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Train Ticket Booking via SMS

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Abstract: Ticket fare management is one of the most diversely researched topics when it comes to local railway ticketing. There are numerous different solutions have been devised in the past. However, a new kind of resolution was coming up in the last few years: mobile ticketing or m-ticketing. This ticketing concept uses customer's mobile devices to obtain public transport tickets, instead of special devices closely-held by the transport operators. Another topic of discussion in mobile technology is location primarily based services that are services offered via the customer's mobile device and primarily based on his actual location. The benefit of location-based services could be a well-fitting service giving adapted to the actual consumer's wants.

Keywords: Mobile, ticketing, SMS, gateway, GSM modem

I. INTRODUCTION

The technical advancements have played a great role in reducing the long queues for railway tickets by the use of technologies like online reservation, a mobile app based reservations. These methods have proven to be quite useful but when comes to the scaling the same systems for a local train, there are too many problems that arise. The most important aspect is the infrastructure that needs to be set up and the amount of user base which can access the services. The rail services if accessed through web services/application services, may not be available to all as they require the user to have active internet connection throughout booking procedure. Most of the users may not have it at their disposal which makes it a bit difficult to consider it as the best solution. A traveller is needed to register with the system and ensure that ample balance is out there. Each time a passenger wants to travel, a message has to be sent to the system. Upon authentication of the user and upon checking whether ample balance is out there, a message is issued. With the facilitate of SMS, a user can be ready to book a price ticket through active RFID Card. The user then enters supply and destination details. This data gets transferred from GSM module to the railway system and the price ticket is engaged vice versa i.e. the railway system can make sure the sources and destinations and the price ticket are confirmed and send through GSM module to the user mobile. The price ticket can then be available on the mobile device, preventing paper wastage, enabling straightforward generation and safe generation of the ticket.

In the past few years, there has been an additional advancement in the field of technology. Considering department of the railway, e-ticket facility was introduced wherever users browse through a governmental website and book their long journey railway tickets which might be written out when confirmation to point out it to the checker once required. When few months a new technology referred to as M-ticketing (Mobile Ticketing) was introduced wherever customers messaged to the net portal through mobile phones when that a whole website was downloaded to the users mobile wherever users will do the same booking method because it was within the e-ticketing facility.

II. LITERATURE SURVEY

A. Automatic Ticket Vending Machine

In the ATVMS based design proposed in [paper's reference number], focuses predominantly on vending tickets to people via a sms platform. A centralized holds down the dataset or the records of the users. Whenever users have to book a ticket they can send a specified format based data line or request which will be received by a server computer connected to a GSM modem or a sms gateway. The requests specific to stations are handled by station located servers. This leads to a loosely coupled system wherein the data is stored in local servers and then pushed to main server whenever necessary. Though this kind of system helps in case of outages, this increases the cost of the system substantially. Also to make all the systems work in a distributed fashion is somewhat cumbersome on the networking and congestion control part. Still it is one of the best approaches that can be deployed with a few minor changes and can be built into a operational real time system

B. Location-Based Ticketing Systems

Location primarily based ticketing is a new service for public transport customers to obtain a valid ticket by using their mobile phone. To use these service customers have to be registered with the service provider (contractor). Another part of this method is the registration of an identification medium, i.e. the German Bahn Card, needed for ticket validation. To start a visit with public transport a call is made to a fixed number. The client is allowed to travel for any length of time, as long as he is inside the service area. At the finish of his trip, the client calls the service number second time, to check out. After the user checked out the system

starts to determine the route within the public transport infrastructure, then calculate the price of the trip and finally bring it to the customer's account. At the tip of the month, the account will be balanced with the contractor. If provided, a best-price calculation can be performed within this request process.

C. Ticket Vending Systems

This system provides information on the cost of the journey and enables payment by cash (notes and coins), credit and debit cards. These vending machines are also available at mainline rail stations providing tickets for all rail services in the country. Chicago introduced a system of smart card ticketing in 1997. By 1999, the use of cash as the method of payment on bus dropped by 24% and 6% on the rail. Initial customer satisfaction ratings of the smart card system demonstrated that 93% of users were 'very satisfied' with the system. Further research completed on the Chicago system with regard to recharging their cards, found that 17% of respondents would be willing to recharge cards by payment on the internet, and 8% would use ATM's (Automated Teller Machines)

III.IMPLEMENTATION

The projected system was enforced using Java 8 on the server with Windows 10 as the in an operating system. On the server side, MySQL was used as the backend DB. A custom made data abstraction software was used along with Sim900 GSM modem to receive messages from the client. The entire project was developed in Netbeans IDE.

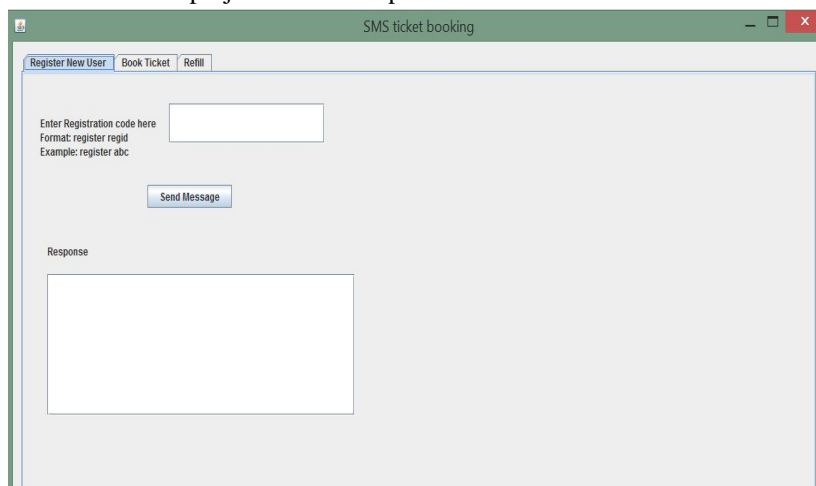


Fig1: User registration

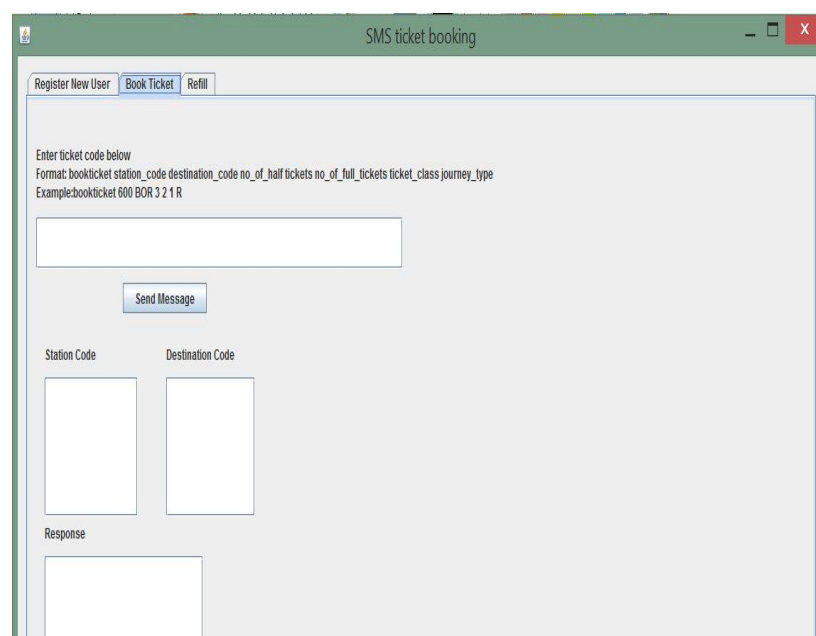


Fig 2: booking ticket

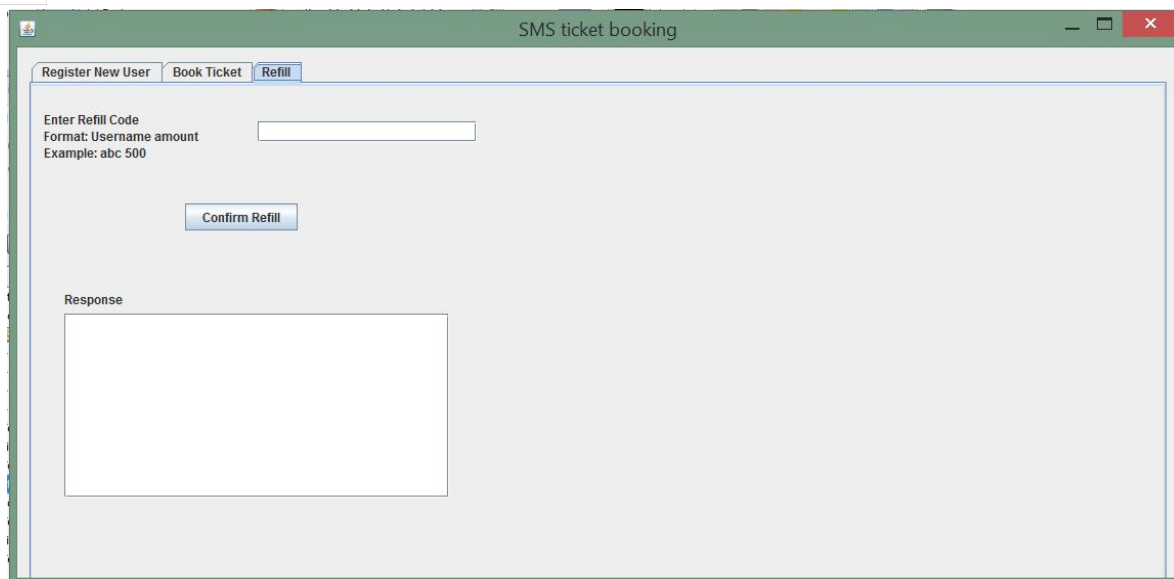


Fig 3 : Refilling account

IV. CONCLUSIONS

The system proposed in this paper uses SMS based approach, where a traveller sends an SMS to the server to get a token, which serves as his travel price ticket. This code will be verified by the price ticket distributor who uses a handheld device to communicate with the server. The entire process involves the use of technology in a smart way. This method, if enforced, avoids the use of paper tickets and avoids felling of trees. Upon implementation, it was found that the system is ascensible. The planned system is simple, efficient and foolproof; it is also eco-friendly since there is no wastage of paper. With some minor modifications, this system can be implemented to book tickets for seats in sports events, movie theatre etc. However, the limitation of the system is the dependence on the service provider's network coverage and strength.

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