REAL TIME COLLEGE BUS TRACKING APPLICATION USING ANDROID APP

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ABSTRACT_ Now a days private Transports are not on time in order to catch a bus, we have to wait for long time. Basically it's odd in our town (Chennai) to catch a college bus on time due to traffic. In the today technology world the peoples want the updated information on frequent interval of time. When we go to the transport system the passengers are impatient while they are waiting for the bus stop because they are notable to know exactly how long to wait and where the next bus is. In our society the arising problems are encountered by the use of technology. In our application it intends to reduce the waiting time for peoples thereby to stimulate sharing of updated information between the bus drivers and college students. Global Positioning System (GPS) is the main technology implemented behind the system. In our application the current location of the vehicle was notified to the users who are waiting for that vehicle. When driver enabling the GPS location then updated GPS location will show to the college students who they are all authorized users of our application. Furthermore they will get the notification automatically when the vehicle enters the nearby particular circumstance. User (college students) application and the bus is connected with the help of an IoT device. Capacity of the bus, number of college students and the number of seat availability is updated to the users simultaneously. This application will be more perfectly use for the certain group of college students who they are waiting for the college bus. Through our application we can reduce the wastage of time while we are waiting for the bus.

KEYWORDS: Bus Routing, Bus Tracking, Google Maps

1.INTRODUCTION

College Bus Tracking System is a system developed on Android Platform using java programming language. It is based on client-server technology along with the use of database. One Android user (College Bus Driver) sends real time location of the bus with additional date and time information to the server. The information provided by that user is stored in the database of the server. And other android users can get the information through the server. The login page is available on the user app for the college administrator. The administrator can keep the record of the bus such as bus no.,
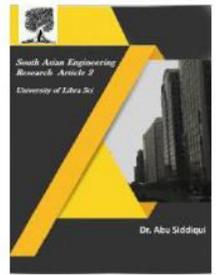
bus schedule, route info, driver contact, etc. on the database. The administrator also has the permission to manipulate the bus record as per the needs. Student don't need to login. Student can search for the particular bus on the map. Students get updated on the bus location at certain time interval so that they don't have to wait for the bus being unknown whether the bus is coming or has gone. So in summary, our system handles all the data about current location of bus and by using this data the real time tracking of bus can be done and this information is then given to remote user who want to know the real time bus information. For development purpose some technologies like GPS (Global Positioning System) and Google maps are used. The system includes server-client based application, which gives real time location of bus on Google Maps.

2.LITERATURE SURVEY

2.1 TITLE: Mobile Application for College Bus Tracking

Author: G. Jemilda , R. Bala Krishnan , B. Johnson , G. LingaSangeeth

Published on : 2015

DESCRIPTION: This paper proposes an Android mobile phone application that gives information about buses, bus numbers as well as bus routes both online and offline. Reason for Android platform Android requires an open source development which is probably the most feasible and a present user friendly approach. This paper also deals with Location Based Services, which are used to track the current location of the bus as well as give an estimate remaining time for the tracked bus to reach its destination using the client –server technology. Also It display the required maps with the help of GPS.

2.2 TITLE: Real Time College Bus Tracking Application for Android Smartphone

Author: Supriya Sinha1, PoojaSahu , Monika Zade , RoshniJambhulkar , Prof. Shrikant V. Sonekar

Published on : 2017

DESCRIPTION: This paper proposes a Real-Time College Bus Tracking Application which runs on Android smart phones. This enables students to find out the location of the bus so that they won't get late or won't arrive at the stop too early. The main purpose of this application is to provide exact location of the student's respective buses in Google Maps besides providing information like bus details, driver details, stops, contact number, routes, etc. This application may be widely used by the college students since Android smart phones have become common and affordable for all. It is a real time system as the current location of the bus is updated every moment in the form of latitude and longitude which is received by the students through their application on Google maps. The application also estimates the time required to reach a particular stop on its route. The application uses client-server technology

2.3 Title: College bus tracking system

Author: Sangavi K. A, Vinitha N.

Published on : 2016

Description: This project is based on a Real-Time College Bus Tracking Application which runs on the website. This enables

students to find out the location of the bus so that they won't get late or won't arrive at the stop too early. The main purpose of this website is to provide the exact location of the student's respective buses in Google Maps besides providing information like bus details and distance. College students use this website. It is a real-time system as the current location of the bus is updated every moment in the form of latitude and longitude which is received by the students through the website on Google maps. The application also estimates the time required to reach a particular stop on its route. This mode of communication can be useful for the bus tracking system.

3.PROPOSED WORK

3.1 Architecture

• Initially in our application user can update their current geographical location and then they can search for the vehicles by the current and destination places. After entering the places available number of vehicles will be showed which are all connected to the GPS and our mobile application.

• In the proposed system user can get the current location of the vehicle with the use of our application means that in our application user can select the vehicle for which they are waiting for a long time. After selecting the certain vehicle user can get the updated information about the vehicle location using geographical positioning system (GPS). So that students can easily know the current location of the vehicle.

Capacity of the bus, number of college students and the number of seat availability

is updated to the users simultaneously An architecture diagram is a graphical representation of a set of concepts that are part of an architecture, including their principles, elements and components.
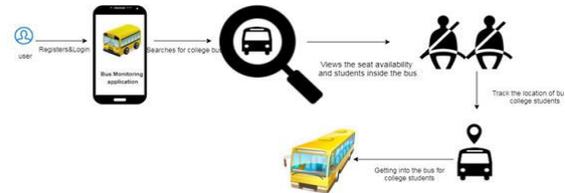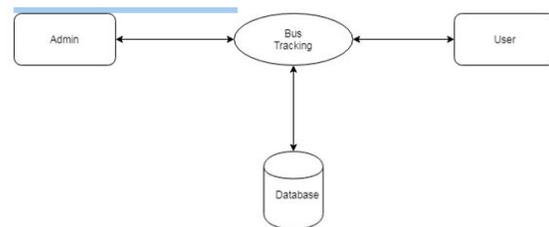

Fig 1:Architecture

Fig 2:Authencation

3.2.2 Searching For Vehicle Location

After registering with our application user can searching for a particular vehicle location in this module. These requests are all hitting to the server and getting the current location of the vehicle by using internet of things. Then user can selecting the vehicle route so that user can tracking the current location of the vehicle and get the information at the current time.
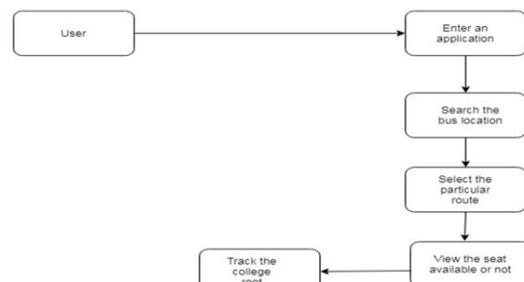

Fig 3:Tracking Bus Details

4.RESULTS AND DISCUSSION
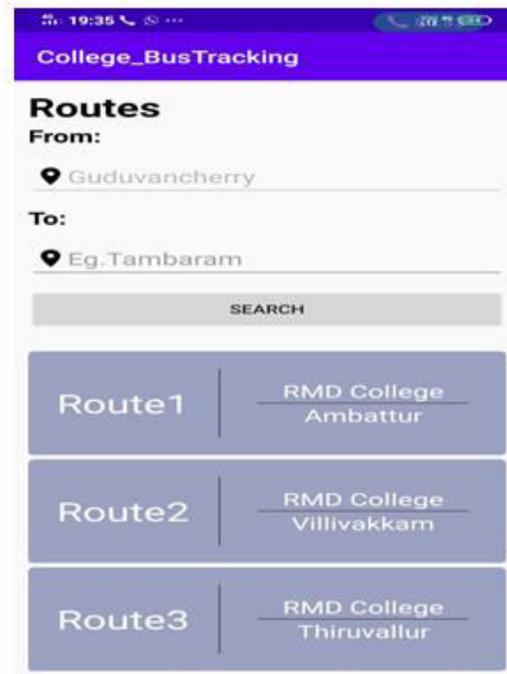
Fig 4:Finding Routes
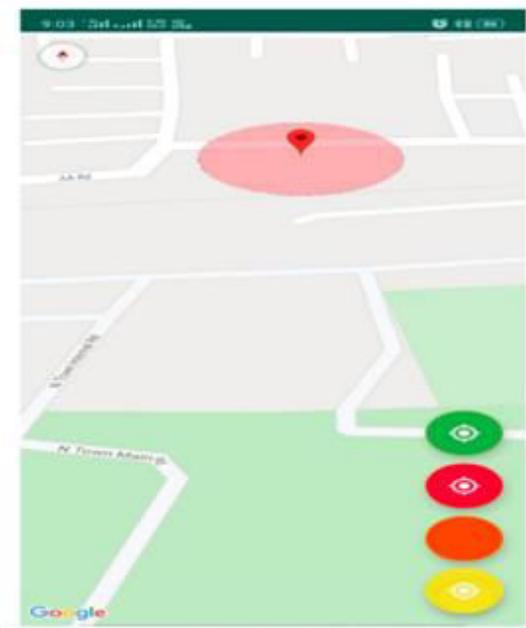

Fig 6:Routes Information

The system will have latest technology andoptimized algorithm with moderate cost. The systemmay focus on real time position of vehicle. Thesystem can be installed in buses, cars and trucks thisproject is having a wide scope. A mobile application which can be further modified using cloud to get theexact location of the bus for the multiple users

5. CONCLUSION:

The conclusions of this study suggest that knowledge of specific domain improves the results. This Project has been implemented on Android platform. Also, different attributes have been added to the project which will prove to be advantageous to the system. The requirements and specifications have been listed above. Using the GPS system, the application will automatically
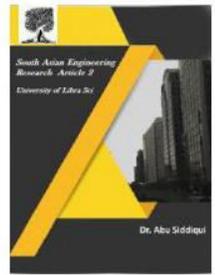

Fig 5: Location In GMAP

display the maps and routes to the different locations and also track the bus location using client-server technology and forward it to the client device. This project will be put up on the cloud platform, so that it will be accessible by every Android user. The application will prove beneficial for every bus traveler, or even tourists. Not just buses, but this application will be useful for every person travelling by any means of transport. The Location Tracker will give the exact location of the college bus which will make it easy for the students to travel the exact time of college.

5. FUTURE SCOPE:

The future enhancement for this project is to make the application for finding the current location of the bus. We are also planning to fix a GPS device on every bus so that it is essential for the driver to have and android phone. Due to availability of android phones and GPS devices it is going to stay for long in future.

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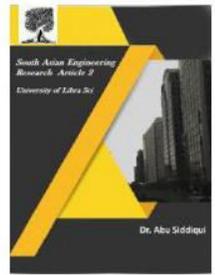
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