Software Requirement Specification

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E-Ticketing System

1. Introduction

This Software Requirements Specification (SRS) outlines the functionalities of SANIMA, an online movie ticket booking application. SANIMA aims to simplify the process of booking movie tickets, providing a user-friendly and efficient platform for both moviegoers and theatre owners.

1.1 Purpose

The primary purpose of SANIMA is to automate the movie ticket booking process, eliminating the need for physical ticket counters and reducing manual labour. It will offer real-time seat availability, convenient payment options, and personalized recommendations to enhance the overall movie-going experience.

1.2 Document Conventions

This document uses Book Antiqua with specific styling for headings and subheadings.

1.3 Intended Audience and Reading Suggestions

Moviegoers:

Individuals who wish to purchase movie tickets online.

Theatre Owners:

Businesses that operate movie theatres and wish to manage ticket sales and seat availability.

System Administrators:

Individuals responsible for maintaining and updating the SANIMA platform.

1.4 Product Scope

SANIMA will enable users to:

- **Browse:**

  Search for movies by title, genre, or location.

- **Select:**

  Choose a preferred showtime, theatre, and seating arrangement.

- **Purchase:**

  Pay for tickets using various payment methods (e.g., credit/debit cards, digital wallets).

- **Manage:**

  View booking history, cancel tickets, and receive notifications about upcoming shows.

- **Recommend:**

Receive personalized movie recommendations based on viewing history and preferences.

2.Overall Description

2.1 Product Perspective

- SANIMA is a web-based application that facilitates online movie ticket booking. It provides a user- friendly interface for browsing movie listings, selecting showtimes and seats, making secure payments, and receiving real-time notifications.

2.2 Product Functions

- **User:**
- Creates an account, logs in, and manages profile information.
- Searches for movies by title, genre, or location.
- Selects preferred showtimes, theatres, and seating arrangements.
- Makes secure payments using various methods.
- Receives notifications about upcoming shows, booking confirmations, and cancellations.
- Views booking history and manages tickets.
- **Theatre Owner:**
- Manages theatre information, including listings and seat availability.
- Sets ticket prices and promotional offers.
- Monitors ticket sales and revenue.
- **System Administrator:**
- Oversees the overall platform, including user management, data security, and performance optimization.
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2.3 User Classes and Characteristics

- Users of SANIMA include moviegoers of all ages and backgrounds who are familiar with basic computer and internet usage.

2.4 Operating Environment

- SANIMA will be accessible on modern web browsers, compatible with Windows, macOS, and mobile devices.

2.5 Design and Implementation Constraints

- Real-time Availability: The system must provide real-time information on movie listings, showtimes, and seat availability.
- Security: Sensitive user data, including payment information, must be protected using industry-standard security measures.
- Scalability: The platform should be able to handle a high volume of users and transactions.
- Integration: SANIMA may need to integrate with external systems, such as payment gateways and theatre management software.

2.6 User Documentation

- Comprehensive user documentation will be provided to guide users through the registration process, movie search, ticket booking, payment options, and the use of other features.

2.7: Assumptions and Dependencies

- SANIMA will utilize MySQL or PostgreSQL for structured booking-related information, MongoDB for unstructured data, , payment gateways like Stripe or PayPal, cloud hosting on platforms like AWS or GCP, and accessibility features to provide a robust and efficient online movie ticket booking platform.

3.External Interface Requirements

3.1 User Interfaces

- **Landing page:** Displays featured movies, upcoming releases, and a search bar.
- **Movie details page:** Provides information about specific movies, including plot, cast, trailers, and showtimes.
- **Theatre selection page:** Lists available theatres and showtimes for selected movies.
- **Seat selection page:** Allows users to choose seats based on availability and preferences.
- **Payment page:** Processes payments securely using integrated payment gateways.
- **Booking confirmation page**: Displays booking details, including ticket numbers and confirmation codes.

- **Account page:** Enables users to manage their profile information, view booking history, and receive notifications.

3.2 Hardware Interfaces

- No specific hardware requirements. SANIMA will be accessible on various devices, including computers, smartphones, and tablets.

3.3 Software Interfaces

- **Database:** Integration with a relational database (e.g., MySQL, PostgreSQL) for storing structured booking-related information and a NoSQL database (e.g., MongoDB) for storing unstructured data.
- **Web server:** Integration with a web server to handle HTTP requests and serve the application.
- **Payment gateway:** Integration with a secure payment gateway (e.g., Stripe, PayPal) to process online transactions.

3.4 Communications Interfaces

- **HTTPS:** SANIMA will use HTTPS protocol for secure communication between the client-side (browser) and the server-side.

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4. System Features

4.1 Movie Search and Selection

- Enables users to search for movies by title, genre, or release date.
- Provides detailed information about each movie, including plot, cast, trailers, and ratings.
- Allows users to filter movies based on their preferences (e.g., language, duration, ratings).
- Displays available showtimes and theatres for selected movies.

4.2 Seat Selection and Booking

- Provides a visual representation of theatre seating arrangements.
- Allows users to choose seats based on availability and preferences (e.g., aisle seats, premium seating).
- Calculates ticket prices based on seat selection and any applicable discounts or promotions.
- Provides options for group bookings and reserved seating.

4.3 Payment and Confirmation

- Offers multiple payment options, including credit/debit cards, digital wallets, and gift cards.

- Ensures secure payment processing using industry-standard encryption.
- Provides real-time confirmation of bookings and sends electronic tickets to the user's email.

4.4 Recommendations and Personalized Experiences

- Utilizes machine learning algorithms to recommend movies based on user preferences and viewing history.
- Offers personalized promotions and discounts tailored to individual users.
- Allows users to create watchlists and save favourite movies.

4.5 Additional Features

- Social features: Enables users to share movie recommendations and reviews with friends and family.
- Notifications: Sends reminders for upcoming bookings and alerts about new releases or special events.
- Accessibility features: Provides options for users with disabilities, such as captions for trailers and audio descriptions.

5.Additional Requirements

5.1 Performance Requirements

- Ensure high scalability and fast response times.
- Conduct regular load testing.

5.2 Safety Requirements

- Implement daily backups and a disaster recovery plan.
- Use redundant hardware and software.

5.3 Security Requirements

- Protect sensitive data with encryption and secure storage.
- Implement role-based access control.
- Conduct regular security audits.
- Comply with relevant regulations.

5.4 Software Quality Attributes

- Prioritize reliability, usability, maintainability, and testability.

5.5 Business Rules

- Enforce authorized user roles.
- Validate tickets at the theatres entrance.
- Establish a clear cancellation policy.