

Software Requirement specification

A software requirements specification (SRS) is a description of a software system to be developed. The software requirements specification lays out functional and non-functional requirements, and it may include a set of use cases that describe user interactions that the software must provide to the user for perfect interaction.

Software requirements specification establishes the basis for an agreement between customers and contractors or suppliers on how the software product should function (in a market-driven project, these roles may be played by the marketing and development divisions). Software requirements specification is a rigorous assessment of requirements before the more specific system design stages, and its goal is to reduce later redesign. It should also provide a realistic basis for estimating product costs, risks, and schedules.

Hardware Requirements

- **Operating system:** Windows 7 or above, MacOS, Linux
- **Processor:** Intel Pentium 4, Intel Centrino, Intel Xeon, or Intel Core Duo (or compatible) 1.8 GHz minimum
- **Memory:** 1 GB of RAM (2 GB recommended)
- **Disk Space:** 100 MB of free disk space

Software Requirements

- **Browser support:** Google Chrome, Mozilla Firefox, Microsoft Edge
- **Frontend:** ReactJS, CSS
- **Backend:** NodeJS, ExpressJS and npm packages
- **Database:** MySQL and MongoDB
- Developed Using VS Code

Functional Requirements

- 1) **User Authentication:** A user has to sign in or sign up to book a ticket. There are two types of login - a) Admin login b) User login. Admin has special privileges in the website
- 2) **Book ticket :** In our web application a user should be able to book tickets in the theater, movie ,show ,seat of his choice.
- 3) **Adding a movie:** Admin should be able to add a movie to the movie database and all the details of the movies.
- 4) **Adding shows, theaters and screens:** Admin should be able to add a new show for a movie on a particular screen. He should be also equipped to add new theaters to the website where users can book tickets using the application , and add screens to the existing theaters. Admin should also be equipped to modify these entities.

- 5) **Listing Movies:** A user should be able to list all the movies, categorize them based on genre, and read the reviews posted by other users about the movie.
- 6) **Listing Theaters:** A user should be able to list all theaters, list theaters based on location.
- 7) **Adding a review:** A user should be able to write reviews for the movies he watched. This is verified using whether he has booked a ticket for that movie through the application.
- 8) **Payment Gateway:** A payment gateway has to be implemented to enable users to pay for the seat they wish to book and the ticket is confirmed only after the payment is successful.
- 9) **Get Ticket:** A user should get a ticket after he books a seat. A QR code should be generated which contains all the information of the ticket.

Non-Functional Requirements:

1) Performance Requirements

- a) The system should remain accessible 24 * 7.
- b) Many users must be able to concurrently browse the website
- c) The system must effectively utilize the hardware and energy resources to minimize operational costs.

2) Security Requirements

- a) The System should prevent unauthorized access to malicious users.
- b) The payment details should be secured.
- c) User passwords should be hashed and stored in the database.

3) Usability

- a) The system must provide an easy to navigate, intuitive interface for customers, admins and agents.
- b) The system should be scalable for many users with proper architecture and design.

4) Scalability

- a) The system should accommodate increasing number of theaters, screens, users

5) Design Constraint

- a) The system must be developed as a web application which should work with Mozilla Firefox, Google Chrome and Microsoft edge