



Smart Blind Man's Bus Entry System

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Abstract- The innovation in technology today has made our lifestyle much easier and fun. The system intends to help those people who are blind identify certain paths easily and thus help them navigate from one location to another location by bus.

In the recent few years there have been a lot of advancements in the field of RFID. The applications of the RFID technology have been numerous and the usage of this technology has lead to many application specific designs and models that are today being used in many control systems. RFID finds itself being used in many areas of industry today, right from inventory control to tracking system. The proposed system has a social and economic future for itself.

The latest developments in technology such as RFID has prompted us to think of an application which would be helpful to those who will need it and promises to have a open future to a change in its design and usage.

Keywords: RFIDTag, RFID Reader, WSN.

I. INTRODUCTION

A. Need:

The proposed system focuses to improve travel within public location such as bus stands for blind people. The system helps users to determine the quickest route to a specified destination from their current location. This system will help us to understand and develop prototype model which will be used as system used by people to fulfill their requirements of navigation and identification. This will bring into market the application of RFID technology towards a social cause, which will have its economic future.

B. Basic Concept:

The proposed system is Based on RFID Technology. RFID tag is given to the Blind Man. After Swapping the tag RFID Reader will read the information. The whole information will stored on web server. RF Transmitter is connected to the server. The Frequency will adjust on the Transmitter. when bus will come into frequency then transmitter will transmit the signal to the receiver. After receiving signal light will glow. Then Driver will pick blind man from the Booth.

II. LITERATURE SURVEY

The Radio Frequency Identification Devices used in industry are being used in many areas that need identification, inventory control and automation. The use of high frequency and ultra high frequency signals to identify objects which can be considered as tags here, has been helpful in developing various applications[1].

RFID is very useful Technology for Blind man to identify the things like Buses, Trains, Railway Station and virtually anything we can think about. In existing system there was RFID reader in Blind man stick and the RFID tags on other things to identify them for the blind man and blow

a siren or a prerecorded voice for each item which has RFID tag on it and is in the database of RFID reader of the blind man's stick[3].

The other existing system for blind man was navigation in buildings using RFID. In recent few years there were many systems on blind people but the proposed system will help us to understand prototype model which will be used as a system used by blind people to fulfill their requirements of navigation and identification. The pre-survey, administered to visually impaired individuals, aimed to understand their current behaviors in public spaces. The results lead to the conclusion that visually impaired users that relied solely on a walking stick for navigation travelled to unfamiliar public spaces about once or twice a month. Half of the users surveyed rated their level of comfort when travelling alone as "slightly uncomfortable", while the other half rated their level of comfort as "slightly comfortable"[4].

Based on the results from existing system, we recommend the use of RFID tags which will be given to blinds. Using that RFID tag then can travel through bus from one place to another. The receivers and tags should optimally have a different frequency range in order for the blind people to successfully utilize the navigational system.

III. LITERATURE REVIEW

RFID is very useful technology for blind man to identify the things like Buses, Trains, Railway station and virtually anything we can think about. In the proposed system, a software suit will be written in VB.Net to perform route calculations using the identification code passed from the receiver. An interface module consists of web server where the data about blinds will get stored into it. After that it will encode that data through transmitter. RFID receiver embedded into bus. At transmitter we can set different frequencies. A MySQL database is configure to associate RFID tag identification code with location names.

A. Modules:

a. Software Module:

A software suite will write in VB. Net to perform route calculations using the identification code passed from the receiver.

In software module there are following form:

- (a). 1.Windows Application
- (b). 2.Authentication
- (c). 3.Continuous Monitoring
- (d). 4.History Insertion
- (e). 5.Web Application
- (f). 6.History View

b. Interface Module:

An Interface Module consists of Web Server where the data about blinds will get stored into it. After that it will encode that data through transmitter. Then transmitter will send the data to receiver to decode it.LPT com is used for RF radiation so that bus can sense the blind person.

c. Hardware Module:

The hardware consists of a RFID receiver and RFID transmitter. RFID receiver embedded into a bus. At transmitter we can set different frequencies. A MYSQL database is configure to associate RFID tag identification codes with location names[2].

Hardware Implementation

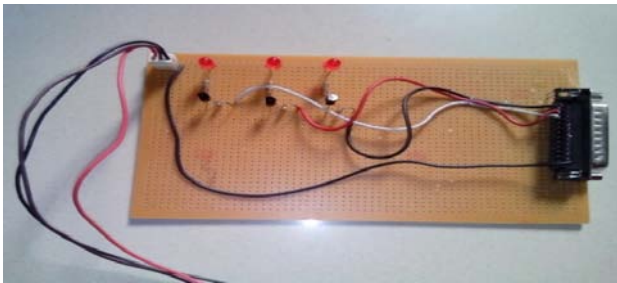


Figure: 1

IV. TECHNOLOGY USED

In proposed system we are using three technology.

A. RFID technology:

The Radio Frequency Identification used in proposed system that need identification, inventory control and automation. The use of high frequency and ultra high frequency signals to identify objects which can be considered as tag here. it has been developing for various application. Here we use RFID Tag that is given to the blind man. In that tag all the information of Blind Man like Name, address, Bus No.etc will be store. After swapping RFID tag the Reader will read all the information from the Tag[6].

The Radio Frequency Identification (RFID) is an automatic identification which retrieves data remotely using RFID tags or transponders. The tag contains silicon chips and antennas to enable to receive and respond to questions from a radio frequency transceiver RFID. Current induced in the antenna by the radio signals provides enough power for CMOS integrated circuit in the tag to send the response. The role of the antenna is to collect power from the input signal and to transmit information of the label[6].

B. Wireless sensor Network:

A WSN can be defined as a network of devices, denoted as nodes, which can sense the environment and communicate the information gathered from the monitored field through wireless link. The data is forwarded, possibly via multiple hops, to sink that can use it locally or is connected to other network like internet through a gateway.

The application of WSN is positioning and tracking.

Here we use WSN for transmitting the info that was stored in the RF tag wirelessly. The transmitter encodes the information available and transmits it in the form of radio waves. When the receiver receives the info, senses it and decodes it and retrieves the original information. Although there is not any physical connection in the transmitter and receiver, the information gets transmitted from the transmitter to the receiver successfully. In this way we use wireless sensor network in proposed system.

C. Artificial Intelligence:

Intelligence is basically the quality of the human being. In the concept of artificial intelligence, we compel the system to behave like the human being in an intelligent way and in all the possible ways, without interruption of any human being.

V. CONCLUSION

Using the Ultra high frequency radio waves, we are implementing system which will use the RFID tag and reader which is set in bus stand where the separate booth for blind people also manage there and in the near future help them to navigate through the bus stand without any help.

The RFID reader tag set up with the help of the conceptual design of this project will be implemented thus showing us the possibility of using the RFID technology to help the blind.

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VII. REFERENCES

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