

Online Reservation System Using QR Code based Android Application System

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Abstract- Indian Railway is world's largest human transport system, is currently dealing with a lot of problems, such as availability of confirming seat if available during immediate cancellation / getting down at destination where other waiting list passenger from that destination can board a train and reach the destination to avoid not allowing the other people who enter the train without buying tickets and then buy tickets from it, reduce the burden of passenger to carry ticket. However there is no such system that presently in Indian railway gives accommodation to waiting list passengers during their journey and reducing the burden of carrying tickets. This paper proposes the new Seat Allocation system considering the advantage of QR code image that contains information about ticket and passenger info in form of 2d . Moreover, authentication seat allocation-checking by it is done using an another android app for it which verifies qr code information with the database and reduces the burden of it. Through this research paper our approach is to make journey of waiting list passengers more convenient in Indian Railway.

Index Terms- Indian Railway, QRCodeImage2d, Reservation System, waiting list Seat Allocation.

I. INTRODUCTION

I A. Indian Railway

Indian Railway is India's third largest human transport system over which 2 crore [1] passengers travel daily all over India. Even if there are seat available random people who don't buy tickets enter the compartment and buy tickets from the it. Due to this, peak seasons take place and more than half of the passengers having tickets of waiting suffer. These waiting list passengers accomplish their journey from their source station to destination in standing mode. The number of passengers in Indian Railway has been increasing drastically in every year, in a rate of 25 to 50 percent from its previous year [1]. Such increase also increases the number of waiting list passengers in every train. Increasing number of waiting list passengers, increase riders in train which results "happy journey" slogan of Indian Railway in to "unhappy journey".

II. QR code 2d Image

There are forms of qr code is 2d,3d,4d etc as the dimension increases process time and scanning time increases to avoid this we make use of qr code 2d image which reduces the time of scanning and makes the work of it much faster.

II. PROBLEMS IN CURRENT SYSTEM

There is more space for users to book tickets illegally and sell them at exaggerated price, [4].

Less exposure of technology, for example Travelling Ticket Examiner (TTEs) still use pen and reservation charts to verify the passengers.

A passenger cannot get the reservation after chart is prepared, i.e. chart is prepared four hours earlier of train departure, however train may remain vacant.

Lack of optimization in seat allocation, for example whether passenger has boarded or not his seat remains reserved till his destination.

A seat can remain vacant if passenger has not arrived and if after departure of train he cancels the ticket then loss of revenue to the Railway.

There is no dynamic seat allocation for waitlisted passenger in place of vacant seats, if passengers with reserved ticket have not arrived.

Our proposed DSA model is an attempt to solve the above problem with the help of QR code. QR code is used to embed the URL in the ticket. It facilitates faster ticket checking process. One of the wireless standards is used for connectivity between HHT and DSA server by which authentication is provided to every ticket.

Very often, every journey starts with the purchase of the tickets at a ticket counter or from the machine such as personal computer. It would be convenient to have electronic systems which make the task of passenger easy and convenient. The expanded use of mobile phones, their computational capabilities and their ability to connect to the internet make them suitable. Several new technologies have been used for this purpose. A very interesting system is touch and travel which is operational in German Railway.

Many problems in Indian Railway will exist after the adoption of latest technologies in electrical, mechanical and commercial department. One of the problems is, with the waiting list passengers, because they are not able to get their confirm seat up to their destination due to rush. The Indian Railway has decided to solve this problem by increasing the number of coaches for waiting list passengers by making their tickets confirm. But still the problem continues because of non-availability of coaches, because near about 10,000 trains run every day all across India.

Through this research paper we are attempting to propose the DSA model which minimizes the problem of waiting list passenger's up-to a certain level. Moreover transparency in the system comes with use of technology. In this model we have enhanced the use of QR code with communication Network of

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