# QRcode based Universal and Customizable
# Online Ticket Booking System

## Nandale Suraj[1], Mahale Mohit[2], Vishwasrao Aniket[3], Swapnali Dive[4]

*[1] Nandale Suraj Computer Engineering student, MCERC, Nashik
Maharashtra ,India. nandalesuraj@gmail.com*
*[2] Mahale Mohit Computer Engineering student, MCERC, Nashik
Maharashtra ,India. mahalemohit@gmail.com*
*[3] Vishwasrao Aniket Computer Engineering student, MCERC, Nashik
Maharashtra ,India. aniket.vishwasrao3@gmail.com*
*[4]Dive Swapnali Computer Engineering student, MCERC, Nashik
Maharashtra ,India. swapnali.dive20@gmail.com*

-------------------------------------------------------------------------***---------------------------------------------------------------------------

## Abstract

*The development of information society and the improvement of people needs has made E-ticket an inevitable trend, making it a common platform for online ticketing. The development in technology has expanded the horizons of the digital world. This development has reduced the need of real money and popularized the use of virtual money. E-ticketing is one of the most popular forms of online trading. Using Android Phones customers can reduce their trouble of standing in queue and booking the tickets. The drawback of waiting for ticket was reduced with the invention of the smart cards, but the user had to remember to carry the card with him. Also the drawback of smart cards was that it could get misplaced or stolen. With the advent of E-Ticketing the customer only needed  to carry a SMS or a printout of the ticket which the customer had booked online. But that required laptops or desktop for booking. Thus came into front the use of smart phone application where carrying a smart phone will do all the work.*

***Key Words:*** QR Code Scanner, Android Mobile Checking System, Web Application, Android Application, Third party API.

## 1. INTRODUCTION

The areas of application of the E-ticketing system has increased due to the development of the internet technology. E-ticketing is being deployed at an  international level. It makes use of modern information technology to achieve the whole process of paperless electronic ticketing, billing, and check-in procedures. The various areas where the e-ticketing system can be deployed are tourism, cinema, conference, large-scale venues with significant traffic. The traditional paper tickets were unable to meet the demand of the modern world thus giving scope for the development of E-ticketing system. E-ticket has following advantages:

• E-ticket maintains a database to store  all kinds information in digital form which is used to facilitate classified management and grading service for users.
• For the formulation and adjustment of sales policies it provides accurate, timely, quantitative information.
• Short booking procedure as there is no need to personally collect the tickets or wait for the ticket delivery.
•Makes Booking  independent of  time and space and removes the overhead of lost tickets or damaged tickets.

### 1.1 PROBLEM DEFINATION

To Implement and design QR based Universal Ticket Booking System and Third Party API having QR code scanner and Web Application as well as Android Application.

QR Code based Universal and Customizable Online Ticket Booking System is basically a way of buying tickets for customized event. It is a simple application which enables users to buy tickets in an efficient manner, with the help of a smart Web-application. They can also carry tickets in form  of a Quick Response (QR) code which is actually a technology which enables for storing the details of the ticket in an encrypted form. The information about a particular user is stored in database for continuous and easy availability anywhere and everywhere. The information about the tickets and event are also stored in database and are retrieved when required. The information is transferred in a secured manner as QR code and is received by the user in the form of a personal SMS. Ticket checker can also verify tickets using ticket numbers provided in SMS if they forgot to carry QR code with them at event venue.

### 1.2 SCOPE AND OBJECTIVE
• To Provide Universal ticket System
• Allow user to create new Event under single login.
• Allow user to customized Event.
• Allow user to generate Tickets.
• QRCode scanner for ticket checker.

To reduce the stress of users of standing in long queues and book the tickets from the use of online ticketing application in the android phones/web applications. Aim of E-ticketing is reducing the expenditure and increasing the Quality of Service. E-ticketing is a system where mobile users can book, pay, validate and retrieve the tickets through portable devices like mobile phones. This paper proposes and implements an android application for checking the tickets. This application has abundant useful features so it'll become popular in the market within few years. First of all the information of user are stored and retrieved in an encoded manner with the help of QR-code which is providing maximum security for the customers. Furthermore, all the information of user is stored in the Database and is retrieved from anywhere which provides the continuous access of the user ticket information. An Android ticket checking application is also there to check the users ticket information by giving the ticket number or scanning the QR-Code as input on the entry gate.

## 1.3 Third party API

Third party API is to integrate business logic or QR based universal ticket system into others web application. We are providing libraries and functionalities like creating events and generating tickets into the third party API. You can have this flexibility to install install ticket system on your web application.

## 2. System Architecture

System architecture is typically a diagram that shows the internal functioning of the system and the inter connection and communication between the different modules of the system. As shown in the figure, the architecture is divided into three columns namely the Client End, Business Logic and the Database. Client End shows how the Customer, Event manager and Ticket checking personal are going to interact with the system. Event manager and customers will be able to sign up for the system using Web application i.e the Browsers like Google Chrome or Mozilla Firefox etc. The security personal who is going to check the tickets will get a QR code scanner induced in the mobile application for scanning the tickets and checking wether they are valid or invalid. The business logic shows the interaction with the database for operations like login, create new event and ticket generation. Database will be in the form of SQL tables. Person who wish to implement the system into their website has to get the API to get all the functionalities on their websites.
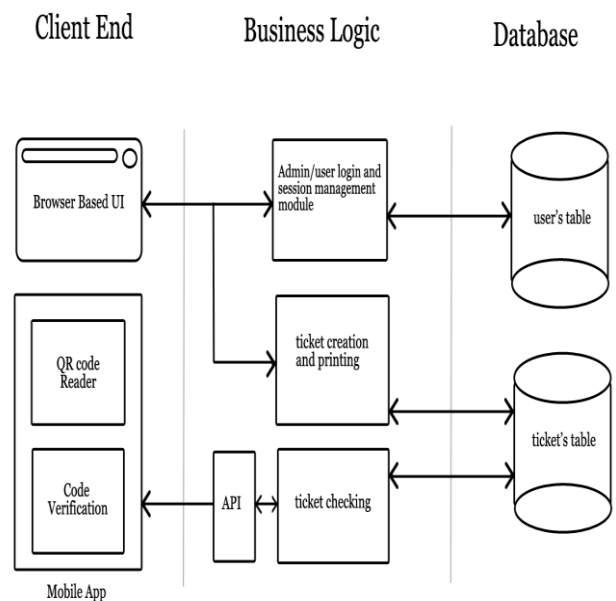


**Fig -1:** System Architecture

## 2.1 Modules of Project

The login information of the admin is checked and verified with the user database. Then the admin proceeds to generate the tickets and moves to the ticket printing screen. It checks the validity of the ticket by checking it along with the ticket database. If not then it will show the invalid message but if valid then it will update the database i.e mark the ticked as checked to avoid fraudulent use of the tickets.
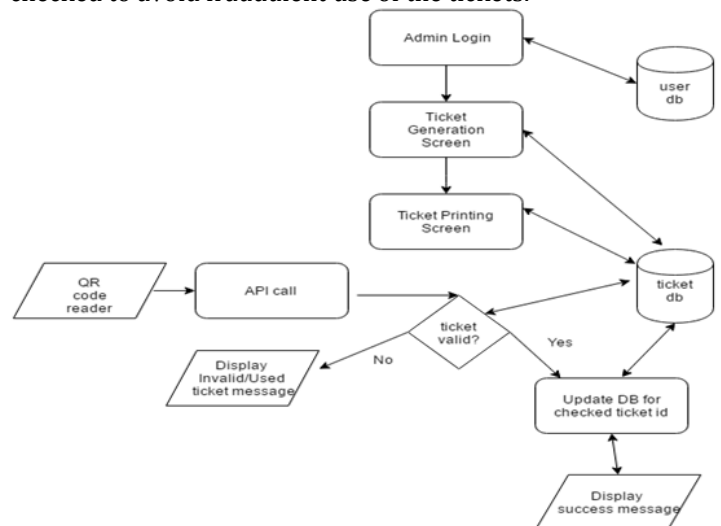


**Fig -2:** Modules of project

### 2.1.1 Customizing Event :

This module allow user to create their own events and customize them according to the preparation for the events. Here User will be requested to provide Information of their Events. Once the Event is created and customized by the Event Admin, Event will be ready to accept request of Audience for ticket bookings.



**Fig -3:** Event generation

### 2.1.2 Generating Tickets :

Here the web application will fetch the Event information from database and will generate tickets for the Event with ticket category, Ticket price and Event Date time venue information. Every ticket will be provided with a unique QR code attached with it. This is important from the security point of view as information related to any audience can be retrieved in case of emergency.



**Fig -4:** Ticket Generation

### 2.1.3 QR code scanner :

QR code scanner will be an equipment to check valid tickets at the entry gate of event venue. QR code scanner fetch data of sold tickets from database and match it with the information provided in the QR code of Customer.

## 2.3 Prototype Model

The prototype will demonstrate the ability of mobile phones to read code and backend's code verification capacity. This will be a simplified and reduced scale model of the original project. On the client side, it will include an application in mobile which reads QR code and communicate with backend to verify the ticket. Backend part will include only ticket checking module which will respond a positive or negative answer based on the code match. The ticket numbers in the Database will be automatically updated. Prototype will include user login or ticket generation and other special conditions code.
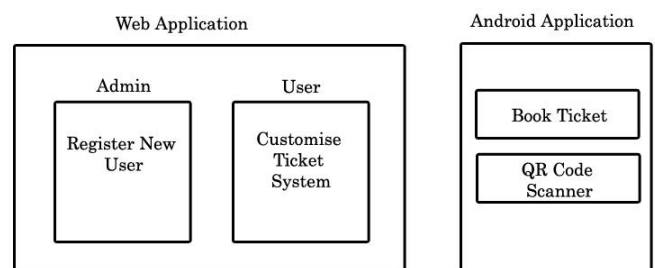


**Fig -5:** Prototype Model of Project

## 3. CONCLUSIONS

Thus, the paper aims at providing a user friendly and efficient source for the e-ticketing system thereby achieving a paperless ticketing system for a better tomorrow. The paper also highlights the numerous drawbacks of the current ticketing system and also gives an optimal and efficient replacement for the same, which makes use of QR code and SMS as an electronic receipt. The paper also gives the benefits of using a unique QR code for every ticket.

## REFERENCES

[1] V N Kamalesh, Vikram Ravindra, Pradeep P Bomble, M P Pa- van, B K Chandan, S K Srivatsa: "virtual ticketing

system" In: Inter- national Conference on e-Education, Entertainment and e-Management (2011) .

[2] Yue Liu, Ju Yang, Mingjun Liu: "Recognition of QR Code with mobile phones", In:-CCDC.2008.

[3] Li Li, Wu Chou: "Design and Describe REST API without Vi- olating REST: A Petri Net Based Approach", In: IEEE International Conference on Web Services 2011.

[4] Joao Leal,Rui Couto,Pedro Mauricio,Teresa Galvao: IEEE tra- sanction on "Exploring ticketing approaches using mobile technolo- gies:QR Codes,NFC and BLE" In:18th International Conference on In- telligent Transportation System (2015).

[5] Linli Hu, Yuhao Wang, Dong Li, Jing Li: IEEE transaction on "A hybrid client/server and browser/server mode-based universal mo- bile ticketing system", In:ICIME.2010.

[6] Feng Bao, L. Anantharaman, R. Deng: "Design of portable mobile devices based e-payment system and e-ticketing system with digital signature", In: ICII.2001.