College Bus Pass System Using Android App

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ABSTRACT

This paper mainly aims to give an effective facility of online bus pass system. In this project, we are using firebase to store the data. In this application we have two logins, one for user and another for admin. This System is helpful for the students who are struggling with the current manual work of Bus Pass registration and Renewal. This college bus pass system is a real time application for people to get bus pass. Student can get a pass from anywhere and anytime. This System was intended to develop an app in which no one can misuse issued pass due to photograph and unique id.Aim of this system is to generate passes that is either monthly or yearly bus passes.

Keywords: Android, Student, Admin, Login, Bus pass.

1. INTRODUCTION

In our day to day life mobile phones plays a very important role. The consequence of Mobile phones in our everyday life and activities is ceaseless mobile Application is a computer program which is designed to run on smart phones, computers and other devices[4].When a device goes from just working to actually making life easier, Android is behind it. Android is an open-source mobile operating system based on a revamped version of Linux kernel. Originally it was produced by android Inc, next purchased and released by Google. This is the most adapted operating system for mobile phones. In this developer can develop their applications utilizing various tools and deploy them in play stores [1].In our application we are using Fire-base which is a back-end platform for building Web, Android and IOS applications. It provides classes such as Fire-base Authentication, Fire-base Real-time Database, and Fire-base cloud messaging and cloud Fire store etc.

Fire-base Authentication: Most applications need to know the identity of a user. This Authentication login procedure is easier than any other login processes. Fire-base provides an easy API for sign in[3].

Real time Database: Many developers need their application to work despite the network condition that's why the firebase database is used in which it keeps an internal cache of all data that is being shown in the app. when the network condition temporarily drops the app keeps working from the cache[7].It is a cloud hosted NoSQL database. Apart from these firebase also provides a service for crash reporting [5].

These days Technology is everywhere in our lives. It affects the way the individuals communicate, learn, shop, socialize, connect, play, learn, etc. The large amount of growth in India's population has increased the demand of the public Transport. Our Project is to provide "safe, reliable, affordable" services to the students [2].The existing process of issuing college bus passes is very tedious and needs to stand in long queues for a long time. This digital college bus pass system is used to avoid dispute with manual bus passes in the form of paper slips. In this application, all the required details such as candidate name, mail id,mobile number, validity period, branch and photo copy of the candidate are provided. This project will help students to save their time and acquires bus passes without standing in a line for hours. Fee receipt will be uploaded to the application to receive the bus passes. College bus pass system allows their users to view their bus pass related information in the application.

2. RELATED WORK

In Andhra pradesh, online bus pass generation is already implemented as Andhra Pradesh State Road Transport Corporation and there are many projects for issuing bus passes not for students but for public as a public transport. The drawback is that there are no such projects which are specifically implemented for only college students. The drawback is that in the existing system the bus pass is available in the form of paper and the forms are not available through online. The process has to be followed manually. Hence time consumption is more. As we analyzed the problems which are facing by the students so we came across a solution. The solution is developing a mobile application which solves the problems in the existing system .This project is helpful as it lessen the paper work, takes less time and makes the process of obtaining Bus pass uncomplicated and swiftly[7].This project is to override the existing problems by using digital cards(bus passes).

3. PROPOSED ANDROID APPLICATION

To avoid the problems which are facing by the students, by creating an interactive mobile application which issues digital bus passes for the students. The existing problems can overcome by creating an android application that is college bus pass system which rectifies these problems. This Android Application has flexibility so that we can add features according to the trend. In the existing system the details about bus was used to maintain through the file which ingest more time.

In this, the application with 2 parties to have communication among themselves effectively, where

1. Student
2. Admin

In this Application the student can register their details through online and get their unique user name and password for further processing. After this the admin which verifies the details of the student and decides to issue a bus pass or not. After the verification, if the student details are validated then the

admin will issue the bus pass to the Student. After issuing the bus pass automatically message sent to the student mobile number which informs that "your bus pass was assigned now you can use your bus pass". In this college bus pass system for transportation having functionalities like temporary and permanent bus pass. we can show them in mobiles through college database. In this system the validation details for the pass is also available, if the pass is about to expire then we can renewal it and no need to print pass every time after every renewal. If the student in the bus is facing(suffering)from any type of problems then the student can comment their problems in the comment section. The admin checks the comment and takes the appropriate actions and in that comment section sub comments is also available. The student can get all the related information about bus passes through online that is information about routes, validation period etc. Suppose if the student does not require the bus pass service anymore, then the student can cancel their registration.

1) student:

Using this system student can

- Register for the pass, by submitting the basic details initially.
- login to the application .
- Update requests & update profile.
- Comments related to the Bus.
- Logout.

2) Admin:

Using this system admin can

- View all student details.
- Assigns buss pass by verifying the student details.
- Manage profile of the student like update /delete.
- Checks the comments.

This application is developed in android studio and below are the screen shots which are obtained as a result of it. After installing the application on to the mobile we are having two logins one for user and another for admin. when we open user application it will get the splash screen as shown below in fig.1.
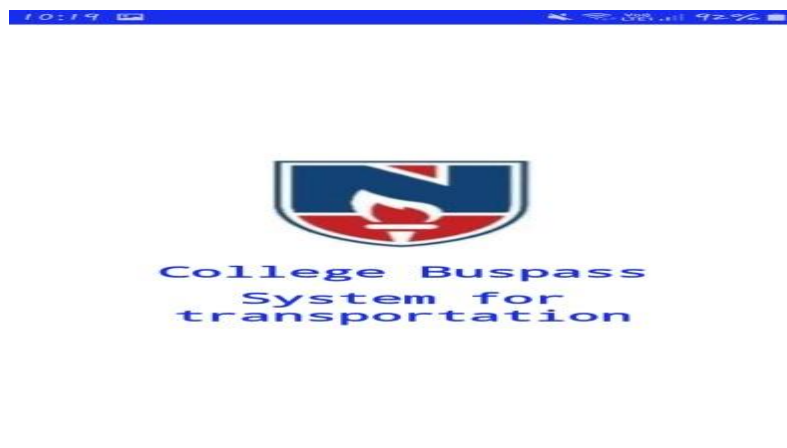

Figure: 1 Home page

After that, it will ask for Login, if the student had an account in this application he/she can login with their individual credentials like Gmail and password which is shown in fig.2. if the student has an account and he/she forgot the password then user can click the forgot password option and can get a new password.

If the student doesn't have an account, then it is must to get registered in the application by clicking "Don't Have Account Click Here Sign up!" then it will go to the registration page in which the student need to enter the details like name, mail id,mobile number, branch etc.It is shown in fig.3.
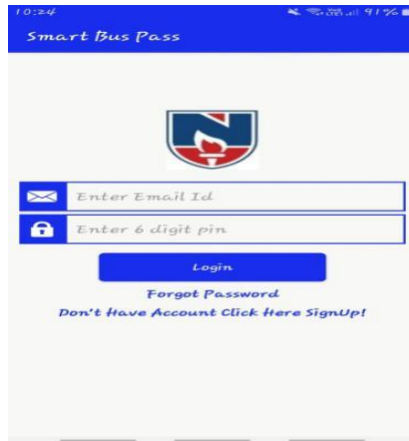

Figure: 2 Login   Figure: 3 Register

After the successful login into the account, a page will be opened which is shown in fig.4. In figure.4, it contains the profile of the student like name of the student, email-id,mobile number, branch and change password button which is used for changing the password and update profile button which is used for updating the student profile.
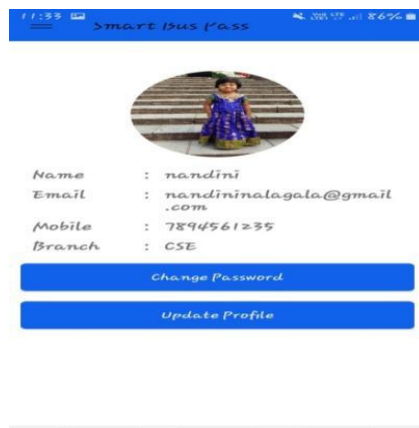

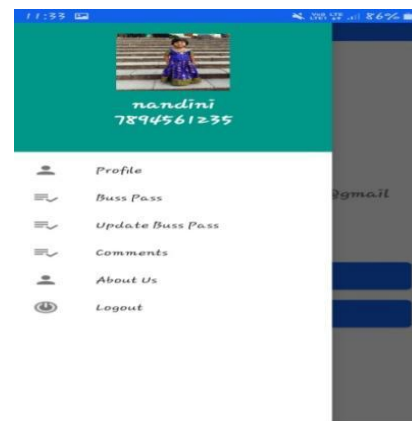Figure: 4 Change password   Figure: 5 Profile

We have a navigation menu which is shown in fig.5 where we can do the following activities.

Buss Pass-It shows the assigned bus pass that is either temporary or permanent Bus Pass. In the fig.6 it shows the permanent bus pass which is in green color and if it is temporary it shows the red color.

Update Bus Pass- If the student clicks the update bus pass option then the below fig.7 is opened .If the student needs to update then he/she must enter the updated pickup and dropping locations and then click update request button.
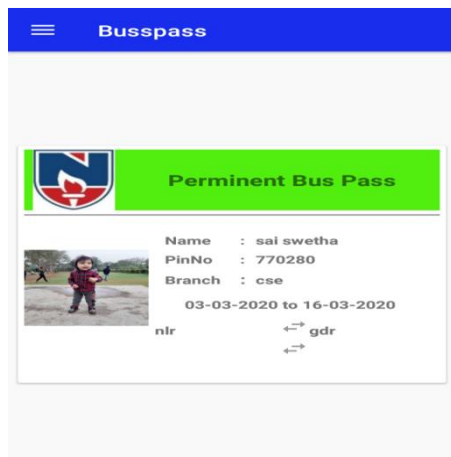
Figure: 6 Bus Pass

Figure: 7 Update

Comments - it shows the comments.

This is about the user module.

After installing the admin application, we are having the same splash screen which is in the user module. After that the following fig.8 is opened.
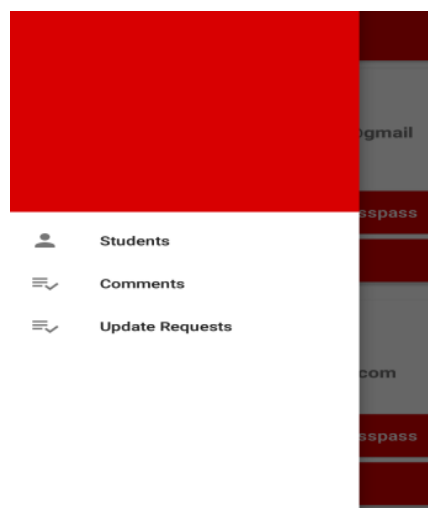

Figure:8 Delete

Figure:9 Navigation

In the above fig.8 we are having assign bus pass which is used for assigning the bus pass to the student, the admin can update the student bus pass by using update bus pass option and the admin can delete a student account by using Delete Student option.

We have a navigation menu like above in the fig.9where we can do the following activities. Students-when we click student's option, then admin can able to see a list which consists of all students profile who are using bus passes.

Comments-admin checks the comment section and takes the appropriate actions if necessary. Update requests-In this admin checks the requests came from the students and processes the requests. This is about Admin Module.

4. CONCLUSION

It can be concluded that the main reasons why College bus pass system is used are time saving, reduces paper work, convenience, easy to carry and affordable. Bus pass generation project which is obliging for the students who bother with the existing physical work of bus pass registration and renewal. Thus, we have developed a user friendly and flexible application for students. The basic step is the students need to register with the application by submitting their details.

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