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Smart Ticketing Using Wi-Fi Technology

Farhana Siddiqui[1], Sayyed Mohammed Askari[2]
Dept. of Computer Engineering
M.H.Saboo Siddik College of Engineering Mumbai India
1 khanfarhana_ali@hotmail.com
2 sayyed.askari@gmail.com

Abstract: To Travel in public rail transport system is more efficient than other means, like travelling by road where the issue of traffic is always a major problem of public as well as the administration. But, to travel in the railways getting a ticket is a tedious task which uses lots of time and efforts of the commuters. To overcome these problems of ticketing the administration has implemented lots of new ways by which a person can book a ticket. But somehow those methods have not delivered up to the expectation, and there is still a long queues at the traditional ticketing counters to get the ticket. With the help of technology our project propose to help in reducing the problem. In todays time almost every traveller has a smartphone device which is embedded with wi-fi. With the help of that device the passenger can book a ticket on its own device without standing in a queue and get a copy of the ticket on its own device. The application does not requires an internet connection but it connects to railways server via wi-fi router on the station to book ticket. Also the ticket is stored in the database of railways so the travellers can get it when they are required to.

Keywords- Wi-Fi Router, Android, Internet.

INTRODUCTION

Train travel is the most cost effective and time efficient travelling system in major cities for public transport. These System provide trains which arrive on scheduled time and comparatively at lower cost. With these benefits this system is most preferred mode of travelling by the people which has made it also the most crowded system. With more and more people travelling the time and queue at ticket counter has increased exponentially. To make the system more efficient we have proposed a system in which the passenger does not require to stand in long and time consuming queues and also does not require to carry a physical ticket. With the help of our system a commuter can get the required ticket for its destined journey with its own smart device. The device is embedded with wi fi which will help the commuter to connect to the railway server with the help of an application and wi fi router installed at station and book a ticket very quickly. In this system commuter does not require to stand in a long queue like at traditional booking windows and also at recent smart ticketing machines during the peek hours of morning and evening. Also it get you a e-ticket which is loss proof and environment friendly. Allowing the commuter to book the ticket from the station without using any cost increasing service like Internet, SMS, GPS,EDGE/GPRS, 3G/4G etc. which other system fails to provide.

LITERATURE SURVEY

Indian railways has become technologically a lot more advanced in past few years. Railways have in cooperated several new and better functionalities in the system to supply higher degree of service to the users. For booking of a ticket there has been immeasurable problems caused to the commuters in order to make the booking of ticket easy the railways have introduced several technological options like on-line ticket booking, Coupons, Smartcards etc. For long journeys it introduced an e-ticketing facility whereby the user can book a ticket through a website and get an e-ticket, which is needed to be shown to the ticket checker whenever required. However in cities suburban railways still had crowds at each counters which provides ticket. To get out of this problem M-ticketing(mobile ticketing) was introduced within which user will be able to get the tickets in their mobile devices.[1]

Recently there has been a service in which sms protocol is used was implemented for booking of a ticket, in this the user who has a mobile device along with a working sms function can avail the benefits of this service. For getting a ticket booked the user needs to send a sms for every request in order to get a response which is also a response sms. This system reduced the efforts to stand in ticket queues.[2]

Another service to get a ticket booked in that the application after booking the ticket generates a ticket in the form of a QR code(Quick Response Code) which the ticket inspector can use to verify the ticket form its database system for its authenticity and validation. In addition to this it shows the details of schedule ,routes details along with the cost for the user. The mode of payment can be cards credit/debit or through prepaid cards. The database is also maintained for user information.[3]

EXISTING SYSTEM

In Indian railway the Mumbai local railways provides multiple ways for ticket booking for its commuters

WINDOW TICKET

It is oldest and most widely used mode for ticket booking. In this method a person issues a ticket to the commuters one at a time, so during peek hour there are long queues at window to get a ticket . This causes waste of time and efforts of everyone standing in queue making it most time ineffective.

COUPONS

To overcome the problem of long and never ending queues the railways introduced coupon system which requires the commuter to buy a coupon book which has coupons of different denominations. For every journey commuter needs to get coupons validated by using a validating machine installed at every station. But, not every time there is right amount of coupon denomination left with the person to get it validated. Some times a person has to get coupon validated which is of more value then the actual fare for the journey. Also the coupons can be reused by removing the validation marks causing loss to the railways.

SMART CARDS

This is an expensive system which is implemented by the railways which provide its commuters an ease of ticket booking. For using this the commuter needs to buy a smart card and recharge it with certain amount. The machine at station are often crowded during peek hours. Also the machines are often not working properly . The maintenance of these machines are also very high.

M-TICKETING

Taking the help of technology the railways have introduced m-ticketing mobile application which allows the user to book a ticket on the mobile device itself. But to book the user needs to have an internet service like EDGE/GPRS, 3G/4G connection to start the booking. Also the account is to be recharged using online transaction. But, the user cannot book a ticket when they are near to the station making them to book the ticket before reaching the station[4].

PROPOSED SYSTEM

In this system which we are presenting the user shall goto the station from where he/she wants to start the journey and use the android application to get a ticket. The user for the first time needs to get registered at ticketing counter from any stations. After registration the user will get a unique id which will be used every time user connects to the system. The system requires the user to add money in to there account form which the fares will be deducted. The money can be added to the account of the user through various methods such as from ticket counters or from online transaction of credit or debit cards. For railways the database is maintained which stores the user information such as ticket information amount present in the account of any particular User ID.

For this system to work a wifi router is installed at every station. The user needs to connect to the railway server using a the wifi router with the help of our android application. After the connection is successfully made the user will be able to book a ticket.

To book a ticket the user will have to select the destination where he/she wants to go and also select the route preferred. After that the class in which the intention of travel is for then the number of tickets required if some one else are also accompanying. Then if the ticket to be used for return journey then that condition should be checked and submit the information. After the submit it done the application will check every field and the amount of ticket should be less than the amount in the user account to get a confirmed booking. After a successfully booking a ticket the user will get a message which will act as a ticket.

In the span of usage user will require to the account to be added with more money for that user can use the ticket counter or online transaction to refill his/her account.

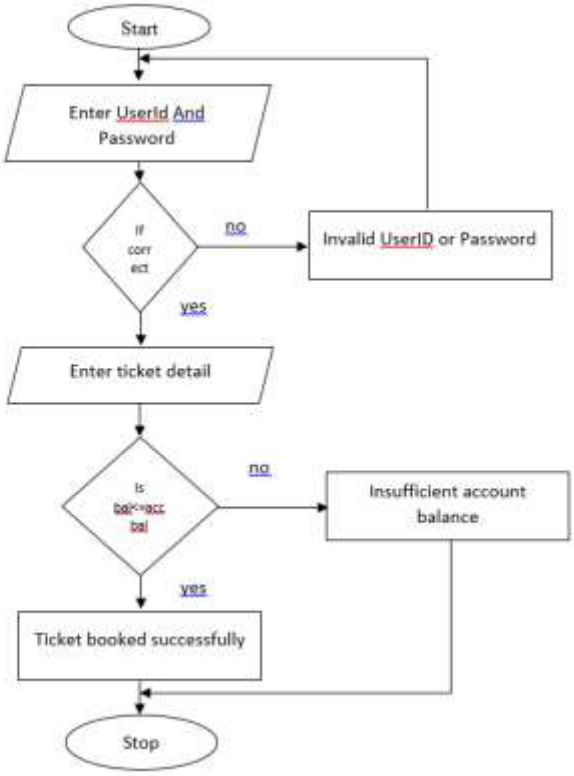

Fig: Flowchart

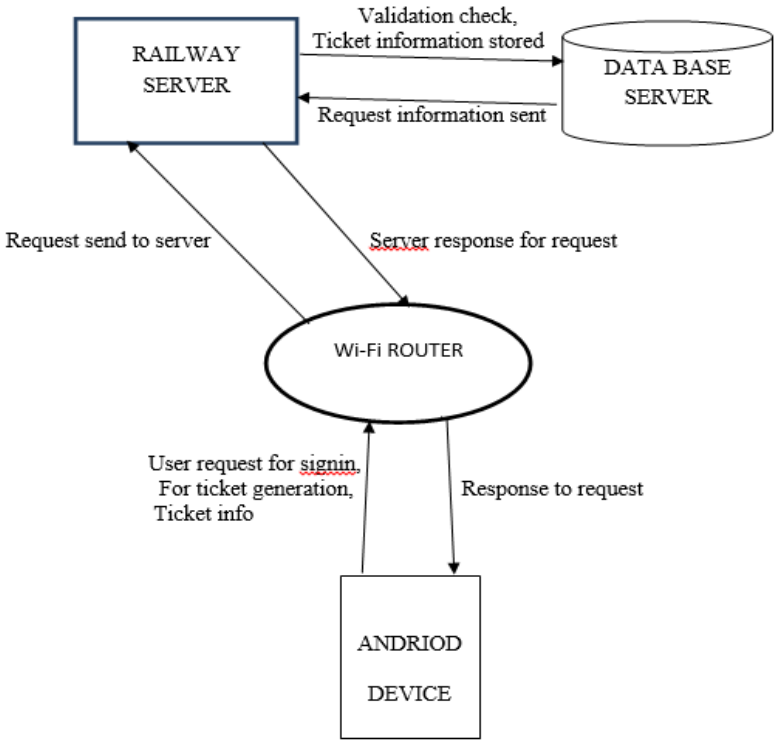

Fig: Block diagram

IMPLEMENTATION

This system to book a ticket on mobile without standing in a queue and also without internet or any other cost increasing service. This will reduce the efforts of the user and also providing a better facilities to them. The Implementation of this system requires to maintain a database for keeping records with a wifi access point or a router. To implement the system we require following,

MICROSOFT SQL SERVER

It is a relational database management system by Microsoft, this software helps us to maintain the database and also provide it for different functions. We are using the software for storing the information of the user and also to retrieve the information of the data whenever required by us.The database will store the information such as UserID, Password, Name, Account Balance, Ticket information, etc.[5]

ANDROID APPLICATION

Android is a mobile OS by google on which most of the devices run today. It is the most used OS by the people. Its application is developed for android because of its wider reach and more number of users. The application is used to book the ticket it will connect to the database with the help of wifi router. [6]

WIFI ROUTER

It is a device which performs the function of router also providing a wireless access point. For our system the router is connected to the database and provide the access point of the mobile application to connect to the database acting as a middleware in the system.[7]

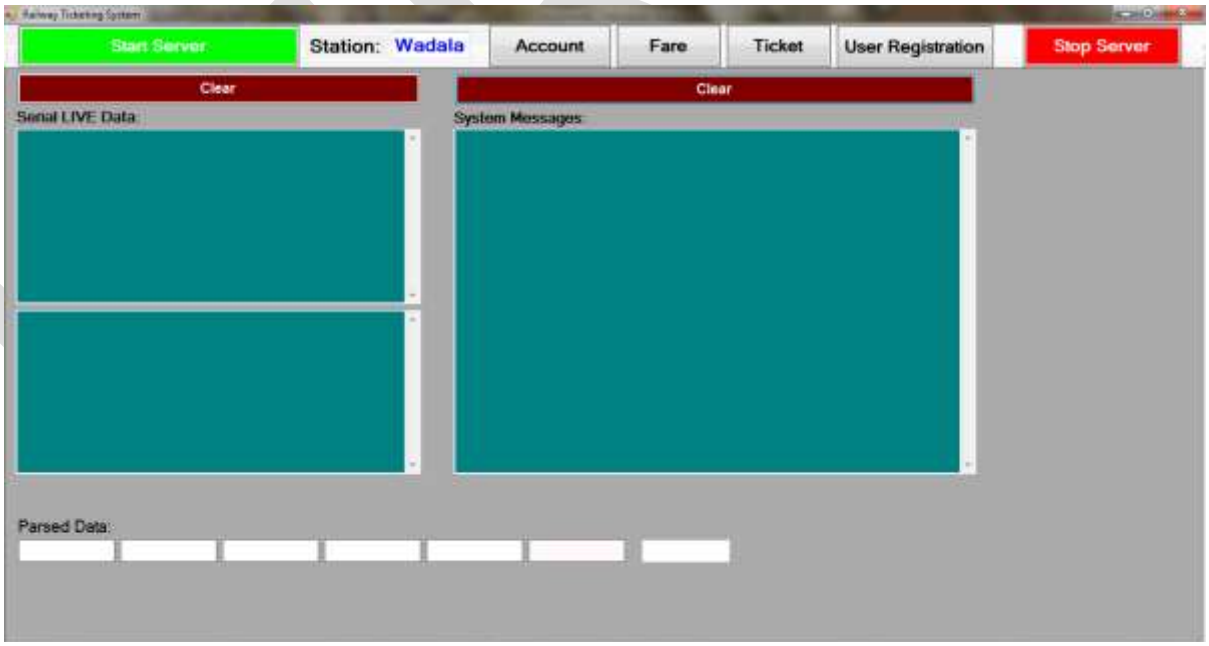

Fig: Server home page

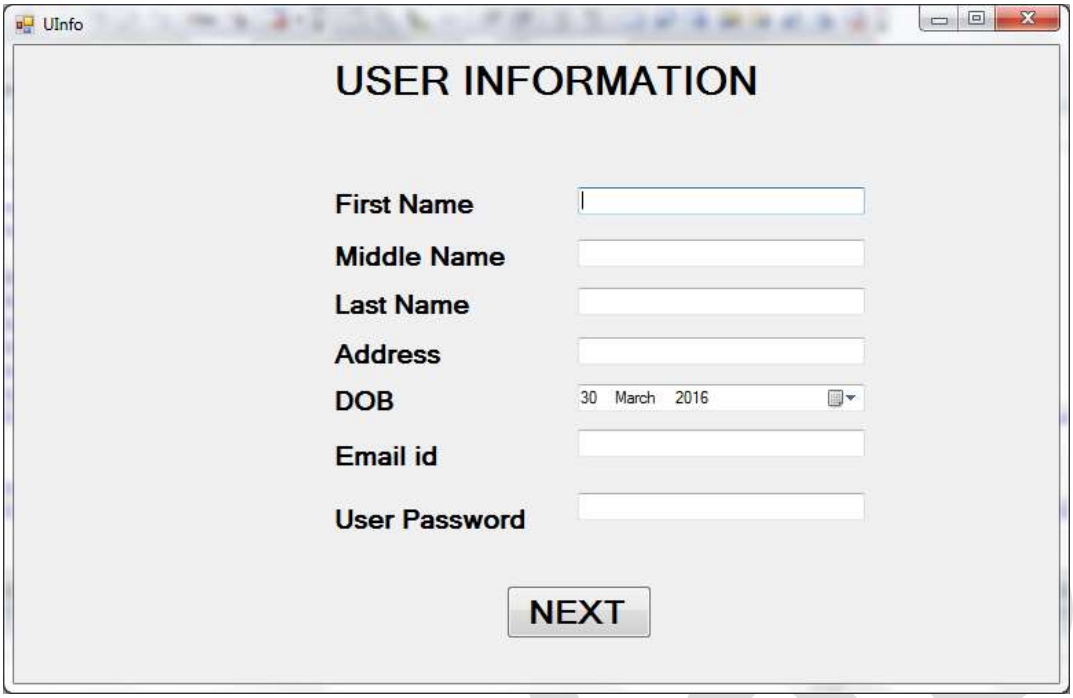

Fig: User Registration Form

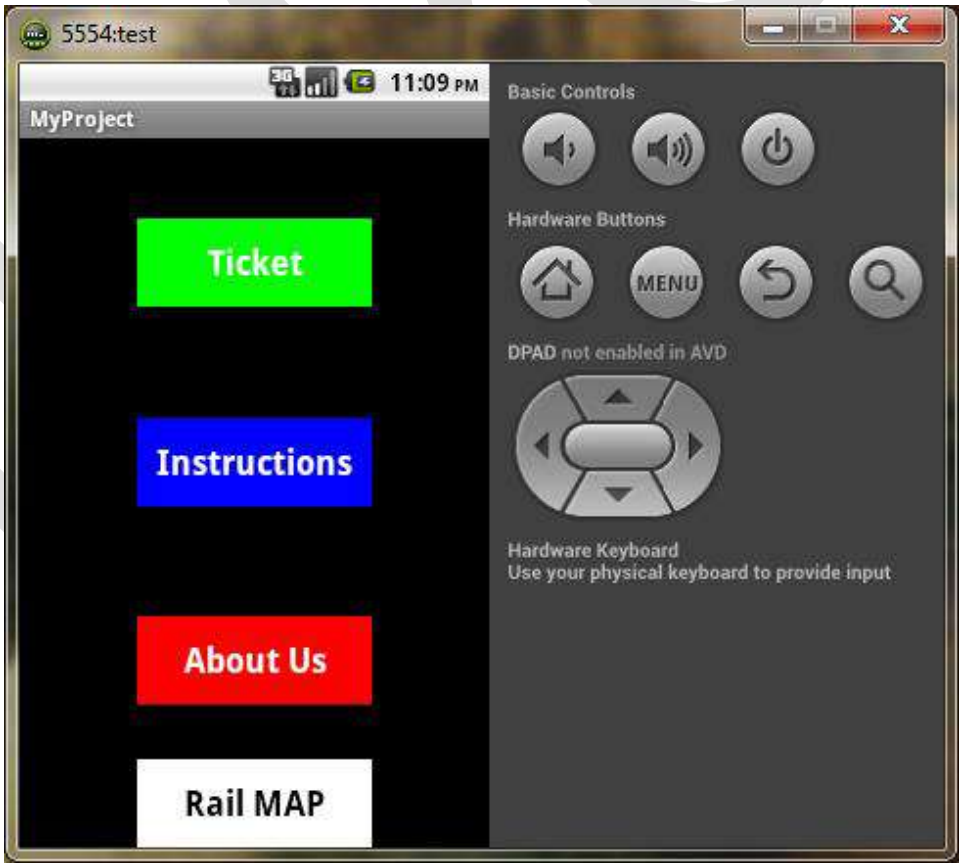

Fig: Main Page of Mobile Application

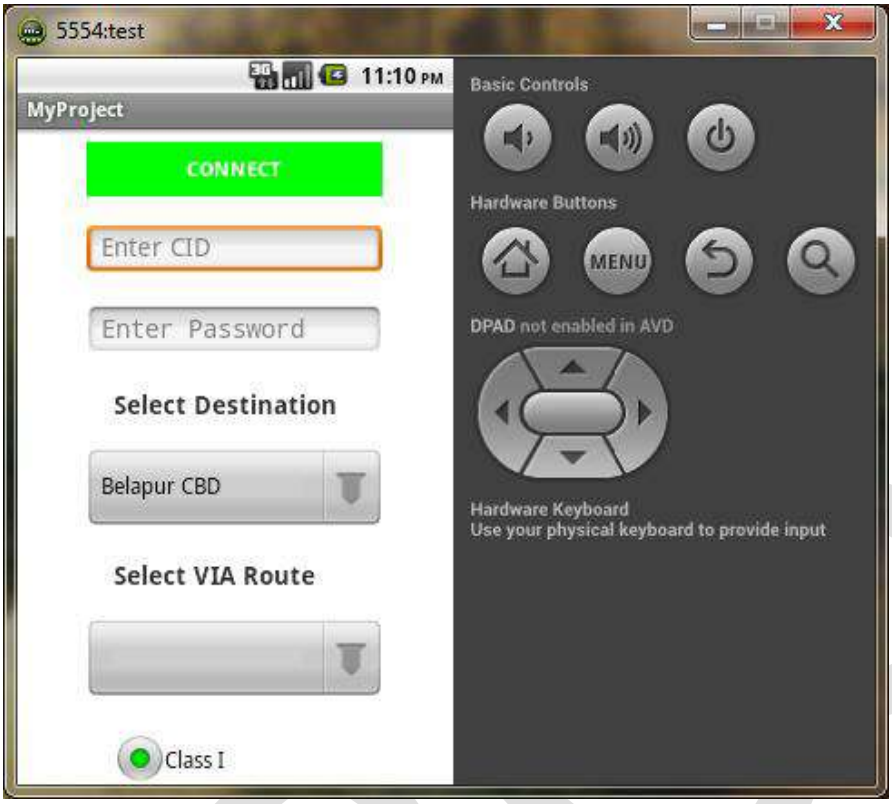

Fig: Ticket Form

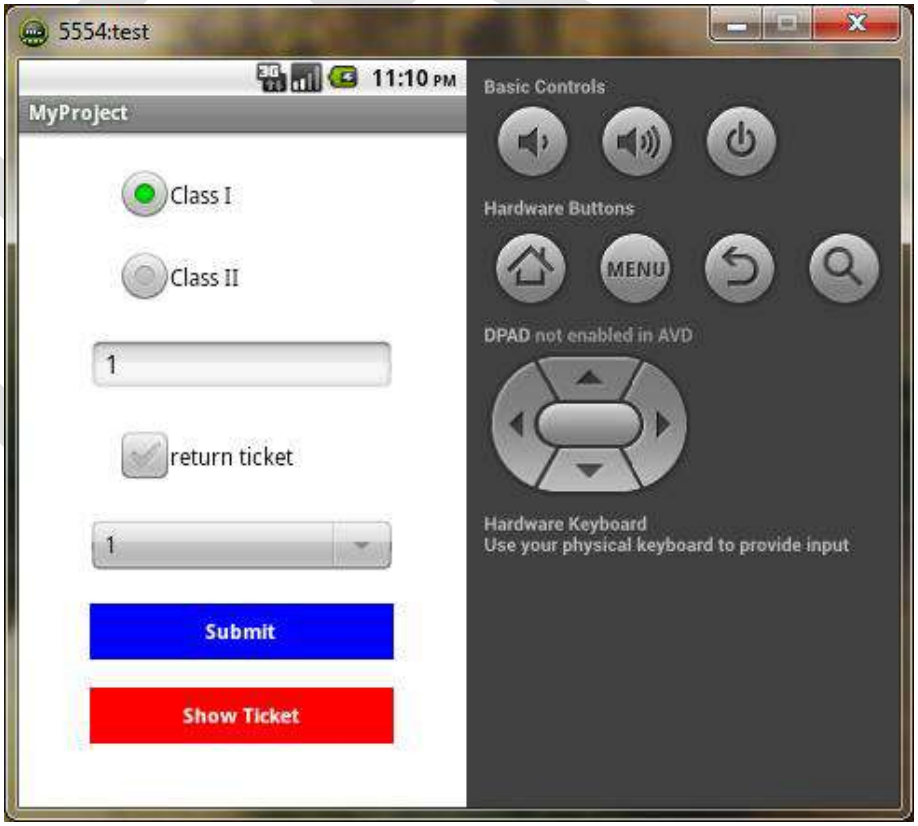

Fig: Ticket form

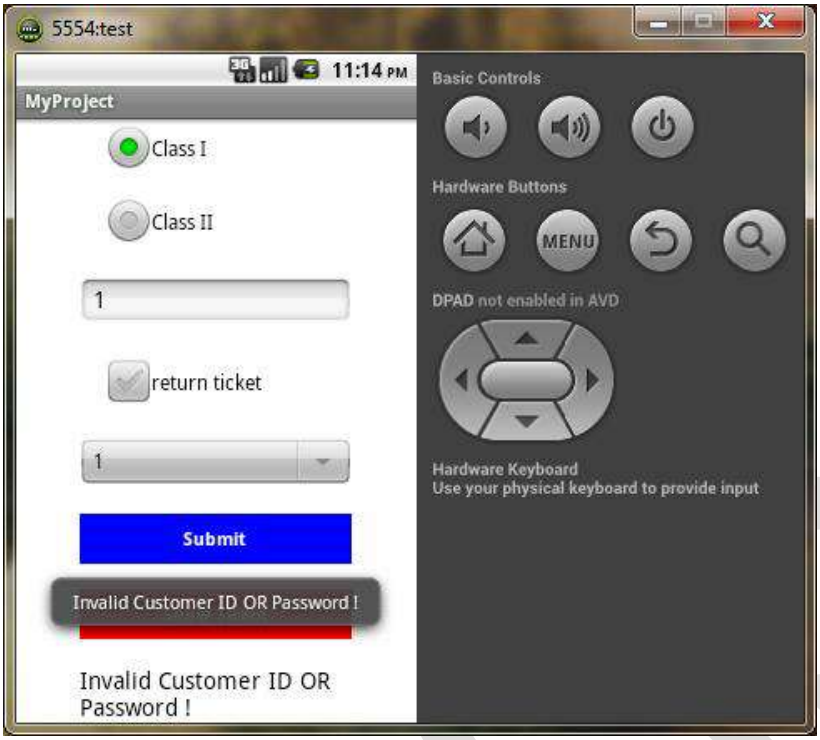

Fig: Error message for invalid id password

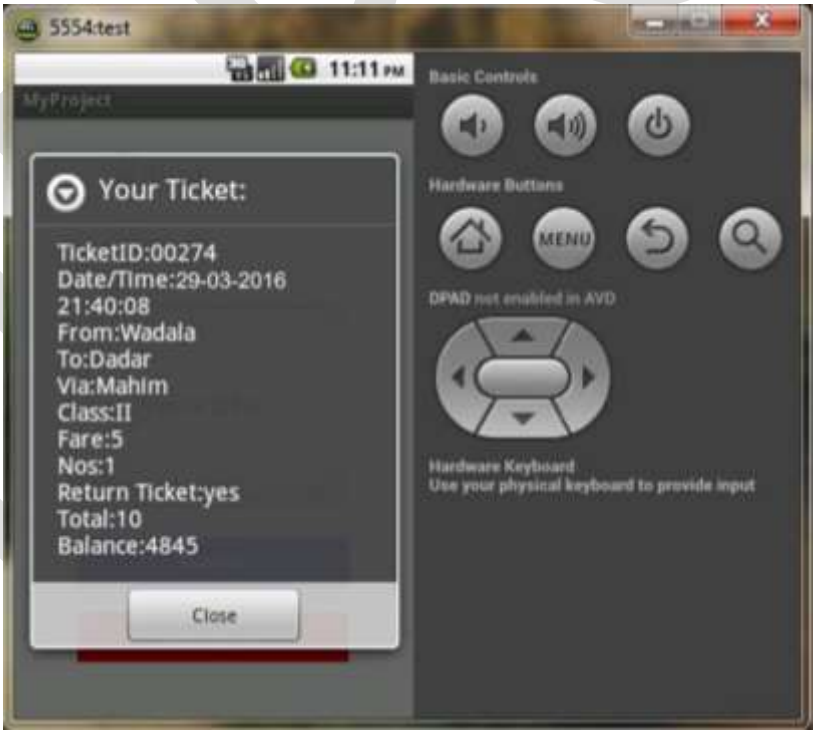

Fig: Ticket after successful booking

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CONCLUSION

The Proposed model of our application will reduce the user effort to complete the booking of a ticket by allowing mobile devices to book and store ticket information. This will also help in the efforts of green environment. The application is user friendly for all and also has higher efficiency.

FUTURE ENHANCEMENTS

In future we would like to introduce the system of online transaction and online registration which will make the system further more efficient. Since the application is only for the android we would like to make it available it for other platforms as well like IOS, Windows etc.

REFERENCES:

[1]. Karthick.SI, Velmurugan, 'Android Suburban Railway Ticketing with GPS as Ticket Checker', IEEE International Conference on Advanced Communication Control and Computing Technologies (ICACCCT), pp. 63-66, 2012.
[2]. Sadaf Shaikh, Gayatri Shinde, Mayuri Potghan, Tazeen Shaikh, Ranjeetsingh Suryawanshi, 'Urban Railway Ticketing Application', International Journal of Advanced Research in Computer Science and Software Engineering, pg130-132,2014.
[3]. Savita Dubey, 'Queue-less Ticketing System for Local Trains', International Journal of Infinite Innovations in Technology,Vol.2, 2014
[4]. Indian Railway https://www.utsonmobile.indianrail.gov.in/RDS/images/HELP_ANDROID_Paperless.pdf
[5]. Microsoft SQL Server (04 April 2016). Retrieved from https://en.wikipedia.org/wiki/Microsoft_SQL_Server
[6]. Android Operating System (04 April 2016). Retrieved from https://en.wikipedia.org/wiki/Android_%28operating_system%29
[7]. Wireless Router (04 April 2016). Retrieved from https://en.wikipedia.org/wiki/Wireless_router