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IJIEMR Transactions, online available on 4th Sept 2017. Link :http://www.ijiemr.org/downloads.php?vol=Volume-06&issue=ISSUE-09

Title **RFID Based Bus Detection For Blind People**

Volume 06, Issue 09, Pages: 580-582

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RFID Based Bus Detection For Blind People

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Abstract: This paper outlines Bus detection using RFID (Radio Frequency Identification) for visually challenged People to make them travelling easier without any assistance. This system consists of two subsystems mainly Bus detection system and Bus Station system. In the bus detection subsystem, the nearby stations will be easily detected and announced through a voice message inside the bus. In bus station system if the coming bus is detected by the RFID Reader it gives alert to Blind person by means of voice message with every bus with unique RFID tag to detect. A complete system prototype has been constructed and tested to validate the proposed system.

Index Terms: Transportation, Heterogenous, Recognition and Estimation.

I Introduction:

Public transportation is not an easy to use and access by blind people in many countries. Blind people have difficulty in recognizing and estimating the arrival of buses at the bus stations. They cannot read the bus number to identify the correct bus to board.

This paper presents a system to help blind people to travel smoothly and independently from one place to another place by providing complete and clear information. The information includes the existence of blind people at the bus station to alert the bus driver, the approaching bus station, and the buses arrival and their routes at a particular bus station.

II Existing Work or Literature Survey:

In this Proposed System RFID is used as a medium of communication between Blind person and Buses. This system has two subsystems namely Bus detection system and the Bus station system. The Bus detection system has RFID tag. Every bus has unique Tag which has

unique address Bus station System consists of Raspberry PI interfaced with RFID Reader for the purpose of coming bus to be detected and gives alert to the Blind people.

III Proposed Work:

RFID Tag is used in bus detection system, which is placed on the bus if it is comes near to the Blind person waiting at the bus stop. RFID Reader is interfaced with Arduino where the bus is detected by reader Arduino and process those information. Every tag has unique Id which is considered as a Bus number if the reader receives the tag signal. Espeak is the voice library used in Arduino bus number and given in the form of voice alert to the Blind person. Bus details and Blind person details stored in Database and every transaction gets stored in database. From the database system monitors the number of Blind Persons boarding the bus.

IV Results:

The proposed system is easy and provides a convenient service for all the passengers; not only the blind people. The system has two subsystems which are: the bus subsystem and the station subsystem. Bus subsystem announces the coming stations in the bus route for all passengers. Also, the bus driver will be provided with the count of blind people boarding the bus and reaching their destinations. The station sub-system will give announcement of the approaching buses. A prototype of the proposed system was successfully built and tested.

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