Book Recommendation System

Software Requirements Specification

Version 1.0

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Software Requirements Specification

1. Introduction

1.1 User Story

- Prof. Krunal Maheriya is having a Library Management System. Readers often find it challenging to discover books that match their interests from vast collections available in digital libraries. e-library administrator seek personalized solutions to engage their customers better.
- Mr. Krunal Maheriya require a system that recommends books based on costumer's reading preferences, and genre preferences.

1.2 Purpose

- The primary purpose of this system is to provide personalized book recommendations for users based on preferences and community trends. The system will help users discover new books effortlessly and support Library Management System by increasing engagement.

1.3 Scope

- Book Recommendation System provides following features:
- User account creation and login
- Personalized book recommendations
- Book wishlist management

1.4 Overview

- The SRS will provide a detailed description of Book Recommendation System. This document will provide the outline of the requirements, overview of the characteristics and constraints of the system.

- **Section 2:** This section of the SRS will provide the general factors that affect the product and its requirements. It provides the background for those requirements. The items such as product perspective, product function, user characteristics, constraints, assumption and dependencies are described in this section.

- **Section 3:** This section of SRS contains all the software requirements mentioned in section 2 in detail, sufficient enough to enable the Designers to design the system to satisfy the requirements and Testers to test if the system satisfies those requirements.

2. Overall Description

2.1 Product Perspective

The BookRec System will be a web-based application offering personalized book recommendations. It will act as an intelligent assistant for both individual readers and library/bookstore administrators.

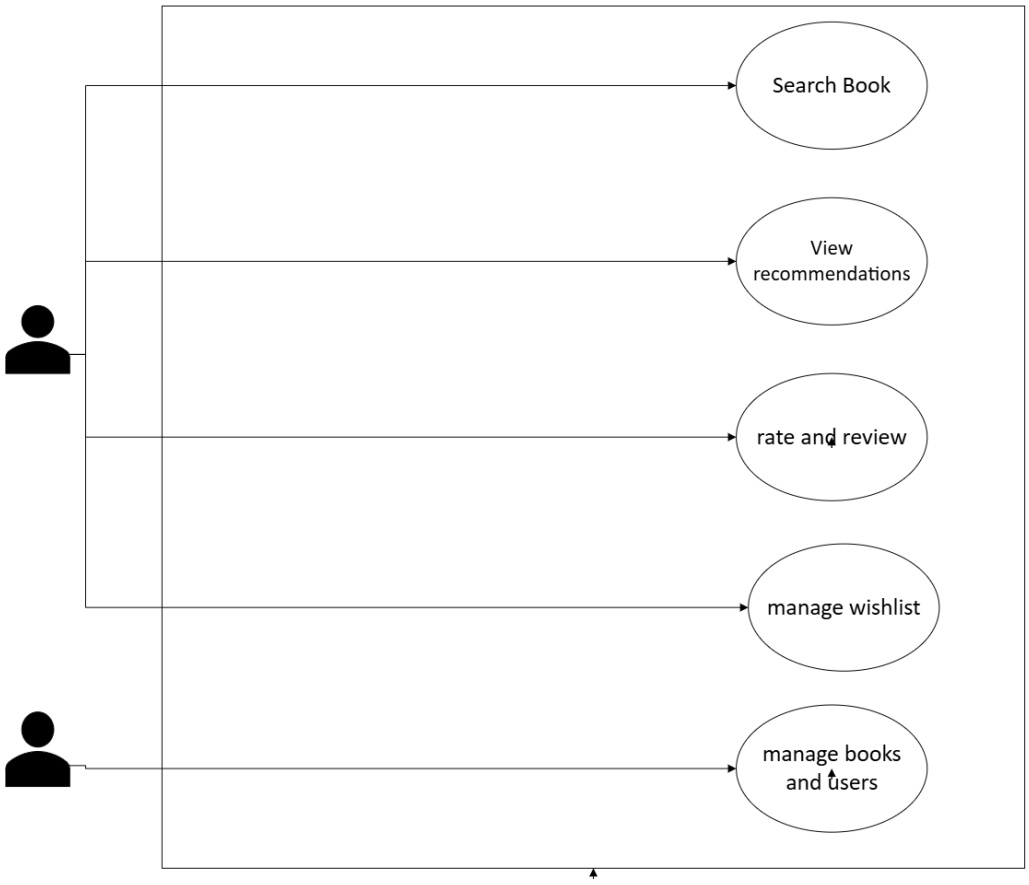

Figure 1 : UseCase Diagram

2.2 Product Functions

The functions of the system includes :

1. **User Authentication and Authorization:** Secure login and registration for users.
2. **Book Browsing and Searching:** Users can search books by various filters such as genre.
3. **Recommendation Engine:** Suggest books based on user preferences and reading history.
4. **Wishlist Management:** Allow users to create and manage their book Wishlist.

2.3 User Characteristics

- End **Users:** Book enthusiasts and general readers with basic computer knowledge.

2.4 Constraints

1. The system must maintain a lightweight database for optimal speed.
2. It must be scalable for future expansion in book recommendations and user base.
3. The system must operate on web browsers without additional installations.

2.5 Assumptions and Dependencies

1. The system assumes users have internet access.
2. The recommendation algorithm depends on sufficient user data input.

3. Specific Requirements

- This Section describes all the Functional as well as the Non-functional requirements. It contains description of functions and capabilities that the product must provide.

3.1 Functional Requirement

- Functional requirements describe how a product must behave, what are its features and functionalities.

F1 : User registration and secure login

The user can log in to the system using their username and password.

- Input : Username and Password.
- Output : User Dashboard with access to user features.
- Processing : The system verifies the admin's credentials against the database, and if valid, grants access to the User Dashboard.

F2 : Book search with filter options

- Input : filters (genre)
- Output : List of books matching search criteria.

F3 : Recommendation based on reading preference

- Input : User profile and interest
- Output : Personalized book recommendations.

F4 : Wishlist management

- Login : The user can login to the system with his/her username and password.

  - Input : Book title to add/remove.
  - Output : Updated wishlist with confirmation.

3.2 Non-Functional Requirement

3.2.1 Usability

- Usability defines how difficult it will be for a user to learn and operate the system.

Efficiency of use:

- User can easily interact with system. Most of the tasks, a user can complete without any help. It does not have a complex design as a result, any user can easily interact with the system.

3.2.2 Reliability

- Reliability defines how likely it is for the software to work without any failure for a given period of time. Reliability decreases because of bugs present in the code, hardware failures, or problems with other system components.

- The Database update process must roll back all related updates when any update fails.

3.2.3 Performance

- Performance is a quality attribute that describes the responsiveness of the system to various user interactions with it.
- The front-page load time must not be more than 5 seconds.

3.2.4 Security

- Security requirements ensure that the software is protected from unauthorized access to the system and its stored data. It considers different levels of authorization and authentication across different *users'* roles. For instance, data privacy is a security characteristic that describes who can create, see, copy, change, or delete information.
- Unauthorized user cannot login to system.

3.3 Design Constraints

3.3.1 No cost for cloud :

- Client has denied to pay monthly for cloud, so we have to design accordingly.

3.3.2 Software must not have any dependency and must be lightweight :

- Software must not have any dependency so can be used in any system.
- It must be light weight so employee don't have to wait much or face any difficulty in their work.