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# Techniques of E-ticket System : A Review

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## ABSTRACT

In many public transports systems, people need to stand in the queue for tickets like Railways, Airports, Bus stops, etc. With the technology growing so rapidly, this must be changed too. E-Ticket is a system for online ticket generation and sales. User can easily book and order the tickets to a cultural or sport event online, pay them online and then print his electronic tickets at home printer and go directly to the event place. In this paper various research for E-ticket system has been discussed. And an efficient E-ticket system using QR code has been proposed.

**Keywords:** Login, Apply, Payment, Generation

## I. INTRODUCTION

Effective public transportation systems are seen as a fundamental requirement for modern society, not only to satisfy basic mobility requirements, but increasingly to ensure that time, resources and assets are used in an efficient manner thereby minimizing adverse impact on the environment .E-Ticket is a system for online ticket generation and sales. User can easily book and order the tickets to a cultural or sport event online, pay them online and then print his electronic tickets at home printer and go directly to the event place. There is no need to wait in queues or be stressed to get tickets just before the event.Every person needs to stand in the queue for purchasing tickets. With the technology growing so rapidly, this must be changed too. The new technology must be enhanced and adopted on an immediate basis with the already upcoming online technologies and payment gateways making its way through the market and being a big success. In the past few years there were more advancement in the field of technology. Considering bus department, e-ticket facility was introduced where users browse through a governmental website and book their long journey bus tickets which can be printed out after confirmation to show it to the checker when needed. Also in foreign countries the use of Oyster cards & Octopus card has become mandatory during travel.

Even the MSRTC buses system has the facility of monthly passes. But the passenger suffer if they forget our travel cards and they have to stand in the Queue for the local bus stand tickets, which is a place where e-ticketing and m-ticketing were able to lay their foot prints.

## II. LITERATURE REVIEW

A smart ticketing system using RFID [1] has been developed, which is a user friendly system for public.RFID consists of a RFID Tag and RFID reader.Each user will be provided with a smart card which is rechargeable.It may be a prepaid or postpaid one.The RFID reader reads the information of the user such as name, address and mobile number.IR sensor helps to count the number of persons entering into the bus. After taking the tickets the count in the IR sensor will be deducted.If a count is not deducted

within five minutes,then it is taken into account as fraud information. we can obtain the tickets from our Android mobile phones.Nowadays,Android mobile phones plays a major role in the society.The consumer's application and usage of mobile phones have expanded tremendously. After reading the information from the RFID Tag,a notification will arrive at the user's mobile phone.An application which has been developed in the Android mobile helps the user to take the tickets according to their desire. The source will be set in the mobile application through GPS information.The user must enter the destination point and the travelling charge will be deducted from the user's rechargeable card. If any passenger fail to take the ticket, a message will be send to the nearby station checker's mobile number through GSM.So,this system is much more useful to avoid the misusages.In addition to this, a vibration sensor is connected to the system which is useful for detecting the accidents .In case of any accidents , the accident spot is detected by the GPS and the location's name will send to the nearby stations.

The limitation of this system is RFID technology is harder to understand and can be less reliable.Its often more expensive than barcode system.It usually larger than barcode label.Possibilities of unauthorized reading of passport and credit card.More than one tag can respond at the same time.

[2]The GPS facility which is available in the Smartphones is used for checking the tickets and the Quick Response code will be deleted from smartphone automatically once the passenger reaches the destination. It is actually a cloud based application. In which data will be saved in cloud database using web services. The work here starts during the first time installation of our application where the user has to sign up. During sign up the basic customer information like first name, last name, date of birth, mobile no, city, state etc., will be gathered and it will be stored into MySQL database. So every time when the user buys the ticket this customer information is sent to the database for security purpose and also the ticket is generated accordingly. During sign up the username will be set as the use's mobile number and the password will be as per the choice of the user. On the other hand if the user has an account then he can sign in directly. Thus the user can use different android phones and will not be restricted to only his phone. The above information will be send to server with the help of internet.It is actually a cloud based application. In which data will be saved in cloud database using web services. The work here starts during the first time installation of our application where the user has to sign up. During sign up the basic customer information like first name, last name, date of birth, mobile no, city, state etc., will be gathered and it will be stored into MySQL database. So every time when the user buys the ticket this customer information is sent to the database for security purpose and also the ticket is generated accordingly. During sign up the username will be set as the use's mobile number and the password will be as per the choice of the user. On the other hand if the user has an account then he can sign in directly. Thus the user can use different android phones and will not be restricted to only his phone. The above information will be send to server with the help of internet.

GPS chip is power hungry which drains battery in 8 to 12 hr. This requires either battery replacement or recharge.It accuracy depends on sufficient received signal quality. GPS signal gets affected due to multipath , atmosphere etc. This leads to error of about 5 to 10 meters in GPS signal.The system will require Internet connection throughout process.

[3]The Aztec code is a 2D barcode invented by Andrew Longacre Jr. and Robert Hussey in 1995. It was published as ISO/IEC 24778:2008 standard

named after the resemblance of the central finder pattern to an Aztec pyramid, and it has the capability to use less space than other matrix barcodes because it does not make use of the "quiet zone" that surrounds it.The Aztec code has the following structural features: It is built on a square grid with a bulls-eye pattern at its center for locating the code. Data is encoded in concentric square rings around the bulls-eye pattern. Data is added in layers, with each layer containing two rings of pixels. Decodingbegins at the corner with three blackpixels, and proceeds clockwise to the corners with two one and zero black pixels.The proposed system is intended to overcome the major drawbacks of the currently existing manual system.

This system is easy to design and implement. It requires very low system resources. It will work in all the configurations. It has got the following features: This system will make sure that data is accurate. Records will be efficiently and accurately stored and maintained in a DBMS. Renewal can also be done online with the reference identification that is provided after the registration is done by the user. Supposing if the student or any other type of commuter does not require the pass service anymore, he/she can cancel their registration. Minimum time would be required for processing the details submitted and to generate the bus pass.

Aztec code can not scanned with simple scanning devices. Need complex laser scanners.This code requires substantial amount of training to understand not easy for a layman user. Aztec codes can store more information but there is poor free support for them among open. Non proprietary software.

[4]The Android Suburban Railway System thus carries a Quick Response Code (QR) in the form of a SMS. GPS is used to validate the ticket when the user reaches the station and deletes the ticket automatically after the destination is reached. For security reasons the information about every user is stored in CLOUD which is to be accessed for each ticket booking for validation purpose. As pointed out by Agostinho Baiaet al. "This change of paradigm benefits from the fact that cloud ticketing services can be accessed through the Internet and they can be elastically grown or shrunk, providing easier scalability and high availability". There are two modes of ticket payment. Firstly a customer can pay by cash and secondly he can pay by token, an inbuilt account in the cloud itself. In the paper by Surya Michrandi Nasution, in 2011, Google Wallet launched by Google combines credit cards and the requirements of detecting radio signals on the phones. This project is implement in railways, in railways there are weak network of internet or slow network.

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

## III. QR BASED E-TICKET SYSTEM

QR e-ticket System is mainly to buy the bus pass tickets which are the most challenging. This bus pass ticket can be bought with just a smart phone

application, where they can carry bus pass tickets in there smart phone as a QR (Quick Respond) .Customer can register for a pass by specifying the source and destination .The application will generate the QR code according to the information fill by users and which will be used by the conductor or a authorized person to scan the ticket. The information of each user is stored in a SQLite database For security purpose. Also the ticket checker is provided with a checker application to search and check for the user's ticket for checking purposes.

SQLite implements most of the SQL standard, that uses a dynamically and weak typed SQL syntax that does not guarantee the domain integrity. SQLite operations can be multitasked, though writes can only be performed sequentially. The source code for SQLite is in the public domain. SQLite has many buildings to programming languages. It is the most widely used database, the most widely deployed database engine.

## IV. CONCLUSION

For purchase of ticket RFID,GPS,WIFI,AZTEC code is used but there are some drawback with this technique.QR based e-ticketing system used the concept of QR code .QR code are two dimensional quick response code that are now gaining the notability and the popularity in the united state.They are easy to use and versatile.The main advantages of this code itself stores huge amount of information that is easily scanned and stored onto a mobile device.The system would enables the people to register for the bus pass. It also enable the user to renew the pass by updating the details.This system use the mobile android application for bus passes . The passenger and ticket checker will have the android application.The passenger want to sign in the basic information like name, address, banking details, source and destination etc that stored into the database and generated in the form of QR code.The ticket checker scan the QR code through the android application and accordingly validation will be check through it.

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