

# GPS BASED TRAVELLING SYSTEM

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**Abstract:** We proposed and developed a Bike-sharing system that accepts bike passengers' real-time ride requests sent from smart phones and schedules proper bikes to pick up them via ride sharing, subject to time, capacity, and monetary constraints. The monetary constraints provide incentives for both passengers and bike drivers. Passengers will not pay more compared with no ridesharing and get repayment if their travel time is long or extended due to ride sharing; bike drivers will make money for all the long way around distance due to ride sharing or they contribute money for petrol. While such a system is of important social and environmental benefit, e.g., saving energy consumption and satisfying people's commute, getting minimum vehicles, saving petrol, saving environment, relieve traffic jam. Real-time bike-sharing has not been well studied yet. To this end, we plan a mobile-cloud architecture based bike-sharing system. Bike riders and bike drivers use the bike-sharing service provided by the system via a smart phone App. The GPS first finds candidate bike quickly for a bike ride request using a bike searching algorithm. A scheduling process is then performed in the cloud to select a bike that satisfies the request with minimum increase in travel distance.

**IndexTerms - Android App, GPS, Bike Search, Sent Request, Safety.**

## I. INTRODUCTION

In past years, pollution is increased at high scale. To stop this and save life of human beings we proposed system to minimize this pollution. We propose a bike-sharing system that accepts 'bike passengers', real-time ride requests sent from smart phones and schedules proper bikes to pick up them via bike-sharing with time, capacity, and monetary constraints. Our system saves energy consumption and relieves traffic jam while enhancing the capacity of commuting by bikes, getting minimum vehicles, saving petrol, saving environment.

Because of social networking conversation between human being is getting lesser. To overcome this and to improve communication we appeal a new concept i.e. "GPS BASED TRAVELLING SYSTEM" In earlier time there is no provision for bike ride sharing. Everyone get its bike ride on rent individually, carpooling etc. Because of this the unnecessary cruising is incremented. When two person can travel on one bike then save the one bike petrol, pollution, cost, time. Avoidance of costly car-related expenses Ridesharing programs allow people to pool resources or obtain fully subsidized funding for expenses including operating costs (fuel, oil, tires, etc.), maintenance, parking. As per population is increasing, human being is running out of space to overcome this concept we are introduced a GPS based travelling system. In our system we provide the all facility like registration, login, select destination, search Bike rider or passenger, select the pickup and drop point, and then calculate the charge. We also provide human safety when any accidental situation occur like nearest hospital, ambulance contact, nearest police station location and nearest petrol pump. When woman want to travel we provide the facility woman choose the woman bike. Woman security is a major part of our project.

## II. LITERATURE SURVEY

The paper with title "EZCab: A Cab Booking Application Using Short-Range Wireless Communication" <sup>[1]</sup> explains briefly, how to seek nearest car or cab using smart phone. We can use any furnished wireless network interfaces with small range of connectivity. Ezcab discovers and books free car by use of any smart phone. An Ezcab prototype on top smart message is explained and executed, a middle ware architecture. This architecture is based on implementation of movement i.e. migration which is developed to provide a application. Even if there is much discussion is done and work is done on same algorithm but still there is no such provision which is fulfils this requirements. By using smart message the real time issues have been tried to recover. Ezcab is decentralized and very convenient to use. Even if it is simple and handy, there are some drawbacks are present in this paper, such as less geographical coverage and less destinations.

The paper with title "Vehicle Tracking System using GPS and Android OS" <sup>[2]</sup> explains about tracking system, nowadays everyone has their smart phones. Use of smart phone varies person to person for using different services and technologies too. Use of tracking services. For tracking services GPS plays significant role. GPS uses current location to trace the person. Many firms are investing lot of amount to track their vehicle due to their business point of view and security reasons. As the number of people who uses transport like bus, they have many issues regarding schedule of the particular bus and there is a big issue of consistency of the vehicles provided. This paper explains about android app which provides exact location of particular bus. So that it becomes easy to find out the current location of bus. This application uses GPS for plotting the exact location of bus on the map. This tracking needs GPS and GSM modems to execute these tasks. Locking vehicle and taking snaps is the future scope for this application.

The paper with title “Developing a Mobile Application for Taxi Service Company in Nigeria”<sup>[3]</sup> briefly explains about the application which can be used for solving traffic issues while travelling from one destination to other. As the population is getting increased day by day the problems regarding traffic is also getting increased with the same ratio. An application called red cab is developed in Nigeria for placing an order of booking any cab. It covers registration, placing order, calling the driver and to find out the current location of that taxi or cab. Taking a feedback from user for improving the quality of the system using smartphone application is the future work for this proposed system.

The paper with title “Travel Management System using GPS & Geo Tagging on Android Platform”<sup>[4]</sup> briefly explain about the cities whole information like historical places, popular hotels, restaurants, railway station, etc. a person visits the new cities he doesn't know about that cities he face the lot of problem. the system also provide the location that's want the user.it is helpful for the traveler to complete his journey enjoyable and successfull.it is one of the travel portal which is more helpful for traveller.it is provide notepad for add some important task.in this application adviser, help center, notification, to do list, fetching the Google places API for different string types.it is made by using Google places API and Google map API. Future work is accessing the information form Google database and booking hotels, restaurant reservation.

The paper with title “GPS Based Tracking System For Transit Objects”<sup>[5]</sup> briefly explain about the GPS based tracking system. Every person first priority for his owe safety, because he ignore the security then face lot of critical problem. Mobile tracking is done by network signal. LTE system is most used but it is poor location tracking system. Global positioning system is stronger for location tracking system. They have proposed a mobile application which is safety threat to people whenever they travelling. the proposed model is smart mobility tracker it track traveler location and inform their preferred contact number multiple time, depending upon travelling distance.it is used for woman safety and physical challenged people.

The paper with title “Design and Development of Android Based Bus Tracking System”<sup>[6]</sup> briefly explain about the when passenger want to travel that time first wait for the bus long time. he want to call to bus driver/other person that is not possible to continue because the other person is driving the vehicle and it is dangerous to the driver life and other traveler and it is more costly to regular try call and send regular message to each other. There is no way to know the exact location of the vehicle.in this paper bus tracking system is the solution of that problem. This application take the exact location for the bus and no need for call or without sent message but need to internet and GPS and GSM are support for the transport area and sent information to the server, it is continuously show the location.

The paper with title “GPS based Public Transport Arrival Time Prediction”<sup>[7]</sup> briefly explain about the tracking the bus location.in developing country passenger can face lot of problem for waiting the public bus. There is no device or no other way how to know the bus arrived time to the bus stop. In this paper present public transport arrived time prediction system relying on real time automatic vehicle location data rather than the old fashioned technique also GPS and GSM are used in this system.

The paper with title “Analysis of Travel Time Patterns in Urban Using Taxi GPS Data”<sup>[8]</sup> briefly explain about the cab booking system. In big cities number of people use cab or taxi for travelling instead of public bus. Because cab can pick up and drop passenger to selected location, so passenger save his time. But in every city lot of transport company are available and it will use centralized approach to search, find and book the cab. Centralized approach is highly prone to single point failure.in this paper design and implement the intelligent agent based distributed cab system for serving passenger using local information. Whenever centralized approach is used there is lot of data is stored and number of taxi can see to Google map then passenger is confused whose taxi will book, but in distributed system local information can show nearest taxi. Future work is real cab booking system

The paper with title “Design and Implementation of an Intelligent Cab Service System”<sup>[9]</sup> briefly explain about the travel time collection and traffic monitoring via GPS technology. current days traffic is big problem of every city .due to no travel time prediction about complete the journey.in this problem number of application are present but it will work on past database time taken by vehicle like lot of traffic or not any traffic.in this paper implement GISTT (GPS-GIS-integrated system for travel time survey)is developed. it collect and analyze traffic condition of link by monitoring speed of vehicle and analyze the traffic and then calculate travel time data like static and dynamic modes. Static modes means work on offline and calculate time using old database, dynamic means work on online and calculate time using current position.

The paper with title “Travel Time Collection and Traffic Monitoring via GPS Technologies”<sup>[10]</sup> briefly explain about the analysis of travel time pattern in urban using taxi GPS data. passenger want to travel one point to another point he first check what time is required for complete the journey and whose the root which is take less time. This paper propose a method to show travel time pattern which is exactly calculate the required time.in this method first we select the path and then search the required time. The time is calculated based on stored taxi data which is calculated using GPS .select the root which is less time taken.

The paper with title “Near Real Time Vehicle Tracking Using GIS”<sup>[11]</sup> briefly discoes about the near real time vehicle tracking system. In traffic there is no idea or prediction about time required for complete the journey. any passenger want to travel he will search the cab or bus but due to traffic number of vehicle are shown in the list but accurate time is mismatch because the vehicle is in traffic and hence the past method calculated time is not correct.in this paper develop GIS based system for efficient vehicle management system .GPS collect the client location and send to the server, the server handle the request and update the location of vehicle and sent the current location to the user.

The paper with title “Intelligent Location Identification and Passenger-Alert System in Indian Railways using GPS Receiver”<sup>[12]</sup> briefly discoes about the intelligent location identification and alert system. When people are travelling that time he take his bag's or his family or friends. he wait the vehicle on to the stop but there are not

any alert system which is announced the vehicle is coming to the next 10 -15 minutes on to the stop. due to passenger is totally unknown and he decide to short round for stop or fresh and going away to the stop and same time vehicle are arrived on to the stop that time passenger face the problem or miss that vehicle. in this paper design the application which is alert the passenger when vehicle are coming on to the stop like railway or public bus is coming on to stop then announced the vehicle required time and platform. This application is mostly use railway station and public bus stand.

The paper with title “An Innovative Approach for Women and Children’s Security Based Location Tracking System”<sup>[13]</sup> briefly disocoes about the woman and passenger safety problem. Children and women may face many problems regarding their security. In such situations, they feel helpless and will not have any way to protect their selves or inform to their relatives, neighbors or police station and they feel as handicaps. In this paper develop a System, this system can send exact location of victim. This system is very helpful when a person doesn’t have any device for communication. It is a smaller and portable system and it cannot be identified easily as a communication device that is, only the user has the knowledge about the system, third person will not be aware of it as a security system.

The paper with title “Abhaya: An Android App for the Safety of Women”<sup>[14]</sup> briefly disocoes about the woman safety. In today’s world mobile is used every person.in the mobile system GSM system is available which is helpful for the tracing the user location. Woman safety is big issue for current position because number of crime is attempted during travel time. Hence Abhaya android application is developed. when woman sense the driver or other person aim is crime mind that time application provide single click button and woman click on that button then massage is sent every five minute to the registered mobile number and nearest police station, location is sent to the Google map and identified the location. Message is sent continuously up to pressed stop button.

The paper with title “Smart Security Solution for Women based on Internet of Things (IOT)”<sup>[15]</sup> briefly disocoes about the woman safety. Develop “Smart band” which continuously communicates with Smart phone that has access to the internet. With further research and innovation, this project can be implemented in different areas of security and surveillance. The application is programmed and loaded with all the required data which includes Human behavior and reactions to different situations like anger, fear and anxiety. This generates a signal which is transmitted to the smart phone. The software or application has access to GPS and Messaging services which is pre-programmed in such a way that whenever it receives emergency signal, it can send help request along with the location co-ordinates to the nearest Police station, relatives and the people in the near radius who have application.

### III. FUTURE WORK AND CONCLUSION

Every year many developers develop their system regarding tracking and locating but there is still room for use of GPS to improve safety of human being. In this paper we discussed more on the passenger’s safety and exact tracking of vehicle and the passenger too. These techniques overcome all the drawbacks from previous existing system. We discussed about existing system to make improvement in our proposed system. We have discussed, tracking and locating the exact location will be more significant than migration as the contact number of the nearest hospitals and the other emergency services being added to the module.

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