory System**

https://www.google.co.in/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjnu5-ikozPAhUD92MKHSc4C4AQFggbMAA&url=http%3A%2F%2Fwww.wseas.us%2Fe-library%2Fconferences%2F2011%2FParis%2FECC%2FECC-01.pdf&usg=AFQjCNGl4H6-ycrlQt7VeoWAGZqVS7\_Plw&sig2=6TGGw\_dYKEH86gJiyTR1ew