Enhanced Train Booking System

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Abstract — *This study describes the attributes of railway reservation system by generating the digital ticket. Since the railway is the best mode of transportation available for common people. But sometimes, in Indian Railways transport system and in most of the public transport system a passenger did not get the ticket. In the current system, the reservation of ticket can be done by counters opened at the railway station or by agents. Sometime the online ticket booking leads to corruption and black-marketing of the ticket as in [7], [8] (through agent). This paper presents the solution of the problem by restricting ticket booking by Aadhar id so that black-marketing will reduce and normal people can get the ticket. Along with this we will also going to use the R-wallet for the payment mode which in turn will speed up the payment process. And on the other side, we will provide an android application to Ticket checker to make the ticket checking process easy. The use application will eliminate the paperwork and help in maintaining the records easily. This paper presents the solution by which the current system can be made more flexible, transparent and digital.*

Keywords- Black marketing, Transparent ticket booking system, Advance Ticket checking, Reduce paper work, Fast payment process.

I.   INTRODUCTION

Technology expanded to a huge extent and is being utilized in the field of transportation in past few years. The Indian railway is the largest human transport system in the world and most of the people use railway as the prior mode of transportation. So, to make it digital few years before the E-ticketing came into existence. Along with this the black-marketing of the ticket in the railway system also increased which in turn led to face many problems to the passengers while ticket reservation.

In the existing system, there are two ways of booking the ticket either by buying the ticket from the counters opened at the railway station or by online ticketing. But still many of the times the passenger did not get the ticket because of the agents. Along with this, there is much more paperwork going on in the railway reservation and ticket checking process. Due to this, most of the time the TC gets into trouble as he needs to maintain more records in the form of record.

II.   CHALLENGES

- To eliminate black-marketing while ticket booking and checking.
- Generating the digital ticket.
- To make the whole railway system digitalized.
- To reduce paperwork.
- To make the current system cashless.
- To make the system easy and transparent.
- To make the payment mode easier and faster.

III.   OBJECTIVES

The purpose of this system is to provide an efficient ticket booking where in each passenger has equal to avail the ticket ticket with reduce black marketing and corruption.
    There are many objectives as follow:
- In this system, we are going to generate digital ticket for passenger.
- Booking of ticket is done by only Aadhar card id.
- The booking confirmation message will be send to passengers mobile.
- In this we will also include the schedule of the trains.
- In price session, we are going to provide some discount for senior citizen and handicapped.
- Tatkal booking is also provided in our system.
- To make Ticket cancellation easy.
- Ticket checker (TC) checks ticket using its device.
- Passengers don't worry about tickets. All records of booked ticket are stored in TC's device

Here the administrator manages that central dictionary and manages passenger data. Therefore, administrator is responsible for activating and blocking the passenger. It also updates train schedule. It changes train details and discount, fare for the train.

IV.   L ITERATURE REVIEW

a.   Garima Sinha, Prof. P. N. Gupta and Dr. Deepak K. Sinha, as in [1] proposed a system of Indian Railways through SMS and Swapping Machine. This paper share out the solutions of the problems related to the time delay during the Ticketing Process in Indian Railway and the mode of payment excluding from the specified while taking ticket from their Ticketing Counters.

b.   N.M. GIRINIVAS, P. HEMANAND, K.P. CHETAN and S.R. JANANI, as in [2] proposed Local Train E- Ticket Reservation System using Wallet System. This paper is comprising of a new mobile application developed for Android 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.

c.   Abdul Mateen Ansari, Aftab Alam, Mohammed Mujahid.Barga, as in [3] proposed a system, Next Generation E-ticketing, in which they explained Service Oriented Architecture (SOA) for cloud based e-ticketing railway reservation system, how IRCTC (Indian Railway Catering and Tourism Corporation) can make tatkal booking easier, features of proposed system architecture, benefits of the proposed system and issues and challenges.

d.   Mrs. Omprakash Yadav, Ryan Fernandes, Rohit Tiwari, Sheenam Kaul, as in [4] proposed Online Reservation System using QR Code based Android Application. This paper proposes the new Seat Allocation system considering the advantage of QR code image, containing information about ticket and passenger info in form of 2d.

e.   Tushar Dongare, Akshay Babar, as in [5] provided various techniques for buying tickets through their smartphone application through GPS facility of android mobile with the intention that passengers can easily get the list of station and they can easily buy tickets.

f.   Pranjali Kharwade, Vaibhavi Datey, Isha Gujarkar, Vidhi Sharma, Shweta Holey, Vivek Gupta, as in [6] propose ticket reservation system using android application and validate them. Use of hardware device to validate the QR code before the user enters or leaves the station is implemented.

V.   REQUIREMENT OF NEW SYSTEM

With the upcoming technologies, there are many loopholes created in the existing system. So, to overcome the problems, the current system should be enhanced with some new ideas.

As the level of corruption and black-marketing has been increased in the current system during railway reservation and ticket checking. The black marketing is due to fake ticket booking like, we all book the ticket online but what happens most of the time we get ticket in waiting list. This is because the unauthorized agents book the tickets in bulk *as in [7], [8] (through agent).* when the booking starts (unnecessarily), so the normal people did not get the ticket. And the agent sells that ticket in the double rate. Due to which the normal people suffer as they didn't get the ticket.

In the current system, all passenger record is paper based which are tedious to manage for both passenger (such as paper based ticket) and TC. Therefore, to make the railway system digitalized and paperless new system should be developed which in turn will provide the easy record management facility.

So, to make the railway system transparent it is necessary to change the reservation of ticket booking and checking process.so we should provide a better solution to it.

VI.   PROPOSED WORK

Thinking towards the solution, why should not provide unique ID to each passenger. The best solution is to use Aadhar Card ID as a unique id, because now a day the Aadhar id is compulsory for above 3-year child. So, everyone is having an Aadhar card.

In the proposed system, we are going to develop a web application for the passenger and an android application for the Ticket checker to make the whole process digitalized by generating a digital ticket. In our system, we will integrate the Aadhar card system with the railway system to restrict the direct reservation of tickets by making the Aadhar id as the mandatory factor of booking. Using Aadhar id, we will reduce the ticket black-marketing and corruption in the railway system. In our system, we will also provide the notification facility to the passenger about the current train status and their ticket status so that they did not have to check PNR status continuously.
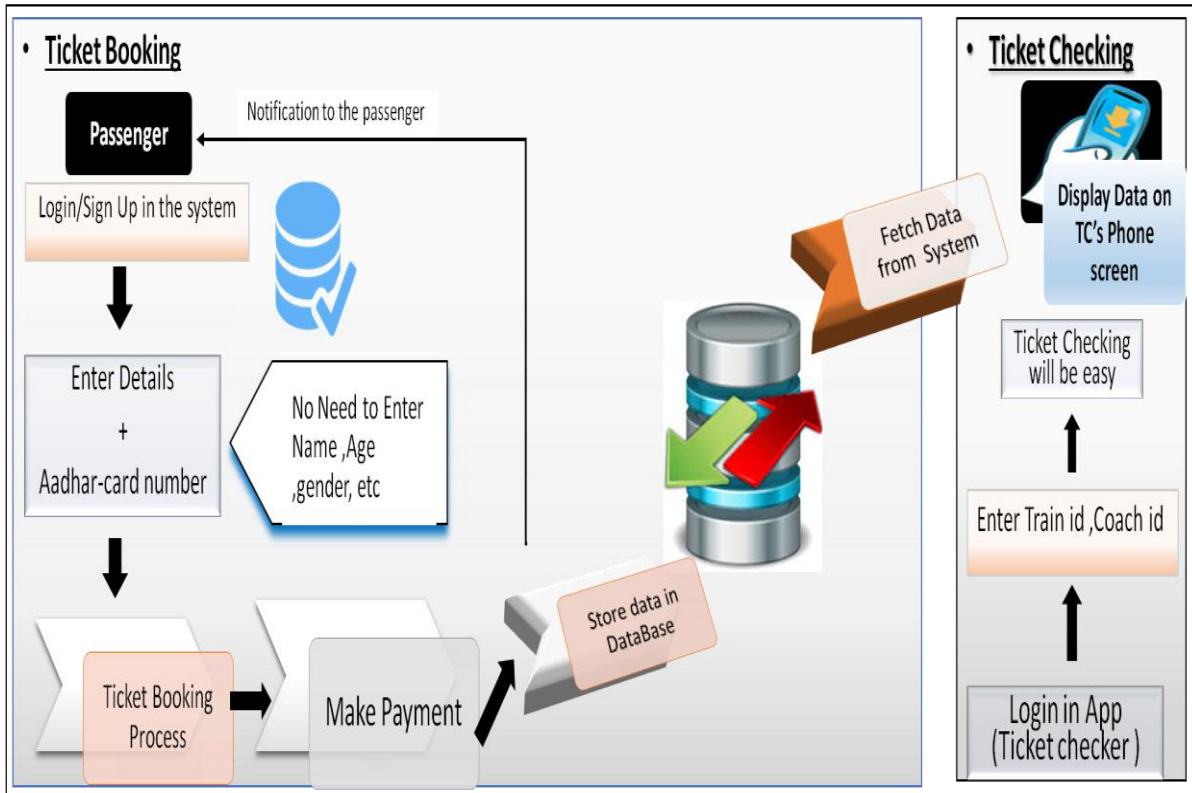
Figure 1 Flow diagram

As we are going to book the ticket through Aadhar card which in turn will make the ticket checking process more flexible. As per our system, the TC will be using the android application for ticket checking in which he has to enter only train id, coach type and block no and the whole details of the passenger corresponding to that data will be visible on this screen. The TC should just click on confirm button the ticket if the passenger present on the corresponding seat else the has given the rights to alter the ticket through the application.

The main objective of developing new system is to make the existing system more user friendly which will reduce the problems like black-marketing, corruption and paper work.

VII. IMPLEMENTATION

Use case diagram depicts functionalities of the system a given user can perform to accomplish a task and meet his/her goal. In other words, the diagram shows the interaction between the system and the user of the system.
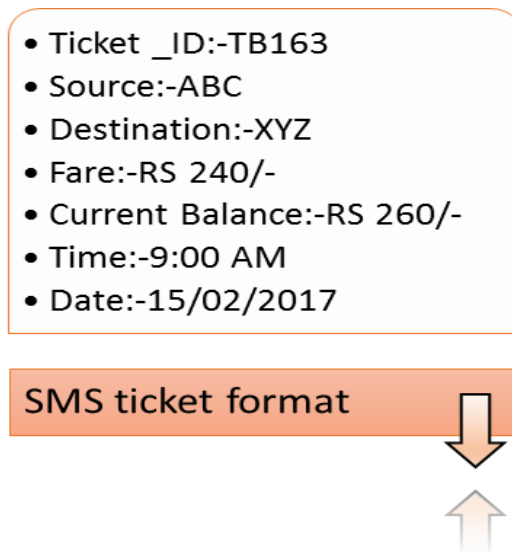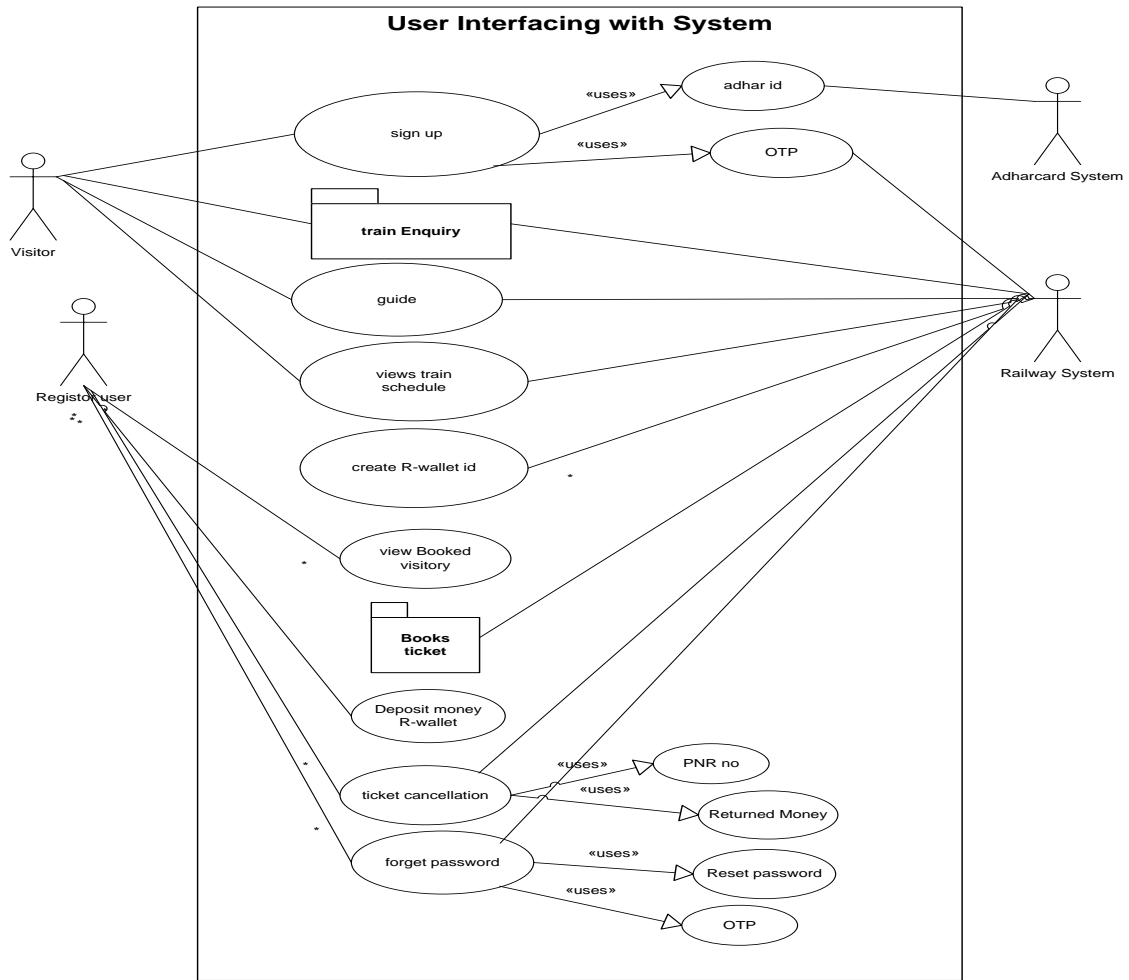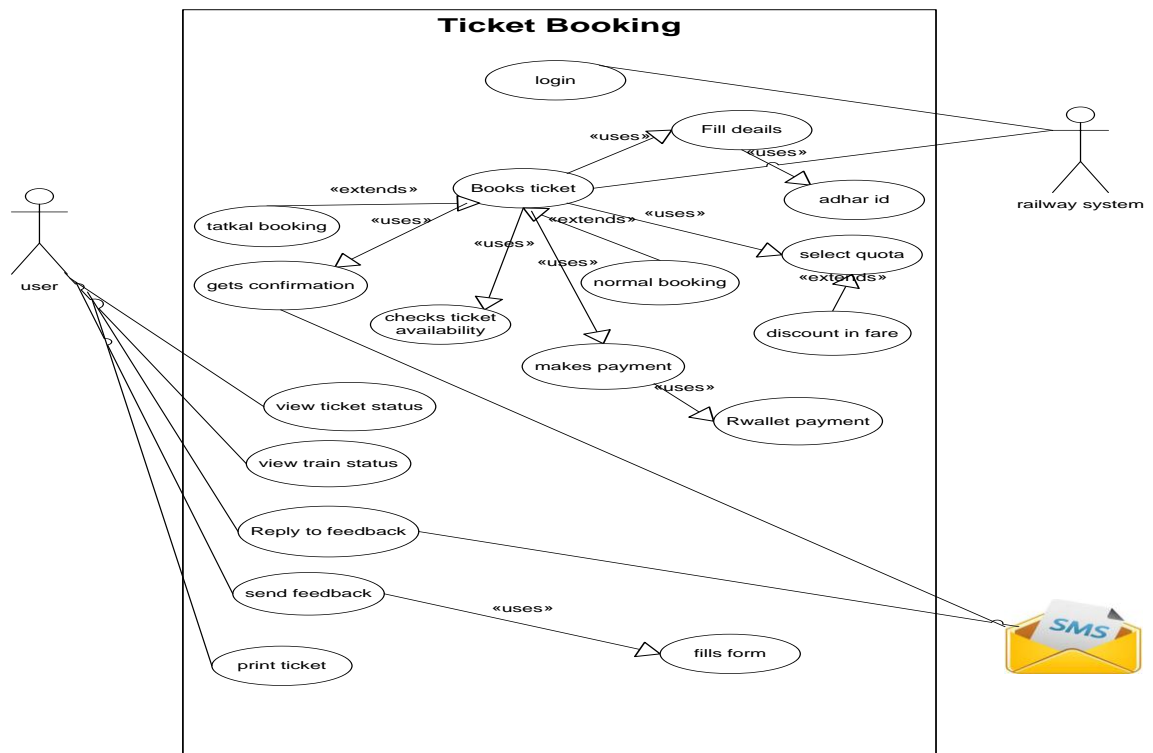

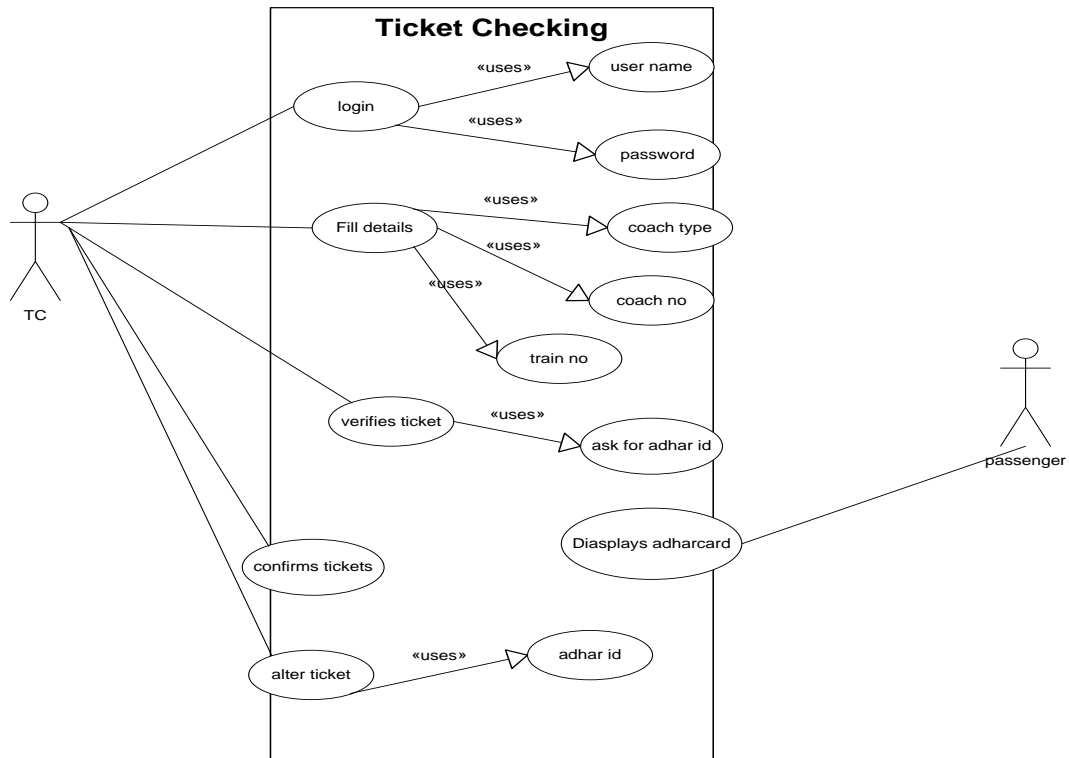*Figure 2 SMS format*

Figure 3

Figure 4

Figure 5

VIII.   CONCLUSION

This paper focuses on the system to be implemented for providing better ticket booking and checking process using Aadhar ID. The major objective of this project is to stop touts and unauthorized agents from booking tickets on fake names and then selling the same at a higher rate. For achieving these, we would be generating a digital ticket which will make the current system digital, paperless and cashless. By the implementation of this project it will also beneficial to TC for ticket checking through android application and to the passenger for making payment through R-wallet which will result in less time consumption.

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