PES UNIVERSITY, BANGALORE

Department of Computer Science and Engineering

Software Requirement Specifications

for

ONLINE BOOKSTORE MANAGEMENT SYSTEM
Version 1.0 approved

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Introduction

Purpose

The purpose of the Bookstore Management System, as specified in this Software Requirements Specification (SRS) document, is to outline and define the software requirements for the development of a comprehensive software solution designed to manage the operations of a bookstore. This SRS serves as a foundational document that guides the development team and other stakeholders in understanding the goals and functionalities of the software

Product Identification: The SRS begins by clearly identifying the product for which the software requirements are being specified. In this case, it's the "Bookstore Management System." The document may also include information about the revision or release number to ensure that everyone is working from the same version of the requirements.

Scope of the Product: The SRS also describes the scope of the product covered by this document. It specifies that this SRS comprehensively covers the software requirements for the entire Bookstore Management System

Intended Audience

The intended audience for this SRS document includes various stakeholders involved in the development, implementation, and use of the Online Bookstore Management System. Some of these stakeholders encompass:

- Developers of this software

- Software engineers who would work on further development of the project

- The professors who would review the document

- Admin who will be operating the web application.

- Marketing staff.

- Quality Assurance testers.

Product Scope

The Online Bookstore Management System is a comprehensive software solution designed to serve as a central platform for the efficient management of all bookstore operations. Its purpose is to facilitate and enhance the bookstore's online presence, streamline various processes, and deliver an exceptional experience to both customers and administrators.

It provides a concise overview of the software being specified and its purpose within the broader context of the business.

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References

references provide readers with access to important documents and resources that are relevant to the development and operation of the Online Bookstore Management System.
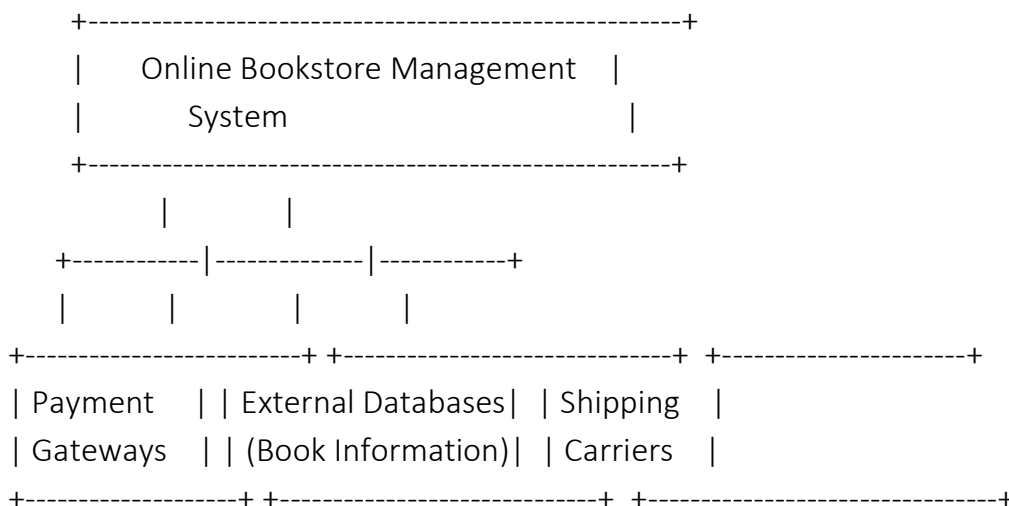
User Interface Style Guide: https://material.io/design/

Payment Gateway Integration Documentation: https://stripe.com/docs

Overall Description

Product Perspective

The Product Perspective section of the Software Requirements Specification (SRS) for an Online Bookstore Management System provides an overview of the context and origin of the product. It helps stakeholders understand how this system fits within the larger ecosystem and its relationship with existing or future components.

- Payment Gateway perspective
- Customer Perspective
- Security and Privacy Perspective
- Inventory Management Perspective
- Administration perspective
- External Databases perspectiuve

```
    +-------------------------------------------------------+
    |       Online Bookstore Management     |
    |            System                     |
    +-------------------------------------------------------+
            |          |
    +------------|-------------|------------+
    |      |        |      |
+------------------------+ +----------------------------+  +----------------------+
| Payment      | | External Databases|  | Shipping    |
| Gateways     | | (Book Information)|  | Carriers    |
+--------------------+ +----------------------------+  +------------------------------+
```

Product Functions

The "Online bookstore" software is an independent web based application. There are various userinterfaces related with this software. These interfaces help the user to interact with the software and provide the necessary information for online bookstore.

The entire functionality of this software can be subdivided into fields/modules. The names of the fields involved in the online bookstore are :-

1. Registration/login

2. Books details

3. Order

4. Payment

5. Delivery & tracking

6. User feedback

User Classes and Characteristics

There are 3 types of users of this software:

- Customer

- Administrator

- Supplier

Customers are using for viewing and buying the books.Customer can also write feedbacks for books andservices.

Administrator can add,edit and delete products and provide services to the customer.

Administrator can see the daily sell of the books,can also see the feedback given by the customers.Administrator maintains the deliveries.

Supplier can use the system to see the product,their prices and quantity available profit and lose.

Operating Environment

Operating system:The software will be designed to work on any version of Windows, Linux and Mac platform.
The software is completely web based and runs on popular web browsers namely firefox, Chrome , brave etc. These web browsers are preferred since they support HTML
Mysql database is used to store the datas .
 python,javascript can be used as programming languages.
Server Hardware:
 Processor: Multi-core processor with sufficient processing power to handle user requests and data processing.
 RAM: Adequate memory to support concurrent users and efficient data retrieval.

Design and Implementation Constraints

This section of the Online Bookstore Management System's Software Requirements Specification (SRS) outlines key limitations and considerations that developers must adhere to during the system's design and implementation.
We have to design different pages for different types of users . The implementation part is yet to be done. But, we have a clear picture as to how our pages would look. There are a number of tools which can be used for its implementation which would includeJavascript frameworks like node.js mongodb etc.
Some of the constraints are:

- The interface will be in English only.
- Database technology
- Hardware and Software Compatibility
- The system is working for single server.
- GUI features available.

2.6 Assumptions and Dependencies

The product does require back-end database server MySQL for storing the username and Password for different types of user of the system.
ASSUMPTIONS:

- User must be trained for basic computer functionality.
- User must have basic knowledge of English.
- The browsers which the user is using is either Google Chrome 10.0 and above or Mozilla Firefox 4.0

and above.

- The system must be able to respond to database software within reasonable time.

External Interface Requirements

User Interfaces

This section specifies the characteristics of the user interfaces that interact with the software product.The user interface design is simple and clear.

User of the system will be provided with the Graphical user interface,there is no Command line interface for any function.

Some of the user interfaces are:

1. Customer-Facing Website
2. Administrator Dashboard
3. Customer Support Interface
4. Shipping Carrier Interfaces
5. Search and Recommendation Interfaces
6. Payment Gateway Interfaces

Software Interfaces

The software required to make for working of our online bookstore is:

1. Database Management System (DBMS): MySQL 8.0
2. Web Server: Example: Apache HTTP Server 2.4
3. Payment Gateway Interfaces:
   - Stripe API (Version: 2021-08-23)
   - PayPal REST API (Version: v2)
4. Shipping Carrier Interfaces:
   - UPS Developer Kit (Version: 1.3)
   - FedEx Web Services (Version: 2207)
5. External Databases: Google Books API
6. The software is operating system independent. It would run on Linux, Windows and Mac.

Communications Interfaces

This refer to the methods and protocols used for communication between different software components, modules, systems, or devices. A web browser is a basic necessity for the software to be deployed.

1. HTTP/HTTPS: HTTP/1.1 for standard web page requests.
2. Email Notifications: Using SMTP (Simple Mail Transfer Protocol) for sending order confirmations and updates.
3. Message Formatting: Using JSON (JavaScript Object Notation) for data interchange between components.
4. APIs for Third-Party Services: Utilizing RESTful APIs provided by payment gateways and shipping carriers.

Analysis Models
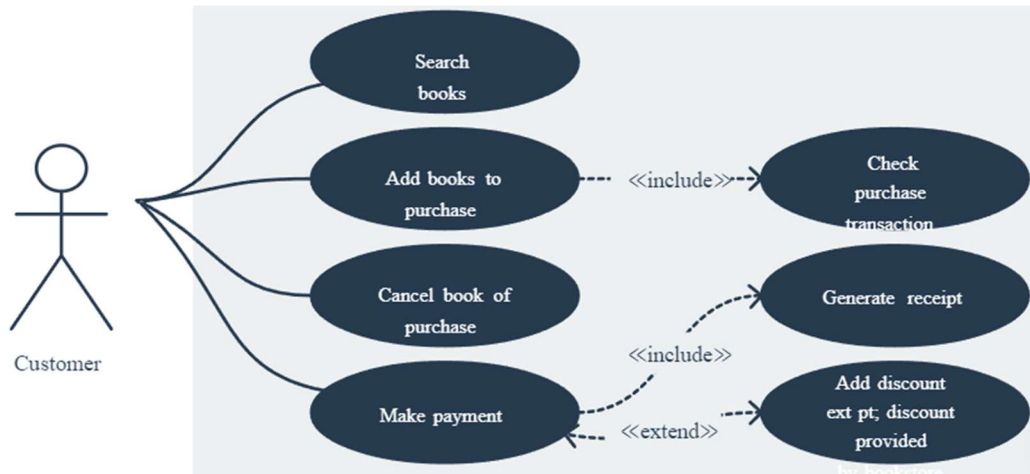
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CUSTOMER/USER VIEW:

ADMIN VIEW:
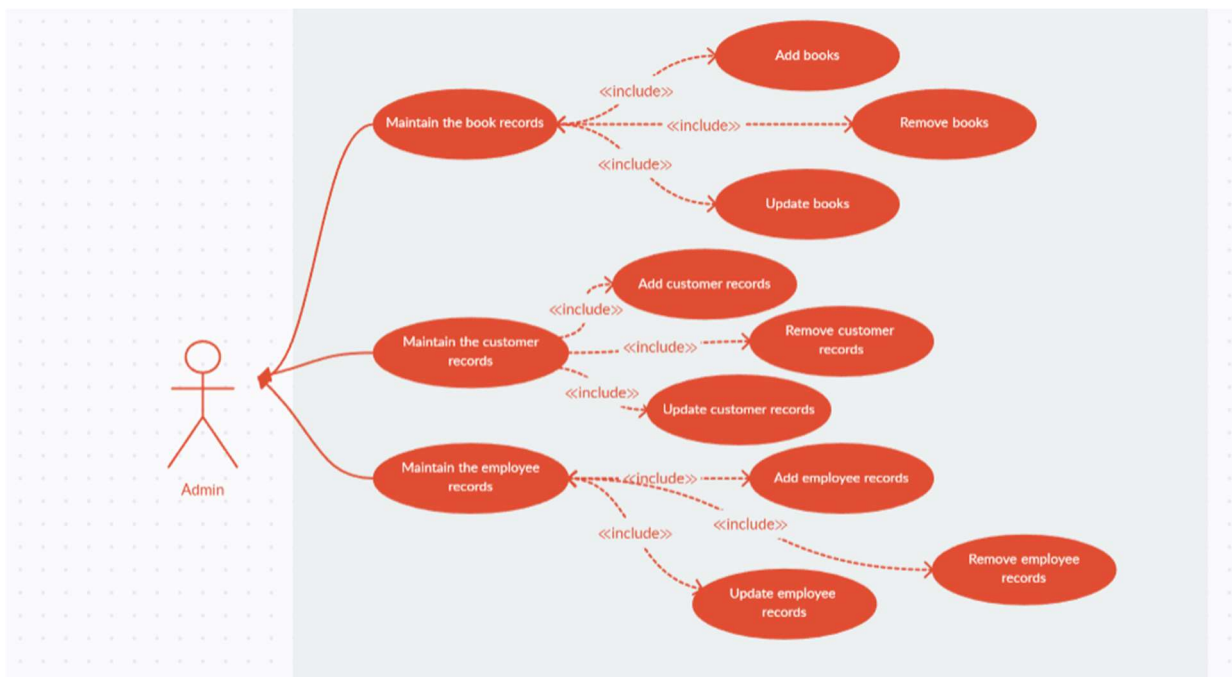
System Features:

System Feature 1

5.1.1   Description and Priority

Feature Name: User Registration

Description: This feature allows users to create accounts on the online bookstore Website, providing necessary information and login credentials.

Priority: High

5.1.2 Stimulus/Response Sequences

Stimulus: User clicks on the "Sign Up" button.

Response: The registration page is displayed, prompting the user to enter their details.

5.1.3   Functional Requirements

Functional requirements are specific actions or behaviors that a software system must exhibit to meet its intended purpose

REQ-1: The system shall provide a user registration form with fields for the user's name, email address, password, and other required information

REQ-2: The system shall validate user-submitted data, ensuring that all required fields are filled out and that the email address is in a valid format.

System Feature 2

5.2.1   Description and Priority

Feature Name: Book Browsing

and Searching

Description:This feature enables users to browse and search for books within the online bookstore.

Priority: Medium

5.2.2 Stimulus/Response Sequences

1.Stimulus:User accesses the book browsing page

  Response: System displays a list of books, categories, and search options.

2.Stimulus:User clicks on a book title to view details.

  Response: System displays the book's details, including title, author, description, and price.

5.2.3 Functional Requirements

REQ-1: Browsing by Category:-Users shall have the ability to browse books by categories and genres.

REQ-2: Searching by Keywords:-The system shall include a search bar allowing users to search for books by keywords.

System Feature 3

5.3.1 Description and Priority

Feature Name: Admin Functionality

Description: This feature provides administrators with tools to manage and oversee various aspects of the online bookstore Website.

Priority: High

5.3.2   Stimulus/Response Sequences:

Stimulus: When the admin logs in and accesses the admin dashboard.

Response: The admin dashboard displays options for managing users, inventory, orders, and generating reports.

5.3.3   Functional Requirements:

REQ-1: The system shall provide a secure login mechanism for administrators, requiring a unique username and password.

REQ-2: The admin dashboard shall provide access to features such as user management, inventory management, order processing, and reporting

Other Nonfunctional Requirements

Performance Requirements

- Any transaction will not take more than 15 seconds.
- Multiple users are supported.
- Server will be working whole 24x7 times.

Safety and security Requirements

- The user has to login using the secure mongodb authentication mechanisms.
- All the records/stats related to the books will be displayed on the main page.

Software Quality Attributes

The software will be built on a well known javascript framework react.js, which
Follows the principle that each class should have a single purpose of existence. Since
Writing code in React is well structured and enables easy integration of the small modules.

React is fast, scalable, simple, and dynamic. All the changes will be dynamically updated.

Business Rules

1. Only registered users can place orders and leave book reviews.
2. Administrators have exclusive access to inventory management and order processing functions.
3. Users can add books to their shopping carts, but items in the cart are not reserved until the checkout process is completed.
4. Payment is required at the time of order placement.
5. Discounts and promotions may be applied based on specific criteria, such as order total or book categories.

Domain Requirements:

1. The system shall support various book categories, including fiction, non-fiction, romance, mystery, and more.
2. Users must provide valid shipping addresses during the checkout process.
3. The system shall display book prices in the user's preferred currency based on their location.

4. Book availability status (in stock/out of stock) shall be accurately maintained.

Other Requirements

Environmental sustainability:

The system shall implement environmentally responsible practices, such as minimizing energy consumption in data centers.

Database requirements:

The system shall use a relational database management system (RDBMS) for data storage. Database backups shall be performed daily, and backup copies shall be stored securely.

Legal Requirements:

- The system shall comply with all applicable data protection regulations, including GDPR, CCPA, and other relevant laws.
- Privacy policies and terms of service shall be prominently displayed and accessible to users.

Appendix A: Glossary

1	Admin	A person or a group of people who would facilitate the communication between the donars and the donee.
2	API	Application Programming Interface
3	HTTP:	Hypertext Transfer Protocol
4	SRS	SRS stands for Software Requirement Specification. It is his used to refer to a document that completely describes all of the functions of a proposed system and the constraints under which it must ope
5	Team Head	Team head is an individual who is responsible for all the actions undergoing under his/her team
6	UI	UI stands for User Interface. It is defined as the space where interaction between humans and machines occurs
7	View	View means to display and look at data on screen.
8	MongoDB	Database that stores all the data about the users and the admin as well as the data about the transaction that take place
9	Python:	Python is a high-level, versatile, and widely-used programming language known for its readability and simplicity.
10	Javascript	A javascript framework used for developing single page dynamic application.

Appendix B: Field Layouts

An Excel sheet containing field layouts and properties/attributes and report requirements.

sheet with information required to register the customer

Field	Length	Data Type	Description	Is Mandatory
Account Number	16	Numeric		Y
ISFC code	11	Alphanumeric		Y
Card Amount	20	Numeric		Y
Mandate Start Date	8	Date	Date of Mandate Registration	N
Mandate End Date	8	Date	Date of Mandate Expiry	N
Status	25	Alphanumeric	Status of Registration	Y
Customer Name	60	String		Y
Reject Reason Code	4	String	Reject Reason code in case mandate is rejected	N

Report Requirements: Include the fields to be included in the report

Registration Report	Transaction Report
Bank Account Number	Transaction Reference Number
ISFC Code	Bank Account Number

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Bank Name	IFSC Code
Account Status	Bank Name
Account Type	Customer Name
Customer Name	Card Number
Card Number	Debit Transaction Amount
SI Start Date	Transaction Date
Status	Status
Remarks	Debit Attempt Number
	Remarks

Appendix C: Requirement Traceability Matrix

Sl. No	Requirement ID	Brief Description of Requirement	Architecture Reference	Design Reference	Code File Reference	Test Case ID	System Test Case ID