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Bus Notification System

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Abstract— Now days, it is not possible for a new person to determine which bus is coming at the bus terminal. They are always dependent on somebody to help them out on the same issue. So we have come up with a project which would allow the person to determine the buses which are coming at the bus terminal and also give the information about the route through which they are going. In this system, there is need to place a Bluetooth device on all the buses. This would help the person to determine which bus is coming at the bus terminal and what its route along with the stops is without relying on anybody.

Keywords: Bus Notification, Android, Smart Phone, Bluetooth.

I. INTRODUCTION

Now days, it is not possible for a new person to determine which bus is coming at the bus terminal. They are always dependent on somebody to help them out on the same issue. So we have come up with a project which would allow the person to determine the buses which are coming at the bus terminal and also give the information about the route through which they are going.

In this system, there is need to place a Bluetooth device on all the buses. The person would be carrying an android handset which would have our application installed in it. First of all the person would turn on the Bluetooth of the handset. Now when bus having a Bluetooth device comes in range of the handset Bluetooth, notification will appear on the android mobile. This notification also consists of the Mac-id of the sending device, we will use this Mac-id and send the Mac-id of the connecting device to the cloud server by performing Jason parsing (a technique used for communicating android device with the cloud server). At the cloud server end the Mac-id would be compared with available db and the corresponding bus number, name & the route would be send to the request handset. When our handset receives the result of the query system would display the result to him on his handset application. This would help the person to determine which bus is coming at the bus terminal and what is its route along with the stops without relying on anybody. The above stated system would be implemented using android.

The Advantages of the system is that will get to know which bus is going in which direction. Its Time saving. It Identify the route. System gets to know faster which bus is arriving at the stop. The Disadvantages of the system is that Always need of data connection or mobile data or Wi-Fi. System needs of android device. The Application of the system is that it provides route and stops of the buses of the remote areas.

II. LITERATURE SURVEY

Literature review gives the brief idea about the technology developed over the system. In literature survey the broad survey of Bluetooth device and algorithms are done with their working, reward and limitations.

1. Easy Tracker: An Android Application for Capturing Mobility Behavior.

In year 2012, this paper presents Easy finder, a mobile application developed for the Android O/S that enable the storage, analysis and map idea of route of mobile users. also, it enable user to yourself annotate part of their routes with labels describing their activity and behavior (e.g. "home having breakfast", "travelling by car to job etc.). Of equal significance, the application encapsulates several state-of-the-art line simplification algorithms for compressing the trajectories drawn from composed GPS report, as well as segmenting trajectory into homogeneous parts in order to facilitate automatic auditing of the user's manual annotation [1]

2. On route travel assistance for public transport based on android technology.

In year 2012, a traveler assistant for civic transport is describing in this paper. The most important purpose of this system is to provide to the passenger real time information regarding the way, for example: predictable time to the next stop of the route or estimated time to the traveler purpose, also if preferred, tourist in order about nearby interesting points. The application is intended for all type of passenger, but it is particularly useful for travelers with special needs or for those who are unfamiliar with a public convey network, for example tourists. base on Bluetooth and Android technology, the supporter has a clear and intuitive user interface permitting to the users a friendly interaction with the system and breaking down the barrier to entry for those users not accustomed to work with mobile software applications [2].

CONCLUSION AFTER LITERATURE SURVEY:

It will be very useful for the people who travel through buses. They will be self dependant. With the help of the android device we can use the data for connecting the application..Its a mobile based application.

III. SYSTEM ARCHITECTURE

A. Algorithm Description:

Algorithm is quite simple. It can be done either recursively or iteratively:
It consists of 4 parts:

- Handshaking.
- Pairing
- Port Assigning.
- Socket Programming.

Handshaking:

It creates the connection with the web server. As we are not using Browser we are using Handshaking theorem. Client (mobile) sends an request for the connection to the web server. The web server in reply gives acknowledgment. The Client makes the request for pairing.

B. Pairing:

Pairing makes the connection of client with the server. The server accepts the pairing request.

Port assigning:

The server gives the port no. to client on which they can perform the send and receive of the data.

Socket programming:

Socket is an end point of inter process communication. Its sends and receive the data on that port.

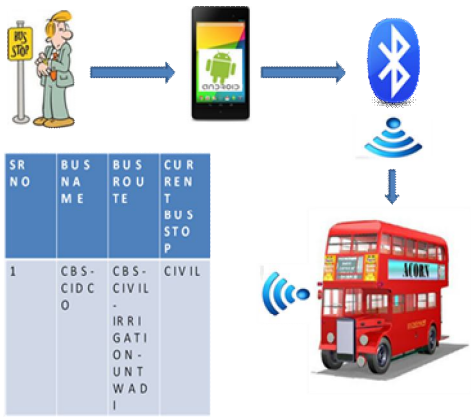


Figure 1. Representation of system.

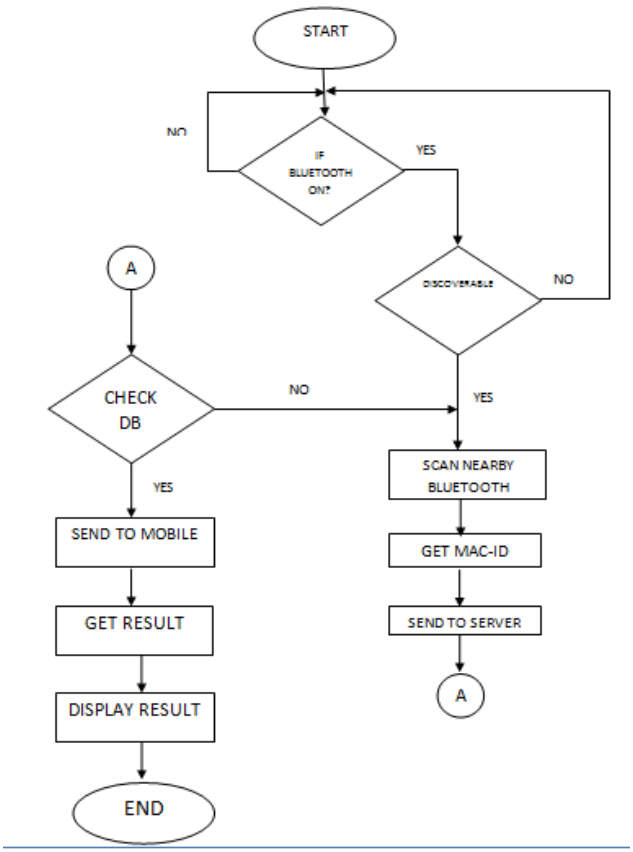
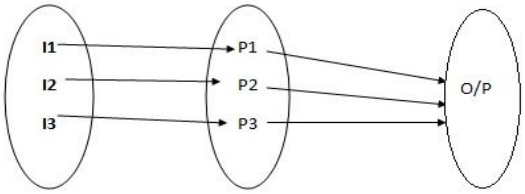


Figure 2. System Architecture.

II. MATHEMATICAL MODELING AND METHODOLOGY

Let S be a Bluetooth based bus notification system
S ={I, P, O}
Where, I is a set of input Bluetooth names;
P represents the process of the system;
O represents the names of the bus and the routes.
I = {I1, I2,I3}
P = {P1, P2,P3}

O = {Out}
Success of the system will be depend upon when
(i) Ii=Oj where Ii € I
Oj €O where 1 <= j <=n
Failure of the system when
(ii) For a input(I) no feature vector is found



Ii≠Oj where Ii € IOj € O where 1 <= j <=n
I1: Opening the application.
I2: Switching ON the Bluetooth.
I3: Selecting the destination.

P1: Selecting the Bluetooth Device
P2: Sending the Mac-id and Bluetooth name to web server
P3: Retrieving the data from web server to mobile application.
OUTPUT: Displaying the information

CONCLUSION

Android operating system is getting more famous day by day and the app is providing the helpful ones their needs. Its more users friendly and easier to have the information about the buses. We can have easy access to the routine as well as provide the navigation of the route. Thus it makes easy for the travelers to travel to their destination place. This app provides a bus route and bus name. From this we can conclude that our system/application can be handful for common persons who travel through buses in their day to day life.

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