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M-Ticketing Using Smartphones

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ABSTRACT

Due to the wide spread of the population and location of business areas, the rail network is the principal mode of mass transport in Mumbai. As Mumbai's population swelled from a heavy inflow of migrants in recent decades, frequent overcrowding has created a huge chaos during buying ticket for local journey Buying Tickets in queue is quite frustrating as we have to stand in the queue to purchase Ticket. Thus, we introduce M-ticket application where Mobile tickets are generated conveniently for users using an application. Tickets can be bought with just a click on a smart phone, where you can carry your local railway tickets in your smart phone in a pdf form. To use this application, first you have to install this application in the android device. After installing this application next phase is registration, in this phase you are creating your account with a user_id and a password. Using this user_id & password you sign-in to the application. You recharge your account with certain amount through manually. One can also check his/her balance after a transaction easily. To book your ticket using this application you have to enter source location/station out of the available routes and other details. The server present on that source location will identify and verify your credentials. After that ticket is generated with unique ticket-id & this ticket store into your device in the pdf form. This ticket contains unique ticket-id, time of transaction & name of source and destination. The user application uses the station "WI-FI" facility to book your 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.

Keywords:- Android, smart phone application, Ticket Counter.

I. INTRODUCTION

Nowadays, Passengers have to stand in queue for long time during peak hours which led them to travel without ticket which is against the law. Mobile ticket booking is small initiative from our team to advance the current ticketing system[4].

With this application Passengers don't have to wait long lines or carry paper tickets anymore and they will now get a virtual ticket copy on their mobile. This application provide simple to use GUI so user don't have to do any tedious task and as ticket will there on their mobile so chances of losing ticket while traveling will reduce on large scale. This application can be use for various types of ticket and for different class as well [1].

The user application uses the station "WI-FI" facility to book your railway tickets. This application allows us to book our tickets only in ticket-counter areas. It means that facility of buying ticket is not allowed outside the Wi-Fi range. With our application the cost of hardware only includes installation of server and routers.

What is M-TICKETING APPLICATION?

Mobile Ticketing application is developed to help people to buy ticket through their Mobile via Wi-Fi hotspot provided at every station.

This application uses the station "WI-FI" facility to book your railway tickets based on location. Here user have to create his account at the service provider website and install the application on their mobile. It allows us to book our tickets only in ticket-counter areas[3].

In this application ticketing information of the user is stored in the smart-phone Application launches with display page asking for ID and Password. For authentication they need to come in the Wi-Fi range and connect their mobile it. After authentication they will be redirect to page were in they can select various option they want to perform such as (buy ticket, check balance, view ticket info, etc.)[2].

All the client systems (in a Wi-Fi range) are connected to the central server placed in the zonal headquarters for data transfer.

II. EXISTING SYSTEM

Indian railway have taken an initiative to provide ticket to user through web portal and mobile but still no application has been made for local commuters[5].

Buying of tickets by paying on the counter: -

This is the oldest method of buying tickets. In this method the customer has to pay the required amount on the counter and purchase the ticket and waiting for long time.

Coupon system:-
This system is a bit better as compared to the first one. But it has got drawbacks too. If a person need a ticket of say 10 rs. And is left only with 1Rs. coupon it will take quite a long time to punch the same.The ink punched can be erased and coupon can be reused.

Smart Card Machine:-
Good but still time consuming.Illiterate public cannot use the system.

III. PROPOSED SYSTEM

The main aim of the proposed system is to reform the current season ticket booking process (Ticket) for local travelling. I.e. with the help of this application travellers will able to book tickets and buy pass through their mobile using Wi–Fi connectivity. User can manage its account by viewing its account balance so he/she can recharge it to avail uninterrupted service.

It can also keep track of most recent tickets and pass bought. This is an effort towards queue less ticketing system and make passengers utilize their time which they waste awaiting in the queue.

System Architecture

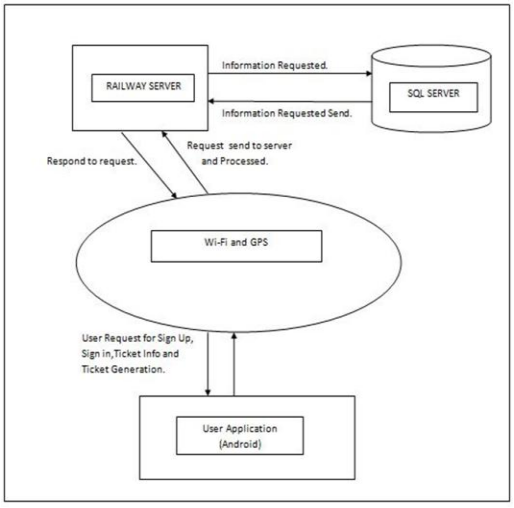

Fig 1. Architecture

IV. WORKING

1. Registration Details

The installation of application starts from personal information. It gathers the customer information such as name, mobile no., e-mail, password and this entire information will be stored into database[1].

2. Login Page

During login into this system we required to enter the mobile no. which is used as a username and password[1].

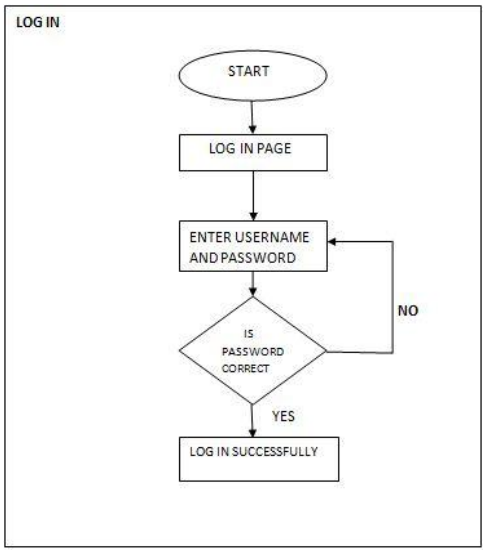

Fig 2. Use case diagram for login page

3. Buying tickets and pass

In this system during buying ticket source station is automatically detected and user required to enter destination, class, no. of child and no. of adult tickets, ticket type is also choose by user like return or single. After entering this entire information user also checks the fare[1].

In this system during buying pass source station is automatically detected and user required entering destination, class and passing duration. After entering this entire information user also checks pass amount[1].

The user can also take extension of existing pass, in this destination of an existing pass becomes source when user wants to take extension ticket of the pass[1].

4. Ticket generation in PDF format (PDF generation)

When user buy ticket pdf file of ticket is generated. This pdf file contains the information about journey, timestamp, user_id, transaction_id[1].

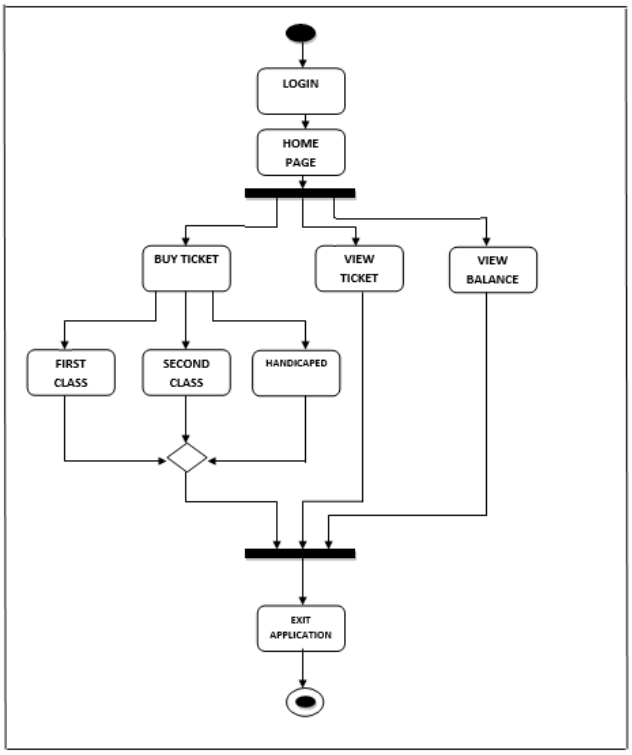

Fig 3. Activity Diagram

V. FUNCTIONAL REQUIREMENTS

Basic functional specifications

- Issues all classes of tickets for all types of trains
- Issues various types of tickets; outward, return, all categories of season tickets (including free, student, vendor tickets, advance tickets, retiring room tickets)

The following are some of the complex requirements of railway ticketing that need to be addressed:

- Work in a callous and dusty environment
- Should work 24 hours, 365 days — round-the-clock.
- Highly secured — no data loss
- Meet all ticketing functionality
- Transaction time — 5 to 15 seconds per passenger
- Flexible audit operations
- Frequent change in business logic and fare
- Ease of maintenance and implementation
- User-friendly

Hardware requirements

- **1**.WI-FI HOTSPOT
- **2**.Mobile Phone running on android platform

Software requirements

- **1**.Jsp and servlet for website.
- **2**.Xml and java for android application development
- **3**. Oracle 10g for data storage…

VI. CONCLUSION

Eradicates the need to stand in a queue to take ticket. By integrating the use of mobile applications, you are keeping the event green. Improved customer experience – It's interactive and in real time.

Implemented correctly,such system can revolutionalize the ways in which customers can use public transportation,adding significant amount of convenience,efficiency,flexibility.

VII. FUTURE ENHANCHEMENTS

For better performance in future of the application online transaction can be used to recharge the user application account.

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