

Software Requirements Specification

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1. Objective and Scope

The objective of a music recommendation system is to provide personalized music suggestions to users based on their preferences, listening habits, or behavior. It aims to enhance user experience by offering relevant music, improving user engagement, and helping users discover new tracks or artists.

The scope of the product includes the following basic features:

- **Personalization:** To recommend music that aligns with the individual user's preferences, based on factors such as genre, artists, mood, or listening history.
- **User Engagement:** To keep users actively engaged by continuously offering music that fits their tastes, promoting longer listening times, and greater satisfaction.
- **Music Discovery:** To introduce users to new songs, artists, or genres that they may not have discovered on their own but are likely to enjoy.
- **Accuracy:** To improve the accuracy and relevance of the recommendations by refining algorithms and utilizing user data.
- **Scalability:** To scale the system efficiently to handle a large number of users while maintaining performance and quality of recommendations.

2. Project End Users

End users of a music recommendation system include individual listeners seeking personalized music, casual users exploring new tracks, curators creating playlists, artists promoting music, and platform administrators optimizing recommendations.

3. Features

3.1 Register and Login to the system.

Every user should be authenticated with a Username and Password to login into the system.

Validations for Username and Password.

Username: No specifications but each should have unique username

Password: It must contain alphabets, numbers and special characters.

On later updates we planned to release other authentications.

3.2 Search bar

A search bar in a Music Recommendation System allows users to easily find specific songs, artists, or genres, while also providing personalized suggestions based on their preferences. It enhances user experience by offering quick and relevant music options.

3.3 Recommendation Algorithms

Techniques like collaborative filtering, content-based filtering, and hybrid models used to generate personalized music recommendations.

3.4 User Data and Profile Management

Collecting and analyzing user preferences, listening history, and feedback to improve the accuracy of recommendations.

3.5 Evaluation Metrics

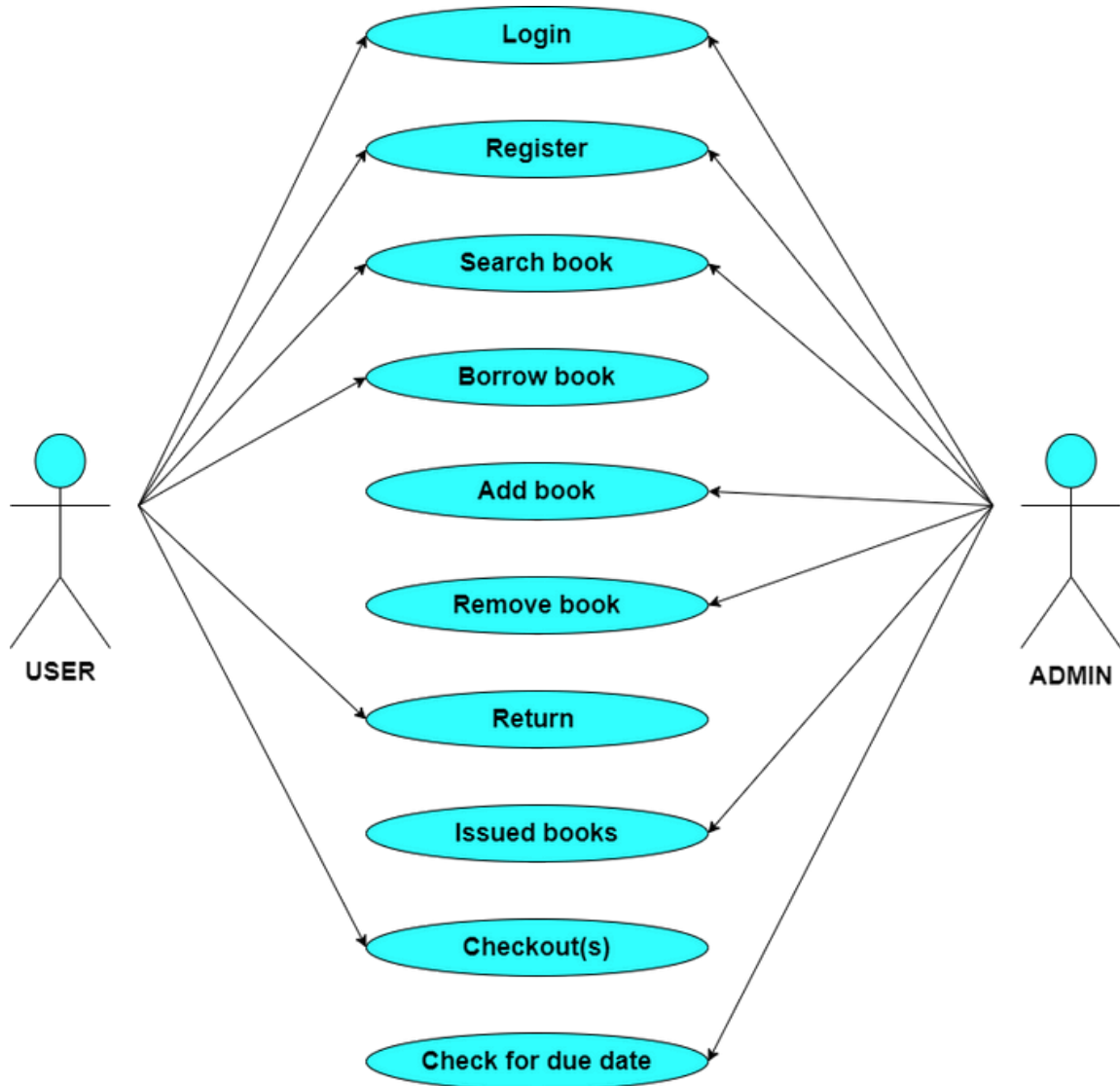
Methods such as precision, recall, and user satisfaction used to assess the performance and effectiveness of the recommendation system..

3.6 Scalability and Performance Optimization

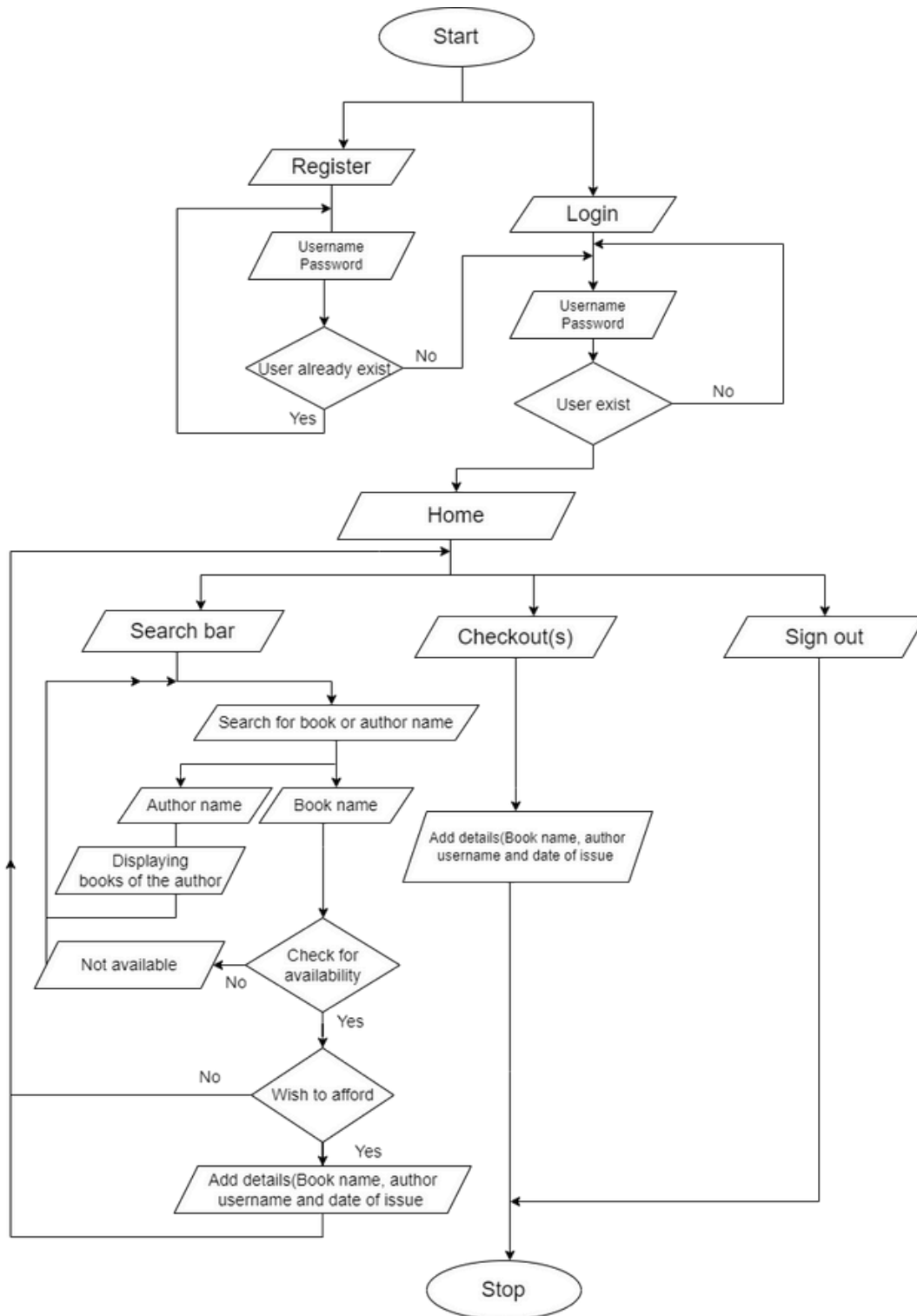
Strategies for handling large volumes of users and data efficiently while maintaining quick response times and high-quality recommendations.

4. Diagrams

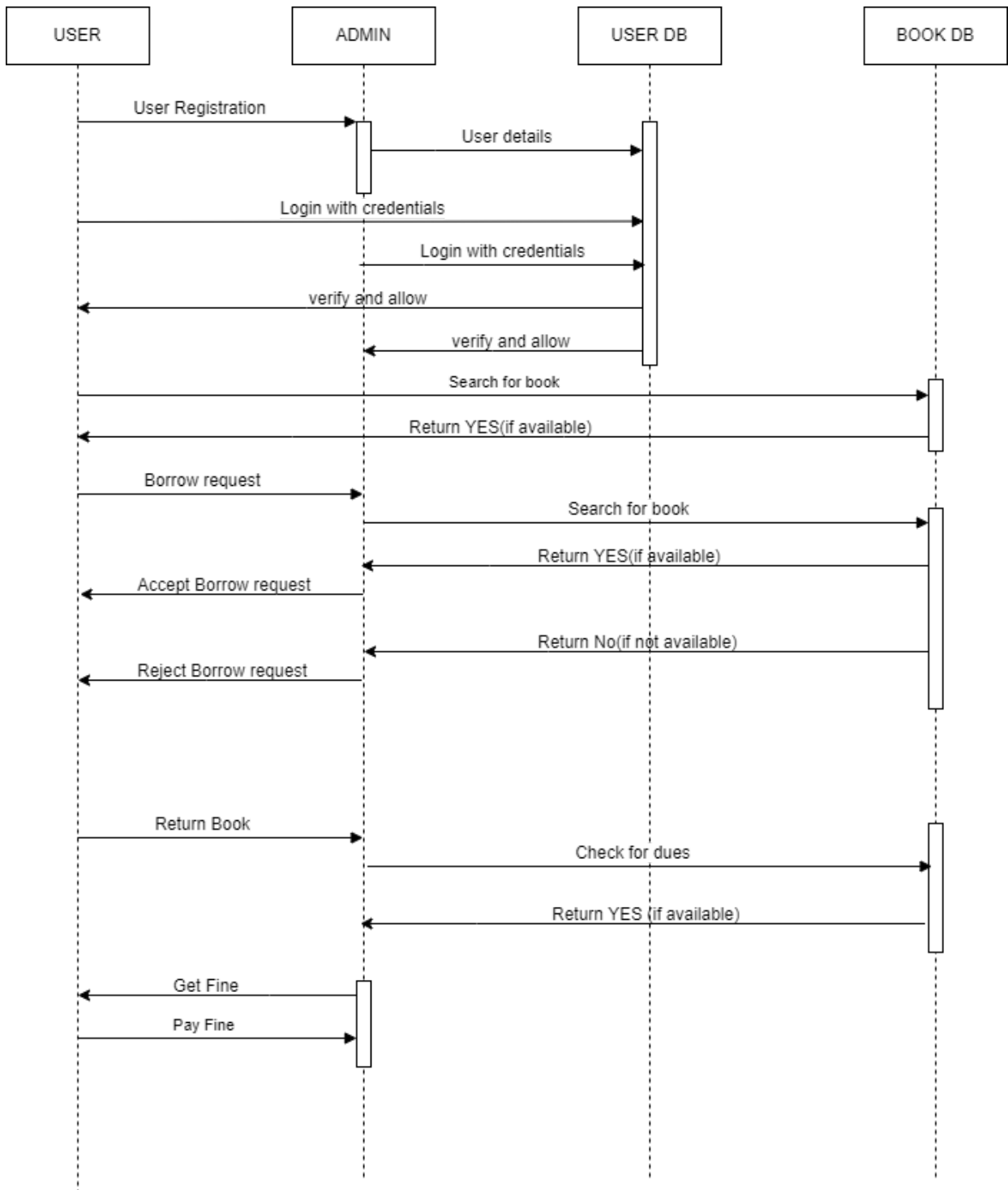
4.1 Use Case diagram.



4.2 Flow Diagram.



4.3 Sequence Diagram.



4.4 ER Diagram.

