**SRS (Railway reservation system)**

**1. Introduction**

The Railway Reservation System is a software system designed to facilitate the booking of train tickets and manage various aspects of train travel. The system provides an efficient and user-friendly interface for customers to book, cancel, and modify their train tickets, as well as manage their travel itineraries. The system also helps the railway administration to manage train schedules, seat availability, and passenger information.

**2. General Description**

The Railway Reservation System consists of various modules that work together to provide a seamless booking experience for customers. The modules include ticket booking, cancellation, modification, train schedules, seat availability, and passenger information management. The system is designed to be highly reliable, scalable, and secure to handle a large number of concurrent users.

**3. Functional Requirements**

The Railway Reservation System must provide the following functionality:

- Allow users to search for trains based on various criteria such as source, destination, date, and time.

- Display train schedules and seat availability.

- Allow users to book, modify, and cancel their tickets.

- Provide a payment gateway for online ticket booking.

- Generate e-tickets and send them to customers via email or SMS.

- Maintain passenger information such as name, age, gender, and contact details.

- Provide an admin interface to manage train schedules, seat availability, and passenger information.

**4. Interface Requirements**

The Railway Reservation System must have a user-friendly and intuitive interface that allows customers to easily book, modify, and cancel their tickets. The system must also have a responsive design that works well on different devices such as desktops, laptops, tablets, and smartphones. The system must support multiple languages to cater to customers from different regions.

**5. Performance Requirements**

The Railway Reservation System must be highly scalable and able to handle a large number of concurrent users without compromising performance. The system must be able to handle peak traffic during festive seasons and holidays. The system must also have a fast response time for search queries, ticket booking, and other operations.

**6. Design Constraints**

The Railway Reservation System must be designed to be highly reliable, secure, and fault-tolerant. The system must use industry-standard security protocols such as HTTPS and SSL to ensure secure transactions. The system must also have backup and disaster recovery mechanisms to ensure data integrity and availability.

**7. Non-Functional Requirements**

The Railway Reservation System must comply with the following non-functional requirements:

- The system must be easy to maintain and upgrade.

- The system must have a high level of usability and user satisfaction.

- The system must have a low error rate and be highly accurate.

- The system must comply with relevant regulations and standards such as GDPR and PCI DSS.

**8. Preliminary Schedule and Budget**

The development of the Railway Reservation System is estimated to take 12 months and cost $500,000. The schedule includes the following phases:

- Requirements gathering and analysis (1 month)

- Design and architecture (2 months)

- Implementation (6 months)

- Testing and quality assurance (2 months)

- Deployment and maintenance (1 month)