

BUS PASS MANAGEMENT SYSTEM

A MINI-PROJECT REPORT

Submitted by

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BONAFIDE CERTIFICATE

Certified that this mini project “**BUS PASS MANAGEMENT SYSTEM** ” is the bonafide work of “**RESHMA TG (2116220701221)**” who carried out the project work under my supervision.

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Reshma TG (2116220701221)

ABSTRACT

The **Bus Pass Management System** is a web-based application designed to streamline the process of applying for, renewing, and managing bus passes for public transport. The system aims to replace traditional manual processes with a digital platform, improving efficiency, accuracy, and accessibility for both users and administrators.

The system allows users to apply for a new bus pass, renew existing passes, view pass details, and check available routes and schedules. Users can easily input their details, select their preferred route, and upload required documents for verification. Administrators have access to tools for managing applications, updating route details, and handling renewal requests. The system also features a dashboard for monitoring active passes, managing route information, and generating reports.

The database is structured to store user information, pass details, route data, and payment records securely. The system ensures that all operations, such as pass generation and renewal, are seamless and user-friendly. By automating bus pass management, the system reduces paperwork, eliminates errors, and provides a convenient platform for users to access essential services.

The **Bus Pass Management System** is built using PHP and MySQL for the backend, with a responsive frontend interface developed using HTML, CSS, JavaScript, and Bootstrap. It is a cost-effective and efficient solution for managing bus passes and improving public transport operations.

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CHAPTER 1

1.1 INTRODUCTION

The **Bus Pass Management System** is a digital platform designed to simplify and enhance the process of bus pass issuance, renewal, and management for public transport systems. It provides users with a convenient interface to apply for new passes, renew existing ones, view pass details, and check available routes. Administrators can efficiently manage applications, update route information, and oversee pass-related operations through a centralized system. By automating these processes, the system eliminates manual errors, reduces paperwork, and ensures a streamlined experience for both users and transport authorities. Developed using PHP and MySQL, with a responsive frontend, this system offers a reliable and user-friendly solution for modernizing bus pass management.

1.2 SCOPE OF THE WORK

The scope of the **Bus Pass Management System** encompasses the complete digitalization of bus pass-related operations for public transport systems. It is designed to cater to both users and administrators, offering features such as applying for new passes, renewing existing passes, viewing pass details, and managing route information. For users, the system provides a seamless interface for hassle-free pass applications and renewals, reducing the need for physical visits and paperwork. For administrators, it includes tools for managing applications, updating route details, and generating reports, ensuring efficient oversight and decision-making. The system is scalable, allowing integration of additional features like QR code-based verification, secure online payments, and route optimization tools. It can be deployed across various transport authorities to enhance operational efficiency, improve user convenience, and support a modernized public transport infrastructure.

1.3 PROBLEM STATEMENT

The current manual process of managing bus passes is time-consuming, error-prone, and inefficient, leading to challenges such as delays in application processing, lack of centralized data management, and inconvenience for users. Applicants often face long queues, repetitive paperwork, and limited access to route details, while administrators struggle with tracking pass validity, managing renewals, and maintaining accurate records. These inefficiencies not only affect user satisfaction but also hinder the overall operational efficiency of public transport systems. The Bus Pass Management System addresses these challenges by providing a digital platform that automates the application, renewal, and management of bus passes, ensuring a streamlined, user-friendly, and error-free process for both users and administrators.

1.4 AIM AND OBJECTIVES OF THE PROJECT

The aim of the **Bus Pass Management System** is to develop a robust, user-friendly digital platform that simplifies and automates the process of applying for, renewing, and managing bus passes, while ensuring efficiency and accuracy in public transport operations. The primary objectives include providing users with a seamless interface for hassle-free pass applications and renewals, enabling administrators to effectively manage applications, monitor pass validity, and update route details in real-time. The system seeks to eliminate the inefficiencies of manual processes, reduce paperwork, and ensure secure and centralized data management. Additionally, it aims to enhance user convenience by offering quick access to pass details and route information, ultimately improving the overall experience for both users and transport authorities.

CHAPTER 2

SYSTEM SPECIFICATIONS

2.1 HARDWARE SPECIFICATIONS

Processor	:	Pentium IV Or Higher
Memory Size	:	128 GB (Minimum)
HDD	:	40 GB (Minimum)

2.2 SOFTWARE SPECIFICATIONS

Operating System	:	WINDOWS 7 Or Higher
Front – End	:	HTML, CSS, BOOTSTRAP, JAVASCRIPT
Back – End	:	PHP, MYSQL

CHAPTER 3

ARCHITECTURE DIAGRAM

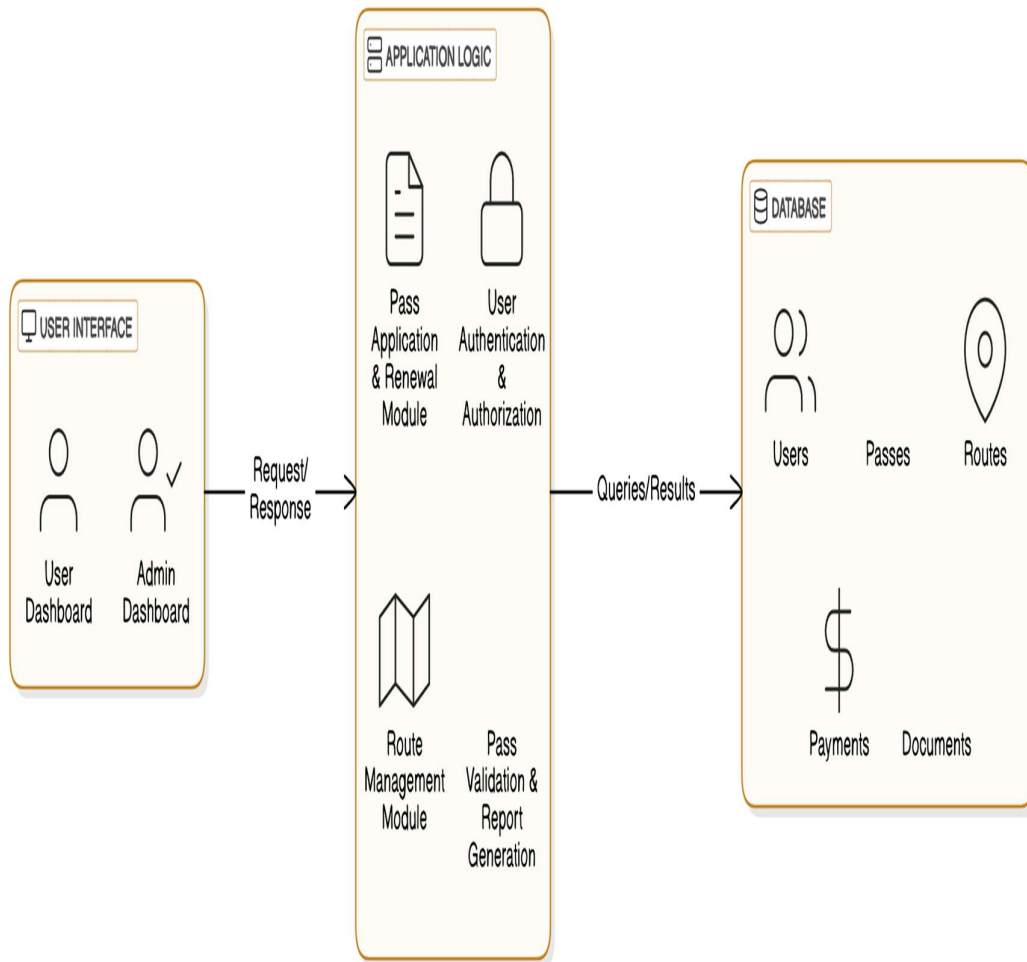


Fig. 3.1. Architecture Diagram

The architecture of the **Bus Pass Management System** is designed to be a three-tier system, consisting of the **User Interface Layer**, **Application Logic Layer**, and **Database Layer**. The **User Interface Layer** (frontend) is where users (passengers and

administrators) interact with the system through web forms for applying for, renewing, and managing bus passes, as well as viewing available routes. It provides an intuitive and responsive platform built using HTML, CSS, JavaScript, and Bootstrap. The **Application Logic Layer** (backend), developed in PHP, handles the core business logic of the system, such as processing pass applications, managing renewals, validating user requests, and updating route details. It ensures that all requests from the frontend are processed correctly and interact with the database as needed. The **Database Layer**, powered by MySQL, stores all necessary data, including user details, pass information, route schedules, and payment history. It ensures secure data storage, integrity, and easy retrieval. Together, these layers communicate efficiently, with the frontend sending requests to the backend, which processes them and interacts with the database, then sends the results back to the frontend for display, ensuring a smooth and responsive user experience. This modular architecture ensures scalability, maintainability, and secure data management for the system.

CHAPTER 4

MODULE DESCRIPTION

The **Bus Pass Management System** is designed to streamline the process of bus pass applications, renewals, and route management. The system is divided into several key modules, each responsible for a specific functionality, ensuring an efficient and user-friendly experience for both users and administrators. Below are the main modules of the system:

1. User Registration & Authentication Module

- **Purpose:** This module handles user registration, login, and authentication.
- **Features:**
 - New users can register by providing essential details such as name, email, contact number, address, and Aadhaar number for identity verification.
 - Returning users can log in using their credentials.
 - User authentication is managed through session-based login to ensure secure access.
 - The Aadhaar number is used to verify the identity of users and prevent fraudulent applications.

2. Bus Pass Application Module

- **Purpose:** This module allows users to apply for a new bus pass.
- **Features:**
 - Users fill out an online application form providing details like name, address, contact information, Aadhaar number (for identity verification), and preferred route.

- Users can upload required documents, such as a passport-sized photo and a copy of their Aadhaar card, for verification.
- After submission, the application is stored in the database and marked as pending for approval by the admin.
- Once approved, the pass details are generated and made available to the user.

3. Bus Pass Renewal Module

- **Purpose:** This module handles the renewal process for existing bus pass holders.
- **Features:**
 - Users can renew their bus pass by entering their pass ID and Aadhaar number for verification.
 - The system will check if the existing pass is eligible for renewal based on its expiration date.
 - The user will be notified (on the user dashboard) about the renewal status and required documents.
 - Renewed passes are updated in the database, and the user can view the updated pass details.

4. Route Management Module

- **Purpose:** This module is responsible for managing bus route details.
- **Features:**
 - Admins can add, update, or delete bus routes in the system.
 - Each route includes information about the route name, starting point, endpoint, and list of bus stops along the way.
 - The module allows admins to modify route schedules and update bus stops based on operational needs.
 - Users can view available routes, bus timings, and stop locations for their convenience when applying for a pass.

5. Bus Pass Viewing Module

- **Purpose:** This module allows users to view the details of their bus passes.
- **Features:**
 - Users can view their active bus pass, including details such as pass ID, route, validity period, and current status (active/expired).
 - The module allows users to check the status of their applications or renewals, including pending or approved applications.
 - Users can also view route details associated with their pass.

6. Admin Dashboard Module

- **Purpose:** This module provides administrative features to manage the overall system.
- **Features:**
 - Admins can view all bus pass applications, including new applications, renewals, and rejected applications.
 - Admins have the ability to approve or reject bus pass applications based on verification of the Aadhaar number and uploaded documents.
 - Admins can update and manage bus route information, including adding new routes and modifying existing ones.
 - Admins can generate reports on active bus passes, renewal statistics, and user data for analysis.

7. Document Verification Module

- **Purpose:** This module handles the verification of user documents, including Aadhaar numbers.

- **Features:**

- The system verifies the Aadhaar number entered during the registration or pass application process against a database or a third-party service to confirm the user's identity.
- The verification ensures that only legitimate users are granted bus passes, preventing fraudulent applications.
- Admins can review documents uploaded by users and confirm their authenticity during the approval process.

CHAPTER 5

SYSTEM DESIGN

5.1 USE CASE DIAGRAM

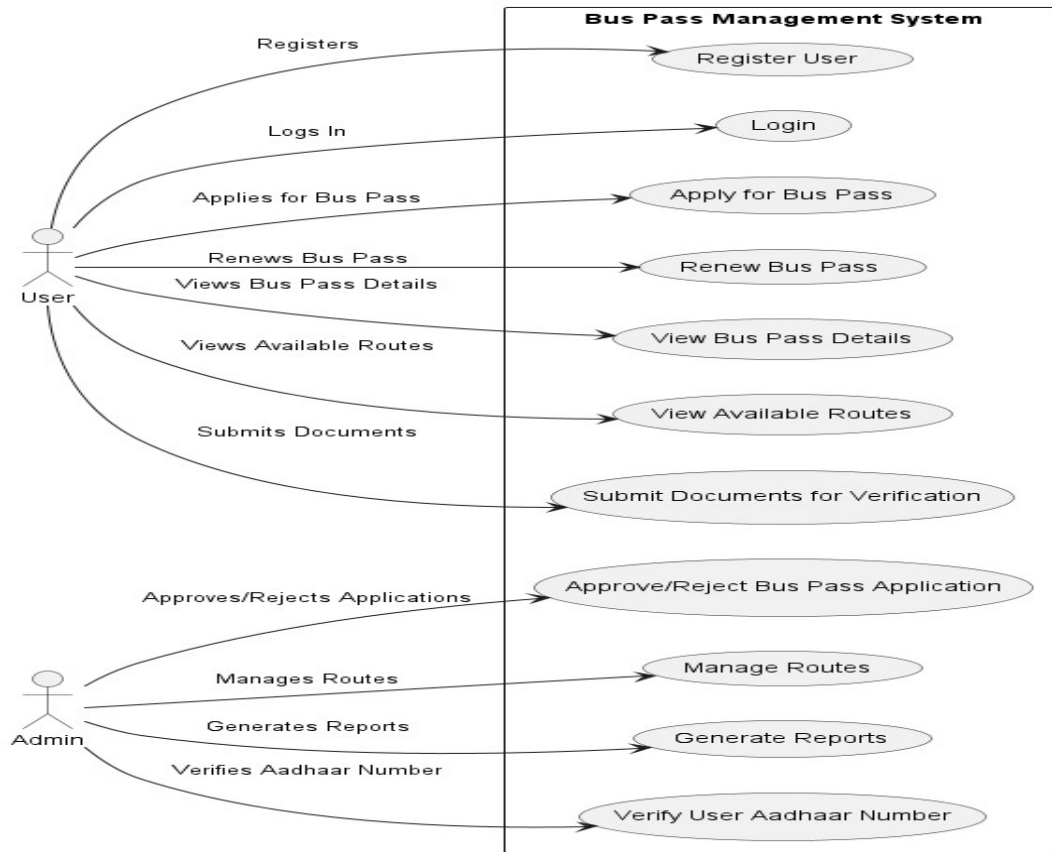


Fig. 5.1. Use Case Diagram

The Use Case Diagram for the Bus Pass Management System outlines the interactions between users, administrators, and the system. Users can register, log in, apply for a bus pass, renew their pass, view their pass details, and explore available bus routes. They can also submit documents for verification during the application process. On the other hand, Admins are responsible for approving or rejecting bus pass applications, managing bus routes, generating reports, and verifying users' Aadhaar numbers for authenticity.

5.2 ER DIAGRAM

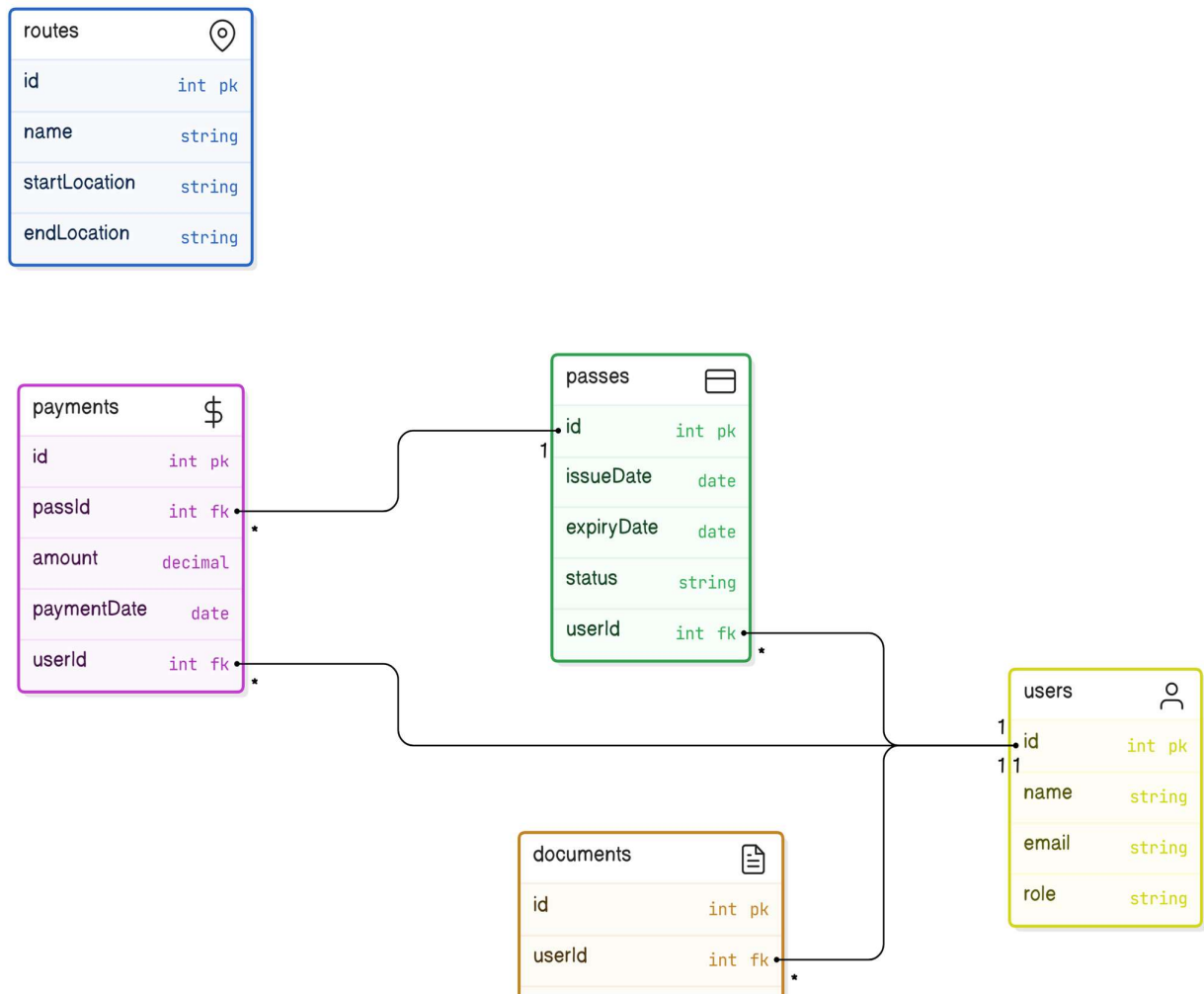
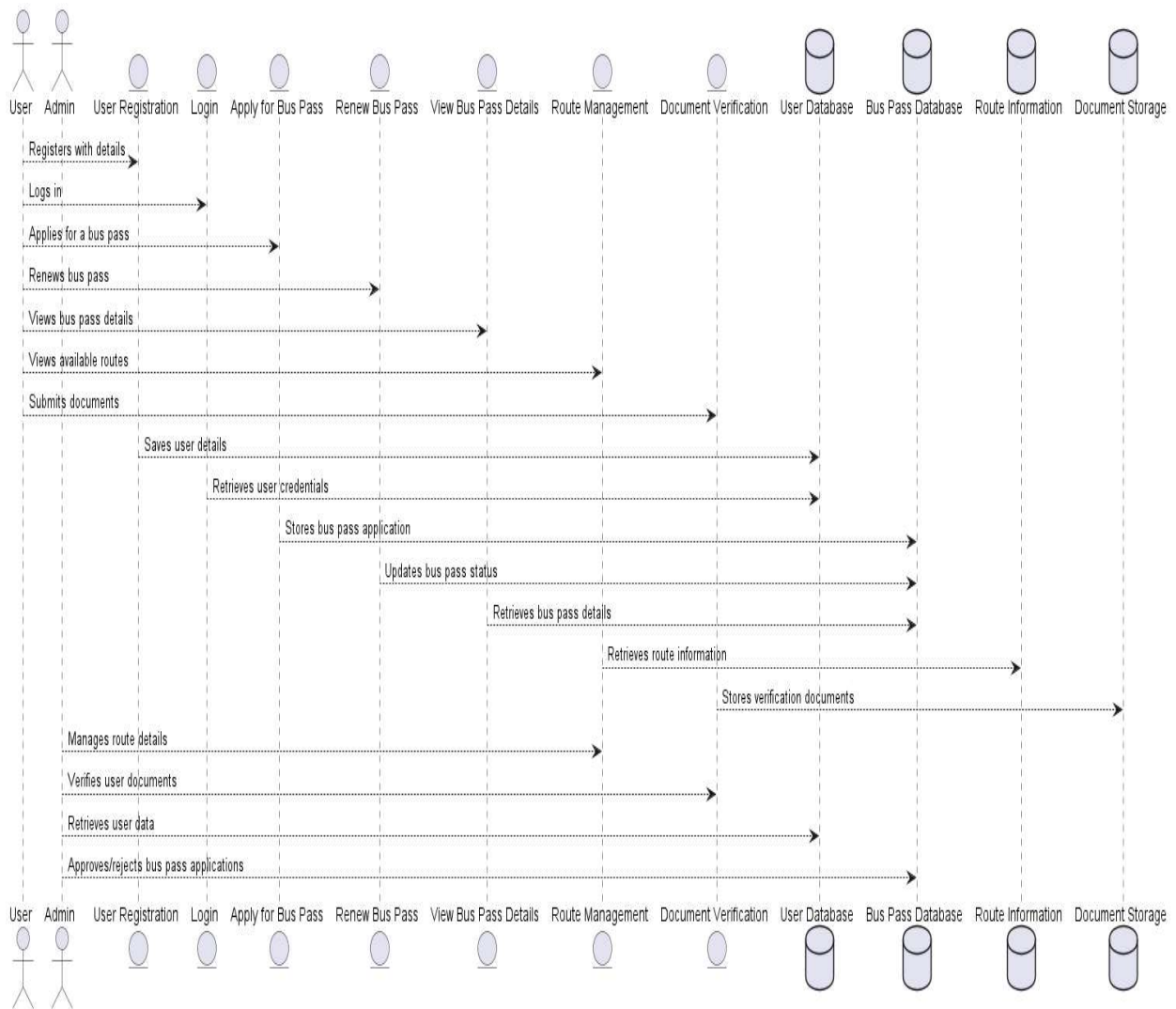


Fig. 5.2. Entity Relationship Diagram

The ER diagram represents the relationships between users and Admin

5.3 DFD DIAGRAM



5.4 ACTIVITY DIAGRAM

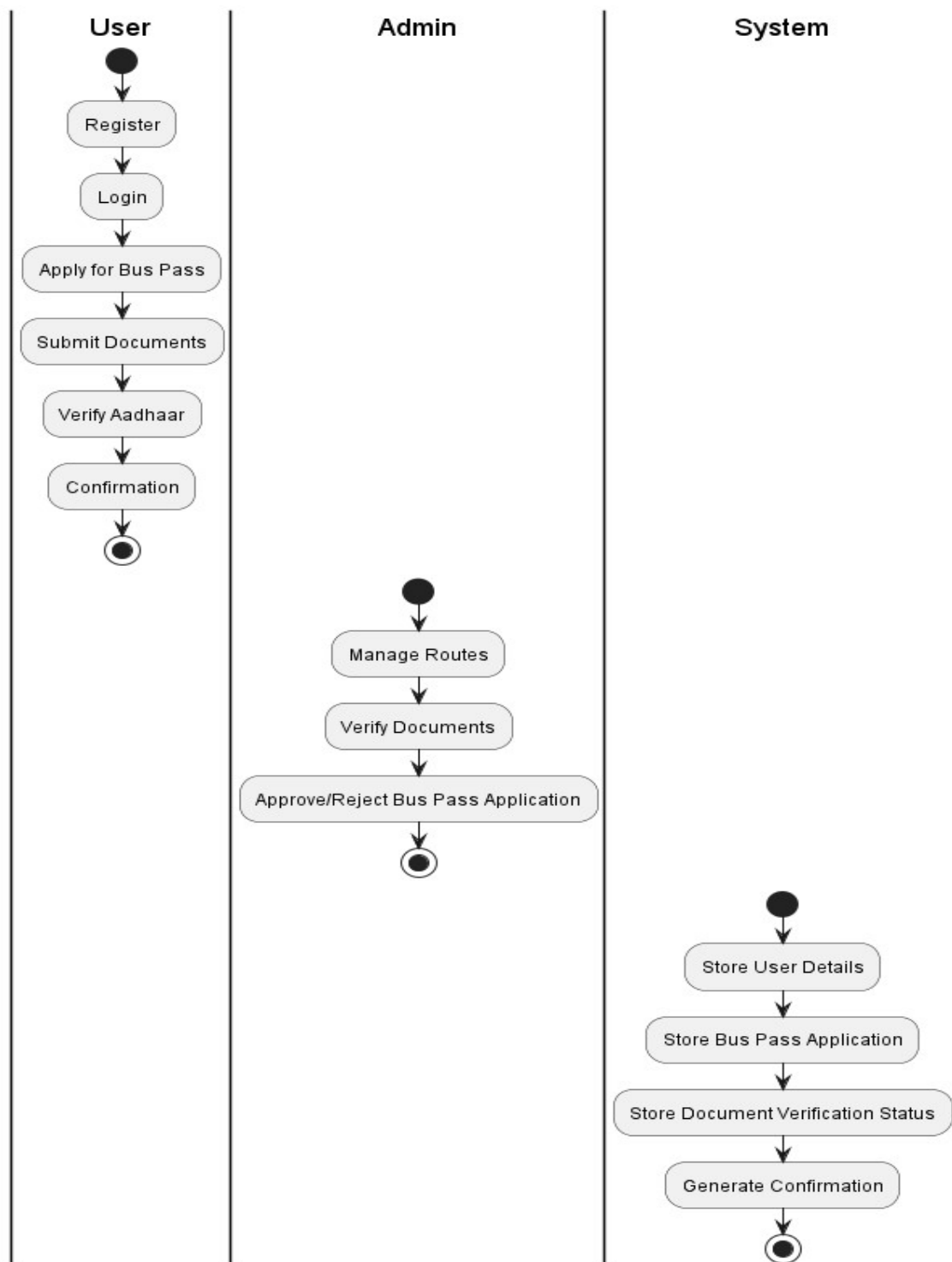
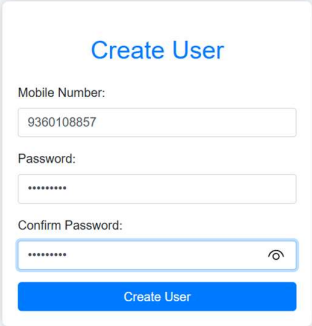


Fig. 5.4. Activity Diagram

CHAPTER 6

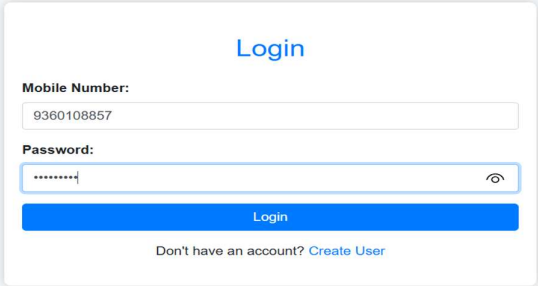
SCREEN SHOTS



The screenshot shows a 'Create User' form with a light blue header. The form contains three input fields: 'Mobile Number' with the value '9360108857', 'Password' with masked characters '*****', and 'Confirm Password' with masked characters '*****' and a toggle icon. A blue 'Create User' button is at the bottom.

Fig. 7.1. Create User Page

From this above figure this is the create user page where the user and admin can create new user.



The screenshot shows a 'Login' form with a light blue header. The form contains two input fields: 'Mobile Number' with the value '9360108857' and 'Password' with masked characters '*****' and a toggle icon. A blue 'Login' button is at the bottom. Below the button is a link: 'Don't have an account? [Create User](#)'.

Fig. 7.2. user login page

From this above figure user login to the page by using their credentials.

Bus Pass System

Home Register User View Bus pass Renewal Bus pass Logout

User Details

User Information

Name: reshma@gmail.com	Mobile: 9360108857	State: tamilnadu
Email: reshma	Address: 70 thanjavur near new busstop	Pincode: 627802
	City: thanjavur	

Apply for Bus Pass

Select Pass Type: Select Route: Start Date:

Fig. 7.3. user dashboard

From this above figure user dashboard .

User Information

Name: reshma@gmail.com	Mobile: 9360108857	State: tamilnadu
Email: reshma	Address: 70 thanjavur near new busstop	Pincode: 627802
	City: thanjavur	

Apply for Bus Pass

Select Pass Type: Select Route: Start Date:

Select Duration: Starting From: End Date:

Select Destination: Price:

Fig. 7.4. Appy for bus pass

From this above figure User can apply for bus pass.

Bus pass applied successfully!

Fig. 7.5. Bus pass applied

From this above figure user applied bus pass successfully.

Your Bus Passes

Bus Pass ID: 4	
Pass Type:	student
Duration:	1
Starting From:	Velachery
Destination:	Besant Nagar
Start Date:	2024-11-11
End Date:	2024-11-18
Price: ₹0.00	

Bus Pass ID: 5	
Pass Type:	student
Duration:	1
Starting From:	Anna Nagar
Destination:	Central
Start Date:	2024-11-11
End Date:	2024-11-18

Fig. 7.6. Bus pass applied history

From this above figure user can see the details of applied bus pass.

Renew Bus Pass

Pass Type

student

Duration

1

Starting From

T. Nagar

Destination

Poonamallee

Start Date

24-11-2024



End Date

24-12-2024



Price

₹100.00

Renew Bus Pass

Fig. 7.7. bus pass renew page

From this above figure User can renew there pass.

CHAPTER 7

CONCLUSION

The **Bus Pass Management System** project successfully automates the entire process of bus pass application, renewal, and management. It provides a seamless and efficient platform for users to register, apply for a bus pass, and view their pass details. By integrating Aadhaar verification, the system ensures secure and reliable user authentication, enhancing the overall integrity of the process. For administrators, the system simplifies the management of bus routes, document verification, and the approval/rejection of bus pass applications. The database-driven architecture ensures that all user and bus pass data is stored efficiently, making it easy to retrieve and update information when necessary.

Overall, this system not only improves the user experience by providing a convenient and paperless solution but also offers administrators a streamlined approach to managing bus pass applications and maintaining bus route information. The system can be further enhanced with additional features such as real-time notifications, reporting tools, and an advanced payment gateway for processing fees.

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