A Synopsis on

Bus Transportation System On Click

Submitted in partial fulfilment of the requirements of the degree of

Bachelor of Engineering

in

Information Technology

by

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CERTIFICATE

This is to certify that the project Synopsis entitled *"**Bus Transportation System On Click**"* Submitted by *"**Prashant Jain (17104038),Ashutosh Joshi(17104001),Rahul Guduri(16104062**)"* for the partial fulfillment of the requirement for award of a degree *Bachelor of Engineering* in ***Information Technology*** to the University of Mumbai,is a bonafide work carried out during academic year 2020-20201

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Declaration

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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Date:

Abstract

Due to immense development in technology , every field is making the best use of technology so why not our public bus transportation . Today 's transportation system still uses the traditional ways for ticketing . Also people need to stand in queues for long hours . Therefore user needs a smart system which provides real time information of bus and gives an easy way to purchase a ticket .So we proposed a new android application which overcomes the disadvantages of the current public transportation system .Our application will handle all the data like current location of bus , punching of bus-passes having QR code ,On -time ticketing using E-wallet .The real time tracking of bus can be done by our proposed system and this information is then given to remote user . Technologies like GPS (Global Positio ning System),Cloud ,E-wallet are used for development purpose .Our system provides an Android application ,which gives bus pass which gives bus pass with QR code, real time location of bus to user.

Introduction

Android is becoming very popular in embedded market for two main stream reasons. First, source code is completely free; more over there are no royalty fees for Java VM (Virtual Machine). Second deriving from the first, Android is highly suitable for expansion as the developer see fit. This paper presents an approach using Android SDK as to develop application for paper is as follows. The cost of the Bus Timer is low as compared to other systems as we are using inbuilt GPS receiver in a mobile phone instead of a separate handheld GPS device.

Bus schedule system is an application of intelligent mobile devices, mainly GPS. The core part of this Android phones. This application uses the GPS function also, available in most smart phones today, to pin point your location fairly accurately. To pin point your location fairly accurately. With this application installed on your Smart phone, al you need to do is to start up your apps when you needed. User has to select the source and destination .This application will show you the bus timings with the accurate fare as per your source and destination It also runs in the background so you are free to use your phone for the other activities like playing games, listening songs etc. This application also gives the users current position. And also includes the user's security Transportation demand in most of the Indian cities has increased significantly, as a result of the natural increase in population as well as due to migration from smaller towns and rural areas. As per surveys, the growth of population for the metropolitan areas such as Mumbai, Kolkata, Delhi, etc. exceeded 10 million residents each. Chennai, Hyderabad, Ahmedabad, and Bangalore each have more than 5 million residents. And 35metropolitan areas have populations exceeding 1 million, which is almost twice as many as in 1991. Since large cities are far more dependent on public transport than small cities, the need for public transport services has increased faster than overall population growth. This exponential growth of population results in a high demand on transportation facility and as a result, the number of private vehicles goes on increasing which in turn results in traffic congestion, air pollution, environmental degradation, higher road accidents etc. The only way to reduce the traffic problem is to make the people use the public transportation facility. Among various means of public transportation available, the bus transport is preferable because of its door schedules is one of the key factors which makes most of the people to think the other side.

The user interacts with the system through the app. Bus Timer is an android application that provides the user with accurate bus schedules between any two places.

Objectives

The main objectives of Bus Transportation app are:

1. To implement bus tracking system to get real time coordinates of bus.
2. To alert the users through voice and notification system whenever the stop is about to come.
3. To show users popular places in real time.
4. To implement android app to provide users with accurate schedules between two places.
5. To Develop a system such that anyone can view the popular places where they are travelling.

Literature Review

In literature [1], the author Dr. Chaya Bagrecha and Sadiq Alam authors suggested that the online booking companies have to provide the service should be provided as per the desire of the passengers and the companies have to maintain the secrecy in respect of passengers personal information. It is also suggested that the refund must be done as per the period mentioned on the websites.

In literature [2], the author Sujo Thomas, Bharthi Pathak concluded that redbus has a volume driven business and it plans to expand further into the Indian market by opening regional offices to serve the customers better. The current strategy followed by redbus is to aggregate bus tickets by any means close at hand and later delivering to the consumers through any channel that is accessible by them. redbus has to put forward a growth model in existence which would provide a sustainable growth in the long term. redBus owners have a challenge that maintaining strong

relationship with bus operators and gaining the trust of new operators/agents was a challenge right from the inception.

In literature [3], the author R. Ramya undertook the project entitled "customer satisfaction on online bus ticket booking" with an objective to analyze and evaluate the level of customer satisfaction. The main aim of this study was to find out the level of customer satisfaction towards online reservation of bus tickets. The sample size is of 110 respondents. The study revealed that socio-economic factors like age, educational qualification, occupation, monthly income earnings of the family have direct impact on the level of customer satisfaction of the customers in relation to online reservation of bus tickets.

In literature [4], the author Sulaiman, A., Ng, J., &Mohezar, S. in their research paper entitled "E-ticketing as a new way of buying tickets" try to focus on the motivational factors that influence online buying. According to I.A.M.A.I., India has a big pool of techno savvy population that is not only browsing the internet but also purchasing products that are available online. Using internet as a medium to attract the customers and sell products or services is the basic concept of online marketing. This paper theoretically attempts to connect critical motivational factors that influence online buying. It was found in the study that the motivational factors do not have significant difference between men and women.

Problem Definition

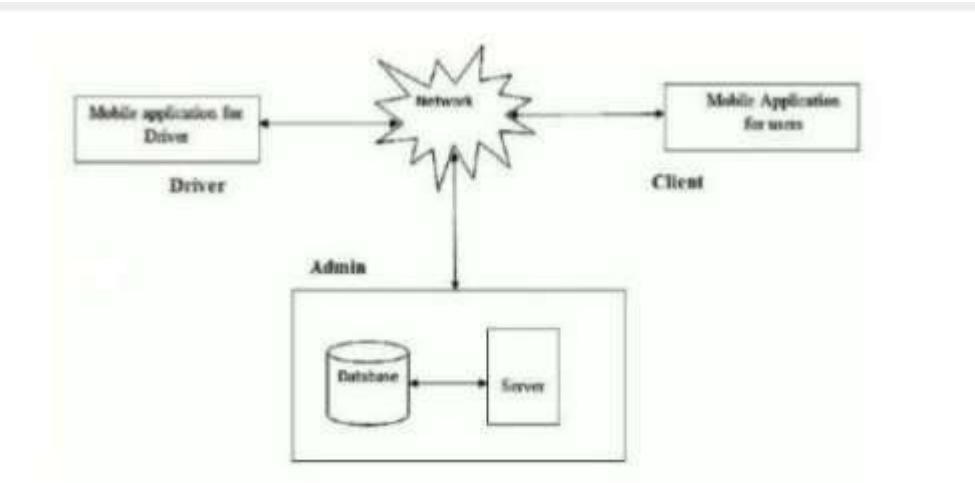
In reality many people prefer to take their own vehicle instead of using public transport. The main reason is that, there is no real time information about the Bus, location along the Bus route,. information in case the bus is cancelled or delayed due to traffic. As a result the commuter losses lots of time which can be put to better use. The number of busses running daily is huge to keep track of all the busses are a big challenge before the bus authorities . In the daily operation of bus transport systems, mainly that of buses, the movement of vehicles is affected by different uncertain conditions as the day progresses, such as

- Traffic jam
- Unexpected delay

- Irregular vehicle arriving timing
- Some other incident

Proposed System Architecture/Working

The Android app provides a location-aware application for quickly accessing real-time arrival information for nearby public transit stops. Unlike the interfaces described thus far, the Android has built-in localization capabilities, using a fusion of sensor data from GPS, WiFi, and cell-tower localization to quickly get a location fix on a users phone. This location information can significantly reduce the time it takes to access real-time arrival information for a nearby stop. Beyond the key addition of the location-aware capabilities, the Android app has a lot of the same features available in the other interfaces: a map view, bookmarks, recent stop view, and search for stops by route, address, and stop number.

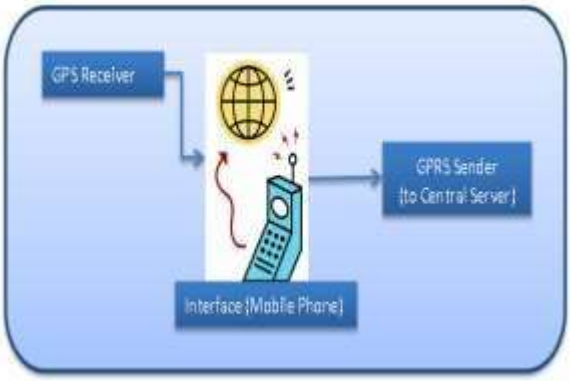


System Block Diagram

This application runs only in android device this application will fetch the current latitude and longitude value by using google map and send that values to the student device as an alert /SMS .In this application GPS system is used. Using this system we can get the details of latitude and longitude. The google map is used to track the current location of the bus and the tracked location is sent to the registered mobile device.The mobile phone which fetches the GPS location communicates with server using General Packet Radio Service (GPRS). GPRS is used in this application due to its low cost. Nowadays mobile devices have inbuilt GPS receiver which is conserved as booming technology.

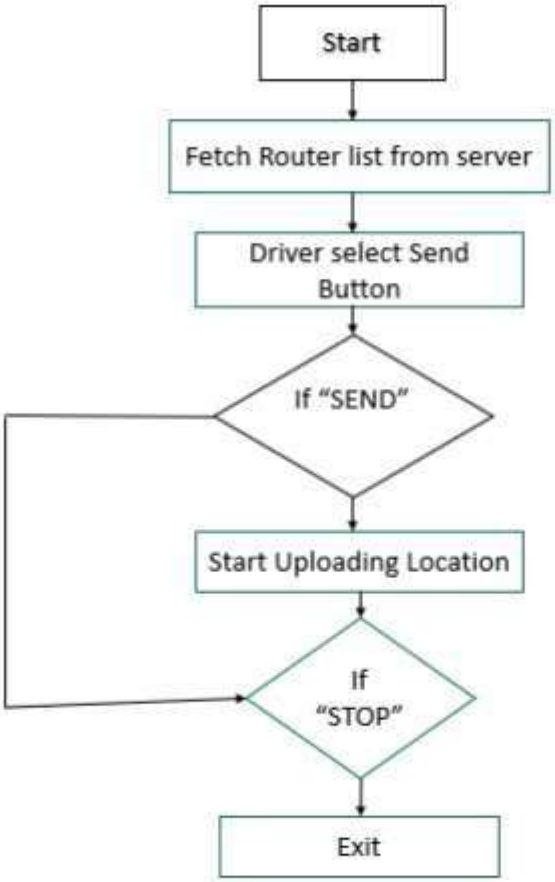
Client has to enter in the application. To search for a bus, client has to enter the bus type(ST, BEST,etc).Then user has to enter source and destination and then available bus number is displayed and after that user can track the location of bus and also book ticket. He can also received an alert notification when the bus came to the nearest stop.

It consists of a GPS system to get the current location of the bus and a GPS system to send the location data along with the bus number to the central server. Also we require an interface between the two so that they can interact. So we can use a GPS/GPRS enabled phone to send the location data to Journal of Signal Processing and Wireless Networks 45 2017, 2(1), 43 -46 Journal home page: www.jspwn.com the central server. So we will need to develop an application for this interface.



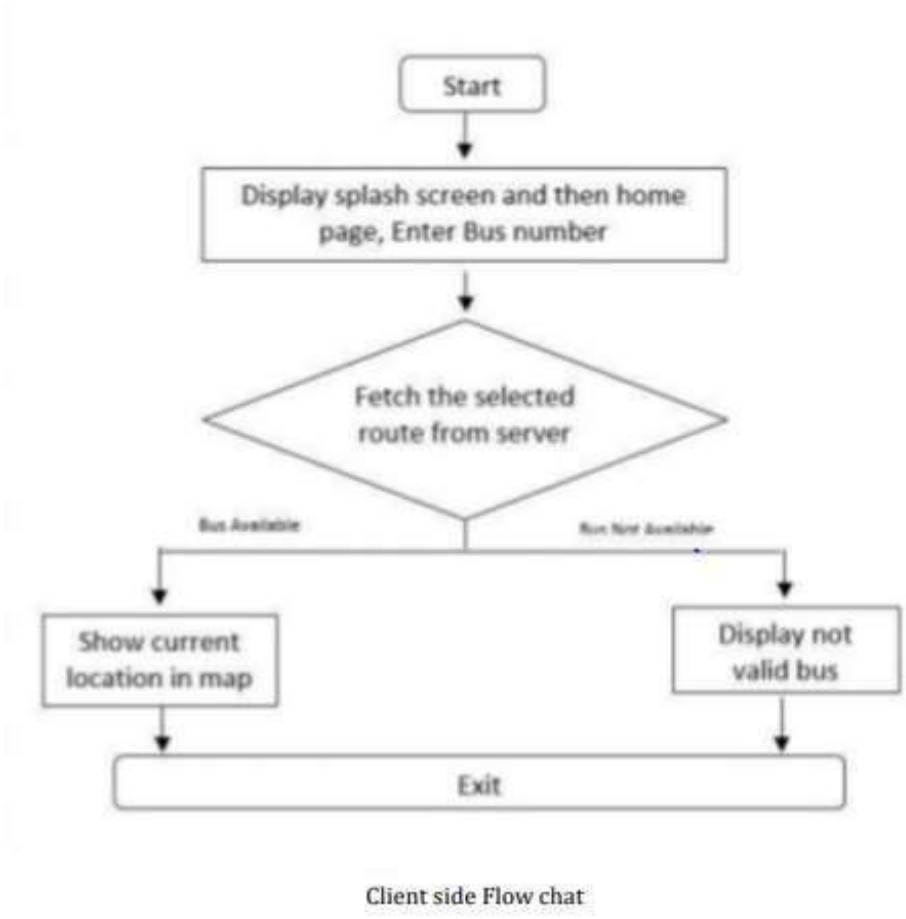
This is the main operating unit. It will store all the user accounts and bus routes. It will receive GPRS signals from the Bus Modules every 5 seconds and depending on the bus number and the location of the bus it would send the required notification alerts to the Users registered for that stop. So this unit will have a module for GPS receiving and also a module for sending Notifications.

Design



Server Side flow chat

In server side, Bus driver enter the bus number and select the root and press the send button. The bus number is store in database and this information displayed on the user side. After each 6 second the location will be update.



Client side Flow chat

To search for a bus, client has to enter the bus type(ST, BEST ,etc).Then user has to enter source and destination and then available bus number is displayed and after that user can track the location of bus and also book ticket. He can also received an alert notification when the bus came to the nearest stop

Implementation

This is the prototype of our entire app.

Home Page

As user enters into the app he/she has to signup before going further and he/she not having sign in id the they can create by clicking on create account

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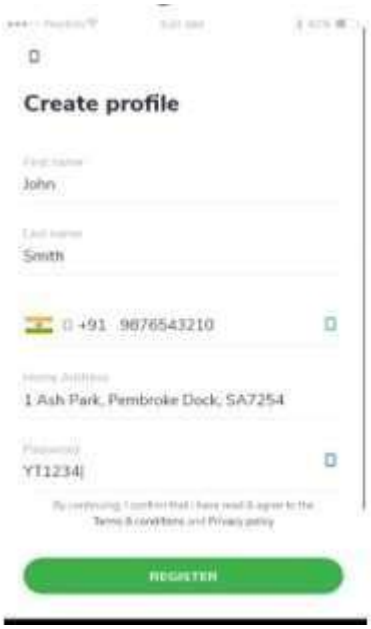
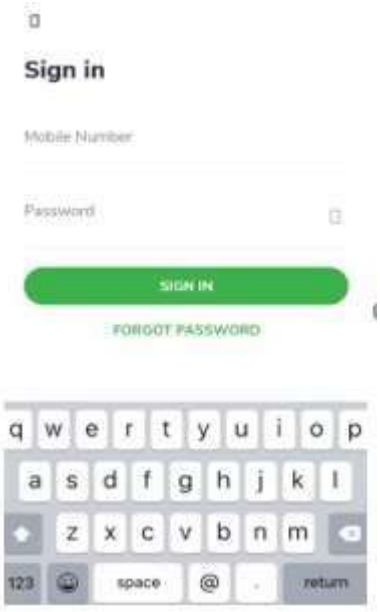
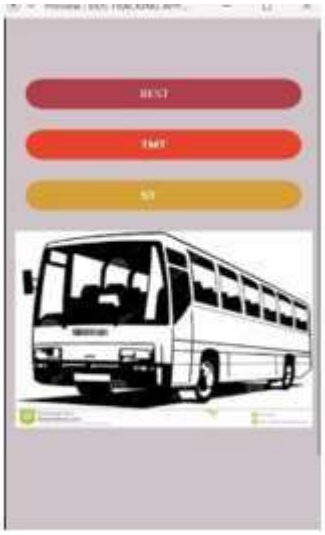




Create Profile *sign In page*

User can create their login profile from this page and then sign in.



On this page user can select from which types of buses user want to travel . Here we have provide three types BEST , TMT and ST.User can select any one of them.

Source and Destination page

As they signup they are then allowed to enter the source/destination where they want to go.

After entering source and destination there is a list will appear with bus names and prices of the respective buses.As user selects the bus he can pay directly pay for ticket through payment gateway.After payment they will get a SMS of ticket which they can show to conductor of bus. As destination is about to come they will be notified by voice-assistance.

Bus location

There is button called Track on last page. On clicking on that user can able to track the location of bus.

Summary

Bus tracking ticketing system is very useful and important mainly in cities . This system has many advantages like easy to use , wide area range , easy to implement in vehicles , more effective , huge capacity etc. This system is made of a tracking module containing GPS model to access dynamic vehicle location and send it to server . Then people can access this information from their android mobile phones. The main purpose of this application is to identify the current place of the bus without the help of external Hardware devices. The system will allow the user to find the bus current place without the help of other persons. In future we try to implement this application based on server

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3. Dr. Chaya Bagrecha1, Sadiq Alam "Challenges and Opportunities in Online Reservation of Bus Tickets" IOSR Journal of Business and Management (IOSR-JBM), e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 18, Issue 6 .Ver. IV (Jun. 2016), PP 32-38.
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[1] Publication

We are planning to published a paper in IEEE International Conference. We are done with the abstract, introduction and literature survey.