

# **Software Requirements Specification**

**For**

**ONLINE BOOKSTORE APPLICATION**

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## Revision History

Name	Date	Reason For Changes	Version

PART DONE	NAME
Documentation	Minori
User Interfaces	Shehara
Use Case diagrams and narratives	Dinusha
Class diagrams	Ashini
Activity diagram	Senuri

# **1. Introduction**

## **1.1 Purpose**

The XYZ Books online platform embarks on a mission to establish a digital space where the world of rare and collectible books meets the passionate hearts of book collectors and enthusiasts. At its core, this platform seeks to offer a seamless and enriching experience for users seeking to explore, discover, and acquire treasures from the realm of literature.

## **1.2 Document Conventions**

Following conventions are used in writing this SRS.

- Line spacing for text is 1.5.
- Sub headings are in font size 14pts, bold and “Times New Roman”
- All other text including descriptions is in font size 12pts, normal font and “Times New Roman”.
- Main headings are in font size 18pts, bold and “Times New Roman”
- The references are written according to the IEEE format.
- Please refer Appendix A – Glossary for the definitions of terms and acronyms necessary to properly interpret this SRS document.

## **1.3 Intended Audience and Reading Suggestions**

This Software Requirements Specification (SRS) document is crafted with the purpose of meticulously outlining the vision, scope, and functional intricacies of the XYZ Books online platform. It serves as a

beacon guiding the development journey, ensuring that every aspect of the final product aligns harmoniously with the aspirations and needs of our stakeholders.

This document is assembled with the requirements of the client and the methodology used in realizing the goals set by the developers, that is, to meet the client requirements. Henceforth, the readers that would find this document helpful are the users, testers, documentation writers, developers, project managers, and directors of the system.

- **Users** of the system are the Administrator, Buyers, Sellers and other stakeholders. This will be convenient for them to get an idea of the functionality, features, and restraints of the software.
- **Testers** will need to have this document in hand to test the system against the documentation to check if the performance of the functions implemented is in accordance with the required level that was stated and agreed upon.
- **Documentation Writers**, who are responsible in writing maintenance documents of the system, will need this SRS to check the initial agreements, so as to check the specification to have clarifications on what the restraints, functionality and scope of the system are.
- **Developers** will find this document necessary in order to abide by the guidelines and evaluate the progress of the system in the development. They will also use it as a future reference in calling to what requirements they had approved upon to develop the software.
- **Project Managers and Directors** of the system plays a vital role in the proper execution of the project, therefore, they will need this document in order to manage the developers, with realization of what must be accomplished by them and what they are assigned with.

## 1.4 Product Scope

The main objective of this software is to make an Online Bookstore Application system and also implement a web-based application. After the evaluation of the time frame and resources, the project objectives were decided. Realistic set of objectives were denoted to be achieved from the estimation of the time frame and resources available. To meet the client specified requirements at the end of the agreed time frame, several functions were identified.

- Administrative function of User management and System management
  - Administers users system
  - Error correction of the system
  - Permission control management
- Administration of Employee details
- Web based application for book reservation and searching of the XYZ Books online platform.
- Management of the XYZ Books online platform.
- Administrative functions of handling quality constraints
  - Data backup and restoration system
  - Bi-lingual system
  - Manage reports and documents of the store
- Communication
  - SMS service through the system
  - Email system
- Administration of Store resources and acquisitions.
- Administration of patron accounts and activity.

By meeting these requirements, the system will be user friendly, time saving, easy to preserve with superior security and system restoration and backup.

Goals that can be achieved with the help of our software are as follows.

- Use of technology to increase efficiency and increase performance.
- Reduces time consumption.

Key benefits of the software are as follows.

- The efficiency and quality of daily activity can be increased.
- Better security privileges.
- Backup and restoration of data will ensure integrity and security.
- Easy maintainability.
- Control and ease of management over daily operations.

## **2. Overall Description**

### **2.1 Product Perspective**

In the vast expanse of online bookstores, the XYZ Books platform emerges as a distinctive entity, driven by a commitment to excellence and user-centric design. It stands as a beacon of innovation, seamlessly integrating with external systems such as payment gateways and inventory management solutions to create a holistic and immersive experience for users. With a relentless focus on user satisfaction and technological prowess, the platform aims to carve its niche as the premier destination for discerning book aficionados.

### **2.2 Product Functions**

At the heart of the XYZ Books platform lies a plethora of functionalities meticulously designed to cater to the diverse needs and preferences of users. From the seamless onboarding process facilitated by user registration to the immersive browsing and searching capabilities, each feature contributes towards fostering a rich and engaging user experience. Additionally, robust cart management, secure checkout, and interactive user reviews further augment the platform's utility, ensuring that every interaction leaves a lasting impression on the user.

#### **2.2.1 Authenticate User**



F1 :	Authenticate User
Summary :	The system should allow the users to successfully login once the validated username and password are submitted.
Input :	Username/ Email/ User ID and password
Process :	The system will check with the database for a valid login. If the provided username and password are valid, the main home page applicable to the user is displayed, else the user will be denied of access.
Output :	Message of successful login and display of the home page else an error message for invalid login.

### 2.2.2 Search

F2 :	Search
Summary :	Allows the authenticated users to easily find shop patron details, personnel details, details of the book collection at the bookstore, book circulation details and acquisition details.
Input :	Keyword(s) to search
Process :	The system should search the word(s) given by the user in the database. If the system found any results, it will display a complete set of details on the screen for the users.
Output :	Details of the searched item or an error message notifying "There is no matched data/ No results "

### 2.2.3 Send an Email

F3 :	Send an email to patron(s)
Summary :	The system will allow authenticated users to send reminders of books to be overdue, fines to be paid, lost book charges to patrons through an email notification.
Input :	Email address, patron ID, message, subject
Process :	The system will check the format of the email address provided and validate the email address. Then the patron ID will be checked with the database for patron's current status at the bookstore with regards to the book borrows. Then the relevant notification to be sent to the patron will be validated and processed and will be sent to the patron.
Output :	Successful message if the email is sent else an error message will be displayed.

### 2.2.4 Create Report

F4 :	Creation of reports for the bookstore patrons/ books/ other
Summary :	The system will allow users to generate statistical reports relevant to patrons/ books/ other.
Input :	Book details / patron details/ other details
Process :	When the details are provided it will be validated with the database. Once proper details are provided statistical reports will be generated.

Output :	Generated reports with tables or graphs else and an error message will be displayed if unable to generate a report.
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### 2.2.5 Backup and Restore Database

F5 :	Backup and restore the database
Summary :	The system allows the administrator to create a backup of the data which is stored in the database. The administrator can restore the previously backed-up data. Hence the system provides a systematic way to restore the backed-up data in case of hardware or software failures. He/she is allowed to back-up and restore the database on the click of a button.
Input :	Database host name, port name, master user name, master password, back-up destination
Process :	The table queries and constraints, data queries will be saved to a .sql file in destination folder. The backed-up .sql file will be restored to the server.
Output :	Message acknowledging success of database back-up and restoration else an error message.

### 2.2.6 Add Record

F7 :	Add New Patron / Acquisitions/ Personnel
Summary :	Gathered information of patron/ acquisition/ personnel will be added by the relevant data entry operators to the system. Hence each record added to the system will acquire a unique ID, thereby, being able to easily keep track of the relevant records.
Input :	Patron Details/ Acquisitions Details/ Personnel Details
Process :	The system will save the entered details in the database after validation of each input data.
Output :	A successful message if the data has being added else, an error message will be displayed.

### 2.2.7 Add Book

F7 :	Adding a new Book to the Bookstore Collection
Summary :	Gathered information of the book will be added by the relevant data entry operators to the system. Hence each added book to the system will acquire a barcode.
Input :	Book Details

Process :	The system will save the entered details in the database after validation of each input under the Added Books table.
Output :	A successful message if the data has been added else, an error message will be displayed.

### 2.2.8 Update Records

F8 :	Update Patron/ Personnel/ Book/ Acquisition Records
Summary :	The system will allow the authenticated users to update the records which were previously stored in the database at any time on request.
Input :	Field(s) to be updated.
Process :	The system will validate the updated field(s) and store them in the database by replacing the previous data of the record.
Output :	Display a success message or else an error message.

### 2.2.9 Retrieve or Change Password

F9 :	Retrieval or change of user password
Summary :	The system will allow the user to retrieve the password in any preferred way or change the old password for a new one.

Input :	New password code received by email/ SMS and password question and answer or new password and old password.
Process :	Above input fields will be validated and checked with the database and if new password is provided it will be saved to the database.
Output :	Display of successful message or else an error message of failure to process.

#### 2.2.10 Delete Records

F10 :	Deleting records from the database
Summary :	The system will allow only authenticated users to perform the deletion operation of records stored by the system.
Input :	Record ID
Process :	The system will check with the database for the record and any constraints related with the record to be deleted. And it will retrieve the entire data specific to the provided ID and if constraints are not found related to the record, the system will allow the delete.
Output :	A successful message or an error message.

### 2.2.11 Send SMS Reminders

F11 :	Send a SMS reminder
Summary :	This system will allow the authenticated users to send relevant SMS reminders to guarantors or members
Input :	Mobile number, reminder, member ID
Process :	The system will check with the database for valid inputs. And once validation is successful the relevant reminder will be sent.
Output :	Message of successful sending of the reminder to relevant parties else an error message will be displayed.

### 2.2.12 Reserve Books

F12 :	Reserve books at the web based application
Summary :	The patron is able to reserve books at the bookstore by visiting the Bookstore website. This will require a valid patron login.
Input :	Patron' username and password
Process :	The username and password will be checked with the bookstore database and will be validated. If valid inputs are provided the relevant book will be

	checked for availability and will be reserved for the patron to be borrowed in the next visit to the bookstore.
Output :	Successful message for the book reservation of the patron else an error message will be displayed.

### 2.2.13 Classify books with attached barcodes

F13 :	Classify books with attached barcodes
Summary :	Forwards the books with attached barcodes to the handled books collection. This will show the books that have been attached with barcodes.
Input :	Added book's ID, button click if barcode is attached to the book
Process :	The system will validate the Book ID and save the book's data to the database under handled book table.
Output :	Success message will be displayed else an error message of failure.

### 2.2.14 Customize User profile

F13 :	Customize User profile
Summary :	This allows the user to change the appearance of their display screens. The ability to make changes will differ according to the user privilege.
Input :	Select the required change to be made.



Process :	The changes will be made to the relevant user according to their preference.
Output :	Success message or error message.

### 2.2.15 Discard Damaged Books

F13 :	Discard damaged books
Summary :	The system allows the Working Staff to remove any books due to spoilage or which has been damaged due to improper use.
Input :	Book accession no, damaged status, specify reason
Process :	The system will check with the database and remove the relevant book from the system restricting further use of the book. It will be archived in the database as a Discarded Book.
Output :	Success message of the discard else an error message will be displayed.

### 2.2.16 Check Book pdf/softcopies

F13 :	Check book pdf/softcopies
Summary :	This will allow the user to view any softcopy or pdf of books.
Input :	Access the Web based application, login details
Process :	The system will search for the relevant pdf/softcopy of the preferred book.
Output :	Display the pdf/softcopy of the book else an error message will be displayed notifying “no pdf/softcopies for the selected book”.

## 2.3 User Classes and Characteristics

The system will be used by different user groups. Each will have their own roles to be performed in the system. All the functions assigned to these user groups are considered highly important. The list of user groups and their functionality with regards to the system are given below.

- **Administrator**

The administrator of the bookstore can log in to the system and select any operation to be performed by the system. The administrator has the full capacity to control and manage the entire system functionalities and its activities by users. He/ she has the capability to regulate and restrict user permissions and filter the functionality according to their roles, generate system document templates, handle acquisitions of the bookstore, manage patron's account and details, employee management, book circulation handling, book collection management, system back-up and restore when required, private document management, change application settings, control the entire web based application, manage inquiries/ notifications and communications, administer changes to the system database and handle all the items of the bookstore.

- **Bookstore Keeper**

The bookstore keeper is provided with a user login and has the capability to perform main

operations at the bookstore. They could manage the entire book collection and generate barcodes for each book added to the database, control patron activity at the bookstore, send emails when required to relevant parties, generate reports, and customize user profile when preferred.

- **Book Circulation involved Personnel**

The personnel can log into the system using their login and perform any book circulation activities of patron. They can manage patron's book borrows made at different time intervals, handle all the fines of the patron, search function to view relevant patron or any book availability or status, send email notifications, make SMS reminders to patrons, add or update books and customize user profile when preferred.

- **Working Staff**

They are given an authenticated user login to perform basic functions of the bookstore. They are able to check the book queue, search the book collection for available books, add new books, discard damaged books and customize their user profile.

- **Patron**

The patron is the main user of the bookstore and is given the opportunity to perform certain activities in the system. They need to have basic computer skills to use the system. They are able to search the book collection, reserve a book by visiting the bookstore web-based application, borrow a preferred book for certain period of time, make any inquiry, and check any softcopy/pdf files of the books at the bookstore.

## 2.4 Operating Environment

The Bookstore Management System will be running on Microsoft Windows 7 operating system based platforms. It is highly recommended that all the workstations will be connected with the centralized database server which will be running with MySQL. NetBeans is used to implement the web based application. The database will be installed in the server and the system will be installed in workstations. The users will need to have Desktop PCs. The users making direct involvement with the system should have basic computer literacy to operate and work with the system.

## 2.5 Design and Implementation Constraints

- XYZ Online Bookstore consists with sub processes and they are carried out with various departments. These departments are not connected to a network. Hence a new server machine is required to make the required connection between the workstations.
- Required database management system is MySQL. The database MySQL server should be installed in the database system.
- Java and PHP is the programming language that will be used for the development of the product.
- Since system's information affects to the daily operations performed at the bookstore, the system must be equipped with proper security mechanism.
- The servers should have 250GB of initial Hard disk drive and the memory should be 10GB.
- The users must have the ability to work in a computerized environment. Therefore, basic knowledge of computer skills will be required. Hence potential users will be required to be trained.
- SMTP, IP, TCP and Amazon SNS protocols will be used.

## 2.6 Project Documentation

All the documents are created during the development phase of the system and will be handed over to the client along with the software.

- Project proposal will have all the basic descriptions of what we are going to develop for the system which includes simple metaphors about essential functionalities of the system.
- Software Requirement Specification is an agreement between the client and the development team. It is the legal contract between the two parties involved. This document addresses how to tackle the current issues by the use of system that is to be implemented.
- Final report will represent the technical background of the system and will be handed over only after the design, implementation phase and testing is completed.
- User Manual would basically be a guide book of the system, which includes information on how to use the system.

## 2.7 User Documentation

There are documents that are handed over to the client to take better use of the system, in order to simplify the adaptation process and to troubleshoot any problems if it arises. These documents are compiled with the intention of delivering an obligatory guideline on how to use the software with proper use. The basic documentation for the users will be as follows.

- User Manual is a guide which includes the GUIs and how to make proper use of each GUI. The user manual will be given as a hardcopy or a softcopy as requested by the client.
- Tutorials will be an optional document if requested by the user. Upon the delivery of the system, the users should have a basic tutorial to follow in order to familiarize with the system.

## 2.8 Assumptions and Dependencies

- The system will need a total list of its users and the employment hierarchy.
- The Administrator should possess an excellent computer skill in order to manage the entire system.
- If barcodes are needed to be scanned, a webcam would be sufficient to fulfill the scanning requirement.
- When a hard copy of forms are needed, the system should be facilitated with a printer in order to take print outs.
- All users of this system must have a basic knowledge of computer skills in order to use the software.

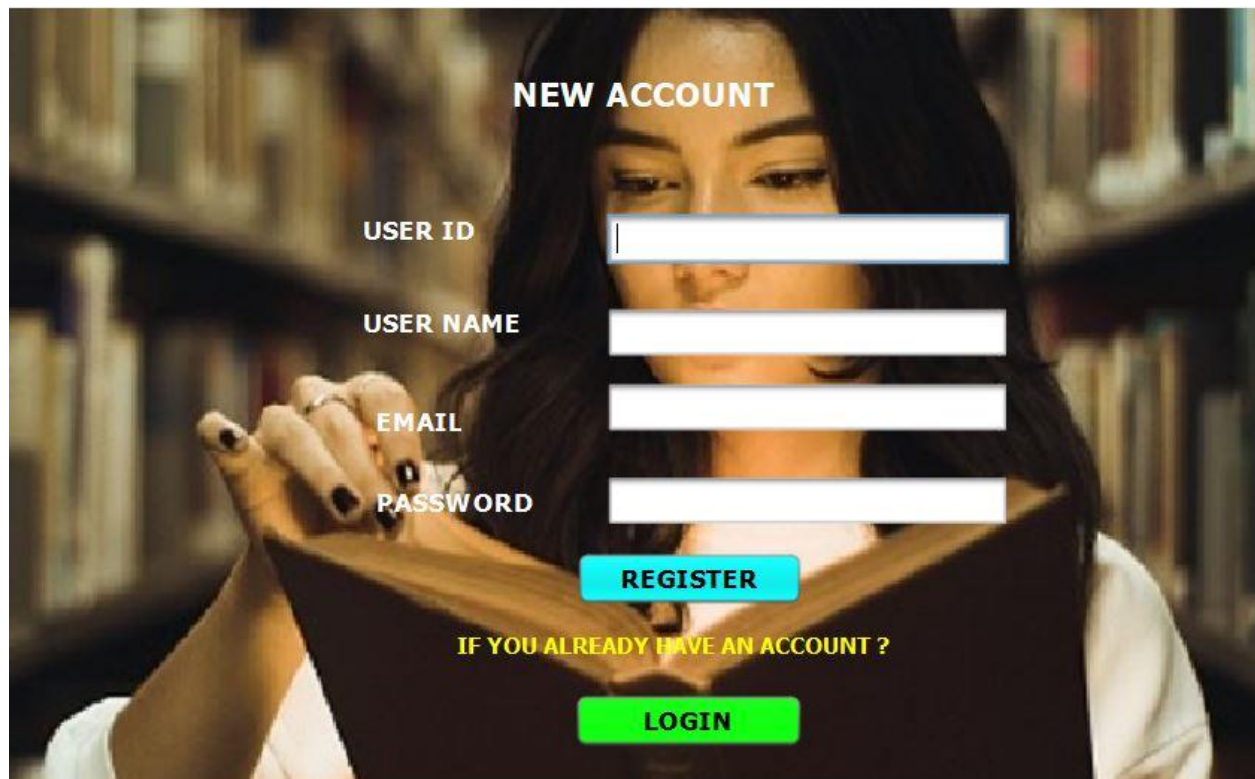
The system needs the following products.

- MySQL 6.0 version to store the database.
- NetBeans IDE 8.0 version to develop the system.
- iReport 5.5.0 and JasperReports to generate reports.

## 3. External Interface Requirements

### 3.1 User Interfaces

The XYZ Books website embodies the epitome of visual elegance and user-friendly design, boasting an intuitive graphical user interface (GUI) that beckons users to embark on a journey of literary exploration. Responsive across a myriad of devices and platforms, the interface seamlessly adapts to varying screen sizes and resolutions, ensuring a consistent and delightful experience for users.

A registration form titled "NEW ACCOUNT" is overlaid on a background image of a woman reading a book in a library. The form includes input fields for "USER ID", "USER NAME", "EMAIL", and "PASSWORD". Below these fields is a cyan "REGISTER" button. Underneath the button is the text "IF YOU ALREADY HAVE AN ACCOUNT ?" in yellow, followed by a green "LOGIN" button.

**NEW ACCOUNT**

**USER ID**

**USER NAME**

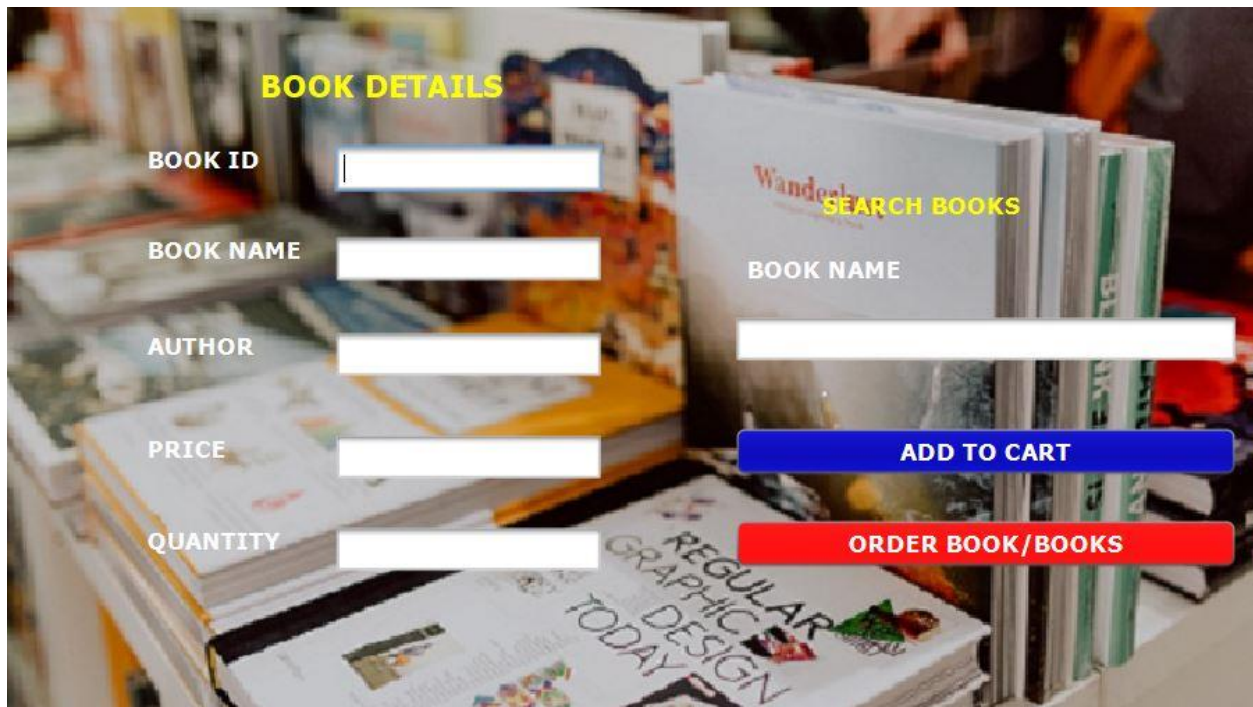
**EMAIL**

**PASSWORD**

**REGISTER**

**IF YOU ALREADY HAVE AN ACCOUNT ?**

**LOGIN**

A screenshot of a web application interface for an online bookstore. The background is a blurred image of a bookshelf. The form is titled "BOOK DETAILS" in yellow. It contains five input fields for "BOOK ID", "BOOK NAME", "AUTHOR", "PRICE", and "QUANTITY". To the right of the "BOOK NAME" field is a "SEARCH BOOKS" button in yellow. Below the "PRICE" field is a blue "ADD TO CART" button. Below the "QUANTITY" field is a red "ORDER BOOK/BOOKS" button.

**BOOK DETAILS**

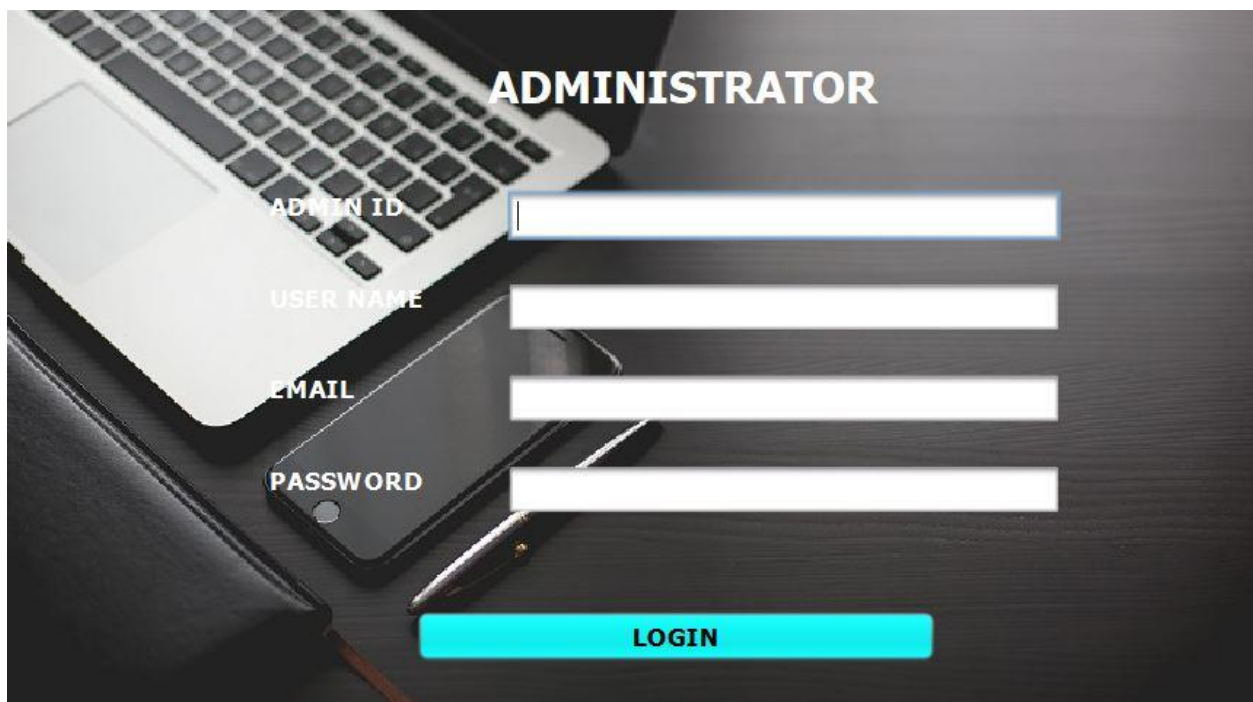
BOOK ID

BOOK NAME  **SEARCH BOOKS**

AUTHOR

PRICE  **ADD TO CART**

QUANTITY  **ORDER BOOK/BOOKS**

A screenshot of a web application interface for an administrator login. The background is a blurred image of a laptop, a smartphone, and a pen on a desk. The form is titled "ADMINISTRATOR" in white. It contains four input fields for "ADMIN ID", "USER NAME", "EMAIL", and "PASSWORD". Below these fields is a cyan "LOGIN" button.

**ADMINISTRATOR**

ADMIN ID

USER NAME

EMAIL

PASSWORD  **LOGIN**



## ORDER BOOK / BOOKS

ORDER ID	<input type="text"/>
ITEM NAME	<input type="text"/>
TOTAL PRICE	<input type="text"/>
STATUS	<input type="text"/>
ORDER DATE	<input type="text"/>
DELIVER DATE	<input type="text"/>
<input type="button" value="UPDATE"/>	<input type="button" value="CANCEL"/> <input type="button" value="SUBMIT"/>

## REVIEW

REVIEW ID	<input type="text"/>
USER ID	<input type="text"/>
BOOK ID	<input type="text"/>
RATING	<input type="text"/>
COMMENT	<input type="text"/>
<input type="button" value="UPDATE"/>	<input type="button" value="CANCEL"/> <input type="button" value="SUBMIT"/>



### 3.2 Hardware Interfaces

The Client will require personal computers with Core i3 processor, 4 GB RAM, 10GB free disk space and 19” display monitors on 1024x768 resolutions. The operating system will be optimally Microsoft Windows 7.

Compatibility with a diverse array of hardware configurations and web browsers is the cornerstone of the XYZ Books platform's accessibility. Whether accessed via desktops, laptops, tablets, or smartphones, users can rest assured that their browsing experience remains unhindered, transcending the confines of hardware limitations.

In addition to this, a printer should be configured for taking hard copies if required and a webcam for barcode scanning purpose. Users can connect to the web application via any ISP.

### 3.3 Software Interfaces

The XYZ Books platform harmoniously integrates with a myriad of software systems, including payment gateways, shipping APIs, and inventory management solutions. Through seamless communication and data exchange, these integrations lay the foundation for streamlined transactions and operational efficiency, ensuring a seamless end-to-end experience for users.

The database of the system will be designed and maintained using MySQL 6.0 and NetBeans 17.0 will be used to design the interfaces and develop the coding of the system.

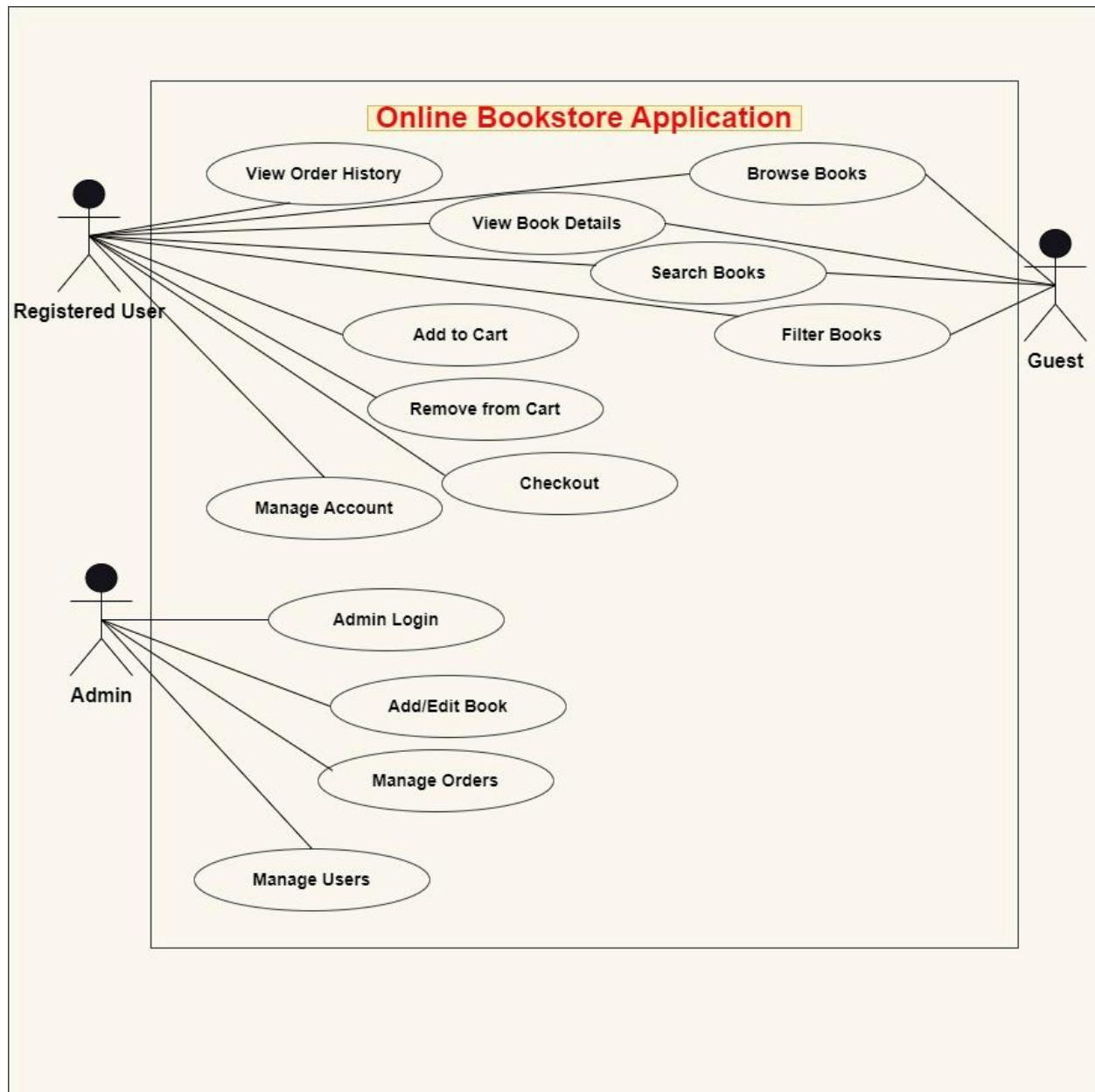
### 3.4 Communications Interfaces

Communication Function	Standard
SMS	Amazon SNS
Email	SMTP
File Uploading	FTP

## 4. System Features

USE CASE DIAGRAMS





## 4.1 View Order History

Use Case Name :	View Order History
Pre-Conditions :	The customer must be logged into their account.
Primary Actor(s) :	Registered User
Main Success Scenario :	<ol style="list-style-type: none"> <li>1. The customer navigates to the "Order History" section of their account.</li> <li>2. The system retrieves and displays a list of all past orders associated with the customer's account, including details such as order date, order ID, items purchased, total cost, and status.</li> <li>3. The system displays detailed information about the selected order, including individual items purchased, quantities, prices, shipping information, and any applicable discounts or promotions.</li> <li>4. The customer can choose to view details of a specific order by selecting it from the list.</li> </ol>
Extension :	<ul style="list-style-type: none"> <li>• If the customer is not logged in, they are prompted to log in before accessing their order history.</li> <li>• If there are no past orders associated with the customer's account, a message is displayed indicating that there is no order history available.</li> <li>• If there is a technical issue or error retrieving the order history, an error message is displayed, and the customer is prompted to try again later or contact customer support for assistance.</li> </ul>

## 4.2 Search Books

Use Case Name :	Search Books
Pre-Conditions :	<ol style="list-style-type: none"> <li>1. The online bookstore platform must be accessible and functional.</li> <li>2. The customer must have an account (if required by the platform) and be logged in or logged out as per platform policy.</li> </ol>
Primary Actor(s) :	Registered User ,Guest
Main Success Scenario :	<ol style="list-style-type: none"> <li>1) The customer navigates to the search bar or the "Search" section of the website/application.</li> <li>2) The customer enters the keywords or phrases related to the book(s) they are searching for.</li> <li>3) The system performs a search based on the entered keywords or phrases.</li> <li>4) The system retrieves and displays a list of books that match the search criteria, including titles, authors, book covers, and possibly brief descriptions.</li> <li>5) The customer can further refine their search using filters such as author, genre, publication date, price range, etc.</li> <li>6) The system updates the displayed list of books based on the applied filters.</li> <li>7) The customer can select a specific book from the search results to view more details.</li> <li>8) The system displays detailed information about the selected book, such as its description, author, price, available formats (e.g., paperback, hardcover, eBook), customer reviews, ratings, and related books.</li> <li>9) The customer can add the selected book to their cart for purchase or continue browsing/searching for more books.</li> </ol>

Extension :	<ul style="list-style-type: none"> <li>• If no books match the entered search criteria, the system displays a message indicating that no results were found and may suggest alternative search terms.</li> <li>• If there is a technical issue or error during the search process, an error message is displayed, and the customer is prompted to try again later or contact customer support for assistance.</li> <li>• If the customer encounters difficulty in finding books or using search filters, the system may provide guided assistance or tutorials to help the customer navigate the search functionality effectively.</li> </ul>
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### 4.3 Browse Book

Use Case Name :	Browse Books
Pre-Conditions :	<p>The online bookstore platform must be accessible and functional.</p> <p>The customer must have an account (if required by the platform) and be logged in or logged out as per platform policy.</p>
Primary Actor(s) :	Registered User ,Guest
Main Success Scenario :	<ol style="list-style-type: none"> <li>1) The customer navigates to the "Browse" section of the website/application.</li> <li>2) The system displays various categories or genres of books available for browsing, such as fiction, non-fiction, mystery, romance, science fiction, etc.</li> <li>3) The customer selects a category or genre of interest.</li> <li>4) The system presents a list of books within the selected category or genre, along with their titles, authors, book covers, and possibly brief descriptions.</li> </ol>

	<p>5) The customer can further refine their browsing experience using filters such as author, publication date, price range, format (e.g., paperback, hardcover, eBook), and ratings.</p> <p>6) The system updates the displayed list of books based on the applied filters.</p> <p>7) The customer can scroll through the list of books, exploring different options and reading more detailed information about each book by selecting it.</p> <p>8) For each selected book, the system displays its detailed information, such as its description, author, price, available formats, customer reviews, ratings, and related books.</p> <p>9) The customer can add the selected book to their cart for purchase or continue browsing for more books within the same or different categories.</p>
Extension :	<ul style="list-style-type: none"> <li>• If there are no books available within a selected category or genre, the system informs the customer and suggests alternative categories or genres to explore.</li> <li>• If there is a technical issue or error during the browsing process, an error message is displayed, and the customer is prompted to try again later or contact customer support for assistance.</li> <li>• The system may provide recommendations or suggestions based on the customer's browsing history, preferences, or popular trends to enhance their browsing experience and help them discover new books.</li> </ul>

#### 4.4 Filter Books

Use Case Name :	Filter Books
Pre-Conditions :	The online bookstore platform must be accessible and functional.



	<p>The customer must have an account (if required by the platform) and be logged in or logged out as per platform policy.</p> <p>There should be books available on the platform that match the search criteria or belong to the selected category/genre.</p>
Primary Actor(s) :	Registered User ,Guest
Main Success Scenario :	<ol style="list-style-type: none"> <li>1. The customer performs a search for books or navigates to the "Browse" section.</li> <li>2. The system displays a list of books matching the search criteria or within a selected category/genre.</li> <li>3. The customer locates the filter options available, which may include: <ul style="list-style-type: none"> <li>• Author</li> <li>• Genre</li> <li>• Publication Date</li> <li>• Price Range</li> <li>• Format (e.g., paperback, hardcover, eBook)</li> <li>• Rating</li> <li>• Availability (e.g., in stock, pre-order)</li> </ul> </li> <li>4. The customer selects one or more filter criteria according to their preferences.</li> <li>5. The system updates the displayed list of books based on the applied filters, showing only those that meet the selected criteria.</li> <li>6. The customer can further refine their selection by applying additional filters or remove filters to broaden their search results.</li> <li>7. The system continues to dynamically adjust the displayed books as the customer applies, removes, or modifies filters.</li> <li>8. The customer can browse through the filtered list of books and view detailed information about each book of interest.</li> </ol>

	9. The customer can add selected books to their cart for purchase or continue browsing and applying filters as needed.
Extension :	<ul style="list-style-type: none"> <li>• If there are no books that match the selected filter criteria, the system notifies the customer and suggests adjusting or removing some filters to broaden the search.</li> <li>• If there is a technical issue or error while applying filters, an error message is displayed, and the customer is prompted to try again later or contact customer support for assistance.</li> <li>• The system may provide options for saving or bookmarking filtered search results for future reference, allowing customers to easily revisit their preferred book selections without reapplying filters.</li> </ul>

## 4.5 View Book Details

Use Case Name :	View Book Details
Pre-Conditions :	<p>The online bookstore platform must be accessible and functional.</p> <p>The customer must have an account (if required by the platform) and be logged in or logged out as per platform policy.</p>

	The book being viewed must be available on the platform and accessible to the customer based on their geographic location or other restrictions.
Primary Actor(s) :	Registered User ,Guest
Main Success Scenario :	<ol style="list-style-type: none"> <li>1) The customer performs a search for a specific book or navigates to the "Browse" section to locate the book.</li> <li>2) The system displays a list of books matching the search criteria or within a selected category/genre.</li> <li>3) The customer selects a particular book from the displayed list.</li> <li>4) The system retrieves and displays detailed information about the selected book, including: <ul style="list-style-type: none"> <li>• Title</li> <li>• Author</li> <li>• Description/summary</li> <li>• Cover image</li> <li>• Price</li> <li>• Available formats (e.g., paperback, hardcover, eBook)</li> <li>• Publication date</li> <li>• ISBN (International Standard Book Number)</li> <li>• Customer reviews and ratings</li> <li>• Related books or recommendations</li> </ul> </li> <li>5). The customer can read the book's description, view its cover image, and explore its features and details.</li> <li>6). If available, the customer can read reviews and ratings from other customers to assess the book's quality and popularity.</li> <li>7). The customer can add the book to their cart for purchase if they decide to buy it.</li> <li>8). The customer can navigate back to the list of books or continue exploring other books on the platform.</li> </ol>

Extension :	<ul style="list-style-type: none"> <li>• If the book is out of stock or unavailable for purchase, the system notifies the customer and may provide options such as adding the book to a wish list or notifying the customer when it becomes available.</li> <li>• If there is a technical issue or error while retrieving book details, an error message is displayed, and the customer is prompted to try again later or contact customer support for assistance.</li> <li>• The system may offer additional features such as previewing a sample of the book (if available) or providing links to purchase the book from external retailers if it is not available for direct purchase on the platform.</li> </ul>

## 4.6 Add to Cart

Use Case Name :	Add to Cart
Pre-Conditions :	<p>The online bookstore platform must be accessible and functional.</p> <p>The customer must have an account on the platform and be logged in to add items to their cart.</p> <p>The book(s) the customer wishes to add to their cart must be available for purchase and not restricted by any geographic or other limitations.</p>

Primary Actor(s) :	Registered User
Main Success Scenario :	<ol style="list-style-type: none"> <li>1) The customer searches for a book using the search bar or navigates to the book's details page.</li> <li>2) The customer selects the book they wish to purchase.</li> <li>3) The system displays the book's details, including the title, author, price, and available formats.</li> <li>4) The customer decides to purchase the book and clicks on the "Add to Cart" button.</li> <li>5) The system adds the selected book to the customer's shopping cart.</li> <li>6) The system updates the shopping cart to reflect the addition of the book, displaying the book's title, price, quantity, and total cost.</li> <li>7) The customer can choose to continue shopping and add more books to their cart or proceed to checkout.</li> <li>8) If the customer continues shopping, they can repeat steps 2-7 for each additional book they wish to add to their cart.</li> <li>9) Once the customer has finished adding books to their cart, they can proceed to checkout to complete their purchase.</li> </ol>
Extension :	<ul style="list-style-type: none"> <li>• If there is an error adding the book to the cart (e.g., due to technical issues or inventory problems), the system displays an error message and prompts the customer to try again later or contact customer support for assistance.</li> <li>• If the customer attempts to add a book to the cart that is out of stock or unavailable, the system notifies the customer and may offer alternatives such as adding the book to a wish list or providing recommendations for similar books that are available.</li> <li>• The system may allow the customer to adjust the quantity of items in their cart or remove items before proceeding to checkout.</li> </ul>

	<ul style="list-style-type: none"> <li>The system may suggest related items or promotions to encourage the customer to add more items to their cart before checkout, increasing the value of their purchase.</li> </ul>
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## 4.7 Remove from Cart

Use Case Name :	Remove from Cart
Pre-Conditions :	<p>The online bookstore platform must be accessible and functional.</p> <p>The customer must have an account on the platform and be logged in to remove items from their cart.</p> <p>The book(s) the customer wishes to remove from their cart must currently be in their cart.</p>
Primary Actor(s) :	Registered User
Main Success Scenario :	<ol style="list-style-type: none"> <li>1) The customer navigates to their shopping cart, where they can review the items they have added.</li> <li>2) The system displays the list of books currently in the customer's shopping cart, along with their titles, prices, quantities, and total cost.</li> <li>3) The customer identifies the book they wish to remove from the cart.</li> <li>4) The customer clicks on the "Remove" or "Delete" button associated with the selected book.</li> <li>5) The system removes the selected book from the customer's shopping cart.</li> <li>6) The system updates the shopping cart to reflect the removal of the book, adjusting the total cost accordingly.</li> <li>7) The customer can choose to continue shopping and add more items to their cart or proceed to checkout.</li> </ol>

	<p>8) If the customer continues shopping, they can repeat steps 4-7 for each additional book they wish to remove from their cart.</p> <p>9) Once the customer has finished removing books from their cart, they can proceed to checkout to complete their purchase.</p>
Extension :	<ul style="list-style-type: none"> <li>• If there is an error removing the book from the cart (e.g., due to technical issues), the system displays an error message and prompts the customer to try again later or contact customer support for assistance.</li> <li>• If the customer accidentally removes a book from their cart, the system may offer an option to undo the removal or provide recommendations for similar books.</li> <li>• The system may suggest related items or promotions to encourage the customer to continue shopping after removing items from their cart, thereby increasing the value of their purchase.</li> </ul>

## 4.8 Check Out

Use Case Name :	Check Out
Pre-Conditions :	<p>The online bookstore platform must be accessible and functional.</p> <p>The customer must have an account on the platform and be logged in to complete the checkout process.</p> <p>The customer must have one or more items in their shopping cart.</p>

	The customer must provide accurate and valid shipping and payment information.
Primary Actor(s) :	Registered User
Main Success Scenario :	<ol style="list-style-type: none"> <li>1. The customer navigates to their shopping cart, where they can review the items they have added.</li> <li>2. The system displays the list of books currently in the customer's shopping cart, along with their titles, prices, quantities, and total cost.</li> <li>3. The customer verifies the items in their cart and ensures that the quantities and prices are correct.</li> <li>4. The customer proceeds to checkout by clicking on the "Checkout" or "Proceed to Checkout" button.</li> <li>5. The system prompts the customer to enter shipping and billing information, which may include: <ul style="list-style-type: none"> <li>• Name</li> <li>• Shipping address</li> <li>• Billing address (if different from shipping address)</li> <li>• Contact information (email, phone number)</li> </ul> </li> <li>6. The customer fills in the required information and selects a shipping method from the available options (e.g., standard shipping, expedited shipping).</li> <li>7. The system calculates the total cost of the order, including any applicable taxes, shipping fees, or discounts.</li> <li>8. The customer selects a payment method (e.g., credit/debit card, PayPal) and provides the necessary payment details.</li> <li>9. The system securely transmits the payment information to the payment gateway for processing.</li> </ol>



	<p>10. The payment gateway verifies the payment details and authorizes the transaction.</p> <p>11. Upon successful payment authorization, the system confirms the order and generates an order confirmation page or email, which includes:</p> <ul style="list-style-type: none"> <li>• Order summary (items purchased, quantities, prices)</li> <li>• Shipping details</li> <li>• Billing details</li> <li>• Total cost</li> <li>• Order number</li> <li>• Estimated delivery date</li> </ul> <p>12. The system updates the customer's order history and deducts the purchased items from the inventory.</p> <p>13. The customer receives a confirmation email with the order details and a receipt for the transaction.</p> <p>14. The customer can track the status of their order through their account on the platform.</p>
<p>Extension :</p>	<ul style="list-style-type: none"> <li>• If there is an error during the checkout process (e.g., invalid payment information, technical issues with the payment gateway), the system displays an error message and prompts the customer to correct the issue and try again.</li> <li>• If a selected item in the customer's cart becomes out of stock during the checkout process, the system notifies the customer and may provide options such as removing the item from the cart or selecting a replacement item.</li> </ul>

	<ul style="list-style-type: none"> <li>• The system may offer the customer the option to save their shipping and payment information for future purchases to expedite the checkout process.</li> <li>• If the customer abandons the checkout process before completing the transaction, the system may send a follow-up email as a reminder or offer incentives to encourage the customer to complete their purchase.</li> </ul>
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## 4.9 Manage Account

Use Case Name :	Manage Account
Pre-Conditions :	<p>The online bookstore platform must be accessible and functional.</p> <p>The customer must have an account on the platform and be logged in to manage their account settings.</p> <p>The customer must have sufficient permissions to make changes to their account information.</p>
Primary Actor(s) :	Registered User
Main Success Scenario :	<ol style="list-style-type: none"> <li>1. The customer navigates to the "Account Settings" or "Profile" section of the website/application.</li> <li>2. The system displays the customer's account information, which may include: <ul style="list-style-type: none"> <li>• Username</li> <li>• Email address</li> <li>• Password</li> <li>• Shipping address</li> <li>• Billing information</li> <li>• Payment methods</li> <li>• Order history</li> </ul> </li> </ol>

	<ul style="list-style-type: none"> <li>• Preferences(e.g., communication preferences, genre preferences)</li> </ul> <ol style="list-style-type: none"> <li>3. The customer can update their account information by editing the relevant fields (e.g., changing the email address, updating the shipping address).</li> <li>4. The customer can change their password by entering the current password and specifying a new one.</li> <li>5. The customer can add, edit, or remove shipping addresses and billing information as needed.</li> <li>6. The customer can manage their saved payment methods, such as adding new cards, deleting outdated cards, or updating card information.</li> <li>7. The customer can view their order history to track past purchases and order statuses.</li> <li>8. The customer can set or adjust their communication preferences, such as opting in or out of promotional emails or newsletters.</li> <li>9. The system saves the changes made by the customer and updates their account information accordingly.</li> <li>10. The customer receives a confirmation message or email indicating that their account settings have been successfully updated.</li> </ol>
Extension :	<ul style="list-style-type: none"> <li>• If the customer encounters an error while updating their account information (e.g., invalid input, technical issues), the system displays an error message and prompts the customer to correct the issue and try again.</li> <li>• The system may offer additional security measures, such as two-factor authentication or CAPTCHA verification,</li> </ul>

	<p>when making sensitive changes to the account settings (e.g., changing the password).</p> <ul style="list-style-type: none"> <li>• The system may provide tips or guidance to the customer when updating their account information, such as password strength requirements or formatting guidelines for addresses.</li> <li>• If the customer forgets their password, the system may offer a "Forgot Password" feature, allowing the customer to reset their password via email verification or security questions.</li> </ul>
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#### 4.10 Admin Login

Use Case Name :	Admin Login
Pre-Conditions :	<p>The online bookstore platform must be accessible and functional.</p> <p>The admin must have valid credentials (username and password) to access the admin panel.</p> <p>The admin must have the necessary permissions to perform administrative tasks.</p>
Primary Actor(s) :	Admin
Main Success Scenario :	<ol style="list-style-type: none"> <li>1) The admin navigates to the login page of the online bookstore platform.</li> <li>2) The system displays the login form, prompting the admin to enter their username and password.</li> <li>3) The admin enters their username and password into the respective fields.</li> <li>4) The system verifies the entered credentials against the stored admin credentials in the database.</li> </ol>

	<ol style="list-style-type: none"> <li>5) If the credentials are valid, the system grants access to the admin panel.</li> <li>6) The system redirects the admin to the admin dashboard or home page.</li> <li>7) The admin can now access various administrative functions and features, such as managing products, orders, customers, inventory, and website settings.</li> <li>8) The admin performs the necessary administrative tasks within the admin panel.</li> <li>9) After completing the tasks, the admin logs out of the admin panel to end the session.</li> </ol>
Extension :	<ul style="list-style-type: none"> <li>• If the admin enters incorrect credentials, the system displays an error message indicating that the login attempt failed due to invalid credentials. The admin may be prompted to re-enter the credentials.</li> <li>• The system may implement security measures such as CAPTCHA verification or two-factor authentication to enhance the security of the admin login process.</li> <li>• In case the admin forgets their password, the system may provide a "Forgot Password" feature allowing the admin to reset their password through a password recovery process.</li> <li>• The system may track login attempts and implement security measures such as account lockout after multiple failed login attempts to prevent brute-force attacks.</li> </ul>

## 4.11 Add/Edit Books

Use Case Name :	Add/Edit Books
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Pre-Conditions :	<p>The online bookstore platform must be accessible and functional.</p> <p>The admin must have valid credentials and administrative privileges to access the admin panel and manage books.</p> <p>If editing an existing book, the book must already exist in the bookstore's inventory.</p>
Primary Actor(s) :	Admin
Main Success Scenario :	<ol style="list-style-type: none"> <li>1. The admin navigates to the "Manage Books" or "Inventory Management" section of the admin panel.</li> <li>2. The system displays options to either add a new book or edit an existing book listing.</li> <li>3. If adding a new book: <ul style="list-style-type: none"> <li>• The admin selects the "Add Book" option.</li> <li>• The system presents a form for the admin to enter details about the new book, including: <ul style="list-style-type: none"> <li>• Title</li> <li>• Author(s)</li> <li>• ISBN (International Standard Book Number)</li> <li>• Description</li> <li>• Genre</li> <li>• Price</li> <li>• Availability (e.g., in stock, out of stock)</li> <li>• Formats (e.g., paperback, hardcover, eBook)</li> <li>• Cover image</li> <li>• Publication date</li> <li>• Publisher</li> <li>• Number of pages</li> <li>• Additional metadata</li> </ul> </li> <li>• The admin fills in the required information and uploads the cover image if necessary.</li> </ul> </li> </ol>

	<ul style="list-style-type: none"> <li>• The system validates the entered information and adds the new book to the bookstore's inventory.</li> </ul> <p>4. If editing an existing book:</p> <ul style="list-style-type: none"> <li>• The admin selects the "Edit Book" option.</li> <li>• The system presents a list of existing books in the inventory for the admin to choose from.</li> <li>• The admin selects the book they want to edit from the list.</li> <li>• The system displays the current details of the selected book in an editable form.</li> <li>• The admin modifies the desired fields to update the book's information.</li> <li>• The system validates the changes made by the admin and updates the book listing accordingly.</li> </ul> <p>5. The system notifies the admin that the book addition/editing process is successful.</p> <p>6. The admin can view the updated book listing in the inventory management section of the admin panel.</p>
<p>Extension :</p>	<ul style="list-style-type: none"> <li>• If there are errors or missing information in the form during book addition/editing, the system prompts the admin to correct the issues before proceeding.</li> <li>• The system may implement version control or revision history features to track changes made to book listings, allowing admins to revert to previous versions if needed.</li> <li>• The system may integrate with external databases or APIs to automatically populate book information based on ISBN or other identifiers, reducing manual data entry for admins.</li> <li>• The system may allow admins to set up advanced features such as book bundles, discounts, or promotions</li> </ul>

	while adding/editing books to attract customers and drive sales.
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## 4.12 Manage Orders

Use Case Name :	Manage Orders
Pre-Conditions :	<p>The online bookstore platform must be accessible and functional.</p> <p>The admin or customer support representative must have valid credentials and administrative privileges to access the admin panel or customer support dashboard.</p> <p>There must be existing orders placed on the platform to manage.</p>
Primary Actor(s) :	Admin
Main Success Scenario :	<ol style="list-style-type: none"> <li>1. The admin or customer support representative navigates to the "Manage Orders" or "Order Management" section.</li> <li>2. The system displays a list of all orders placed on the platform, including details such as order number, customer name, order date, total cost, and order status.</li> <li>3. The admin or customer support representative can search for specific orders using filters or search functionality based on criteria such as order number, customer name, or order status.</li> <li>4. The admin or customer support representative selects a specific order from the list to view its details.</li> <li>5. The system presents detailed information about the selected order, including: <ul style="list-style-type: none"> <li>• List of items purchased</li> <li>• Quantity of each item</li> <li>• Total cost</li> <li>• Shipping address</li> </ul> </li> </ol>



	<ul style="list-style-type: none"> <li>• Billing information</li> <li>• Payment status</li> <li>• Shipping status</li> <li>• Order fulfillment status</li> <li>• Any special instructions or notes from the customer</li> </ul> <p>6. The admin or customer support representative can take various actions on the order, such as:</p> <ul style="list-style-type: none"> <li>• Updating order status (e.g., processing, shipped, delivered, cancelled)</li> <li>• Adding notes or comments</li> <li>• Contacting the customer for additional information or clarification</li> <li>• Cancelling or refunding the order (if necessary)</li> </ul> <p>7. After taking the necessary actions, the system saves the changes made to the order and updates the order details accordingly.</p> <p>8. The admin or customer support representative can view the updated order status and details in the order management section.</p>
Extension :	<ul style="list-style-type: none"> <li>• If there are errors or issues with an order (e.g., payment processing errors, items out of stock), the system may prompt the admin or customer support representative to take corrective action and notify the customer if necessary.</li> <li>• The system may provide options for generating and printing packing slips, shipping labels, or invoices for orders to streamline the fulfillment process.</li> <li>• The system may integrate with shipping carriers to provide real-time tracking information for orders in transit and update the order status accordingly.</li> </ul>

	<ul style="list-style-type: none"> <li>The system may offer automated email notifications to customers at various stages of the order process (e.g., order confirmation, shipment tracking, delivery confirmation) to keep them informed about their order status.</li> </ul>
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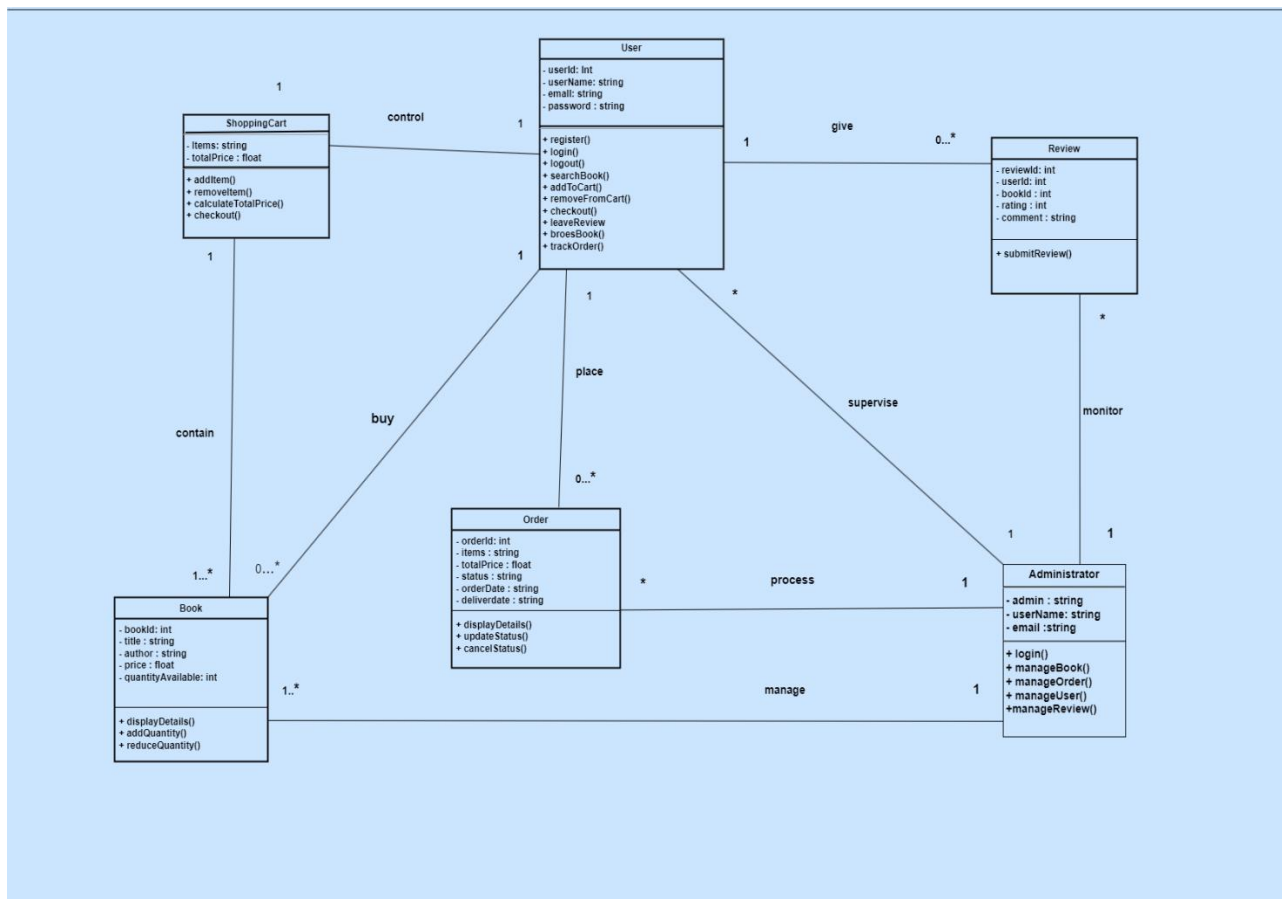
### 4.13 Manage User's

Use Case Name :	Manage User's
Pre-Conditions :	<p>The online bookstore platform must be accessible and functional.</p> <p>The admin must have valid credentials and administrative privileges to access the admin panel and manage users.</p> <p>There must be existing users registered on the platform to manage.</p>
Primary Actor(s) :	Admin
Main Success Scenario :	<ol style="list-style-type: none"> <li>The admin navigates to the "Manage Users" or "User Management" section of the admin panel.</li> <li>The system displays a list of all users registered on the platform, including details such as username, email address, registration date, and user role (e.g., customer, admin).</li> <li>The admin can search for specific users using filters or search functionality based on criteria such as username or email address.</li> <li>The admin selects a specific user from the list to view their details.</li> </ol>

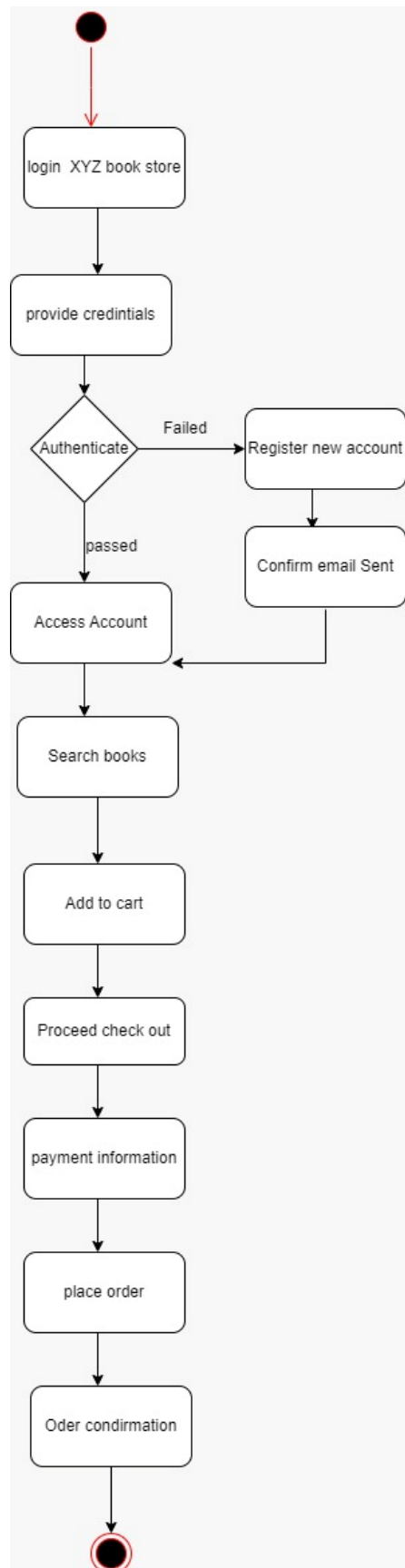
	<p>5. The system presents detailed information about the selected user, including:</p> <ul style="list-style-type: none"> <li>• Username</li> <li>• Email address</li> <li>• Registration date</li> <li>• User role</li> <li>• Account status (e.g., active, inactive)</li> <li>• Order history (if applicable)</li> <li>• Other relevant information</li> </ul> <p>6. The admin can take various actions on the user, such as:</p> <ul style="list-style-type: none"> <li>• Changing the user's role or permissions (e.g., promoting a customer to admin, demoting an admin to a regular user)</li> <li>• Activating or deactivating the user's account</li> <li>• Viewing or modifying the user's account settings or preferences</li> <li>• Viewing or modifying the user's order history or other account-related data</li> </ul> <p>7. After taking the necessary actions, the system saves the changes made to the user's account and updates the user details accordingly.</p> <p>8. The admin can view the updated user details in the user management section.</p>
<p>Extension :</p>	<ul style="list-style-type: none"> <li>• If there are errors or issues with a user's account (e.g., suspicious activity, violation of platform policies), the system may prompt the admin to take corrective action, such as suspending or banning the user's account.</li> <li>• The system may provide options for exporting user data or generating reports for analysis or auditing purposes.</li> </ul>

- The system may offer automated email notifications to users for certain account-related actions taken by the admin (e.g., account activation, account suspension).
- The system may integrate with customer relationship management (CRM) tools or customer support platforms to track interactions with users and provide personalized support.

## Class Descriptions and Diagram



## **Activity Diagram**



## **5. Other Nonfunctional Requirements**

### **5.1 Performance Requirements**

The XYZ Books platform sets the benchmark for performance excellence, with minimal page load times ensuring a fluid and uninterrupted browsing experience. Robust scalability ensures seamless handling of concurrent users, while proactive measures safeguard against performance degradation during peak periods.

The proposed system will be used by multiple users accessing the system simultaneously.

The maximum response time will be within 6 seconds.

The average response time for the system to respond will be 2 seconds.

The web application and the desktop application should be able to handle huge amount of work load. System should also be able to handle and adapt into clients' future modifications and changes to requirements.

### **5.2 Safety Requirements**

Use of this software system is only a solution to computerize online store operations and management of the data. Safety of the product and its users and ethical issues should be given consideration when using this system. Data could be lost, damaged or harmed due to virus or technical failures. Therefore, we are taking measures to prevent these hazards. The constraints take effect on shaping the software to be more trustworthy, reliable and genuine. Back-up and restoration of data as required by the client to prevent loss of data from unexpected database crashes and avoids the accumulation of data which would affect the performance of the system.

## 5.3 Security Requirements

When the user's login to the system, they must provide an authenticated username and a valid password. The particular user should be given different user privileges according to the Online book store employment hierarchy. Users should adhere to the access permissions given to them and should avoid any malpractices such as violation of access rights. Any attempt in using the system in an unethical way is prevented within the system. Any modification to the system should be regulated by the system administrator. Security stands as a cornerstone of the XYZ Books platform, with stringent encryption protocols ensuring the confidentiality and integrity of user transactions and data. From encrypted communications to robust password hashing mechanisms, every facet of the platform is fortified against cyber threats, ensuring peace of mind for users.

- Encryption

All transactions and communications should be encrypted using robust encryption protocols.

- Data Security:

data should be encrypted and stored securely, with stringent access controls and authentication mechanisms in place.

- Regular Audits

Regular security audits and penetration testing should be conducted to identify and address vulnerabilities proactively.

## 5.4 Software Quality Attributes

- Availability

The Administrator can access all the data stored in the database at any time period. Other users can access the data according to their access privileges. The system is available 24 hours daily for operations. The system will need 10-15 minutes of down time for database back-up purpose.

- Security

Unauthorized persons cannot access the system as it requires an authenticated user name and password. Therefore the reliability of the data is high.



- Usability

The user-friendly interfaces make the system easier to use and can adapt to it without much constrain. Mobile responsiveness and intuitive navigation further enhance the user experience, fostering a sense of delight and satisfaction with every interaction.

- ✓ Accessibility

The platform should adhere to WCAG 2.1 standards, ensuring accessibility for users of all abilities.

- ✓ Mobile Responsiveness

The platform should be optimized for seamless performance across a diverse array of mobile devices and platforms.

- ✓ Intuitive Navigation

User interface elements should be intuitive and easy to navigate, fostering a delightful user experience.

- Maintainability

The Online Bookstore Application makes it easy to maintain and the programming constraints are followed consistently throughout the whole application.

- Reliability

The system runs on at least 99% reliability. If any system failure occurs, crash recovers with back-ups.

- Integrity

All the important data are secured in the system as only authorized personnel can access the system, thus, ensuring integrity of the data that is being stored.

- Scalability

The platform should exhibit robust horizontal scalability to accommodate increased traffic during peak periods.

## 5.5 Business Rules

Each user of the system should have an authenticated username and password.

- An Administrator login gets the full capacity to control the entire system. They are allowed the capability to make any changes required to the system and control the users and their activities in the system.
- Bookstore keeper is allowed to perform the assigned operations only. They do not have the full capacity to control the system or its activities.

## 6. Other Requirements

Below are the additional requirements and constraints of the system to be implemented.

- Web application development should be done in PHP language in NetBeans .0.17
- MySQL server should be the database management software, and there should be enough storage to hold all the data.



## Appendix A: Glossary

IEEE	Institute of Electrical and Electronics Engineers
GUI	Graphical User Interface
SRS	Software Requirements Specification
Patron	Member of the bookstore
PDF	Portable Document Format
SMS	Short Message Service
SMTP	Small Mail Transfer Protocol
IP	Internet Protocol
ISP	Internet Service provider
Amazon SNS	Amazon Simple Notification Service
FTP	File Transfer Protocol

### 6.1 References

- [1] Tutorialspoint - <https://www.tutorialspoint.com/uml/index.html>

[2]Lucidchart Blog - <https://www.lucidchart.com/pages/uml-tutorial>

[3]GUI Interfaces tutorials- <https://www.youtube.com/watch?v=Ir7FEZRL0hI>

[4]SRS Documentation Template by Ms.Chobodi



