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Smart Phone based Vehicle Tracking System

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Abstract: ***In the busy metropolitan cities like Hyderabad, Mumbai, Delhi, people don't have time to invest in waiting for transport. Waiting time for transport in such crowded cities leads to less productivity on a whole. People face this problem in their daily life where they have no idea about the current status of their transport. So, the proposed solution is an android based application that will help the user to check out the current location of the bus and also will help the user to know how much time the bus will take to reach the current location of the user. The system will use GPS as the basis for the application and basic android application will be interfacing with the updated database to provide the real-time data to the user, hence enhancing the user-experience.***
Keywords: GPS Module, Android Application, Android Development, Tracking System, Cloud, Maps.

I. INTRODUCTION

Bus tracking is an application that tracks a transport and assembles the distance to each station along its course. Global positioning framework with an installed Android App on any SMART phone to enable the Administrator/User to track the vehicle's location. There are two applications one for the worker and the other for the customer. Buses driver carry Android Mobiles to track their positions. By this situation to the worker is intermittently refreshed.

The customer application shows a guide showing the situation of the transport. It shows where transports are on a guide and give clients the refreshed data at an alternate time span. It is a constant framework as this strategy consequently sends the data on the GPS framework to a focal PC or framework/PDA.

Since this is an android application, we utilize a Cloud server data set for the backend. The clients can get the adaptability in arranging travel utilizing the application, to settle on which transport to take or when to get the transport. This application can be effectively stretched out for a focal global positioning framework to monitor every one of the public vehicles. The different queries and efficient route management can be easily done through central server system.

II. LITERATURE SURVEY

Vehicle global positioning frameworks were first executed for the transportation business since individuals needed to know where every vehicle was at some random time. Nowadays, nonetheless, with innovation developing at a high speed, computerized vehicle global positioning framework is being utilized in an assortment of approaches to track and show vehicle areas in an assortment of approaches to track and show vehicle areas continuously. The paper proposes a vehicle global positioning framework utilizing GPS/GSM/GPRS innovation and Cell phone application to offer better assistance and financially savvy answers for clients.

These are some of the specialized writings in designing and innovation where individuals have attempted to carry out comparative sort of systems which are referenced beneath with their weaknesses regarding our application

A. Authors “Manini Kumbhar, Meghana Survase, Pratibha Mavdhut Salunk” have implemented “Real Time Web Based Bus Tracking System” have executed "Real-Time Web-Based Transport Tracking System" The proposed framework lessens the hanging tight season of distant clients for transports. A framework is utilized to follow the transport at any area whenever. All the current data is put away on the worker and it is recovered to distant clients through an web-based application. This System is a web-based framework yet these days individuals for the most part will in general utilize Android applications since they are more convenient and cell phones are utilized all the more broadly in this day and age. Likewise, a web-based framework is badly designed for a client to use consistently while sitting tight for a transport at the bus station.

B. Authors "Suleyman Eken, Ahmet Sayar" have executed" have implemented the framework "A smart Bus Tracking System based on location aware service and QR code." In this paper, Bus global positioning framework, any traveller with Cell phone can examine QR code set at transport stop to see assessed transport appearance times, current area of the transport. The disadvantage in this task was that the client must be truly present at the bus station to check the QR code.

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C. Author "Yusuf Abdullahi Badamasi" have executed the framework "RFID bus ticketing system" with the assistance of a RFID card which disposes of the manual or customary tagging system (Conductor).

D. Authors "Manish Chandwani, Bhoomika Batheja, Lokesh Jeswani, Praveen Devnani, Prof. Richard Joseph" have executed the framework "Real-Time Bus Tracking System".

III. PURPOSE OF THE PROJECT

Android platform Android requires an open-source improvement which is presumably the most achievable and a current easy to understand approach. This application additionally manages Location Based Services, which are utilized to follow 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. Likewise, it shows the necessary guides with the assistance of GPS.

IV. EXISTING SOLUTIONS AND ITS DRAWBACKS

The existing system has some of the drawbacks like the exact position of the vehicle cannot be retrieved.

1) The bus location cannot be retrieved from anywhere.

2) The movement of the bus is also not visible in the Google map.

3) This also enhances security because the location of the bus is always available

V. PROPOSED MODEL IN BRIEF AND ITS ADVANTAGES

The proposed framework gives the client to track down the specific area of the transport from where they are. The transport courses are shown in the UI so the clients can choose the transport course which they need to travel. The location of the transport is shown in the Google map. The distance between the transport and the user is likewise shown so this application helps the understudies/staff to know about where the transport is actually. Contingent upon the data like distance and position showed in the Google map the client can plan and start accordingly.

Advantages of the Proposed System are: -

1) It provides exact position in Google map.

2) The details of the bus can be seen by everyone at anytime and anywhere

3) This also enhances security because the location of the bus is always available

VI. PROJECT ARCHITECTURE MODEL

The design is a solution, how to approach the creation of a new system. This is composed of several steps. It provides the understanding and procedural details necessary for implementing the system recommended in the feasibility study. Designing goes through logical and physical stages of development, logical design reviews the present physical system, prepare input and output specification, details of the implementation plan, and prepare a logical design walkthrough.

The database tables are designed by analysing functions involved in the system and the format of the fields is also designed. The fields in the database tables should define their role in the system. The unnecessary fields should be avoided because it affects the storage areas of the system. Then in the input and output screen design, the design should be made user-friendly.

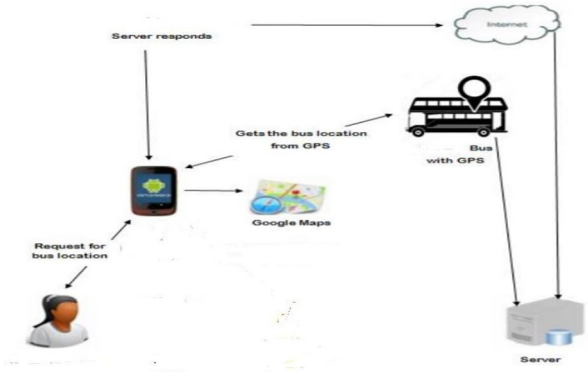

Fig 6.1 Architectural model of the System

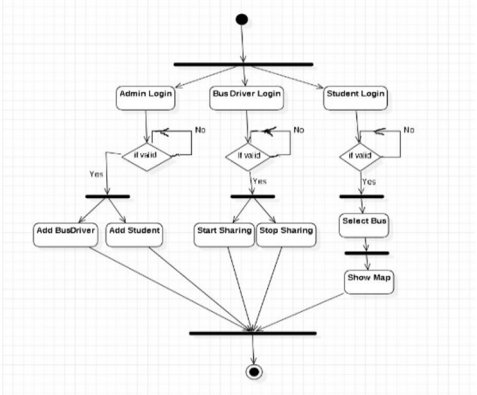

Fig 6.2 Activity Diagram of the System

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VII. CONCLUSION

While waiting for a bus, individuals may feel fretful and restless on the off chance that the person in question doesn't have a clue when the transport will show up. For the transport management side, it is exceptionally hard to provide an accurate schedule for bus user because of certain vulnerabilities may occur out and about, for example, traffic jam or bus breakdown. At the point when a transport is postponed, the transport the executive's side ought to inform the transport clients right away. Be that as it may, they don't have a stage to advise transport clients continuously about the most recent transport traffic status. To improve the transport framework and increment the presentation of transport specialist co-ops, a transport global positioning framework is required. The transport global positioning framework gave a continuous stage to transport clients to mind transport traffic status whenever and anyplace. It also provided a platform for bus service providers to monitor bus status and update the latest information to users.

VIII. FUTURE SCOPE

For future upgrade, we may develop a vehicle tracking and checking framework utilizing GPS, GSM/GPRS with the fast processor. The framework will have the most recent innovation and streamlined calculation with moderate expense. The framework may zero in on exact appearance time forecast and the constant situation of the vehicle. The framework can be introduced in transports, vehicles and trucks.

IX. ACKNOWLEDGEMENT

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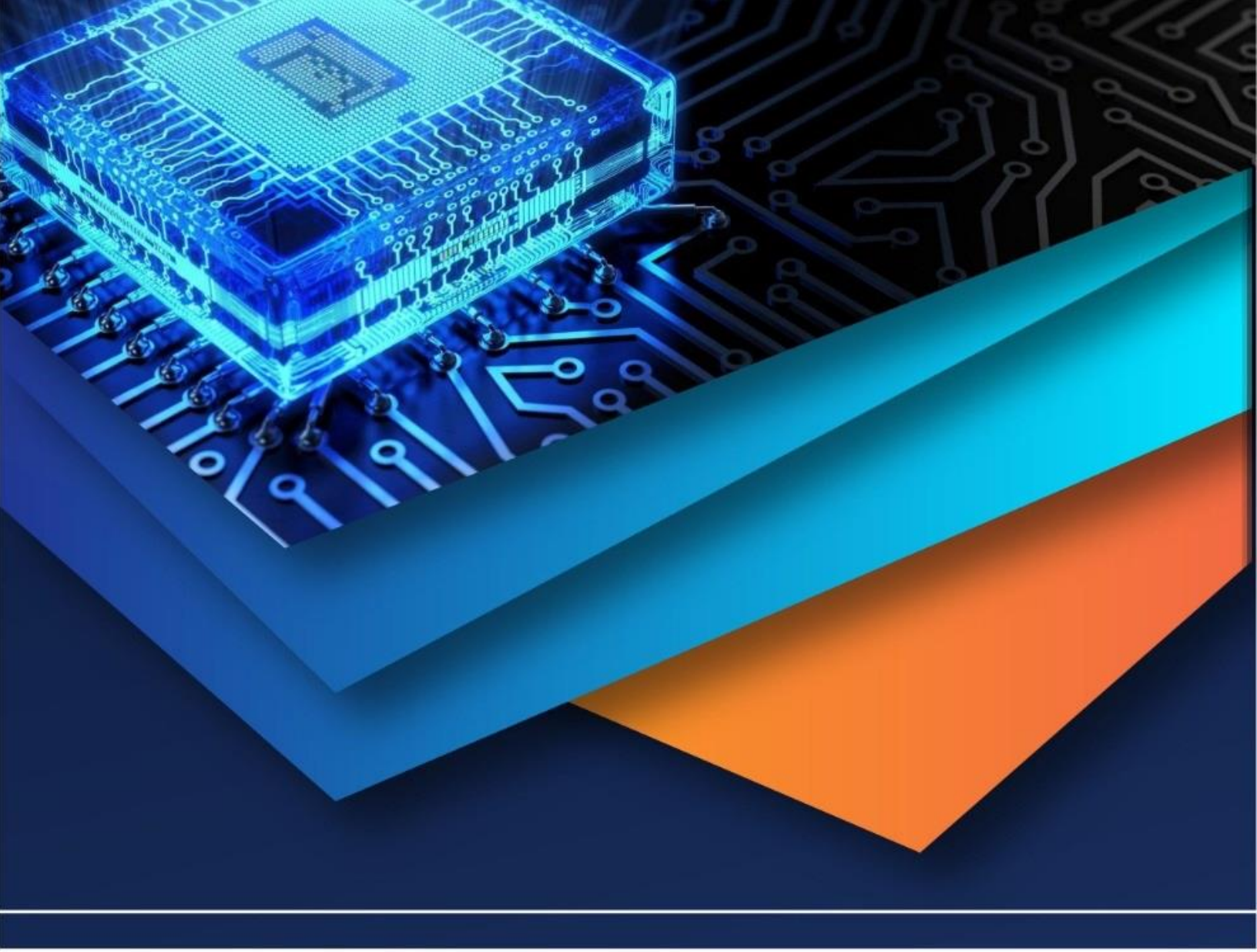

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