

Unified Railway Ticket Booking System

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Abstract - One of the biggest challenges in the current ticketing facility is "QUEUE" in buying our suburban railway tickets, metro tickets and mono tickets. In this fast growing world of technology we still stand in the queue or buy with Smart cards for our suburban tickets, which is more frustrating at times to stand in the queue or if we forget our cards. Also it is not possible for us to book tickets for multiple systems at a same time. Our system mainly focuses on removing QUEUE in tickets also while travelling by different transport system like mono, metro and railway. We can book single ticket for the same. We are going to develop system which will help to get ticket at our fingertip.

Keywords — UMMR, Railway ticket, QR code, GPS, E-ticket.

I. INTRODUCTION

We propose an android mobile application to buy the urban tickets where you can carry your urban railway tickets in the form of Quick response code which will be saved in the smart phone. For example, if you need to book a ticket from your office to travel from the nearest metro station to your destination then this app comes in handy where you can have access to ticket booking process with just a touch away on your smart phone.[3] This app uses the smart phones to validate the ticket and delete your ticket once the user has reached the destination which is done automatically after certain interval of time. In advancement to this the ticket checker can validate the ticket with a checker application provided to check if the ticket is valid by scanning the QR code and checking in the cloud database if the ticket is valid.[5] The application consists of all the details regarding the schedules of train, the routes taken by the trains with their source and destination places and the cost/expenditure that will be required to reach the destination. The payment can be done directly through the application after booking the ticket and as soon as the payment is done, ticket is generated on the server and sent to the user in the form of QR code. The payment gateways provided will be through credit cards or through prepaid services.[8] The ticket is also stored in the database so that the checker application can cross check from the database if the ticket is valid. The data provided by the user in this app would be saved in the database.

1.1 Scope of the project

One of the biggest challenges in the current ticketing facility is "QUEUE" in buying our suburban railway tickets, metro tickets and mono tickets. In this fast growing world of

technology we still stand in the queue or buy with Smart cards for our suburban tickets, which is more frustrating at times to stand in the queue or if we forget our cards. Also it is not possible for us to book tickets for multiple systems at a same time.[2]

Our system mainly focuses on removing QUEUE in tickets also while travelling by different transport system like mono, metro and railway. We can book single ticket for the same. We are going to develop system which will help to get ticket at our fingertip.

1.2 Aims and Objectives

This system Unified Ticket Booking System For MMR (UMMR) ticketing is mainly to buy the suburban tickets for mono, metro and railway which is the most challenging when compared to booking the long journey tickets through 'IRCTC' which fails with suburban(local travel) tickets of the three transport modes.

Our UMMR ticket can be bought with just a smart phone application, where you can carry your tickets in your smart phone as a QR (Quick Response) code. We will also keep one Smart phone at all stations for validation. Commuters have to validate the ticket at start station then he can travel in respective modes as per his 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 checker application to search for the user's ticket with the QR (Quick Response) in the cloud database for checking purposes. Ticket checker just have to scan the QR code generated in the commuters mobile number and he will get all the details associated with the e-ticket. In case if commuter's mobile ran out of charging then ticket checker can verify the ticket

using mobile number or ID of user. This information accepted at time of registration of user account. Balance for ticket is deducted from user account which he has to recharge when required.

II. LITERATURE SURVEY

Ticket is the vital part of the transport system in various transport system modes. Currently there are different ticketing systems available for each transport system. In central railway we can get ticket by standing in QUEUE at counter. Sometime queue length is very long. Also currently some other options are available to book railway ticket like smart card, Go card, etc. Go card system currently shut down by central railway. In smart card system we have to depend upon ATVM machines present at the station ticket counter. We can also use CVM coupons for the ticket.

In Mumbai metro and mono rail they have implemented different ticketing system. They are using NFC related technology for ticketing system. When you purchase ticket they provide you one token which you have to scan at start station and have to return this token at end station. Again to purchase this token we have to stand in queue which is also of same type like other ticketing system. Both of the above system will not reduce the problem of queue. As time is money for all the commuters.

VI. SYSTEM DESIGN

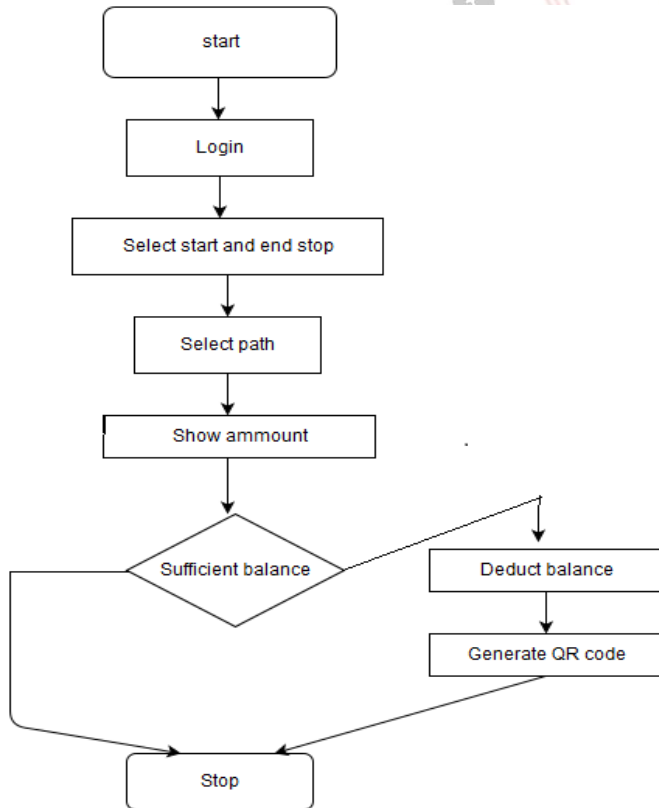


Fig 1 Flowchart for ticket booking

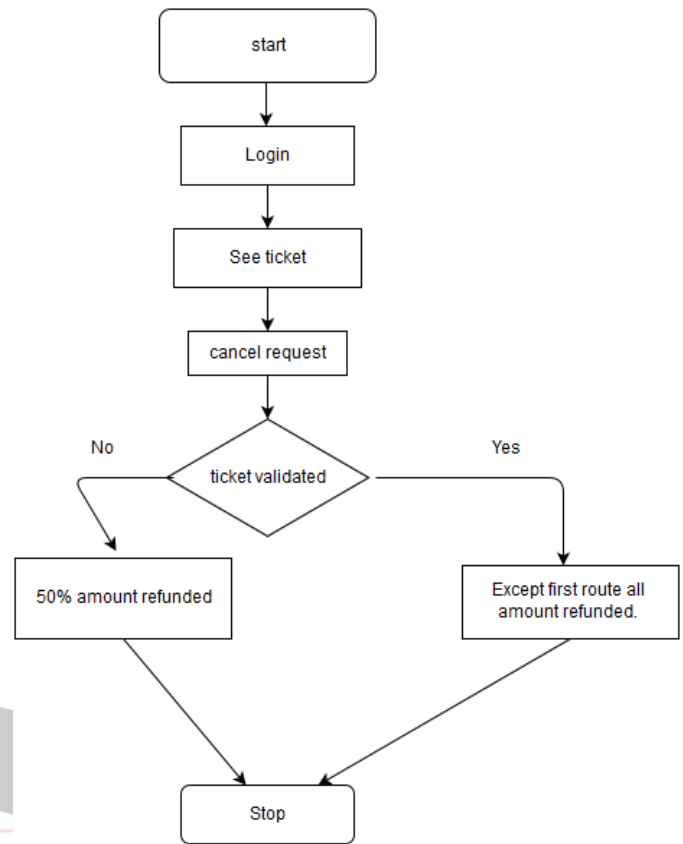


Fig 2 Flowchart for Ticket Cancellation

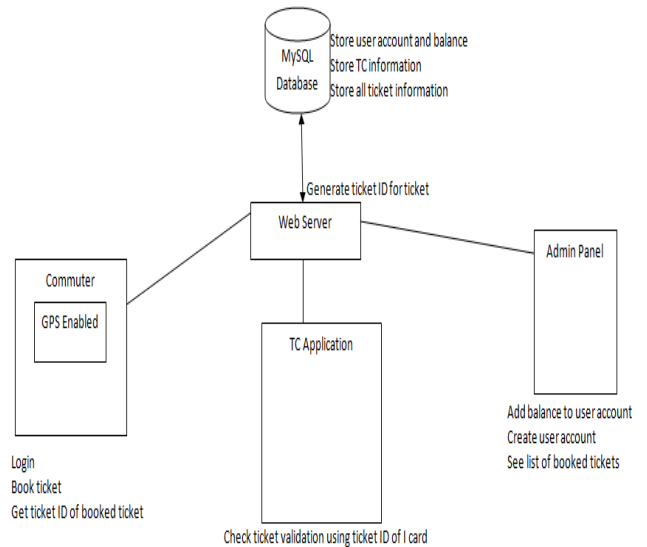


Fig 3 Architecture Diagram

VII. RESULTS

The implementation of the software has effectively helped to overcome various issues of ticketing system. Figures 7.1 and 7.2 below shows how a passenger can login to the software using GPS system:-

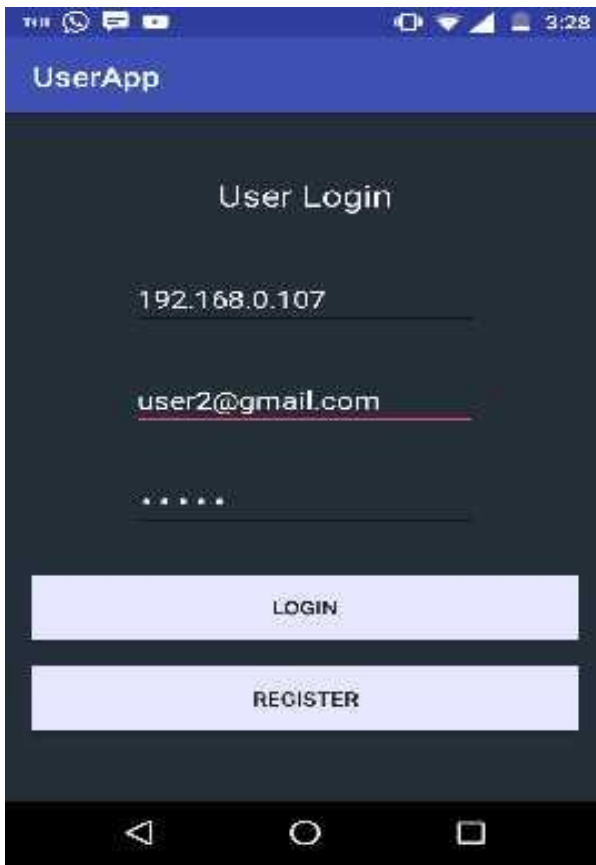


Fig.4- User Login



Fig.6 Ticket Details



Fig 5 - User App

The passenger should select the mode of transport first and then select the route of corresponding transport mode. Figures 7.3 below shows how a QR code of the booked ticket is generated.



Fig 7 TC Login

After selecting the location the current position latitude and longitude values helps to get the start position. Again when passenger swipes out the card the current position latitude and longitude values act as ending position. Later depending on the distance travelled amount is calculated. Server is in fig. 7.5

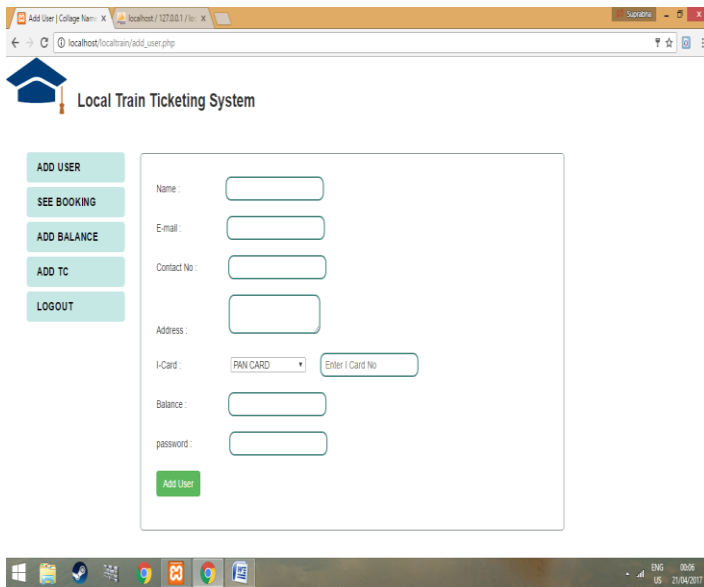


Fig. 8 Main Server

The user selects source, destination, path, etc. then the user browse goes to pay the amount for the ticket. Then the ticket number is generated at server side.

VIII. CONCLUSION

In this paper we have presented a mobile ticket application developed for Android using Java, MySQL, and PHP on the server side which can change the way people buy their tickets in future. This kind of ticketing application can be applied to any kind of transport system. Our android app can book ticket for multiple transport system at single point. Also our app saves a huge work for our ticket checkers by providing QR code based validation and ticket checking application of ticket checker. Hence a huge problem of issuing tickets for multiple transport system has been solved with our new application.

Future Work

1. This system can further expand to use multiple transport system like best, boat, etc.
2. We can use internet banking to pay amount of ticket.

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