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RYMEC BUS TRACKING SYSTEM

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Abstract: Android has become very popular in the 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 and road 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.

Keywords: GPS, Vehicle Tracking

INTRODUCTION

The idea of using the mobile handsets and phones is to deliver the valuable services except the basic communication that had been started in the early 1990s when Internet was added in Voice Telephony. Location-based services or LBS refer to a set of applications that exploit the knowledge of the geographical position of a mobile device in order to provide services based on that information. Location-based services (LBS) provide the mobile clients personalized services according to their current location. They also open a new area for developers' cellular service network operators and service providers to develop and provide value-added services advising clients of current traffic conditions providing routing information helping the users to find nearby shopping malls. Location-based services offer many merits to the mobile clients. For the mobile user the examples of location-based services are to determine the nearest business or service.

LITERATURE REVIEW

Literature survey is the most important step in software development process. Before developing the tool it is necessary to determine the time factor, economy n company strength. Once these things are satisfied, ten next steps are to determine which operating system and

language can be used for developing the tool. Once the programmers start building the tool the programmers need lot of external support. This support can be obtained from senior programmers, from book or from websites. Before building the system the above consideration are taken into account for developing the proposed system.

[1] College Bus Tracking Android Application using GPS

G. Kiran Kumar, C.B. Aishwarya, A. Sai Mounika

A College Bus Tracking android application enables the user to find out the bus location information so that the user does not get delayed. The main aim of this paper is to collect the data from GPS and delivering it to server from where it will be fetched by android application and the bus real time location can be viewed on Google map, which is integrated onto the android application. The users can log on to the application and can know about the scheduled routes of the college bus. This application is user-friendly and flexible to use as it is a time saving application to the user.

[2] Real Time Web Based Bus Tracking System

Manini Kumbhar, Meghana Survas, Pratibha Mastud, Avdhut Salunke, Shrinivas Sirdeshpande

In this fast life, everyone is in hurry to reach their destinations. In this case waiting for the buses is not reliable. People who rely on the public transport their major concern is to know the real time location of the bus for which they are waiting for and the time it will take to reach their bus stop. This information helps people in making better travelling decisions. This paper gives the major challenges in the public transport system and discusses various approaches to intelligently manage it. Current position of the bus is acquired by integrating GPS device on the bus and coordinates of the bus are sent by either GPRS service provided by GSM networks or SMS or RFID. GPS device is enabled on the tracking device and this information is sent to centralized control unit or directly at the bus stops using RF receivers. This system is further integrated with the historical average speeds of each segment. This is done to improve the

accuracy by including the factors like volume of traffic, crossings in each segment, day and time of day. People can track information using LEDs at bus stops, SMS, web application or Android application. GPS coordinates of the bus when sent to the centralized server where various arrival time estimation algorithms are applied using historical speed patterns.

[3] An Android Application for Tracking College Bus Using Google Map

S. Priya , B. Prabhavathi, P. Shanmuga Priya , B. Shanthini

GPS tracking device receives signals from the GPS satellites whereby each satellite knows the exact distance from the other satellites in its proximity. Depending on the time it takes for a signal to reach the device from each satellite, the GPS receiver can calculate its exact location on the ground. The GPS tracking device can then route that information back to an online tracking system for mapping. The main aim of this Android application is to track the college buses of St. Peter's College of Engineering and Technology in Chennai city which would give the exact location of buses with the help of Google map and help the users to plan their way to reach their college on time. This application may be greatly used by college students and staffs since Android mobiles has become common and spread everywhere. In addition, this will also enhance the security since the movement of the college buses is always available.

[4] Mobile Application for College Bus Tracking

G. Jemilda, R. Bala Krishnan, B. Johnson, G. Linga Sangeeth

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.

[5] Analysis of Bus Tracking System Using Gps on Smart Phones

Mr. Pradip Suresh Mane, Prof. Vaishali Khairnar

Public transport networks (PTNs) are difficult to use when the user is unfamiliar with the area they are traveling to. This is true for both infrequent users (including visitors) and regular users who need to travel to areas with which they are not acquainted. In these situations, adequate on-trip navigation information can substantially ease the use of public transportation and be the driving factor in motivating travelers to prefer it over other modes of transportation. However, estimating the localization of a user is not trivial, although it is critical for providing relevant information. I assess relevant design issues for a modular cost-efficient user-friendly on-trip Navigation service that uses position sensors. By helping travelers

move from single-occupancy vehicles to public transportation systems, communities can reduce traffic congestion as well as its environmental impact. Here, I describe our efforts to increase the satisfaction of current public transportation users and help motivate more people to ride.

EXISTING SYSTEM

Bus Locator via SMS using Android Application uploads the current location of the bus to the server. The server then sends an SMS to all the registered students those are about to board at the bus stop. Here the driver's mobile phone is used as a GPS receiver. It is a tiresome process where the details of all the students are to be kept and updated time to time. The server is overloaded every now and then to get details of student at every stop.

PROPOSED SYSTEM

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.



OBJECTIVES

- To give the user the exact location of the selected bus with respect to the user location.
- To give approximate distance and time of the bus from the user location using distance matrix api.
- Give a list of bus numbers for particular source and destination.

METHODOLOGY

College bus tracking methodology typically involves the use of GPS tracking technology and a software system that allows college administrators to monitor the location and movement of buses in real-time. Here is a general outline of the steps involved in college bus tracking methodology:

Install GPS tracking devices: The first step is to install GPS tracking devices in each college bus. These devices use satellite signals to determine the exact location of the bus and transmit this information to the tracking software.

Set up tracking software: A tracking software system is set up to receive and process data from the GPS tracking devices. This software is typically cloud-based and can be accessed from any computer or mobile device with an internet connection.

Monitor bus locations in real-time: College administrators can log in to the tracking software to see the real-time location and movement of each bus. This allows them to monitor bus schedules and make adjustments as needed to ensure that buses are running on time and efficiently.

Send alerts and notifications: The tracking software can be configured to send alerts and notifications to college administrators or students when buses are running late, encounter traffic or weather delays, or deviate from their usual routes.

Generate reports: The tracking software can generate reports on bus usage, routes, and other data to help college administrators make informed decisions about bus schedules, routes, and other aspects of transportation management.



PROBLEM STATEMENT

- The proposed system will help to detect the position of a bus, so in case of a failure of a bus, the help could be provided in minimum time.
- This proposed system will also provide you with the end-user required to view the schedule, route and track the current GPS location of the bus in real time through a user-friendly App (Android App) which is simple, clear and has good graphical interface.
- We cannot keep a track of the innumerable buses and their respective routes which are deployed

across the city . When this confusion of the bus numbers arise , our Android Application is here to rescue.

CONCLUSION

The main aim of the developing this app is to resolve the problem with long waiting times students for the college buses at the bus stop. For this propose application GPS based location tracker is developed this tracker is used for the tracking the location of the college bus. By using this app the students will login and search for the location of the bus. The location of the bus will be uploaded by the concerned bus driver. Then the students will get all the information about the bus like the exact location, how many stops for the bus. By using this app the students will save their time.

FUTURE ENHANCEMENT

For future enhancement, we can develop a vehicle monitoring system using GPS & GSM module with high speed processor. The system can be installed in buses, cars and trucks, hence this project is having a wide scope . Along with this we can create a bus ticketing system where the user can actually buy a digital ticket just like the UTS app in the mumbai railways. in which app take the current location of the user ask for the destination and calculate the fare we will also provide pay option from various third party app such as Paytm , PayPal etc. We can generalize the project to common man where he can implement the hardware part to the personal vehicles which will help them to track their location after it has been stolen it will also police. We can also extend it to private travel agency to track there bus.

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