

Hybrid Application for College Bus Tracking System

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ABSTRACT

This paper proposes a hybrid application for College Bus Tracking Application, which runs on Android smart phones, ios and web. This enables students to find out the location of the bus so that they will not get late or will not 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. As per point of view of parents, it is really tracking application.

Keywords : GPS, Google Maps, Tracking system, hybrid application.

I. INTRODUCTION

In today's world, the time is more important for students. Being a product of high technology, mobile phones are more widely used and are becoming more and more popular. A vehicle tracking system is a commonly used application for tracking vehicles. Due to traffic congestion android works, most of the buses are delayed. People have to wait for their bus at the bus stops for a long time without even knowing when the bus will arrive. Thus, the arrival time of the bus cannot be guaranteed. The main focus of the project is to save the waiting time of students and provide them the details of bus.

Hybrid application for College bus tracking system, which can run in android, ios and in the form of web portal also. This application gives the information regarding college bus so that student can easily track college bus. We gave a focus on students also so that parents can track their child.

Hybrid application for college bus tracking system uses GPS (Global Positioning System) technology to fetch data and displays the data using a software allowing a user to monitor a particular bus on a particular route.

When this information is presented to the students, staff by wireless media or online web media, they can manage their time efficiently and reach the bus stop just before the bus arrives, or take an alternate means of transport if the bus is delayed. They can even plan their journeys long before they actually initiate them. The given application for tracking of the bus can be done by our proposed system and this information is then given to a remote user who wants to know the real-time bus information. The system also provides provides web-based application, which gives the real-time location of a bus on user interface screen to the remote user. This will make the college transport system smooth and user friendly.

II. LITERATURE SURVEY

[1]. Real Time Bus Position and Time Monitoring System" IJSTE-International Journal of Science Technology Engineering, Volume 1, Issue 10, April 2015. Many passengers are usually late to work, students are late for classes as a result of they decide to anticipate the bus rather than simply merely using another alternate transportation. A variable message shown on the web which will be real time info regarding the bus showing the time of arrival at a particular bus stop might scale back the anxiety of passengers expecting the bus. With the advent of GPS

and also the ubiquitous cellular network, real time vehicle tracking for higher transport management has become attainable. These technologies can be applied to conveyance systems particularly buses, which are not ready to adhere to predefined timetables owing to reasons like traffic jams, breakdowns etc. The increased waiting time and the uncertainty in bus arrival build conveyance system unattractive for passengers. The real-time bus position and time observance system uses GPS technology alongside totally different application to fetch knowledge and with code that displays the information online on with different buses on a special route to the user. When this info is conferred to the traveller by wired or wireless media or online internet media, they can use their time with efficiency and reach the stop simply before the bus.

[2]: M. B. M. Kamel, "Real-time GPS/GPRS based vehicle tracking system," International Journal Of Engineering And Computer Science, Aug. 2015 The Real Time Bus Monitoring and Passenger Information bus tracking device will serve as a viable notification system that will effectively assist pedestrians in making the decision of whether to wait for the bus or walk. This device is a standalone system designed to display the real-time location(s) of the buses in Mumbai city. The system will consist of a transmitter module installed on the buses, receiver boards installed on the bus stops, LED embedded map of the BEST bus transportation routes at the centralized controller. It will also have passenger information system software installed at the bus stops, which will provide a user the relevant information regarding all the bus numbers going for his source to destination along with the route details and the cost. Assembly of these modules will enable the tracking device to obtain GPS data from the bus locations, which will then transfer it to the centralized control unit and depict it by activating LEDs in the approximate geographic positions of the buses on the route map. It will also transmit its bus numbers and route names continuously as soon as the bus comes within the range of the receiver at the bus stop. In addition, the device will be portable and sustainable; it will not require an external power source, which will eliminate long-term energy costs.

[3]: "Real Time Availability System" International Journal of Advanced Research in Computer Engineering Technology (IJARCET) Volume 4 Issue 3, March 2015, This Paper is a survey to implement a

method that makes transport much convenient for individuals who commute daily using the public bus transport of the city, for effective time management and making it trouble-free, not just for the commuters but the Transport Department to create an efficient public transport system. There are applications available in the market today which specifies the route and the timings, predict arrival times of different buses But the survey presented here aims to build an application that takes it to the next step by making information about the vacant seats and the current location of any bus in Real-Time, accessible to the daily commuters with a novel and economical wireless system. These methodologies offer incremental improvements in bus system to meet the capacity requirements of different size cities and present a review of strategies which can be employed to satisfy public transport demands of different city sizes. Their aim is to build a flexible, comfortable, easily available and reliable bus service which may encourage shift from private vehicles to public transport.

[4]: Real Time Web Based Bus Tracking System provides the relevant information regarding all the bus going from user's source to destination. The system is operated by GPS which is attached with every bus. It uses external hardware set-up for its implementation.

[5]: Smart college bus tracking management system and its application is fully android application based, it will display the location of bus to student but it is costly.

[6]: Real Time Bus Monitoring System using GPS displays the real time locations of the bus in mumbai city. This system consists of transmitter installed on the buses, receiver boards are installed on the bus stops. It provides the relevant bus routes and bus number from source to destination. It transmits the bus routes and bus numbers continuously as soon as bus comes within range of the receiver.

III. PROPOSED SYSTEM

The proposed system provides the exact location of the bus to the students and staffs from their location.

The bellow figure illustrate data flow diagram from college to checkpoint.

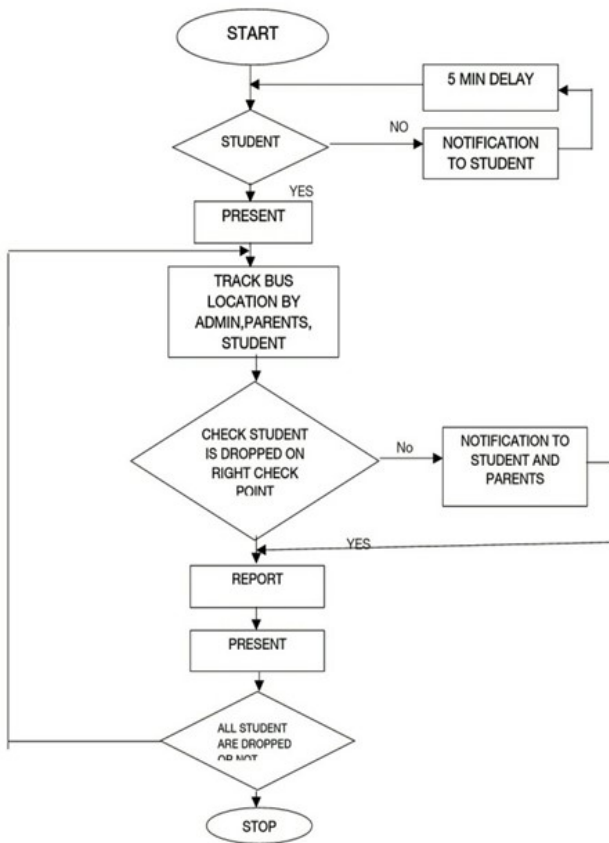


Fig a:-Data flow diagram for college to checkpoint

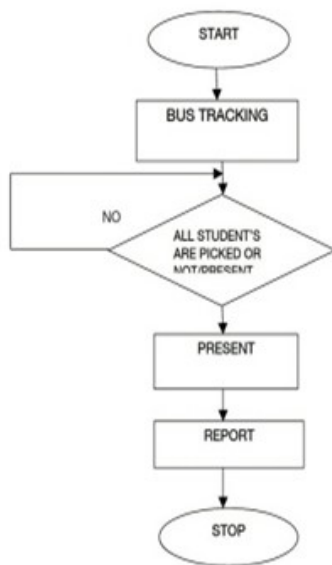


FIG b: - DATA FLOW DIAGRAM CHECKPOINT TO COLLEGE

IV. MODULE DISCRIPTION

1. Registration & Authentication Module - Registration of Admin, Students, Parents & bus drivers, with Authentication via email, Google plus and Facebook.
2. Tracking Module - Tracking of bus & students in this module when student have to know location

of bus then he/she can track college bus. and if parent want to track student he can also track\

3. Attendance Module - Attendance of students if location of student when student entered into the bus and when he out from the bus is matched then the attendance will considered by the application.
4. Monitoring Module -display location of student and bus to parents & bus driver In this module location of the bus will send to students and parents and location of student send to the driver.
5. Report & Statistics Module - reports of students attendance, list of drivers & route reports with date & name sorting. In this module at the end of the month report is generated by the system automatically.
6. Feedback Module - feedback of bus driver by students & parents. In this module if any suggestion for bus driver and administration can be given by students and parents.

V. RESULT AND CONCLUSION

This project has described the design and architecture of our college bus tracking system. Our system is composed of smart phones and a server. The system is able to demonstrate its performance to track college bus from any area. And for students' parents are very helpful application to access their activity Furthermore, our system is Low-cost. the project, a complete track can be kept of the buses of the college. The display at the user's end acts as a time saver. Due to this, we establish an ideal system of bus transport for college purposes. By implementing our system, a student can plan their journey more efficiently before time as the waiting time at the bus stops is reduced. Thus in this system, we have shown that transit information collected in real time can be shown on the server for tracking and monitoring. Internet-enabled mobile phones can receive real-time transit information and will help the passenger to monitor their time more effectively.

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