

Android Based Ticket Booking System For Local Trains

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Abstract- The mobile devices are becoming more and more popular and are providing a new notion of communication that we could once only imagine. With respect to Trichy, one of the major problems faced by peoples, who travel by local trains every day, is standing in the long queues for an average of 10-15 minutes to buy a ticket at the counter. This often leads to people traveling without tickets at all. This project simplifies the people access by using an online application to book tickets on their phone. The user will be provided with a unique user name. Whenever user needed to book a ticket online, they can log into the application and enter the required details. The ticket will be booked and the fare will be deducted from the user personal account. Payment can be done using authorized bank account or it may deducted through user mobile balance from the registered number. Finally, e-receipt along with the confirmed ticket will be generated. This project aims to provide an incredible relief, which will benefit more than half of the population of Trichy and make their daily routine easy and trouble-free.

Keywords- E-ticketing, Railway server, Automatic Ticket vending, Railway information system.

I. INTRODUCTION

A local train ticket system for trichy allows users to book train tickets for local train's i.e, for passenger trains and enable to get their tickets receipt online. A registered user may login and get a ticket online, and can view the corresponding e-ticket while travelling. The Booking process consists of a ticket booking form, wherein travelling details of user can be furnished and they can choose their source and destination location for travelling. The source is the station from where the user will be boarding the train. Destination is the station where user needs to get down. The system also consists of an option to select weather ticket is for one way journey or for to and fro journey. The centralized system is overviewed and controlled by Admin, who coordinates overall tasks and builds user access. The admin maintains user account balance periodically.

The significant role of Admin is to check the journey tickets that are currently being processed in the system.

II. RELATED WORK

VENDING LOCAL TRAIN TICKETS

This system [1] which is employed by the Center for Railway Information Systems (CRIS) provides a one-time password (OTP) upon booking the ticket from their online app. The user has to feed the OTP and the phone number into the ATVM (Automatic Ticket Vending Machines) located at the station. The ATVM machine generates the ticket. But the drawback of this system is that the user has to go to the Railway station to operate the machine to fetch user details which is not completely online.

According to this paper [2], it provides a brief glance at ATVMs (Automatic Ticket Vending Machines) and (CVM) Coupon Validating Machines. the commuter was required to purchase a coupon booklet from the booking counters for which no standing in line was required, and insert value into the validating machines to get these punched. Use of CVMs does not allow the officials to study the traveling pattern of commuters punching these coupon, as it has not been desinged to register the distance that a commuter will be travelling in their system.

It provides an insight into our proposed technology ATVMS (Automatic Ticket Vending via Messaging Service) which uses SMS (Short Messaging Service) as a medium to issue tickets. short message service and is also commonly referred to as a "text message". With a SMS you can send a message of up to 160 character to another device.

A novel technique is introduced using ATVMS- Automatic Ticket Vending with the help of Messaging Service (SMS) According to this paper [3] deals with the android application for ticket reservation and validation using mobile network. This application provides the facility to buy the tickets online at any time. The e-ticket can be bought with the help of Smartphone application where the railway tickets can be carried in user's phone in the form of Quick response code.

QR-ENCODING

The technologies used here are: -Quick Response Code- Input data will be encoded in efficient mode and form bit stream. Bit stream will then divide in code words and Code word divided into blocks Quick response codes are two dimensional barcode information that are used to “encode(letter, number and certain symbols) and decode (original sequence of characters) information”.

This paper [4] proposes the new Seat Allocation system considering the advantage of QR code image that contains information about ticket and passenger information in the form of 2D .[3]The technologies used here are: -QR code 2d Image- These are forms of QR code i.e., 2D,3D,4D etc. as the dimension increases, process time and scanning time increases. In order to avoid this drawback we make use of QR code 2d image which reduces the time of scanning and makes the generation of tickets much faster. In this paper [5], user application uses the station “WIFI” facility to book their railway tickets. It allows user to book their tickets only in ticket-counter areas. It means that this application not valid outside the ticket-counter. This ticket contains unique ticket-id, time of transaction & name of source and destination. The ticket checker application is also provided to search for the user's ticket with the unique ticket-id from the main server for validating the ticket. Ticket checker put user ticket-id into their application to check user ticket is valid or not.

BOOKING THROUGH CYBERSPACE

It is [6] composed of a new mobile application developed for Android based Smart phones. Database technology plays a vital role in business applications and it has evolved from paper work to query processing. Here data are stored in SQLite database which is an embedded database available in Android. The time consumed for taking tickets is minimized. This system as said in [7] aims to provide tickets without Internet and GPS which mainly makes the current implementation of the mobile ticketing less popular. The ticket can be bought easily and ticket will be present in the customer’s phone in the digital data (huge volume of data) The Ticket Checker willscan the QR code for checking the integrity of the ticket.According to this technique [8], it supports additional functionality such as GPRS (general packet radio services)/EDGE (enhanced data for GSM evolution) or 3G/4G technology which uses internet connection, SMS technology which introduces additional cost. Bluetooth are not required, only Wi-Fi router is needed at required stations. The customer application [9] consists of Registration and buying ticket through QR-code.Payment can be done through user’s account i.e. if user is agree to buy ticket then the equivalent _amount ‘of the ticket will be deducted from the users account. After payment, ticket is

generated on server side, saved in the database and also sent back to the user mobile and saved in the application’s memory which serves as a ticket for the user. The ticket checker application is used to validate the ticket by entering the serial number obtained by the user and searching in the railway database to check whether the user’s ticket is valid or invalid.

E-TICKETING USING ANDROID

Here [10] proposes the “Android Ticketing of Railways (ATR)” can be bought easily anytime, anywhere and ticket will be present in the customer’s phone in the form of “Quick Response Code”. But the emerging feature in this project includes the Alarm system in this application. .It [11] mainly focuses on removing Queue in ticket counters. Travelling by different transport system like mono, metro and railway. And you can book single ticket for the same. This project is to develop the system which will help to get ticket at our fingertip. The technologies used here are: QR code, GPS (Global positioning System), E-ticket. User's ticket information is stored in a CLOUD database for security purpose which is missing in the present ticketing system. Also the ticket checker is provided with a checking application tool to search for the user's ticket with the QR (Quick Response) in the cloud database for the purpose of ticket checking

III. SYSTEM ARCHITECTURE

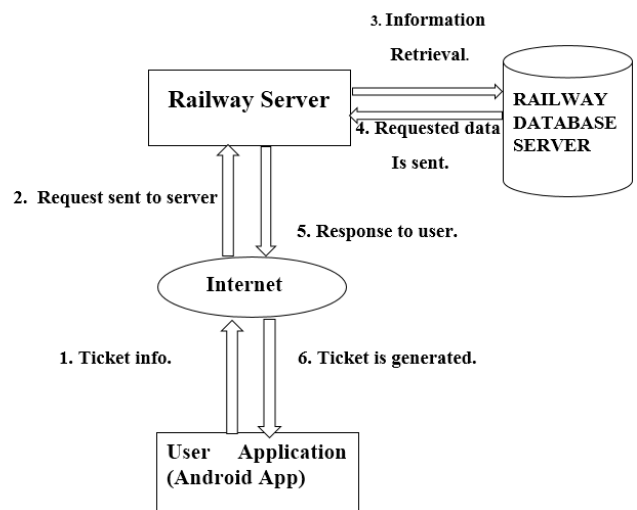


Figure 1.

The user has to sign in the android application to book the tickets online for local trains. After signing up, the user can select the appropriate Menu and can book the ticket through ‘Ticketing Booking’ page which can be selected from the menu. Once the button on the booking page is clicked, the ticket information will sent to the railway server as an http

request via the internet. The train database is built on PHP database which is the application database. The ticket information and the user detail is then stored in the Railway database with the help of MySQL. The http response from the railway server is sent back to the application at user end through the Railway server. Finally, the ticket will be generated to the User and can be viewed via 'Ticket Booking System' Application.

TBS-LT: A Ticket Booking App

A. Overview

The current railway reservation system is human dependent, time consuming while booking tickets. The objective of this project is to develop an android Application which will serve as a medium for any one ,like students/employees/ to book their tickets to travel through local trains. The main motive of this app is to ease the process of ticket booking by avoiding manual booking at Railway counters. Here, User can book the ticket for the short period of journey in local trains.

The application can be used with the help of user phone balance, which can be recharged time to time. It might be highly helpful for those users who don't have any bank accounts to pay the ticket fair online.

B. User Profile

To generate separate login for each user, individual profile can be created. The user will then enter the user details to login the application module like user full name, contact number, email-id ,city name, username and password and they can register for further access. User details will be store in the database which will be accessed by the application when needed to retrieve the data.

C. Ticket booking module

The user will then enter the train details like source and destination, number of tickets indicating adult or child passengers. The train details will be stored in the database which will be accessed by the application. The details of the train ticket will be sent to the user to verify and proceed to book the ticket using the "Book" button.

D. Displaying E-Ticket

After the user books a ticket, the ticket get stored in the Railway database via Centralized server. The user can click on "show Ticket" button to view the ticket booking

feature from the menu page as shown in fig. (2). The booked ticket will be displayed as shown in fig. (3), which holds brief information about Source, Destination, Number of passengers, and fare details for the journey period.

The users can recharge their accounts (user's phone balance) for payments during ticket booking process. Each and every user must maintain the minimum balance of Rs.100 in order to support further processing.

IV. RESULT ANALYSIS

Each and every user can create unique profile at TBS-LT application. passengers can now book their tickets online by providing required information.This application provids ease of access for passengers those who travel at short distance in Local trains.

The screenshot shows a registration form titled 'NewuserActivity'. It contains the following fields and values:

Field Label	Value
USER FULL NAME	manikandan
CONTACT NUMBER	786540231
EMAIL ID	mani@gmail.com
CITY NAME	manarkudi
USERNAME	manikandan
PASSWORD

At the bottom of the form is a 'REGISTER' button.

Figure 2. Unique account for users

Afetr creation of User account at TBS-LT , End user can login anytime and book their tickets online irrespective of time, location. They can provide necessary details which may processed by centralized server and stored in railway database.

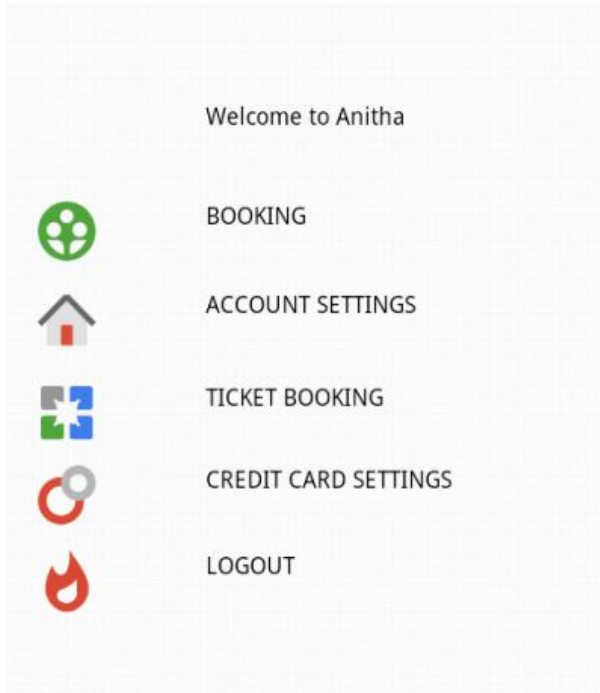


Figure 3. Menu page

After payment , the ticket will be generated with corresponding details. User can hold the E- ticket while travelling. In addition, recent booket ticket history can also be viewed in this application.



Figure 4. E-Ticket generation

E-ticket comprise of ticket reservation number, source , destination, no. of passengers,and the ticket fare.

Checker can validate the ticket using reservation number and user identity. Hence ,this TBS-LT application enhanes user comforts and simplifies the tedious task at high rate.

V. CONCLUSION

The main aim of this proposed system, TBS-LT (Ticket Booking System for Local Trains) is to simplify the manual ticket booking process which is highly time consuming and leads passengers a lot more complications while waiting in a long queue. By learning and analyzing the present ticket booking system, this TBS-LT provides easy access for every users to book their ticket online at anytime, anywhere, irrespective of the network traffic, since centralized server plays a vital role in TBS application and maintains overall passenger information with the help of Railway database. Current system also acts user friendly and May used efficiently with the payment structure using phone balance, which is a very easy and convenient way for common passengers from wide range.

VI. FUTURE WORK

Currently the process is done with the help of mobile balance amount .But in case of a nil balance in mobile or in case of mobile network traffic, the transaction may cause certain discomfort to us. Hence, Future work is to make payment through bank balance of user. In addition , This TBS application may also provide certain cash back offer and other user friendly facilities.

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