Quick Tm

Save Time Smartly

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***Abstract*- As now a day's population is increasing its putting pressure on the available resources. Although technology is advancing but its results are seem only in few fields. For example, the present booking system, there have been various changes bought in this area since many years till today. But the primary problems faced haven't changed much. This paper presents a proposed idea that tries to figure out various loopholes of the present booking system, also emphasizes to focus on the cashless transaction and gives a measure to find a substitute or an altogether different approach to solve it. Thus this paper discusses the various issues and also gives an idea of the proposed system, its working details and its benefits in other applications too.**

Keywords-GPS, CLOUD, ticket, validate, QR code, cashless.

I. INTRODUCTION

As now a days there is more emphasis given to wise use of the technology and the proposed paper discusses one of its branches- This paper deals with problems in the ticketing system. Although significant changes have been bought yet none could resolve all the problems efficiently and provide better services to its users. Thus, our paper discusses various problems faced considering all the favorable cases and ways to solve them. In addition to giving more prominent and user-friendly options. This is applicable to all the places that includes ticketing system.

II. LITERATURE REVIEW

This section gives an overview of existing technologies, their methodologies. We present a comparative study on different approaches

A. Related Work

Various technologies have realized and adapted with the smartphone so efficiently such that it plays a major role in supporting their daily life services. This also is due to the expanding of the Digital Big Bang of smartphones. This intelligent device is composed of internet, cellular communication, web searching function and gives convenient daily life to users. Tracking and detecting the position of people is very important for various reasons such as identifying the culprit to notify friends about serious issues, convey messages, etc. For this purpose, Global Positioning System (GPS) is being widely. Thus this would be easy to execute if there is a handheld device instead of actually carrying the Paper ticket which has many other drawbacks that are attached such as-" what if your forget to carry your bus/train/movie/park etc. ticket with you or just misplace it?

Thus our proposed system is not only for transportation but also can be applied to booking of a cinema ticket, parking tickets, for amusement parks booking, hotel booking, etc. and has many other similar advantages which involves cashless economy and a consistent, secured database of the transactions.

B. Past Proposed System

Here we discuss in brief on transportation system concerning to railway suburban ticketing.

a) *Coupon Vending Machines (CVMs)* : The passengers need to purchase the whole coupon bundle, which consists of Re.1, Rs.5, Rs. 10 coupons even further changes had made since this was coined, after purchasing the passenger needs to punch the ticket in the CVM of its appropriate cost and then travel. But there was a drawback, in the amount of punching the passenger does he can punch wrong amount and claim he travelled from a nearby distance of estimated amount although if he would have travelled far from and no one was there to ask him. Second drawback was, that it caused duplication and reuse and created confusion during the ticket checking. Third drawback, the passenger needs to always know exact fare required for their journey.

b) *E-Ticketing* : Here the passengers need to register through the web portal and buy tickets, but this is mostly used for long distance travelling where you get to know about all available seats, booking dates, class enquiries etc.

c) *Automatic Ticket Vending Machines (ATVMs)* : Here the user needs to buy a smart card and recharge it with Rs.50, Rs.100 and so on. The user then needs to go to the ATVM and place his card, and enter his destination and other details such as no. of passengers, class of travel, type of journey and then print this ticket. Thus there is automatic deduction of the journey fare and the balance also gets known to the passenger. But there is a chance of this may fall and has not been an effective way to provide better ticketing option, or hasn't it considerably reduced the huge queues at the station. Drawbacks of this are, what if the user forgets to carry his own smartcard?

There is no option other than asking co-passenger for his smartcard or else again standing in the queue. Sometimes its noted scenario, that these ATVMs suffer huge maintenance insufficiency, sometimes the touch pad of this machines don't work proper and cause time waste. Also the railway has to maintain the change of the paper-rolls regularly. Thus in the next section we will discuss in detail about each aspect of the technology we will be using in our system.

III. METHODOLOGIES

The proposed system consists of main 4 modules namely-
1) User journey details
2) User ticket
3) Cloud database
4) Ticket Checker
5) Admin Panel -This can be considered as an added feature in the future scope.

A. *User Window* (User Journey Details)-
This module consists of register, login and user credentials required for the identity as well as for the payment part. It is the essential procedure to know the user of this application. Thus once the users account would be created he will be given a OTP which he would have to enter in order to authenticate his account, after which he can open this application anytime without logging in every time. Thus a account will be created for the passenger with a zero account balance and his data would be saved in the CLOUD as well as in the user mobile in the form of SQLite.

B. *User Ticket*-
After successful login the user then has to fill his account with proper balance, route and then enter the destination station. The GPS will already give the location of the source where the user is actually present. Thus after input of the station the amount of travel will be shown to the user. Thus now he has to enter the payment option where he will be logged in and then select the amount and pay he gets ticket stored in the QR Code format in the users mobile.

C. *User Ticket Subsystem*-
Here the user enters destination, class, no. of travellers, and type of journey. The user can also take extension of the existing pass, in this the destination of the user becomes the source when user wants to take extension of the pass.

D. *CLOUD Database*-
The data here is stored for further verification and authentication. The data stored here is also used for validating the ticket as the destination station will be stored then once the user reaches the station validation of the ticket with GPS and time stamp will be done.

E. *Ticket Checker Application*-
After booking the ticket the details of the journey are stored and saved in QR Code format in the users mobile and in the CLOUD.

a) Checking QR Code with QR Reader and with Database-In this module the checker will have QR Code reader and scan the QR Code with the application to validate the QR Code and verify whether it is valid or the ticket has expired. Thus a android application will be developed for the same that will automatically check the ticket and show the result. Thus the checker just needs to scan the QR Code and not personally search for date and time details in the ticket.
b) Checking QR Code with Database- This is a backup plan in case of the user's mobile phone (smartphone) gets damaged or faces some problems then he just needs to give his mobile number to the checker so as to make him sure that he was travelling with proper ticket.
F. *Admin*-
Admin can make changes of the train schedules, give the train that is arriving on the platform with precise information with the help of GPS. This would be then flashed on the screens of the users using the application.

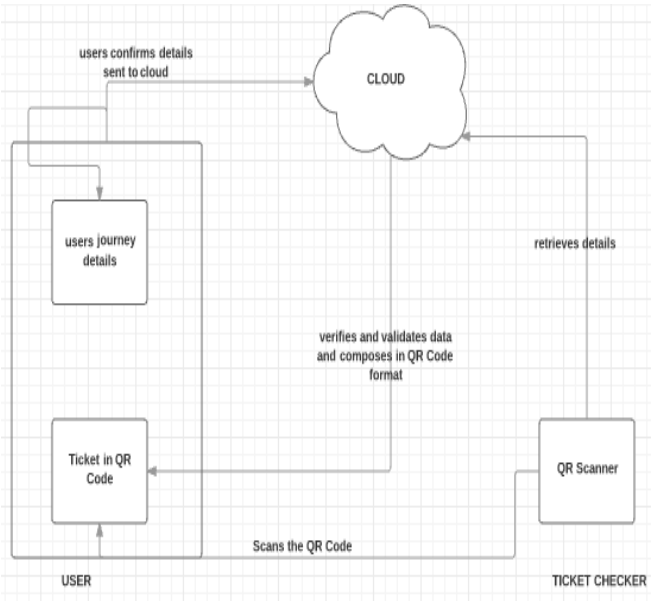

Fig.1- System Block Diagram

As the current ticketing process in any transportation system works manually and needs human assistance also maintenance and is not efficient also not so quick. Thus here in our proposed system the main objective is to

develop an android application so that they themselves can book their ticket directly from their smartphones which is ready to hand and also easily doable to layman, convenient to carry and also time saving. Thus the process of standing in long queues for purchasing tickets is curdled.

IV. COMPARISON

This ticketing application is applicable to all systems that deals with validating bookings.

Table I- Comparative Analysis

Parameters	Existing System	Proposed System
Generating Ticket	Efforts required increases-manual printing.	Tickets generated in QR Code format.
Ticket Booking	User has to visit the site or stand in the queues.	This system aims to provide on time instant schedule.
Ticket Validation	Checker needs paper ticket to validate or message in case of E-ticketing	QR Code is scanned for validation purpose.

V. FUTURE SCOPE

Further advances that can be made is fitting GPS devices on the trains to show its location in the Google map display which is available in our application. Here the manual ticket is replaced with digital QR Code and also requires scanning of this QR Code for validation. Dynamic display of Train locations by fitting GPS devices on trains will update the admin and this could be then flashed on to the users. Also as the user reaches the platform he will get to know about the arriving train expected timing and on which platform.

If Quick TM can be integrated in Google Maps, it can enhance Google Maps. Quick TM can be used to create an entire analysis system to understand mass movements of the public &thus make better decisions for infrastructure as well data can be used for Advertisement Industry.

In disasters, users can more easily be tracked down as records would be available which user took ticket at what time & where he can be expected.

VI. CONCLUSION

Although concerning to the railway transportation system, it has tried to provide many other alternatives for the ticket booking process but it has not found to be that effective and convincing to the daily commuters. Hence a new system is proposed which has the reliability of the ATVM machines and versatility of M-Ticketing system. It also overcomes the drawbacks of the previous systems and inherits the advantages of them. Thus it can be considered as an improvised version of the previous systems.

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