

Book Store App

Software Requirements Specification

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1. Introduction

1.1 Purpose

The purpose of this document is to outline the functional and non-functional requirements for the development of a Book Store Application. This application aims to provide users with a convenient platform to browse, purchase, and manage books online.

1.2 Scope

The scope of the Book Store App includes features for browsing a catalog of books, searching for specific titles or authors, placing orders, managing user accounts, and providing administrative functionalities for managing inventory and orders.

1.3 Definitions, Acronyms, and Abbreviations

SRS: Software Requirements Specification

UI: User Interface

API: Application Programming Interface

DB: Database

1.4 References

For the references section of the Book Store App's SRS, you might include various documents, standards, or resources that have been consulted or referenced during the development process.

1.5 Overview

This document is organized into several sections, starting with an introduction and followed by a general description of the Book Store App. Subsequent sections detail specific requirements, including functional and non-functional requirements, user interfaces, and system interfaces.

2. General Description

2.1 Product Perspective

The Book Store App will function as a standalone application accessible via web browsers and mobile devices. It will interact with external systems such as payment gateways for transactions and book distributors for inventory management. The app will integrate with APIs to fetch book information and process payments securely.

2.2 Product Functions

User Registration and Authentication: Users can create accounts and log in securely.

Browsing and Searching: Users can browse books by categories, genres, or search for specific titles or authors.

Order Placement: Users can add books to their cart and place orders securely.

Payment Processing: Secure payment processing through integration with payment gateways.

Order Management: Users can view and manage their orders, including order history and tracking.

Admin Panel: Administrative functionalities for managing inventory, users, orders, and generating reports.

2.3 User Characteristics

The Book Store App caters to two main types of users:

Customers: Individuals interested in purchasing books.

Administrators: Staff members responsible for managing inventory, orders, and user accounts.

2.4 General Constraints

Security: The app must comply with industry standards for data protection and secure payment processing.

Compatibility: The app should be compatible with popular web browsers and mobile devices.

Scalability: The system should be able to handle a large number of users and transactions efficiently.

Performance: Response times for browsing, searching, and placing orders should be optimized for a seamless user experience.

This provides a high-level overview of the Software Requirements Specification for the Book Store App. Specific details for each requirement will be elaborated on in subsequent sections.

3. Specific Requirements

Functional Requirements: Details the specific functionalities of the website, including use cases and user stories. This section covers actions such as user registration, product search, ordering, and payment processing.

Non-Functional Requirements: Addresses non-functional aspects such as performance, security, usability, scalability, and reliability.

3.1 External Interface Requirements

3.1.1 User Interfaces

User interfaces refer to how users interact with the website. For a furniture website, these interfaces might include:

Web Browser Interface: The primary user interface is the website itself, accessed through web browsers. It provides the platform for users to browse furniture, view product details, add items to their cart, and complete transactions.

Mobile App Interface: If the website has a mobile app, users can access the platform through a dedicated mobile application. This provides a responsive and tailored experience for mobile users.

User Accounts: Users can create and manage their accounts through a user interface that includes registration, login, and profile management.

Search and Filtering: Users can interact with search bars, filters, and sorting options to refine their product searches and find specific furniture items.

Shopping Cart Interface: When users select items, they can view and manage their shopping carts, adding or removing products as needed.

Checkout Interface: The checkout process involves a series of user interfaces where users enter shipping information, payment details, and confirm their orders.

Product Pages: Each product listed on the website has its own interface, displaying images, descriptions, pricing, and reviews.

Contact and Support: Users can access contact and support interfaces to reach out to customer service, ask questions, or report issues.

3.1.2 Hardware Interfaces

Hardware interfaces relate to the physical devices and components involved in operating the website. For a furniture website, hardware interfaces may include:

Server Hardware: The website relies on server hardware to host and run the web application, databases, and store product images and information.

User Devices: Users access the website through a variety of hardware interfaces, including desktop computers, laptops, tablets, and smartphones.

Payment Processing Hardware: Hardware interfaces are used for payment processing, such as card readers and digital payment devices.

Barcode Scanners: In physical stores, barcode scanners may be used to update inventory levels and manage in-store pickups.

3.1.3 Software Interfaces

Software interfaces involve the integration of software components within the system. For a furniture website, software interfaces may include:

Database Management Systems (DBMS): The website relies on a DBMS to store and manage product information, user data, and transaction records.

Payment Gateways: Interfaces with payment gateway software for processing transactions securely.

Content Management System (CMS): A CMS may be used for managing website content, including product listings, blog posts, and marketing materials.

E-commerce Platform: If the website is built on an e-commerce platform (e.g., Magento, WooCommerce), it interfaces with the platform's software for online sales and inventory management.

Web Development Frameworks and Languages: The website's software is built using various programming languages and frameworks, which need to interface seamlessly for proper functionality.

External APIs: Integration with third-party APIs (e.g., for shipping calculations, social media sharing) is essential for expanding functionality.

These interfaces are crucial for ensuring the website's proper operation and functionality while providing users with a seamless and enjoyable browsing and shopping experience.

3.1.4 Communications Interfaces

User-Facing Interfaces:

Web Browser Interface: This is the primary interface for users to interact with the website. Users access the furniture website through web browsers on their devices. It's the portal through which they browse, search for furniture, add items to their cart, and complete purchases.

Mobile App Interface: For users who prefer mobile browsing, a mobile application interface may be available. This interface provides a tailored and responsive experience for users on smartphones and tablets.

Email Notifications: The website communicates with users via email, sending order confirmations, shipping updates, and promotional offers. Users can also reach out to customer support through email.

Administrator Interfaces:

Admin Dashboard: Administrators and website managers use an admin dashboard to manage products, inventory, and user accounts. This interface enables them to update product listings, monitor orders, and maintain the website's content.

Customer Support Tools: Customer support representatives may use specialized interfaces for managing customer inquiries and assisting users with their concerns. These interfaces include tools for live chat, email responses, and order tracking.

External System Interfaces:

Payment Gateways: The website interfaces with various payment gateways to securely process payments. These gateways include credit card processors, digital wallets, and other financial institutions.

Inventory Management Systems: Interfaces with inventory management systems are crucial for keeping product availability up to date. This ensures that customers see accurate stock information when browsing the website.

Third-Party APIs: The website may utilize third-party APIs for additional functionalities, such as shipping calculators, location-based services, or social media integration.

Communication Interfaces with Suppliers and Retailers:

Supplier Portals: For furniture retailers and suppliers, there may be dedicated interfaces to manage product listings, pricing, and order fulfillment. These portals enable seamless collaboration between the website and external vendors.

Social Media and Marketing Interfaces:

Social Media Platforms: The website may have interfaces with various social media platforms for marketing and advertising purposes. This includes sharing product updates, running ad campaigns, and engaging with users on social media.

Chat and Messaging Interfaces:

Live Chat and Messaging Apps: To offer real-time customer support, the website may integrate with live chat or messaging applications, allowing users to chat with customer service representatives.

These communication interfaces are essential for the smooth operation of the furniture website, facilitating interactions between users, administrators, external systems, and business partners while ensuring a seamless and efficient user experience.

3.2 Functional Requirements

3.2.1 Login

Customer logs in to the system by entering valid user id and password for the shopping.

3.2.2 User Registration and Authentication

- Users can register with their email and password.
- Users can log in with their registered credentials.
- Password reset functionality is available.
- Users can log in using social media accounts (optional).

3.2.3 Product Catalog and Browsing

- Products are categorized into different book types.
- Users can filter products by price, category, and brand.
- Search functionality to find products by keywords.
- Product thumbnails with images and brief descriptions.

3.2.4 Product Details

- Detailed product pages with images, descriptions, and specifications.
- Price, availability, and customer reviews are displayed.

3.2.5 Shopping Cart and Checkout

- Users can add products to their shopping cart.
- Cart summary with a list of added products.
- Users can update quantities and remove items.
- Users can proceed to checkout.
- Secure payment gateway for online transactions.
- Order confirmation and email notifications.

3.2.6 User Reviews and Ratings - Users can

- leave reviews and ratings for products.
- Average ratings displayed on product pages.
 - Moderation and reporting system for inappropriate content.

3.2.7 Contact and Support

- Contact form for general inquiries and support requests.
- FAQ section with common questions and answers.
- Customer support email and phone number.

3.2.8 About Page

- Information about the company, its history, and mission.

- Team and leadership details.
- Company's commitment to quality.

3.2.9 Social Media Integration -

Links to the company's social media profiles.

- Sharing options for products and reviews.

3.2.10 Responsive Design

- The website should be accessible on both desktop and mobile devices.
- Mobile-friendly design for a seamless user experience.

3.2.11 Payment

For customer there are many type of secure billing will be prepaid as debit or credit card, post paid as after shipping, check or bank draft. The security will provide by the third party like Pay-Pal etc.

3.2.12 Logout

After the payment or surf the product the customer will logged out.

3.2.13 Report Generation

After all transaction the system can generate the portable document file (.pdf) and then sent one copy to the customer's Email-address and another one for the system data base to calculate the monthly transaction .

3.2.14 Technical Issues

This system will work on client-server architecture. It will require an internet server and which will be able to run PHP application. The system should support some commonly used browser such as IE etc.

3.5 Non-Functional Requirements

3.5.1 Performance

The website loads quickly, even with a large number of products. The website has a responsive design which adapt to various screen sizes and devices.

3.5.2 Reliability

The system provides storage of all databases on redundant computers with automatic switchover. The reliability of the overall program depends on the reliability of the separate components. The main pillar of reliability of the system is the backup of the database which is continuously maintained and updated to reflect the most recent changes. Thus the overall stability of the system depends on the stability of container and its underlying operating system.

3.5.3 Availability

The system should be available at all times, meaning the user can access it using a web browser, only restricted by the down time of the server on which the system runs. In case of a of a hardware failure or database corruption, a replacement page will be shown. Also in case of a hardware failure or database corruption, backups of the database should be retrieved from the server and saved by the administrator. Then the service will be restarted. It means 24 X 7 availability.

3.5.4 Security

The system use SSL (secured socket layer) in all transactions that include any confidential customer information. The system must automatically log out all customers after a period of inactivity. The system should not leave any cookies on the customer's computer containing the user's password. The system's back-end servers shall only be accessible to authenticated administrators. Sensitive data will be encrypted before being sent over insecure connections like the internet.

3.5.5 Maintainability

A commercial database is used for maintaining the database and the application server takes care of the site. In case of a failure, a re-initialization of the program will be done. Also the software design is being done with modularity in mind so that maintainability can be done efficiently.

3.5.6 Portability

The application is HTML and scripting language based. So The end-user part is fully portable and any system using any web browser should be able to use the features of the system, including any hardware platform that is available or will be available in the future. An end-user is use this system on any OS; either it is Windows or Linux. The system shall run on PC, Laptops, and PDA etc.

3.7 Design Constraints

3.7.1 Internet Connectivity

Dependency on Internet: The application requires a stable internet connection for retrieving real-time data. Users without internet access will not be able to use the website effectively.

Data Usage: Users accessing the website via mobile devices may incur data charges, especially when using cellular networks. Users shall be informed of potential data usage and charges.

3.7.2 Platform Compatibility

Browser and Device Limitations: The website's performance and appearance may vary across different web browsers and devices. Efforts shall be made to ensure compatibility with major browsers, but some variations may exist.

Operating System Dependencies: The website shall not be platform-specific, but certain features (such as notifications) might be limited based on the user's device and operating system capabilities.

3.7.3 Legal and Copyright

Data Usage Rights: The application shall respect copyright and intellectual property rights associated with icons, and any third-party content displayed. Proper licenses and permissions shall be obtained for the use of any copyrighted material.

3.9 Other Requirements

3.9.1 Documentation

User Manual: Provide a comprehensive user manual that explains how to use the website search functionality, interpreting cost of furnitures, and any additional features.

Technical Documentation: Develop technical documentation outlining the website architecture.

3.9.2 Training and Support

User Training: Offer user training sessions or tutorials to help users understand the application's features and functionalities, especially for complex or advanced features.

Customer Support: Establish a dedicated customer support channel (e.g., email, chat, ticketing system) to assist users with issues, inquiries, or technical problems. Provide timely and helpful responses to user queries.

3.9.3 Backup and Recovery

Data Backup: Implement regular data backup procedures to prevent data loss in case of server failures or other unforeseen events. Backups shall be stored securely and be easily restorable.

Disaster Recovery: Have a disaster recovery plan in place to ensure the application can be quickly restored to full functionality in case of a catastrophic event.

3.9.4 Version Control

Versioning: Implement version control for the application's source code using a reliable version control system (e.g., Git). Maintain a clear version history, including release notes and changes made in each version.

3.9.5 Performance Monitoring

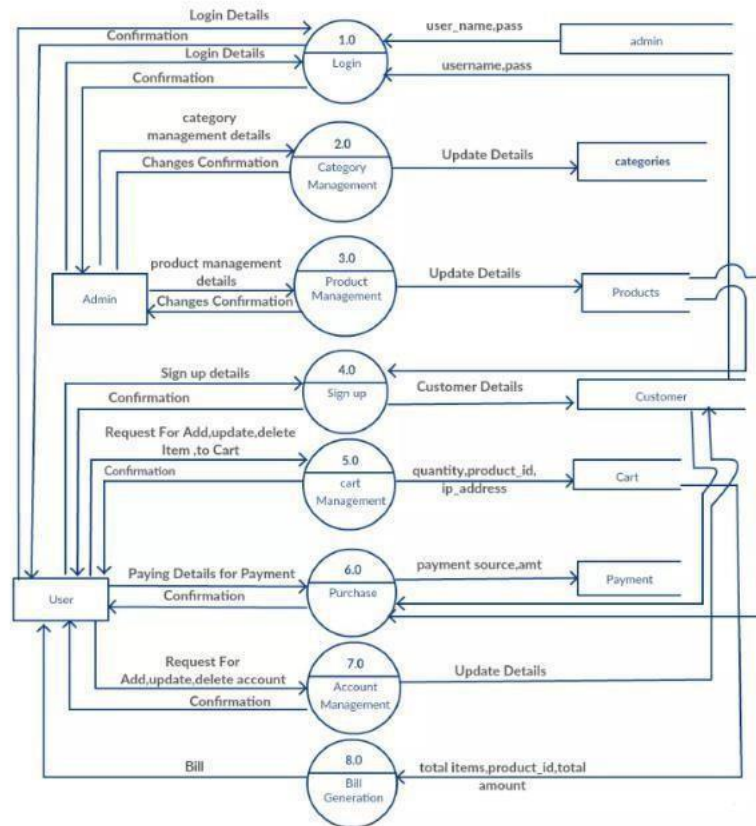
Performance Metrics: Implement tools and mechanisms to monitor the application's performance, including response times, error rates, and resource utilization. Regularly analyze these metrics to identify areas for improvement.

4. Analysis Models

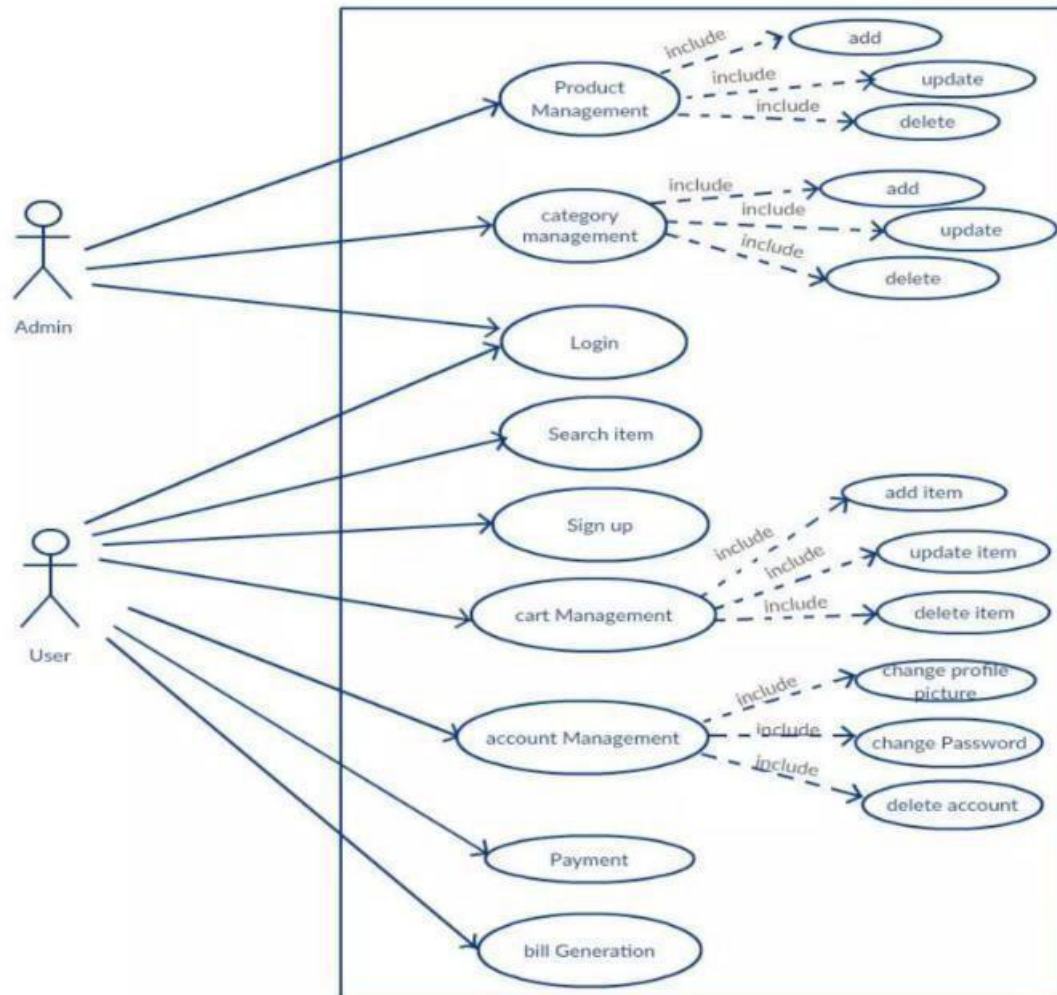
4.1 Data Flow Diagrams (DFD)



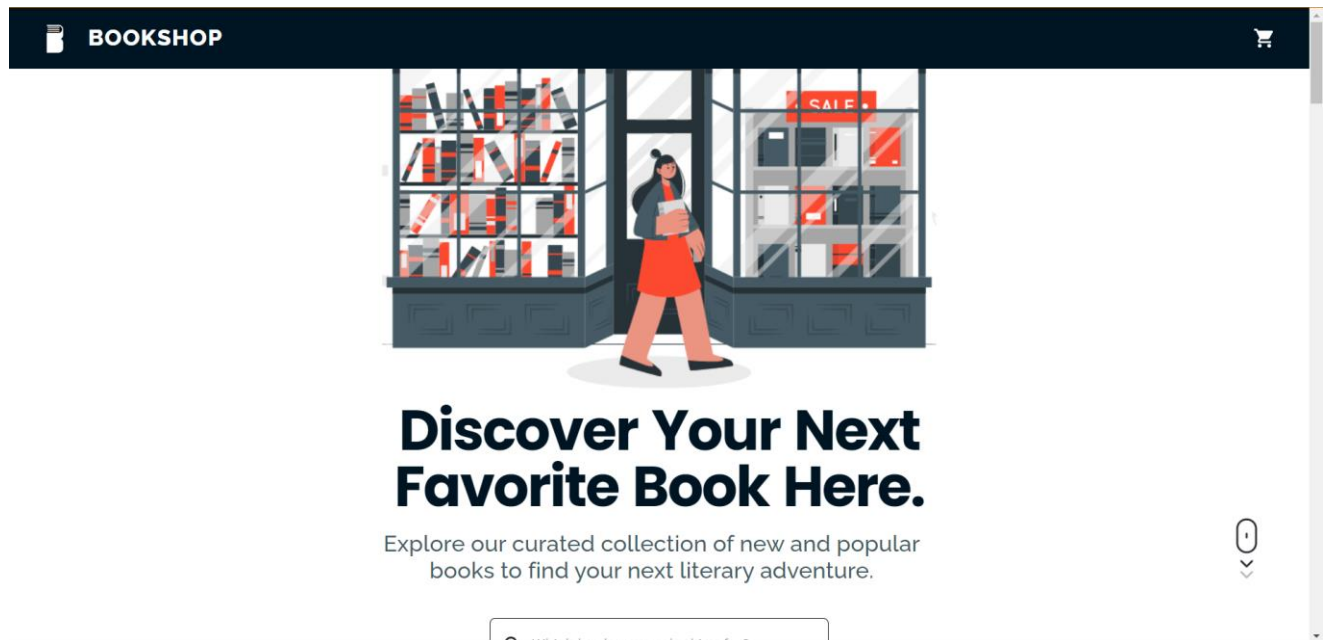
LEVEL 1



4.2 Use Case Diagrams



4.3 Output of the website



A. Appendices

A.1 Glossary

SRS: Software Requirements Specification. A document that clearly and precisely describes the system's behavior, features, and constraints.

HTML: HyperText Markup Language. The standard language for creating web pages and web applications.

CSS: Cascading Style Sheets. A stylesheet language used for describing the look and formatting of a document written in HTML.

JSON: JavaScript Object Notation. A lightweight data interchange format that is easy for humans to read and write, and easy for machines to parse and generate.

Bootstrap: A popular front-end framework for developing responsive and mobilefirst websites.

A.2 GITHUB LINK

Link: <https://github.com/adityarana835/React-Book-Store>