

QR Code based Universal and Customizable Online Ticket Booking System

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Abstract— with the development of information society and the improvement of people needs, E-ticketing is an inevitable trend, which means a common platform for online ticketing has become a priority. Technological development has resulted in a boundary free digital world. This development has resulted in transaction through virtual money instead of real ones. One of the most popular forms of online trading is E-ticketing. Android Phones can reduce the trouble of the customers to stand in queue and book the tickets. With the advent of the smart cards the overhead of waiting for ticket was reduced but the user should always remember to carry the card with him. Moreover one has to pay attention that it is not misplaced or stolen. After that came E-Ticketing where customer have to carry a SMS or a printout of the ticket 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

I. 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.

II. PROBLEM DEFINITION

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 the form of a Quick Response (QR) code which is actually a technology which enables 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.

III. SCOPE AND OBJECTIVE

- To Provide Universal ticket System
- Allow user to create new Event under single login.
- Allow user to customize Event.
- Allow user to generate Tickets.
- QR Code 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 provides 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.

IV. 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 ticket system on your web application.

V. 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 whether 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.

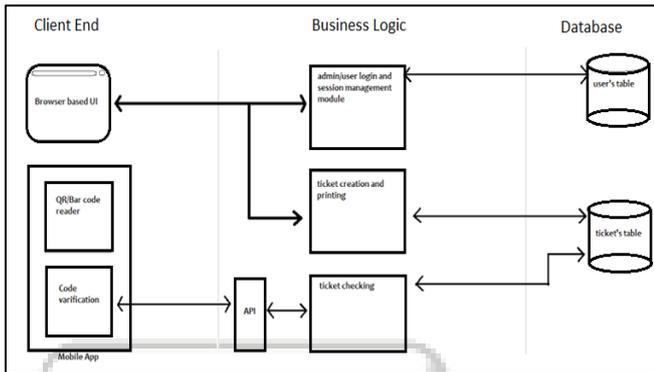


Fig. 1: System architecture

VI. 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.

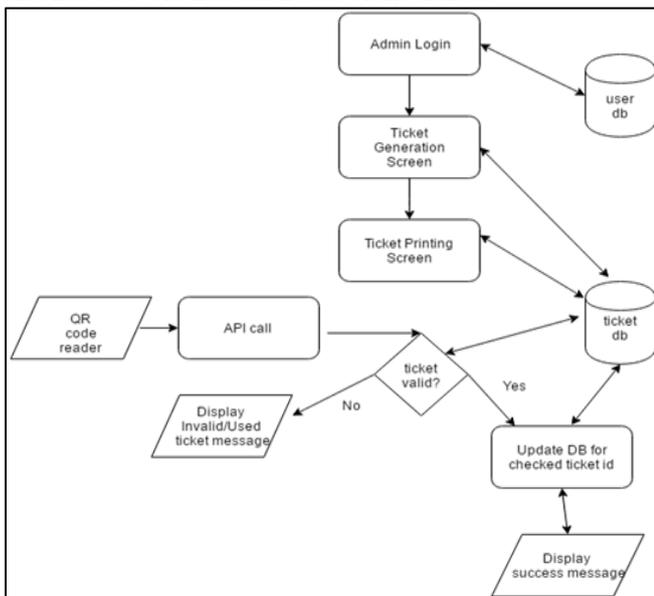


Fig. 2: Modules

A. Admin Module

The admin module is the super user of the entire system. It enables the Admin of the system to login and keep a watch

on all the processing being carried out for all the events existing in the system. The Admin can see all the details of the event such as start date end date, start time and end time, venue etc. The admin has also got the right to edit or modify a particular event. Modifying an event means modifying any aspect of the event like for example the total number of tickets, name etc. The admin can also delete any event. Apart from all this the admin is also able to perform various other activities such as manage the image slider on the homepage of the website, manage the logo of the website. Admin can also manage the FAQ's i.e the frequently asked questions. The Admin has the privilege to check the details of each ticket also means for a particular event the admin is able to see the details of the person who has booked the ticket such as the email-id, contact number and the quantity of the tickets.

#	EVENT TITLE	VENUE	START DATE START TIME	END DATE END TIME	TICKETS	EDIT DELETE
1	Automotive Megatrends1	The Westin Pune Koregaon Park	2017-03-24 10_AM	2017-05-26 05_PM	Tickets	Edit Delete
2	Android Workshop	MET College, Department of Computer Science Engineering,	2017-03-28 10_AM	2017-03-31 07_PM	Tickets	Edit Delete
3	IoT Workshop	MCERC	2017-03-27 11_AM	2017-03-31 06_PM	Tickets	Edit Delete
4	Box Cricket	Anant khare Ground(Golf Club), Trambak road, Nashik.	2017-03-29 09_AM	2017-03-30 07_PM	Tickets	Edit Delete
5	Floor	Soma Wines, Nashik	2017-05-21 08_PM	2017-05-21 10_PM	Tickets	Edit Delete
6	Ready Study Cook	Gangapur Road, Nashik	2017-03-31 06_PM	2017-03-31 10_PM	Tickets	Edit Delete

Fig. 3: Admin module

B. User Login

The user login module provides an interface for the user to login to the system. This gives the user the right to create an event.

The user login form includes:
 - 'Sign In' and 'Register' buttons at the top.
 - 'Email Address:' label followed by an input field.
 - 'Password:' label followed by a masked input field (*****).
 - 'Sign In' and 'Forgot Password?' buttons below the password field.
 - A 'Close' button at the bottom.

Fig. 4: User login

C. Generate or Obtain Event

The 'Create Event' form includes:
 - 'Event Title *' input field.
 - 'Event Venue *' input field.
 - 'Pincode *' input field.
 - 'Start Date *' and 'Start Time *' (dropdowns for 01 and AM).
 - 'End Date *' and 'End Time *' (dropdowns for 01 and AM).
 - 'Contact Person *' input field.
 - 'Contact Number *' input field.
 - 'Alternate Contact' input field.

Fig. 5: Obtain Event

The user will be able to create any number of events as per his/her own will. It also allows user to: 1. Describe the event being created which will help the people to know what

exactly the event is all about. 2. Set a limit to the number of tickets. 3. Set the amount for each ticket (free otherwise). 4. Set the venue and image for the event. 5. Set the duration of the event. It also provides the facility to monitor the tickets booked for the event created by the event creator. This tells the event creator the total number of tickets booked and the transaction id of the money transaction.

D. Book and Generating Ticket

This module of the system allows the people to book tickets for any events they desire. The person who wishes to book ticket/s for a particular event does not need to register/login to the website. He/she can freely book the tickets. When the person clicks on the "book ticket" option the person is directed to the 'PayU' payment gateway in case of paid tickets where he/she has to make the payment. After that the integrated QR code generator creates random QR code for the same and the person's booking is confirmed. Along with the QR code being displayed the person is also able to see the total quantity of the tickets he/she has booked and also the total amount he/she has paid. The QR code ticket has the ticket id based on the event name followed by a random number. Also the generated QR code ticket is sent to the user to the email address provided along with the details of the event. On the email, the person who has booked the ticket is also able to download the QR code in the form of image to be scanned during entry.

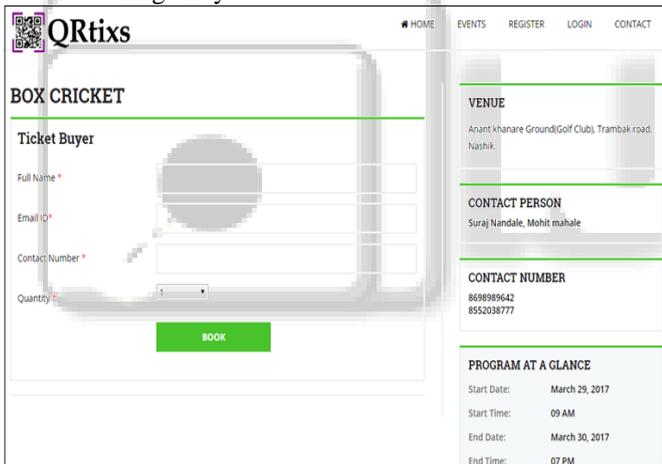


Fig. 6: Book and Generating Ticket

E. Ticket Checking

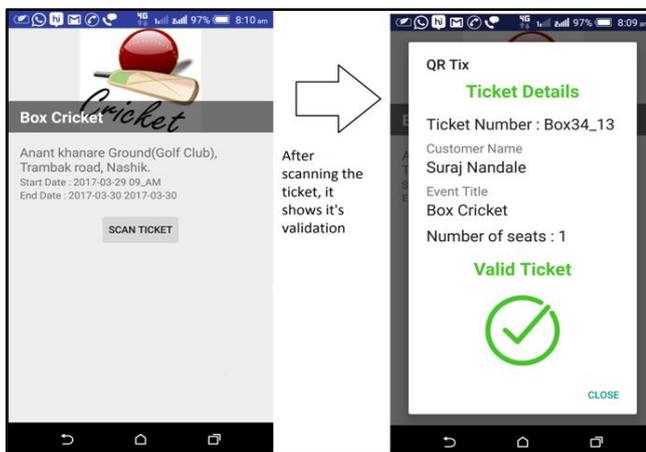


Fig. 7: Ticket Checking

The ticket checking module is the final and end phase of the system. Here the Admin provides the event creator a link

from where he/she can download the ticket scanner app. The ticket generation module generates the tickets in the form of QR code. The person who has booked the ticket carries the QR code ticket at the time of the event. Here the ticket checker who has the scanning app provided to him/her by the event creator scans the QR code of the customers. For the scanning purpose the Admin provides the event creator with a onetime valid username and password. The ticket checker obtains these credentials from the creator and logs in to the app. This shows him only the events which are created by the specific creator. After login the ticket checker clicks on the event for which he is assigned to scan the tickets and scans.

VII. 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.

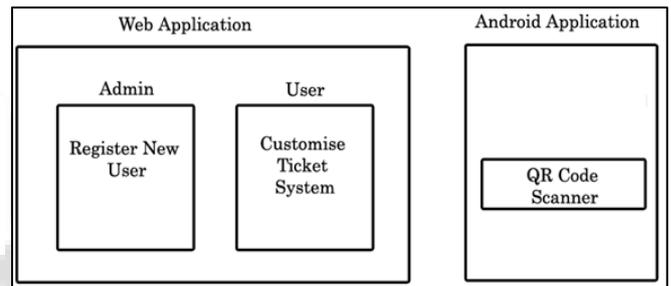


Fig. 8: Prototype Model

VIII. CONCLUSION

Thus, we have successfully implemented our ticketing system to generate QR code based tickets and provide functionality to the clients. We have successfully implemented e-ticketing system which provide features like:

- 1) User can create new event.
- 2) User have facility to customize his event.
- 3) User can generate tickets of his event.
- 4) User can sell tickets of their own event.
- 5) User can book tickets of existing events online.
- 6) To provide Universal ticketing System.
- 7) To provide QRCode scanner for ticket checker.

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