Software Requirements Specification

for

BOOK REVIEW MANAGEMENT SYSTEM

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version

1.   Introduction

1.1   Purpose

The purpose of a Software Requirements Specification (SRS) document for a book review system is to clearly define and document the functional and non-functional requirements of the system. The SRS document serves as a communication tool between stakeholders (such as developers, project managers, and clients) to ensure that everyone has a clear understanding of what the system is supposed to do, how it will do it, and what constraints and limitations exist.
The SRS document for a book review system should include information on the system's scope, objectives, features, interfaces, and constraints. It should also provide detailed descriptions of each requirement, including functional requirements (such as the ability to search for books, read and write reviews, and manage user accounts) and non-functional requirements (such as performance, reliability, security, usability, and maintainability).

1.2   Document Conventions

Some special conventions followed while writing this document are -
- Fonts - Times New Roman - (12)
- Italic style is avoided to make it more readable and only used for references portion
- Bold style is adapted to highlight main headings
- Proper index is provided to make it easier for the reader to read

1.3   Intended Audience and Reading Suggestions

This document is best suited for -
- school going students
- college students
- writers
- authors
- book sellers
- bookworms

1.4   Project Scope

The online book review management system project is to implement a computer-based online book review system .This system objective is to develop a Book Review system, and to develop a customer web-based Review Management system.
- reviews by publisher
- reader rating and feedback

1.5   References

Here are some references that could be useful for designing and implementing a book review system:

1. *"Design and Implementation of a Web-Based Book Review System" by L. Chen and Y. Zhou (2016) - This paper presents a detailed description of the design and implementation of a web-based book review system that incorporates user-generated content, social networking, and recommendation features.*
2. *"A Study on User-Generated Content in the Context of Book Reviews" by H. Kim and J. Yoon (2017) - This paper investigates the factors that influence the credibility, usefulness, and readability of user-generated book reviews, and provides insights on how to design effective book review systems.*
3. *"Designing Effective Review Systems for Electronic Commerce" by K. Liu and M. Zhu (2012) - This paper discusses the key design principles and techniques for developing effective review systems for e-commerce, and provides case studies of successful review systems.*
4. *"A Comparative Study of Book Review Websites" by S. Kim and H. Park (2013) - This paper provides a comparative analysis of popular book review websites, and identifies the features and factors that contribute to their success.*

2.   Overall Description

2.1   Product Perspective

The proposed system is a website that contains reviews of new books uploaded by publishers before the books were published. It will help users to know the latest books based on their interests in the market like fiction, science, technology, etc.

2.2   Product Features

The book review system contains many technical books that all users can read. The following functions that the user can perform include -
- *Save app*
- *Login, Logout*
- *Search books by title, category, rating, favorites, etc.*
- *Can write comments for (can also edit, delete)*
- *Can rate book*
- *Mark book as read*
- *Mark book as read*
- *Mark book as he/she wants*
- *You can see the list of books that other users like*
- *You can see the activities on the homepage timeline*

2.3   User Classes and Characteristics

Book Category: -
- *Contains attributes such as book title, author and ISBN.*

System/Administration: -
● *Support functions such as commenting, adding books, viewing other comments, etc.*

A registry class: -
● *Support for username and password authorization.*

A User Class: -
● *Contains the user's name, email, contact, and other relevant information.*

Publisher Class:
● *Help different publishers add their own books to get opinions and feedback from customers.*

2.4   Operating Environment

Python: Python language is intended to be a simple, modern, general-purpose programming language
 HTTP: Hypertext Transfer Protocol: It's a service protocol
 HTML: It is a Hypertext Markup Language used to design client side static web pages.
 CSS: Cascading style sheets are used for managing and formatting layout of HTML web pages.

2.5   Design and Implementation Constraints

Existing system:
● Manual registration
Disadvantages:
  ● Only certain users can access the website
  ● People who don't understand computers and the Internet cannot use the system
 Proposed system:
  ● Registration of users (customers)
  ● Book reviews have email information.
 Our plan:
  ● Member registration.
  ● Online book maintenance.
  ● Confirmation of registration, examination and arrival of the new book
  ● Email
  ● Feedback from user

2.6   User Documentation

Create an account:
To create an account, click on the "Sign Up" button on the homepage and provide the necessary information, such as your name, email address, and password.

Search for Books:

To search for a book, type the title, author, or ISBN in the search box on the homepage. Once you have found the book, click on it to see its details.

Read Reviews:
Once you have found a book, you can read reviews that other users have written about it. Reviews can be sorted by date, rating, or helpfulness.

Write a Review:
To write a review, click on the "Write a Review" button on the book's detail page. Provide a rating and write your review. You can also add a title and a summary if you like.

Edit or Delete a Review:
If you need to edit or delete a review, go to the book's detail page and click on "Edit" or "Delete" next to your review.

Contact Support:
If you encounter any issues while using the system, click on the "Contact Support" button on the homepage and fill out the form.

3.   System Features

3.1   System Feature 1

Functional Requirement 1

Description
● Asking details of the user.
Input
● Name in characters, email and password in alphanumeric value
Output
● Confirmation message registered successfully.

Functional Requirement 2

Description

● Initialize the username and password for login
Input
● Username and password in alphanumeric value
Output
● Confirmation message login successful else login failed.

Functional Requirement 3

Description
● Form validation
Input
● Name in characters, email and password in alphanumeric value
Output
● Confirmation message valid

Functional Requirement 4

Description
● Search for a particular book.
Input
● Name of the book in characters.
Output
● Displays book details if available else an error is generated.

Functional Requirement 5

Description
● Rate a book
Input
● Comments and star rating for book
Output
● Displays message "thanks for rating".

Functional Requirement 6
Description
● Contact/Report
Input
● Enter user details and query/problem faced.
Output
● Displays message "thanks!".

4. External Interface Requirements

4.1 User Interfaces

Guest/Anonymous: Non Members can visit the pages of the website only.

Registered Members (customers): Registered members can access all the functionalities provided on the website. Registered Members have their own profiles.

Administrator: Admin has the authority to grant/delete registered members as well as view profiles.

4.2 Hardware Interfaces

- Intel / Ryzen
- Windows 7/8/8.1/10
- 2 GB RAM
- 1.2 GHz processor

4.2 Software Interfaces

The Book Review System will require several software interfaces to enable communication between different system components and external systems. These interfaces are as follows:

User Interface (UI):
The User Interface is the primary interface between the user and the system. It enables users to interact with the system and perform various tasks such as searching for books, reading reviews, writing reviews, and managing their accounts. The User Interface will be implemented using HTML, CSS, and JavaScript for the web application, and native UI frameworks for mobile applications.

Application Programming Interface (API):
The Application Programming Interface is a set of rules and protocols that enable communication between different software components. The Book Review System will provide an API to allow third-party developers to build applications that interact with the system. The API will be implemented using RESTful web services and JSON data format.

Database Interface:
The Database Interface enables the system to store and retrieve data from the database. The Book Review System will use a relational database management system (RDBMS) such as MySQL or PostgreSQL. The database interface will be implemented using SQL and a database driver.

Social Media Interface:
The Social Media Interface enables users to share their book reviews on social media platforms such as Facebook and Twitter. The interface will use the social media platform's API to post updates and share links to book reviews.

Payment Gateway Interface:
The Payment Gateway Interface enables users to purchase books from the system using a payment gateway such as PayPal or Stripe. The interface will use the payment gateway's API to process payments securely.

Email Interface:
The Email Interface enables the system to send notifications and alerts to users via email. The interface will use an email service provider's API to send emails reliably and securely.

Search Engine Interface:

The Search Engine Interface enables users to search for books in the system using keywords and filters. The interface will use a search engine such as Elasticsearch or Solr to provide fast and accurate search results. The interface will be implemented using RESTful web services and JSON data format.

These software interfaces are critical components of the Book Review System, and they must be designed and implemented carefully to ensure the system's reliability, security, and performance.

4.3   Communications Interfaces

The Book Review System will require several communication interfaces to enable communication between different system components and external systems. These interfaces are as follows: 1. Internet Protocol (IP):

>   The Internet Protocol is the primary communication protocol used by the Book Review System to transfer data over the internet. The system will use the

>   Transmission Control Protocol (TCP) and the User Datagram Protocol (UDP) to establish and maintain communication channels with other devices over the internet. 2. Hypertext Transfer Protocol (HTTP):

>   The Hypertext Transfer Protocol is used by the Book Review System to exchange data between web servers and clients. The system will use HTTP to transmit web pages, API requests, and responses.

3. Secure Sockets Layer (SSL):

>   The Secure Sockets Layer is a protocol used to establish secure communication channels between web servers and clients. The Book Review System will use SSL to encrypt and decrypt data transmitted between the server and clients to prevent data theft and eavesdropping.

4. Simple Mail Transfer Protocol (SMTP):

>   The Simple Mail Transfer Protocol is used by the Book Review System to send and receive emails. The system will use SMTP to transmit email messages between the email server and clients.

5. Representational State Transfer (REST):

>   The Representational State Transfer is an architectural style used to develop web-based applications. The Book Review System will use REST to provide a standardized way of accessing resources and exchanging data with external systems. 6. JavaScript Object Notation (JSON):

>   JavaScript Object Notation is a lightweight data interchange format used by web applications to exchange data. The Book Review System will use JSON to exchange data with external systems in a compact and efficient format.

7. These communication interfaces are critical components of the Book Review System, and they must be designed and implemented carefully to ensure the system's reliability, security, and

performance.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The system must be able to support numerous users at once. User requests must receive prompt responses from the system.

5.2 Safety Requirements

A book review system's security standards are essential to guaranteeing the privacy, accuracy and accessibility of user data as well as the system's overall functionality. A book review system may need to meet certain security standards, which include:

1. User authentication: To prevent unwanted access to user accounts and data, the system should require users to authenticate themselves using a strong password or other secure authentication method.
2. Access control: To guarantee that users can only access the data and functionality that they are permitted to use, the system should implement access control restrictions. Users might, for instance, be permitted to read reviews, post their own reviews, but not edit or delete reviews written by other users.
3. Data encryption: To avoid unwanted access and data breaches, sensitive data such as user passwords, personal information, and financial transactions should be encrypted using secure methods and protocols.
4. Secure communication: To ensure that data exchanged between the client and the server is encrypted and cannot be intercepted or modified by attackers, the system should use secure communication protocols (such as HTTPS).
5. Security testing: To find and fix vulnerabilities and make sure security measures are working properly, the system should go through frequent security testing (like penetration testing).
6. Data backup and recovery: In the case of a system failure, data loss, or other catastrophe, the system should have a backup and recovery plan in place to guarantee that data can be restored. 7. Compliance with legislation: To guarantee that user data is handled in a morally and legally correct way, the system must abide by all applicable rules and regulations (such as GDPR or CCPA). By including these security standards in the book review system, consumers can feel confident using it and their personal information is protected.

5.3 Software Quality Attributes

The non-functional qualities of a software system, such as its performance, dependability, security, usability, and maintainability, are defined by software quality attributes. Some significant characteristics of high-quality software for the Book Review System include:

1. Performance: The system's ability to swiftly and effectively respond to user requests is referred to as performance. Performance is critical in the Book Review System to guarantee that users may do book searches, read reviews, and submit reviews without suffering delays or timeouts. The system must be built and implemented in such a way that it can process numerous requests at once without stuttering or failing.

2. Reliability: The capacity of a system to perform accurately and reliably over time. Reliability is crucial in the Book Review System to ensure that users may access and use it anytime they need to. The system must be created and put into use in a way that can gracefully accept faults and failures and recover from them quickly and automatically.

3. Security: Security is the system's capacity to safeguard user information and prevent hostile assaults and illegal access. Security is essential in the Book Review System to safeguard user data, book reviews, and money activities. To stop data breaches, hacking, and other security concerns, the system must be designed and implemented to use secure protocols, encryption, authentication, and access control measures.

4. Usability: Usability is the ability of the system to be easy to use and navigate. In the Book Review System, usability is important to ensure that users can find the books they are looking for, read and write reviews, and manage their accounts without confusion or frustration. The system must be designed and implemented to provide a user-friendly interface, clear navigation, and intuitive controls.

5. Maintainability: Maintainability is the ability of the system to be easily updated, modified, and fixed. In the Book Review System, maintainability is important to ensure that the system can evolve over time to meet changing user needs and technological advances. The system must be designed and implemented to use modular and reusable components, well-documented code, and automated testing and deployment tools.
These software quality attributes are critical to the success of the Book Review System, and they must be considered throughout the software development lifecycle, from requirements analysis to deployment and maintenance.

Appendix A: Glossary

• User: A person who uses the Book Review System.
• Book: A published work that can be reviewed by users.
• Review: A written evaluation of a book by a user.
• Like: A positive response to a book review.
• Comment: A written response to a book review by a user.