Software Requirements Specification

Online Bus Pass Management System

1. Introduction

1.1 Purpose

The purpose of this document is to outline the requirements for the development of an Online Bus Pass Management System. This system aims to streamline and automate the process of bus pass issuance and management for both users and administrative staff.

1.2 Scope

The Online Bus Pass Management System will cover the entire process of bus pass management, including user registration, pass application, approval/rejection by administrators, and pass renewal. The system will also generate reports for administrators to monitor and analyze usage patterns.

1.3 Definitions, Acronyms, and Abbreviations

SRS: Software Requirements Specification

OTP: One-Time Password

2. System Overview

2.1 System Description

The Online Bus Pass Management System is a web-based application that allows users to apply for, renew, and manage bus passes online. Administrators can review applications, approve or reject them, and generate reports to analyze system usage.

2.2 System Features

2.2.1 User Module

- User registration and login

- Profile management

- Bus pass application and renewal

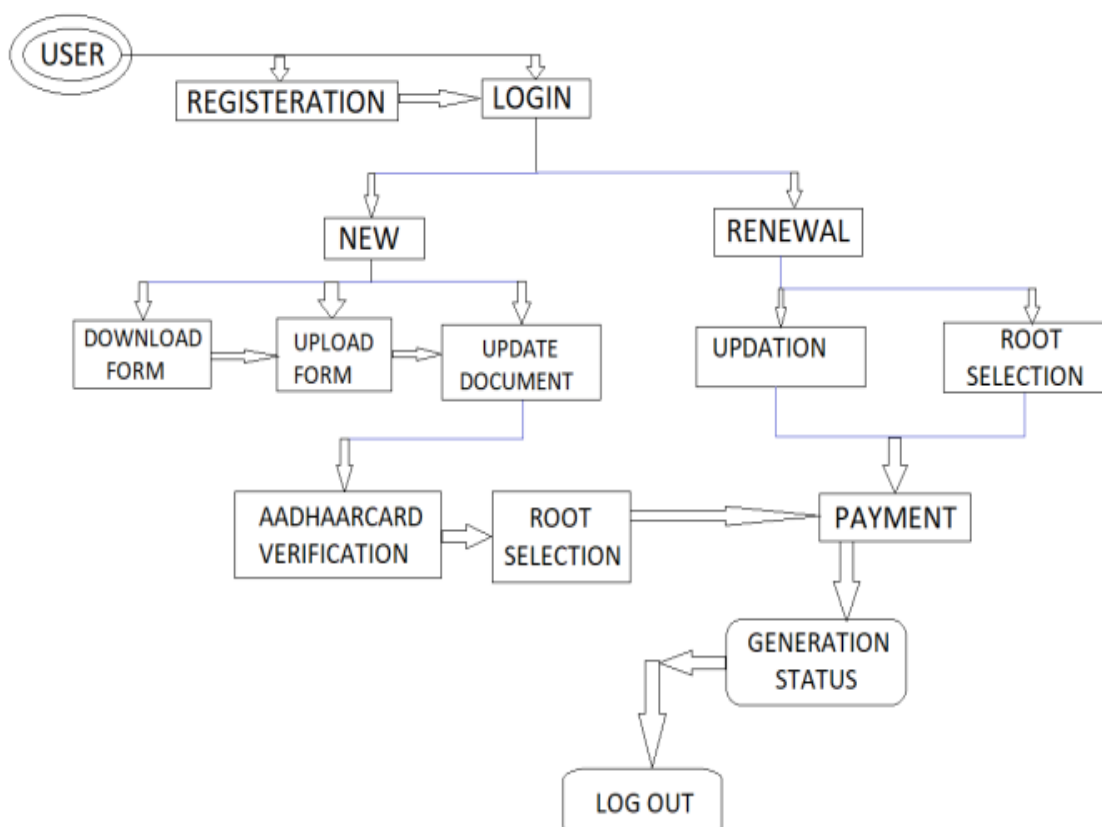- View pass status and history

- Online payment integration

2.2.2 Admin Module

- Admin login and authentication

- Manage user accounts and profiles

- Review and approve/reject pass applications

- Generate reports on pass usage

- Manage bus routes and schedules

2.3 User Classes and Characteristics

Regular Users: Individuals who use the system to apply for and manage their bus passes.

Administrators: System administrators responsible for reviewing and approving/rejecting pass applications, managing user accounts, and generating reports.

3. Functional Requirements

3.1 User Module

3.1.1 User Registration

Users should be able to register with a valid email address and password.

Email verification or OTP should be implemented for account activation.

3.1.2 User Login

Users should be able to log in using their credentials.

3.1.3 Profile Management

Users can update their personal information, contact details, and password.

3.1.4 Bus Pass Application

Users should fill out an online form to apply for a bus pass, providing necessary details.

Supporting documents should be uploaded during the application process.

3.1.5 Pass Renewal

Users can apply for pass renewal before the expiration date.

Payment integration for pass renewal fees.

3.1.6 Pass Status and History

Users can view the current status of their pass application.

View history of past pass applications and renewals.

3.2 Admin Module

3.2.1 Admin Login

Administrators should log in using their credentials.

3.2.2 User Management

Administrators can view, edit, and deactivate user accounts.

3.2.3 Pass Application Review

Administrators review pass applications and approve/reject them.

Notifications should be sent to users about the status of their application.

3.2.4 Report Generation

Generate reports on pass usage, application trends, and revenue.

Export reports in common formats (e.g., PDF, CSV).

3.2.5 Bus Route and Schedule Management

Add, edit, or delete bus routes and schedules.

4. Non-Functional Requirements

4.1 Performance

The system should handle concurrent user requests efficiently.

Response time for user interactions should be less than 3 seconds.

4.2 Security

User data, including personal and financial information, should be securely stored and encrypted.

Secure authentication mechanisms for both users and administrators.

4.3 Reliability

The system should be available 99.9% of the time.

Regular backups of the database to prevent data loss.

4.4 Scalability

The system should easily scale to accommodate a growing number of users.

4.5 Usability

The user interface should be intuitive and user-friendly.

Accessibility features should be considered for users with disabilities.

4.6 Compatibility

The system should be compatible with common web browsers (e.g., Chrome, Firefox, Safari).

5. Constraints

5.1 Budget

The development budget is limited to a predefined amount.

5.2 Timeline

The system should be developed and deployed within a specified timeframe.