

# Software Requirements Specification (SRS) Document for Bus Ticketing System

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## 1. Introduction

### 1.1 Purpose

This document specifies the software requirements for the Bus Ticketing System.  
The primary audience of this document includes the project team, stakeholders, and developers.

### 1.2 Scope

The Bus Ticketing System allows users to book bus tickets online.  
It provides functionalities for viewing bus schedules, selecting seats, and making payments.

### 1.3 Definitions, Acronyms, and Abbreviations

- BTS** : Bus Ticketing System
- UI** : User Interface
- API** : Application Programming Interface

### 1.4 References

IEEE SRS Standard

### 1.5 Overview

This document contains the overall description, specific requirements for the Bus Ticketing System.

## 2. Overall Description

### 2.1 Product Perspective

The Bus Ticketing System is a standalone web-based application.  
It will integrate with external payment gateways and provide real-time bus schedule updates.

### 2.2 Product Functions

- User registration and login
- View bus schedules
- Select bus and seats
- Make online payments
- Generate and send e-tickets

## 2.3 User Classes and Characteristics

- Customers** : Individuals who book bus tickets.  
**Admin** : Manages routes and system configurations (users, fares, buses).  
**Manager** : Manages bus schedules

## 2.4 Operating Environment

- Web browsers (Chrome, Firefox, Safari, Edge)
- Internet connection

## 2.5 Design and Implementation Constraints

- Must comply with data security and privacy policies for handling user data
- Integration with standard payment gateways

## 2.6 Assumptions and Dependencies

- Users have access to the internet.
- Payment gateways are functional and accessible.

## 3. Specific Requirements

### 3.1 External Interface Requirements

#### 3.1.1 User Interfaces

- Responsive web pages for different devices.
- Dashboard for admin management.

#### 3.1.2 Hardware Interfaces

- No specific hardware requirements, runs on standard web servers.

#### 3.1.3 Software Interfaces

- REST APIs for payment gateways.
- Database connection interfaces.

#### 3.1.4 Communication Interfaces

- HTTPS for secure communication.

### 3.2 Functional Requirements

#### 3.2.1 User Registration and Login

- Users can register using phone number and password.
- Users can log in using their credentials.

#### 3.2.2 View Bus Schedules

- Users can view available buses based on date and destination.

### **3.2.3 Select Bus and Seats**

- Users can select a bus and choose their preferred seats from available options.

### **3.2.4 Make Online Payments**

- Users can pay for their tickets using mobile payment methods or credit/debit cards.

### **3.2.5 Generate and Send E-Tickets**

- Upon successful payment, an e-ticket is generated and sent via electronic channel of choice (email, WhatsApp, or SMS) to the user.

## **3.3 Performance Requirements**

- The system should handle up to 10,000 simultaneous users.
- Payment processing time should not exceed 5 seconds.

## **3.4 Logical Database Requirements**

- MySQL database to store user information, bus schedules, bookings, and transactions.

## **3.5 Design Constraints**

- Must be developed using HTML5, CSS3, JavaScript for front end and PHP for backend.

## **3.6 Software System Attributes**

### **3.6.1 Reliability**

- The system should have 99.9% uptime.

### **3.6.2 Availability**

- The system should be available 24/7.

### **3.6.3 Security**

- User data should be encrypted and securely stored.

### **3.6.4 Maintainability**

- Code should be modular and well-documented for easy maintenance.

### **3.6.5 Portability**

- The system should be deployable on various web hosting services.

## **3.7 Other Requirements**

- Backup and recovery procedures must be defined.