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Pmist Bus Tracking System

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ABSTRACT

This paper proposes for particular college named as Periyar Maniammai Institute Of Science & Technology (Pmist) bus tracking system is an web application that was created to track the whereabouts of the bus using a web application. This application is intended for students and drivers of college buses. The system allows for the addition of new bus information and drivers, with a driver id and password produced and saved in the system. The driver will have the web application open on his phone, and when he logs in, his GPS position will be received and saved in the database. As soon as the driver logs in, the programme immediately tracks the driver's GPS location and records the GPS co-ordinates in the database every 5 minutes. When the driver logs out of the application, the GPS location is Saved yet again. To be able to.

Keywords : GPS, Tracking system.

1. INTRODUCTION

College Bus Tracking System is a system developed on Web Application Platform using python programming language. It is built on client-server technology and employs longitude, latitude, and a database. One user (College Bus Driver) gives the server the bus's real-time position as well as other date and time information. The information submitted by the user is saved in the server's database. Other Android users can access the information via the server. The login page for the college administrator is available on the user web application. The administrator can keep a record of the bus on the database, such as the bus number, timetable, route information, driver contact information, and so on. The administrator also has the ability to modify the bus record as needed. Students must log in. Students can use the map to locate a certain bus. Students are updated on the bus location at regular intervals so that they do not have to wait for the bus while not knowing if it is coming or has gone. So, in essence, our system manages all data regarding the present position of the bus, and utilising this data, real-time tracking of the bus is possible, and this information is then provided to distant users that wish to know real-time bus information. Some technologies, such as GPS (Global Positioning System) and Google Maps, are employed for development purposes. The solution contains a server-client application that provides real-time bus position on Google Maps.

2. LITERATURE SURVEY

[1] Shubham Jain et al., "Application-based bus tracking system", 2019 International Conference on Machine Learning, Big Cloud and Parallel Computing, 1416 Feb 2019.
This study is based on a bus tracking system that uses a GPS Tracking software to track the bus. The passengers are uninformed of the bus timing information and hence waste time waiting for the bus on their specific route. GPS technology is user-friendly, allowing you to obtain navigation instructions at any moment. The location of the bus is obtained from the satellite and then analysed and transmitted to the web-server through cellular networks. The coordinates are analysed using the Google Maps API. Google Maps API assists in the collection of data such as latitudes and longitudes, places, and so on.
[2] Sharmin Akter et al., "A Cloud- Based Bus Tracking System based on Internet of Things Technology", 2019, 7th International Conference on Mechatronics.
A Cloud-based bus tracking system based on IoT is suggested in this study. The integration of cloud computing and the Internet of Things allows for the monitoring of bus services, which must be saved, processed, and evaluated. This study offered a mobile application that focuses on the problem with buses, namely that passengers do not know the precise moment of bus arrival. The bus's location and the routes travelled by the buses People go from one location to another on a daily basis, and the majority of the population takes the bus to get there. This research article
[3] Priyanka V. Narkhedeal, "Bus Tracking System based on Location-Aware Services", International Journal of Emerging Technologies in Engineering Research, Volume 6, Issue 3, March 2018.
People go from one location to another on a daily basis, and the majority of the population takes the bus to get there. This study is primarily concerned with the issue of bus passengers not knowing the actual time of arrival of buses. The position of the bus and its travels may be readily traced using a

smartphone. For navigation, the Global Positioning System and Google Maps are employed. A web-based application that contains information on all routes and bus data. The programme is periodically updated to reflect any changes in bus routes and times.
The user may request the bus's location, and the information saved in the database through a GPS device installed on the bus could be accessed whenever needed.
[4] PAPER2.International Research journal of Engineering and Technology (IRJET), Sep Real Time College Bus Monitoring and Notification System M. S. Minu, Deepak Adithya K.N In today's economic and traffic conditions, no one can foresee when or if a person's essential conveyance would arrive.The goal of the paper work is to give a college app that can be used by students to help them manage their time during the day and arrive to their destination on time without missing the bus or any other college transportation supplied by the college.

3. PROBLEM STATEMENT

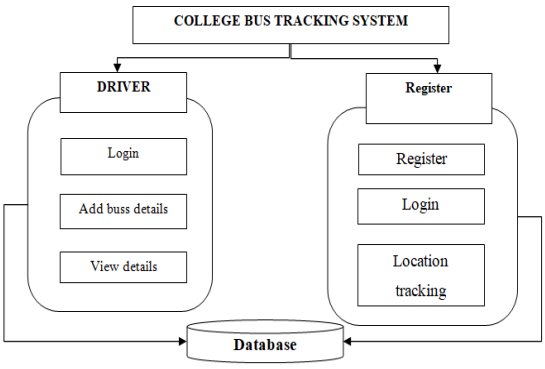
The key issue nowadays is the management of campus transport buses. According to the existing system, there is no such system that offers information about the bus, such as its projected arrival time, expected waiting time, and current location. Taking into account the other features of college travel, this service has certain drawbacks as well. College transportation, by definition, takes significantly more time than any other means of transit. The coming of a bus is always a source of concern. Buses frequently break down, generating additional problems for drivers. Another difficulty we see is that college transportation often lacks organization. Drivers are often confused with regards to bus routes and bus stops. Even if the buses are running on time, they are usually crowded, the reason being, less frequency of the buses.

4. PROPOSED SYSTEM

The programme is based on cutting-edge GPS technology, which allows the college management team to better monitor the activities of the college buses, manage timetables, and provide students who utilise the bus service with real-time bus position. This article describes a web application available on mobile phones and desktops that gives online information about buses, bus numbers, and bus routes/stops. The proposed system is a database-driven, fully integrated online bus tracking system. It allows you to track the whereabouts of a certain college bus. They may also be able to examine bus info such as the bus schedule and arrive on time.

ARCHITECTURE OF PROPOSED SYSTEM

Passengers with authorised access may follow the bus's location and predict its arrival time. It also includes the closest stoppage from the present position. As a result, travellers may use their waiting time wisely by taking the closest route.



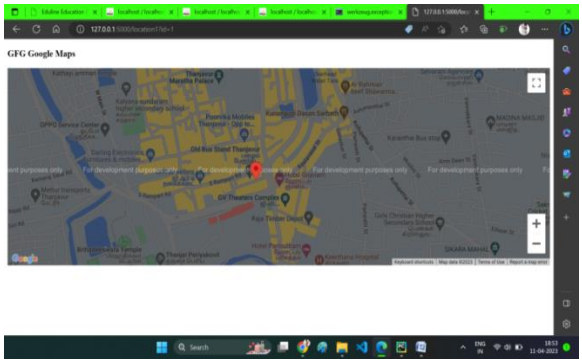
– Fig.4.System Architecture—

5. WEB APPLICATION FOR USER MODULES

1. Admin 2. Driver 3.Student

Admin Module: This module is intended for changing information by the bus administrator. After authentication and authorisation, admin may log in to the admin account. He has the option of include the driver, buses and students
Driver Module: This module is intended for bus drivers. By entering their unique login credentials, authorised bus drivers can access this module. Before they may drive, they must activate their location services. Every instant, the current location of the bus will be immediately updated from the driver's smartphone to the server.
Student Module: This is the most vital module and the system's soul. Users of this module must select the student login option. They may use their phone to get information about all of the buses. They will find all of the transportation information here. Students may follow the whereabouts of their buses from anywhere in the world. A student must ensure that their location service is turned on.

SNAPSHOTS



6. CONCLUSION AND FUTURE SCOPE

We utilised Python to develop and build a real-time bus tracking system for this project. In this initiative, we hope to save students' time who utilise the college transport service, as well as to let them have easy and stress-free mornings for a bright and tranquil day. This programme requires no further equipment beyond a smartphone, which all students have. As a result, the total cost of tracking the bus position is quite cheap. It gives virtually exact data in real time, allowing the user to follow the buses.

The proposed approach might be improved further by putting it into college bus tracking systems, as well as reporting issues and aiding in traffic monitoring.

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