Online City Bus Pass System based on Android

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Abstract: **Now a day's most of peoples like students, job holders which are using traditional bus pass system for their daily routine or travelling. They are facing many problems with traditional buss pass system in which they are standing in queue and waiting for a long time to get a new monthly bus pass. It is a quite lengthy procedure to renew pass, cancellation, updating, giving Student discount etc. and payment also. This is the long and manual process which take more time and it required more time to process. Normally people required 2 to 4 days to get new bus passes from M.S.R.T.C. co-operation. That is why; we have proposed an idea for implementing smart city bus pass system based on android technology for ticketing the passengers travelling in bus which saves our valuable time and money also. We proposed the system based on android application which overcomes all the problems of traditional bus pass system. The students need to register by submitting their details through online. After registration an OTP code will be send to students register Mobile number. The administrator will verify the student details and if they are satisfied they will approve bus pass. Then pass will be successfully generated and The student can log in with their login id and password. Then user can show their pass on Smartphone for daily travelling purpose The User can also apply for pass renewal.**

Keywords: **Android Application, Firebase, Java, OTP, Transportation, M.S.R.T.C.**

1. Introduction

A. Project Idea

These days' technology is everywhere in our lives. It acts how we shop, socialize, connect, play, learn, etc. All our daily activities are encircled with the use of technology in some or the other form. The large amount of growth in India's population has increased the demand of the public transport. In the areas of public transport, it has become essential to consider effective technologies that will ease the travelling of customer. This project intended to propose an Android mobile application that helps peoples to get their city bus passes online without going physically on bus depot.

Reason for Android platform: Android requires an open source development which is probably the most feasible and a present user-friendly approach. As in the existing system people had to do each and every process manually, but this Application helps people to make the work a bit faster.

Using this application we can check all details related Bus pass and instruction like how to renewal pass how to update it, and also provide details of student .This application keeps all information of all Bus pass. This online bus pass system will help students to get bus passes online and eliminate the need to stand in queue.

The bus pass will be differing for different types of users. In this bus pass, all the required details such as candidate name, address, date of birth, mail id, name of the school(government/ private), validity period, amount paid (free for government school students) and photo copy of the candidate are provided. Instead of school details, working organization details will be provided in employees bus pass. The renewal process can be done either monthly or yearly as per user wish. Based on that renewal period amount will be deducted.

Managing bus pass information using a database. Our system has 2 login for user and admin. This system provides android application for people to get their Bus passes online. This system is useful for users to get their bus pass online instead of standing in long queues to obtain their bus passes. This system is helpful to reduce the paper work; time consumption and user get the bus pass in simple and faster way. User can recall their account and extend the validity of card when the pass is going to expire. This system provides functionality like accessing basic information of user for authentication and provide Bus pass for the user without placing them in long queues. This system provides security option for user. The conductor in bus would be able to verify the pass by scanning the QR code provided on the pass with a recommended device. The notification generated by the system would be send to the user in form of message such as when where and what time the card was use. This system also provides online payment facility.

B. Motivation of the Project

This Application is mainly aims to give an effective facility of online bus pass system. It also uses database to store information about passenger. This system has two logins, one for user and another for admin. In this bus pass generation as well as renewal system is provided. It is a real time application for people to get bus pass. It is very useful as it reduces paper work, time consuming and makes process in simple and faster way. User can renew their existing pass by extending their validity of time when pass expires. This system is intended to develop an application to do functions like accessing information for authentication and offer pass to particular person. So, users have no need to stand in queue for long time.

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This system is helpful for people to get a pass at home also. User can get a pass from anywhere and anytime. The benefit of this project is no one can reuse issued pass due to photograph and unique id. The notification will generate before expiring monthly pass. This is beneficial for every passenger to get pass in time. Aim of this system is to generate daily, monthly and yearly bus pass.

2. System architecture

Fig. 1. Proposed system architecture

A. Administrator

1. Manage Profile: Manage profile of user
2. User Rights: Change or modify user rights
3. Manage Pass Scheme: Manage the different pass schemes
4. Verify Passes: Verification of online registration for passes.
5. Pass History: He/she can check the history of pass of any user for verification

B. Students or Public

1. Member Registration: User can create his/her account for pass registration or renewal.
2. Login: User can login for pass registration or renewal or for manage account.
3. Manage Profile: User can manage or changes in his/her pro le.
4. Change Password: User can change her/his password after login into pro le.
5. Pass Schemes: User can select pass scheme related to her/him.
6. Pass Registration: User can register for pass.
7. Generate Chalan: User can generate chalan for payment of pass to the M.S.R.T.C
8. Generate Pass: After Complete registration user can generate his/her pass.

3. Advantages

- Saves time, adorable and comfortable. Secured from third party users.
- We can see all the bus pass related information online

without going to bus stations.
- Only minimum time needed for the various processing.
- It eliminates need of standing in queue for passes or collecting a ticket for each journey.
- Payment can do online via credit or master card.

4. Limitations

- It requires large database and memory.
- Mobile related issues such as low battery powered, network related problems or cell phone damage.

5. Conclusion

We have developed a user friendly and flexible application for online bus pass. Online bus pass system is a real time project which is useful for the student who are facing problems with the current manual work of bus pass registration system. This application will help students to save their time without standing in a line for hours to near counters. It also increases the validity period, frequently Warns to the student before completion of his validity period by website. His / Her Renewal or Registration can be done using a debit or even by a credit card.

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