

Smart Bus Pass Using Android App

Avinash kedar

Dept. of Information Technology

SVKM's IOT Dhule

aviraje2001@gmail.com

Gaurav Dhumal

Dept. of Information Technology

SVKM's IoT Dhule

gauravdhumal777@gmail.com

Aman Ansari

Dept. of Information Technology

SVKM's IoT Dhule

muhammadaman7235@gmail.com

Prof. Madhuri Patil

Dept. of Information Technology

SVKM's IoT Dhule

madhuridesale11120@gmail.com

Raj Salunkhe

Dept. of Information Technology

SVKM's IoT Dhule

salunkeraj45@gmail.com

Abstract - This application's primary goal is to provide an efficient online bus pass system. Additionally, a database is used to store passenger data. A method for creating and renewing bus passes is available. It is incredibly helpful because it minimizes paperwork, saves time, and user can make an online payment using this system's on-the-go ticketing capability. When a pass expires, students or customers can easily apply to renew it by extending the pass's validity. The goal of this system is to create an application that can do tasks like providing a pass to a specific individual and accessing information for authentication.

The main objective of this system is to lessen the amount of work that needs to be done by the bus authorities and passengers that utilizes the service. Additionally, the transport department's documentation work for renewing and registering bus passes also needs to be simplified, which saves time and makes it easier for users to pay the beneficiaries for the service to obtain a fresh bus pass, the user must be listing in the required applicants pattern, and fresher who utilize this service needs to complete payment process after successfully uploading the necessary documents. Their registered email address has received the bus pass related to the category they choose. Their bus pass is available for printing via email. After that, they might also carry a laminated hard duplicate of it. A chapter to collect user review based on the facility for the feedback is also included in the Javascript based application. Additionally, to reduce the likelihood of mistakes, extra elements like watermarks

Keywords— Bus Pass, QR Code, Android Application.

I. INTRODUCTION

With Technology Advancing, we must keep up with the latest styles and anticipate how the next generation will access essential services. The existing procedure of purchasing bus tickets and registering for or renewing a bus pass is a time-consuming process. Bus permits must be obtained in Depo, where there is a lengthy line that takes a long time to move through.

The bus must be stopped for a lengthy period prior to the stage shutting because of the existing way of ticketing larger crowds. Because of the time delay during peak hours, it damages both the passengers and the personnel more. To make reservations, utilizes the Bus Pass Application. All generations benefit from the ability to apply for and renew bus passes using a smart phone and purchase tickets on the fly. This solution connects an Android app that offers a user interface (GUI) to the government server where data is controlled.

After the process is complete, customers are requested to upload papers like address proof and pictures. By doing this, users can be alerted when their bus pass is due to expire and bus delays brought on by ticketing and long queues at bus stops can be avoided. A user tracking tool provided that does determines and helps how well individuals utilizes their bus pass and providing a help to set new bus pass costs.

Smart Bus e-Pass is a revolutionary online service that helps commuters save time and money by allowing them to purchase tickets for their bus journeys quickly and easily. With Smart Bus e-Pass, users can purchase tickets for their bus trips directly from their mobile devices, saving them the hassle of standing in long queues at the bus station. The service also allows users to pay for their tickets using a variety of methods for payment, which includes credit and debit cards, as well as digital wallets. Smart Bus e-Pass is the perfect solution for busy commuters looking to save time and money.

2. LITERATURE SURVEY

Our idea was developed to offer students services that are convenient, cosy, and secure. Due to the shortcomings of the current system, we came up with the idea to create an android app to generate bus passes, which can benefit students in a better way than the current system, which required them to complete every step manually. With the aid of our project, students can complete their tasks more quickly and easily. The bus pass may be purchased online by students. This approach is employed to save time as well.[1]

This system is seen as having achieved its goal of delivering "safe, dependable, time-saving, efficient, pleasant, and inexpensive" services for consumers, despite the fact that the

cost of doing so has been reasonable. Like the majority of India's state-run road transport enterprises, it receives significant government subsidies and is apparently losing money. We had the notion that we could assist them more effectively. In the proposed system, users may obtain passes online instead of having to complete every procedure manually as in the current system. [1] The Bus Timing and Booking System addresses the majority of the software's flaws. Online bus ticket purchases are available every day of the week, 24 hours a day. Customers can use a credit card to purchase bus tickets instead of paying cash[2]

The goal of this initiative is to offer users "safe, dependable, cost-effective, efficient, and reliable" services. Employee bus passes will contain information about their employment company rather than their school information. After that, the user may print their mail bus id's pass and utilise it[3]

An online tool called Bus Pass and Ticket Generation System is useful for Nagpur city's regular travellers. Bus stations are notorious for having long lines for both getting bus passes and registering for them. This project offers a feature that allows the customer to purchase their ticket online.[4]

This is an android application for the bus pass the drawback of the system is the bus pass renewal option is not available, from inspiring this we develop an android application which can able to renew pass as well.[5]

This system is used for only the city buses which travel the internal area of the city, we developed system which can serve for the both city buses and long route buses.[6]

System is able to give information like location, driver name, conductor name and route but not able to get pass renew pass, from this get an idea to develop app which gives the bus information as well as can get pass and renew the pass. [7]

3. SYSTEM ANALYSIS

3.1 Existing System

In the usual process, that is controlled by the bus conductor. It forces the money of the ticket the passenger must entail that each of the conductor. Initially, the printed papers may be complicated, or they are signs of. Secondly deals with portable machines are ugly shores. This system has many drawbacks. Who travel the roads with him, that we may preserve as far as the end of the journey, there was great excitement, the conductor is, that somebody is more, it is required of the ticket is a ticket, for a time, it is required to communicate it to the ticket. Today, contractors are trained to portable ticket.

Disadvantages:

- Passenger verification cannot be done online. Before accessing the system, they must visit and have their identity checked.
- A sizable database and memory are needed.

3.2 Proposed System

The reason for the proposed lead in the online application is to provide saving time, comfort and safety service for the users who uses bus pass in their day to day life. The Objective behind this smart bus pass using Javascript is to assist both passengers and bus operators by streamlining the bus pass management procedure. Passengers can use this app to renewing their pass by paying through the app. The proposed system is an Android application that will enable users to access and purchase public transportation bus passes with ease. The system will be integrated with the existing public transportation system. The user will be able to purchase and manage their bus passes through the application. The application will also provide a secure payment system, allowing users to pay for their bus passes with a credit card or through their mobile device. The application will provide notifications to users when their bus passes are about to expire or when special offers are available. Additionally, the application will provide users with access to customer service, allowing them to contact the public transportation authority with any queries or concerns. Because it offers a lot of benefits over other technologies, we are developing this project to address the issues with the current system. Online forms can be created by users. There is no need to take a printout of the user's pass because they may display it online as well. Payments made online by users are more secure.

4. METHODOLOGY

4.1 Architecture description

Username, Password and server are important. The username is used to assemble user data from the NIC database system into the bus pass database and the pass's authentication ticket database. Then connects the user to the application. Username is used to request a bus pass and renew their existing pass. On the user side, where he / she has to travel and finally the payment options where he or she can choose from online payment methods like credit card and debit card. The user receives the electronic pass on his or her cell phone after making the payment. For the bus pass 'Download' option is also available, The system notify when the pass is about to expires.

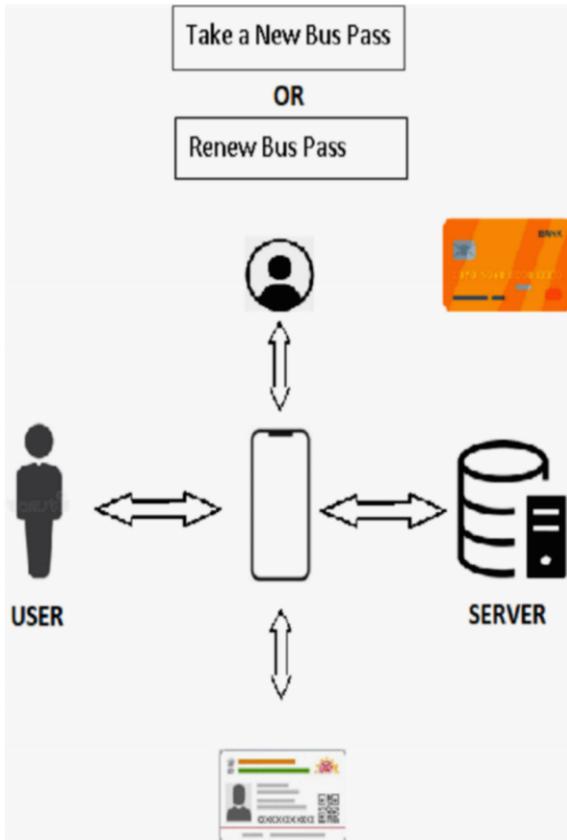


Fig. 4.1. Architecture of the System

4.2 System configuration Hardware requires:

- Processor : Intel i5 (3.4GHz 4.2GHz)
- Ram : 2 GB
- Monitor : 14 or 15" LED
- Input device : Keyboard, Mouse

Software Requires

- Operating System : Windows 7 or More
- Coding language : JavaScript, PHP, CSS, Android
- Toolkit : Bootstrap, MySQL
- IDE : Visual Studio Code, MySQL Heidi

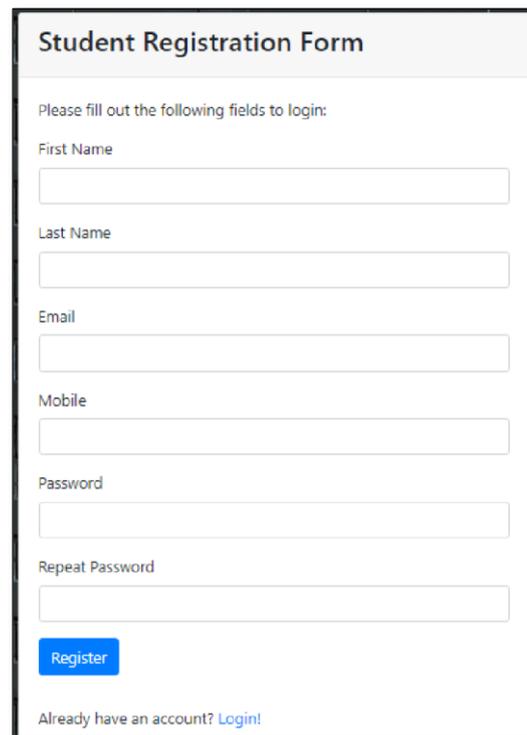
4.3 MODULES

- Registration Module - The Registration Module is made of by using the HTML and Bootstrap. For connection of the page we have utilized the PHP and Javascript. One of the framework of PHP i.e. Yii2 is utilized here. PHP-based Yii2 is a free and opensource framework for creating web applications. It is a contemporary framework used to create highperformance, secure, and versatile online applications of all stripes, from straightforward webpages to intricate corporate systems.

- Authentication Module - The Authentication Module utilises the HTML Bootstrap for the front end and technologies like Javascript, PHP and MY SQL for the Backend work.
- Apply for bus pass Module - The apply for bus pass module consists of Dashboard, College Department and ST Bus web pages which are made up of HTML, Bootstrap, PHP and Javascript.
- Renew bus pass Module - In this Module user can apply for renewing his/her bus pass for making of this module we have utilized HTML, Bootstrap for the front end and for the backend we have made use of Javascript and PHP.

4.3.1 Registration module

Figure 4.3.1: In the System Users must fill out a registration form in order to register by going through the registration process. To establish a new account, a user must provide comprehensive information about themselves during registration.



The screenshot shows a 'Student Registration Form'. It includes a heading 'Please fill out the following fields to login:' followed by several input fields: 'First Name', 'Last Name', 'Email', 'Mobile', 'Password', and 'Repeat Password'. A blue 'Register' button is located below the 'Repeat Password' field. At the bottom, there is a link that says 'Already have an account? Login!'.

Fig.4.3.1. Registration Module

4.3.2 Authentication module

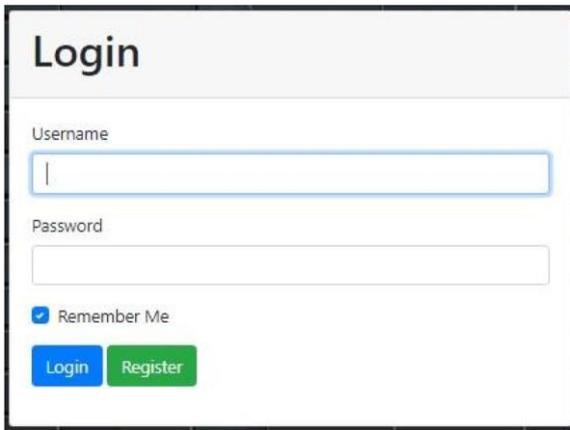


Fig.4.3.2. Authentication Module

Figure 4.3.2: In order to use the system after registration, user must first log in with username and password. **4.3.3 Apply for bus pass module**

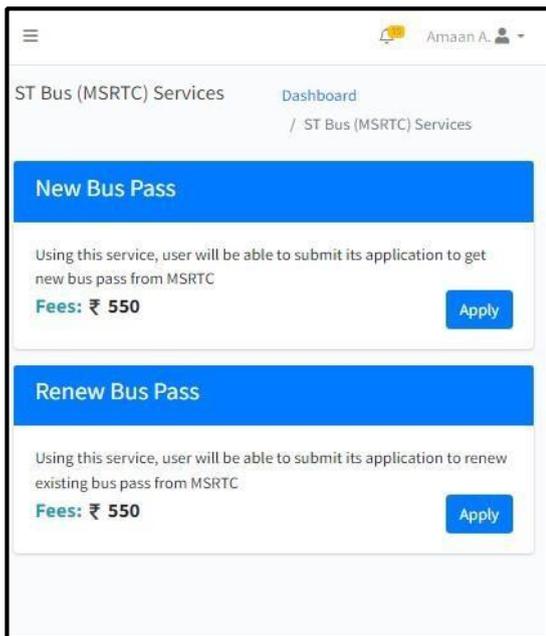


Fig.4.3.3. Apply for Bus Pass

Figure 4.3.3: For getting the bus pass user have to upload the documents like college bonafide certificate, resident form, living certificate, fee payment receipt and select the path by giving the start and destination . In this Module for the front end we used the methodologies like HTML Bootstrap and for the backend we have utilized PHP, Javascript and for the Database we have used MYSQL.

4.3.4 Renew bus pass module

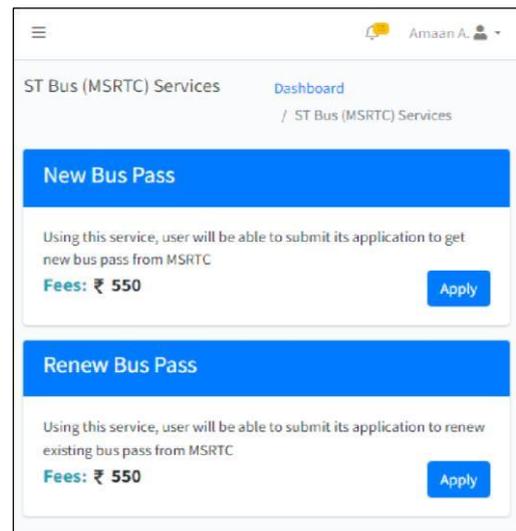


Fig.4.3.4. Renew Bus Pass Module

Figure 4.3.4: This system provides an efficient way for renewing the pass. User can renew pass by selecting the date and path.

4.3.5 Payment module

When a user hits the "Get Pass" or "Renew" buttons in the pass module, the app takes them to a screen where they may pay online with a credit or debit card. The process refreshes the renewal info and just takes a few seconds to pay. **4.3.5 Automatic Bonafide module**

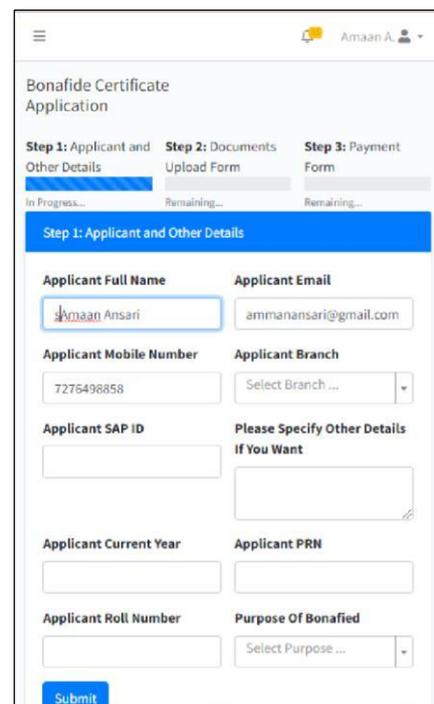


Fig.4.3.5. Bonafide Module

Figure 4.3.5: This is the automatic Bonafide module where we can apply for the bonafide. The access of this bonafide will be with the college from where students can get the bonafide online through the application with authentication of college department.

5. CONCLUSION

For users who are having problems with the current manual process of bus pass registration and renewal, the Bus Pass System is an essential real-time endeavour. The validity term is also lengthened, and the website often notifies users when their validity periods are about to expire. Customers won't have to wait in a long line to renew or register for bus passes online.

6. FUTURE ENHANCEMENT

For project demo concern we have developed an Android application. In future this can be enhanced using bar code and automatically update the data and route and the cost of pass and pass renew, in future it will be able to give the schedule of the buses and also location of the bus. This application can also be used in other transport systems like railways.

7. REFERENCE

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