PASSENGER BUS ALERT SYSTEM FOR EASY NAVIGATION OF BLIND

PROJECT REFERENCE NO.: 40S_BE_1076

COLLEGE : BAHUBALI COLLEGE OF ENGINEERING, SHRAVANABELAGOLA
BRANCH : DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
GUIDE : MR. GIRISHKUMAR B.C.
STUDENTS : MS. JHANAVI R.
MS. RAKSHITHA G.R.
MS. SABEEHA
MS. YASHASWINI

Aim:

To design and develop smart bus route navigation system for blind, senior citizen and illiterate people.

Scope:

The project helps for blind people to make their lives more comfortable by introducing a system that helps them enjoy transportation services independently and freely like ordinary people, without relying on others. This system will allow blind people to safely catch buses with the help of vibrating device, alarm and a tactile interface through a wireless communication system between the transmitter and the receiver.

The time required to complete this project is around 3-4 months and the cost required is 10-20K.

Objectives:

- To create and maintain the database containing the bus details.
- To notify the entry of a the bus to station by showing the route name in the LCD display.
- To assist the blind people about bus details for their navigation to the required destination.

Methodology:

The design consists of the following components:

i. **RF Transmitter and receiver**: An RF (Radio Frequency) Transmitter and receiver is a (usually) small electronic device used to transmit and/or receive radio signals between two devices.

ii. **AVR microcontroller**: AVR microcontroller is heart of this project. The AVR was one of the first microcontroller families to use on-chip flash memory for program storage, as opposed one time programmable ROM, EPROM or EEPROM used by other microcontrollers at the time.

iii. **LCD display**: A liquid crystal display is a thin, flat display device made up of any number of color or monochrome pixels arrayed in front of a light source or reflector. In this project LCD Display is used for monitoring purpose.

iv. **Voice command board**: It takes the data from microcontroller and gives the voice command to the bind by which they can get the information about the particular vehicle arrived.

- A RF transmitter is placed at the bus. The transmitter transmits the bus number, destination and its details to the blind section.
- The RF receiver placed at the blind which receives the information send by the transmitter then it in turn sends to microcontroller.
- The obtained data from the microcontroller is transferred to the voice circuit, which produces a voice output automatically when bus arrives to the bus stand.
- Blind section device is designed by using AVR Microcontroller. AVR Microcontroller is master of the project. Bus information is received and decoded by decoders. Decoded data is given to AVR Microcontroller and AVR Microcontroller is programmed to drive the voice command board depending on signals received from decoders.

System requirements
Hardware requirements
- AVR Microcontroller
- RF Transmitter & Receiver pair
- Encoder & Decoder pair
- Power Supply
- Voice command board
- Speaker

Software requirements
- Aurdino software
- Embedded C

Results expected:
To notify the blind person with the information like bus name, bus route, bus number when the requested bus enters the station to reach his/her required destination.

Signature of Students: