

SOFTWARE REQUIREMENT SPECIFICATION (SRS)

Version 2.0

Online Book Store



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This document is based on the IEEE Std1016-1998,
IEEE Standard for Software Design Description.

REVISION HISTORY & DOCUMENT APPROVAL

Revision History

Date	Version	Author	Revision Details
2/5/2022	Version 1.0	Tang Li Ping	First version created
26/6/2022	Version 2.0	Tang Li Ping	Modify scope of 'Rate Book' function, add user interfaces. Update use case description, activity diagram and quality requirements.

Document Approval

The following Software Requirements and Specification has been accepted and approved by the following:

Signature	Name	Date
<i>Tang</i>	Tang Li Ping	
	Group 5	

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1.0 INTRODUCTION

1.1 Purpose

The purpose of this document is to provide a complete description and guidelines of all functions and specifications of a web application, namely Online Book Store, that aim to provide a convenient online platform for the public to search and purchase books.

1.2 Scope

The purpose of Online Book Store is to encourage reading culture and create a convenient platform for the public to search, rate and purchase books. Buyers can purchase using his/her credit card numbers, all personal data of users are protected with password.

1.3 Definitions, Acronyms, and Abbreviations

Table 1: Definitions, Acronyms, and Abbreviations

Term	Definition
Admin	Manager of Online Book Store web application, take responsibility for system update, book data update, manage users' information and confirm order.
User	Registered users of Online Book Store web applications have the ability to edit personal information, view books, search books, purchase books and rate books after login.
Visitor	Any person who visits the Online Book Store without login, can only view and search books.

1.4 Overview

The remaining sections of this document includes a general description about the product to-be-built as discussed in section 2 of this document, that provides information on Online Book Store's perspective and functions, user characteristics, general constraints, assumptions and dependencies. Section 3 gives the specific requirements about external interfaces including user, hardware, software and communication interfaces. More details about the product to-be-built are also presented in that section including functional requirements, use cases, class diagrams and quality requirements.

2.0 GENERAL DESCRIPTION

2.1 Product Perspective

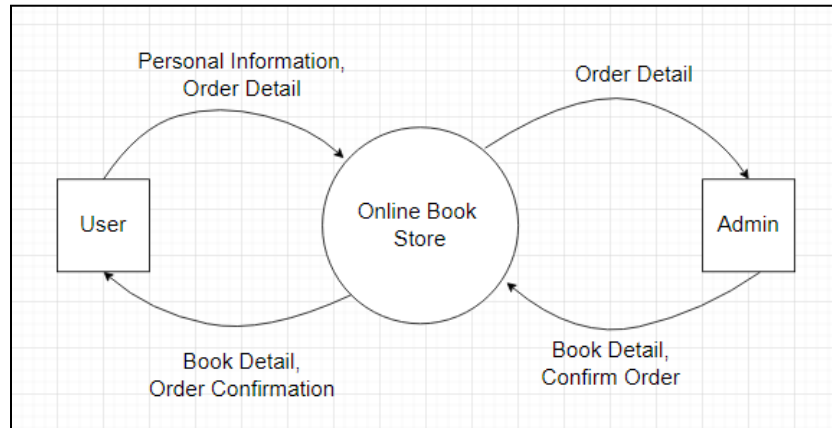


Diagram 1: Context Diagram

This system includes only online components.

- To provide a convenient online book store platform for the public.
- To provide latest book information and immediate storage of available books.
- To increase the willingness and accessibility of the public in reading.

2.2 Product Functions

Table 2: Product function of Online Book Store

Product Function Categories	Function	Description
Manage User	Register	A function for all users or visitors to establish a user account with the system before they can purchase books in the system.
	Login	A function where users must provide their login details that they have created during registration.

	Logout	A function that allow all users leave this system as registered users (become a visitor)
	Edit Profile	A function that allows all login users to edit their details.
	Edit User Profile	A function that allows the admin to edit all users' information.
Manage Book	View Book	A function for all users and visitors to view all book records in the system.
	Search Book	A function for all users and visitors to search a book using certain keywords.
	Add Book	A function for the admin to add a new book record into the system.
	Edit Book	A function for the admin to edit the details for the existence book.
	Delete Book	A function for the admin to delete the existence book.
	Rate Book	A function for users to rate a book from 0 to 5 stars.
Manage Order	Add Book to Cart	A function for users to add books into their own shopping cart.
	Purchase Book	A function for users to purchase book(s) in their shopping cart.
	Confirm Order	A function for the admin to confirm the order made by the login user.

2.3 User Characteristics

2.3.1 User Classes definition

Table 3: User Classes Definition of Online Book Store

User Class/ Type Description	Description
Admin	A person that is assigned to administer an Online Book Store. Have ability to view and edit users' information; view, search, add, edit and delete book; confirm a placed order. Require login details as admin.
User	Any person that registers and uses Online Book Store to view, search, purchase and rate books. They can also edit their personal information. Required to register first before they can use the main functions.
Visitor	Any person that visits an Online Book Store without login. Have the ability to view and search books only.

2.3.2 User Access Function

Table 4: User Access Function of Online Book Store

Functions		Admin	User	Visitor
User Account	create	/	/	/
(Login Detail)	login	/	/	
User	logout	/	/	
	edit profile	/	/	
	edit users' information	/		
Book	view	/	/	/
	search	/	/	/
	add	/		
	edit	/		
	rate		/	
Order	delete book	/		

	add book to cart		/	
	purchase book	/		
	confirm order	/	/	

2.4 General Constraint, Assumptions and Dependencies

2.4.1 General Constraint

Table 5: General Constraint of Online Book Store

CR_ID	Constraint Requirement	Related FR-ID
CR001	Must have internet access for Online Book Store to work	General

2.4.2 Assumptions and Dependencies

There are some assumptions and dependencies for Online Book Store:

1. Every user has a desktop or laptop or mobile phone.
2. The system database of all user data and information is well kept and not disclosed arbitrarily.
3. The system information can be accessed at any time.
4. Credit card, bank information and contact details provided by users in this application are true and authentic.
5. It is suitable for every age group that uses it and is easy to operate.
6. The book record in the database is accurate and up to date.

3.0 SPECIFIC REQUIREMENTS

3.1 External Interface Requirements

3.1.1 System Interfaces

- No special system requirements.

3.1.2 Hardware Interfaces

- No special hardware requirements.

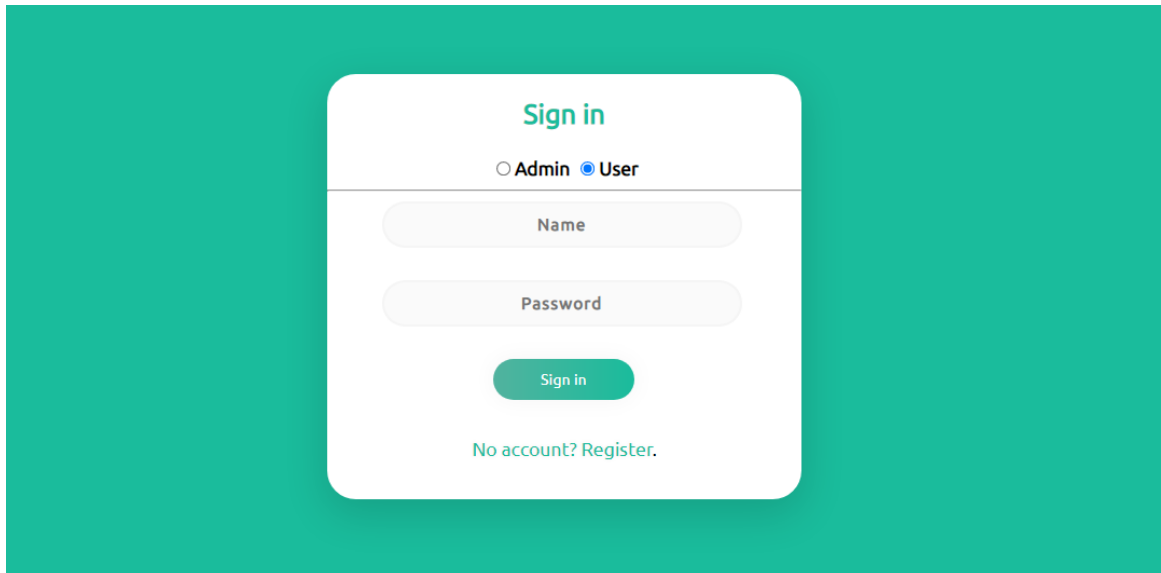
3.1.3 Communication Interfaces

This system aims to encourage reading culture and provide online book store service.

- All users can search books through certain keywords, as well as view the rating of books.
- After login, users are allowed to rate a book from 0 to 5 stars.

3.2 User Interface

3.2.1 Login & Register

A sign-in interface with a teal background. A white rounded rectangle contains the title "Sign in" in teal. Below it are radio buttons for "Admin" and "User", with "User" selected. There are two input fields for "Name" and "Password". A teal "Sign in" button is below the password field. At the bottom, a link says "No account? Register." in teal.

Sign in

☐ Admin ☒ User

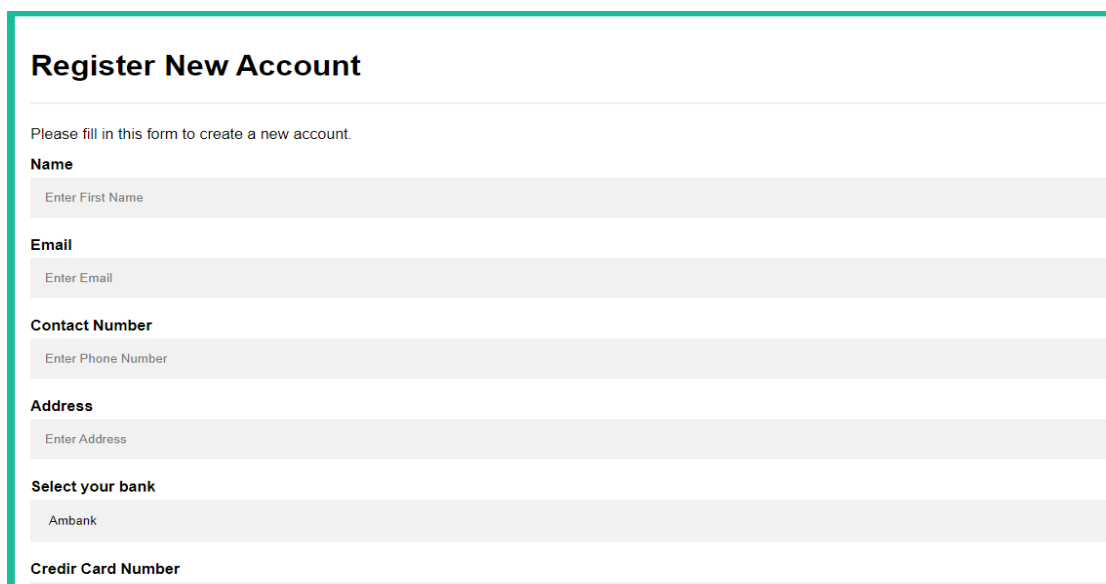
Name

Password

Sign in

No account? Register.

Diagram 2 : Sign in Interface

A registration form titled "Register New Account". It includes a sub-header "Please fill in this form to create a new account." and several input fields: "Name" (with placeholder "Enter First Name"), "Email" (with placeholder "Enter Email"), "Contact Number" (with placeholder "Enter Phone Number"), "Address" (with placeholder "Enter Address"), "Select your bank" (with placeholder "Ambank"), and "Credir Card Number".

Register New Account

Please fill in this form to create a new account.

Name

Enter First Name

Email

Enter Email

Contact Number

Enter Phone Number

Address

Enter Address

Select your bank

Ambank

Credir Card Number

Diagram 3 : Register Interface

3.2.2 Home Page

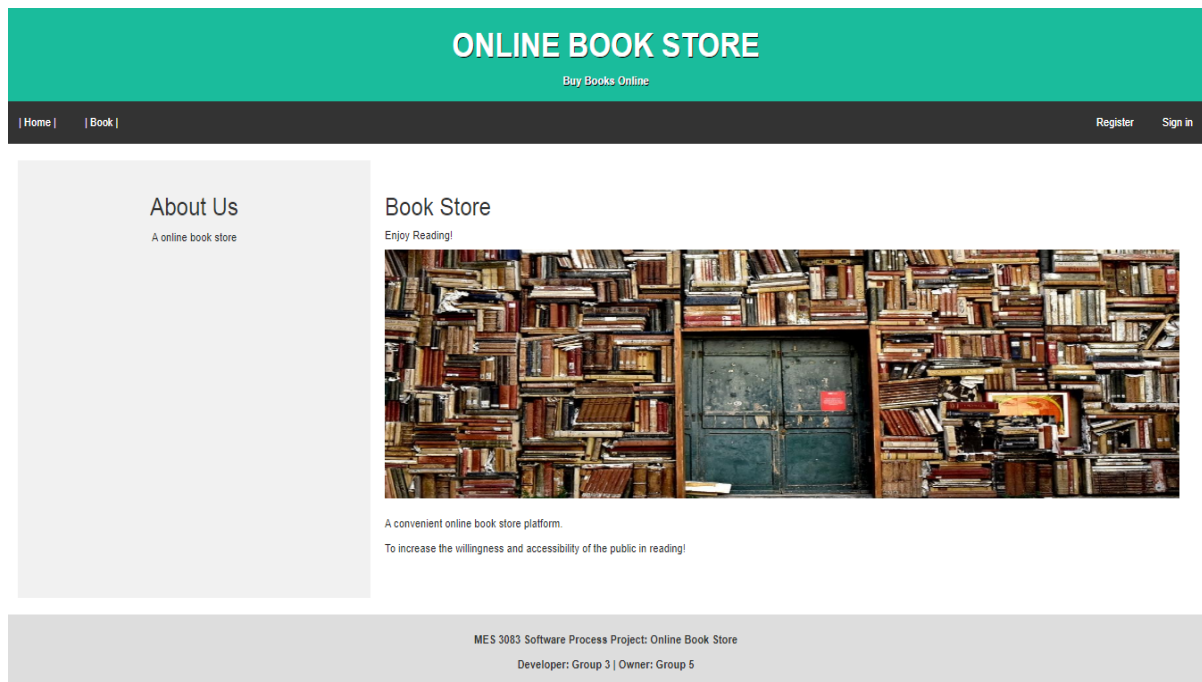


Diagram 4 : Home page Interface

3.2.3 Book List

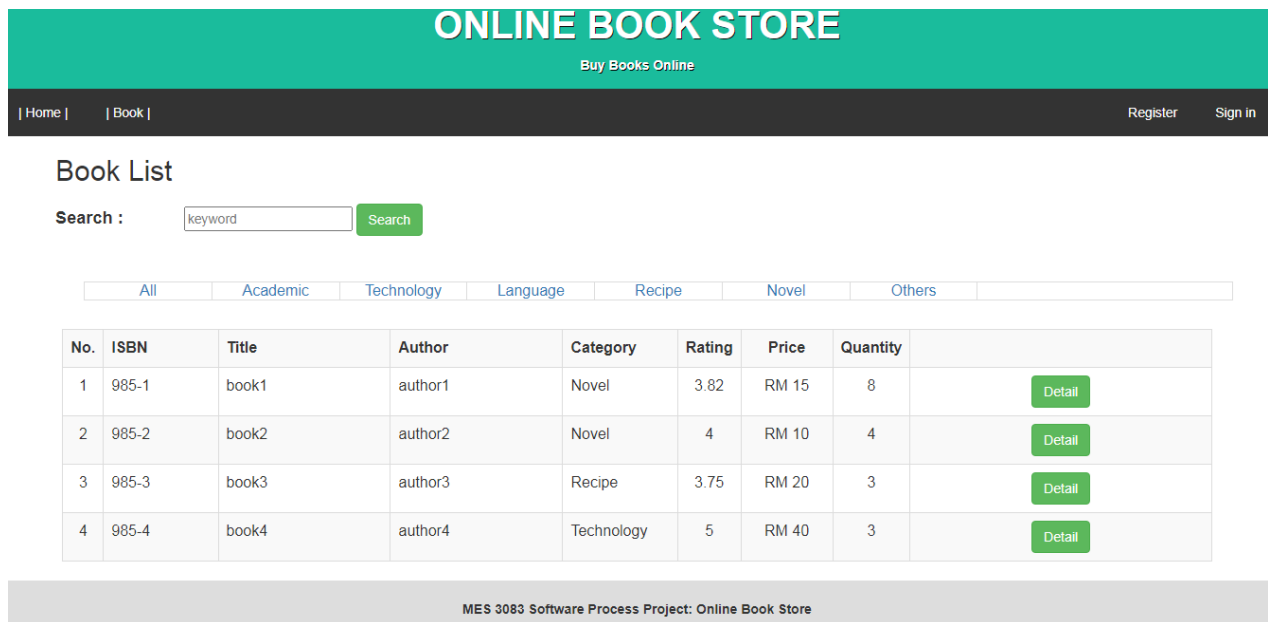


Diagram 5 : Book List Interface

3.2.4 Header



Diagram 6 : Header Interface (Visitor)



Diagram 7 : Header Interface (User)



Diagram 8 : Header Interface (Admin)

3.2.5 User List (Admin)



User List

No.	ID	Email	Name	Contact No	Address	Card No	Bank	Password	Admin?	
1	1	admin1@gmail.com	admin1	111	No. a1, Pahang	1	Maybank	1	1	<button>Detail</button>
2	2	admin2@gmail.com	admin2	444	No. a2, Pahang	2	Maybank	1	1	<button>Detail</button>
3	3	user1@gmail.com	user1	222	No. u1, Pahang	200	Ambank	2	0	<button>Detail</button>
4	4	user2@gmail.com	user2	123	No. u2, Pahang	222	Public Bank	2	0	<button>Detail</button>
5	5	user3@gmail.com	user3	555	No. u3, Pahang	333	Public Bank	3	0	<button>Detail</button>

MES 3083 Software Process Project: Online Book Store

Diagram 9 : User List Interface (Admin)

3.2.6 Order List (Admin)

Order List							
All		Pending		Wait For Confirm (Paid)		Confirmed	
No.	Cart ID	User ID	Book (Title x Quantity x Singel Price)	Total	Status	Payment Date	
1	1	3	book1 x 2 x RM 15 book2 x 2 x RM 10 book4 x 1 x RM 40	RM 90	paid	2022-06-06 10:05:36	<button>Confirm</button>
2	2	4	book3 x 1 x RM 20	RM 20	paid	2022-03-15 11:29:30	<button>Confirm</button>
3	3	4	book4 x 2 x RM 40	RM 80	confirmed	2022-06-06 10:08:51	
4	5	5	book1 x 2 x RM 15 book3 x 1 x RM 20	RM 50	confirmed		
5	7	5	book1 x 2 x RM 15	RM 30	paid	2022-06-07 10:44:36	<button>Confirm</button>
6	10	3	book1 x 2 x RM 15	RM 30	pending		

Diagram 10 : Order List Interface (Admin)

3.2.7 Book Detail

Home | Book | My Cart | My Profile | Logout

Book

What you think about this book?

Rate the book?(5~1 stars)

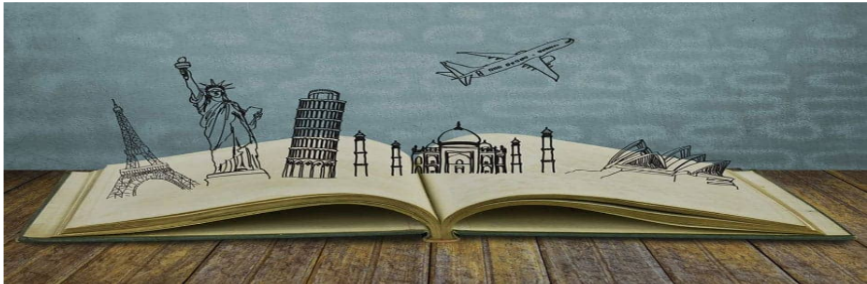
5

Submit Rating

Add to Cart

Book Detail

book1



Book ISBN: 985-1

Book Title: book1

Book Author: author1

Book Price: RM 15

Book Categories: Novel

Book Rate: 3.82 Stars

Book Description: book1 testing for update from detail 5/6

Diagram 11 : Book Detail Interface

3.2.8 Cart Information (User)

ONLINE BOOK STORE

Buy Books Online

[Home](#) | [Book](#) | [My Cart](#) | [My Profile](#) | [Logout](#)

My Cart

No.	ID	Book (Title x Quantity x Singel Price)	Total	Status	Payment Date	
1	1	book1 x 2 x RM 15 book2 x 2 x RM 10 book4 x 1 x RM 40	RM 90	paid	2022-06-06 10:05:36	
2	10	book1 x 2 x RM 15	RM 30	pending		<div>Pay</div>

MES 3083 Software Process Project: Online Book Store
Developer: Group 3 | Owner: Group 5

Diagram 12 : Cart Information Interface (User)

3.2.9 Make Payment

Purchase Book

user1

No. u1, Pahang

RM30

Credit Card Number

Password

Pay

Back

Update Address?

Diagram 13 : Make Payment Interface (User)

3.3 Functional Requirements

Table 6: Functional Requirements for Online Book Store

FR_ID	Functional Requirements
FR001	Create user account
FR002	Login
FR003	Logout
FR004	Edit personal info
FR005	Edit users' info
FR006	View book
FR007	Search book
FR008	Add book
FR009	Edit book
FR010	Delete book
FR011	Add book to cart
FR012	Purchase book
FR013	Confirm order
FR014	Rate book

3.4 Use Case

3.4.1 Use Case Diagram

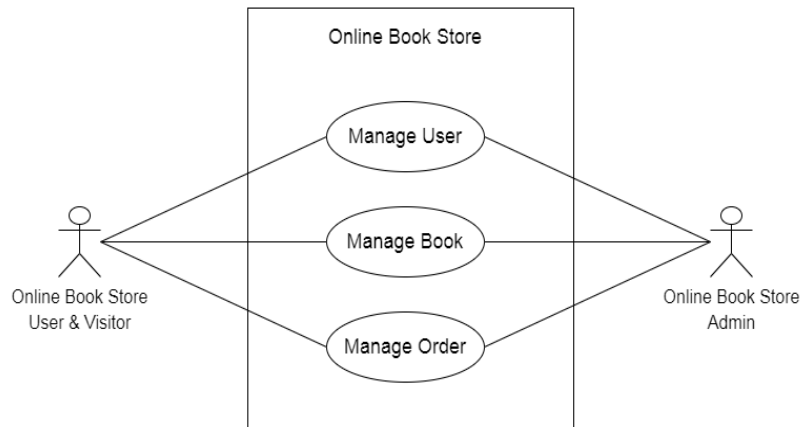


Diagram 14 : Top level use case diagram

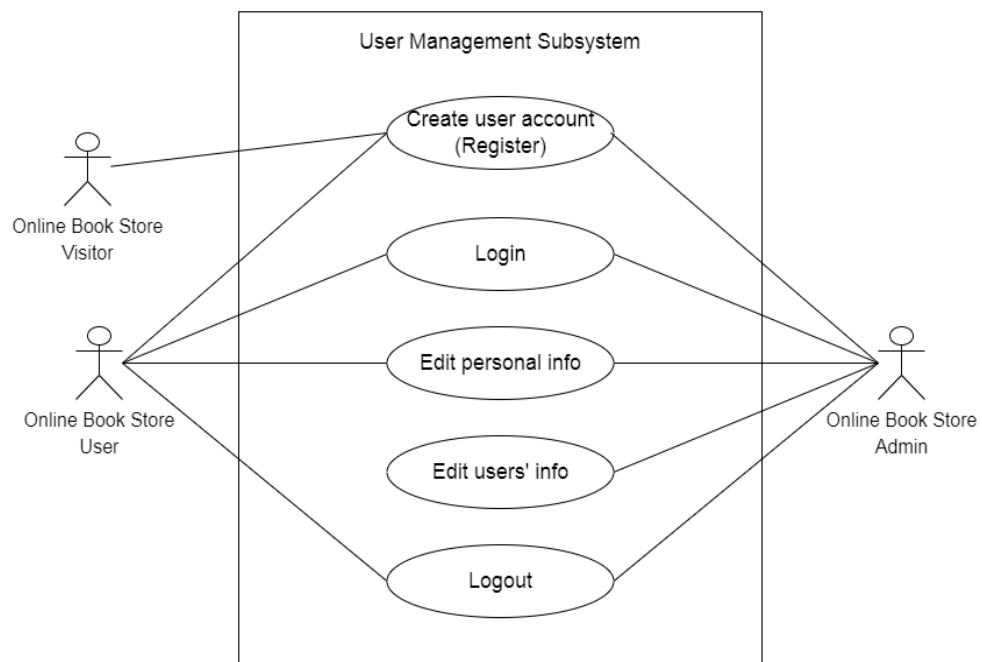


Diagram 15 : Use case diagram for User Management Subsystem

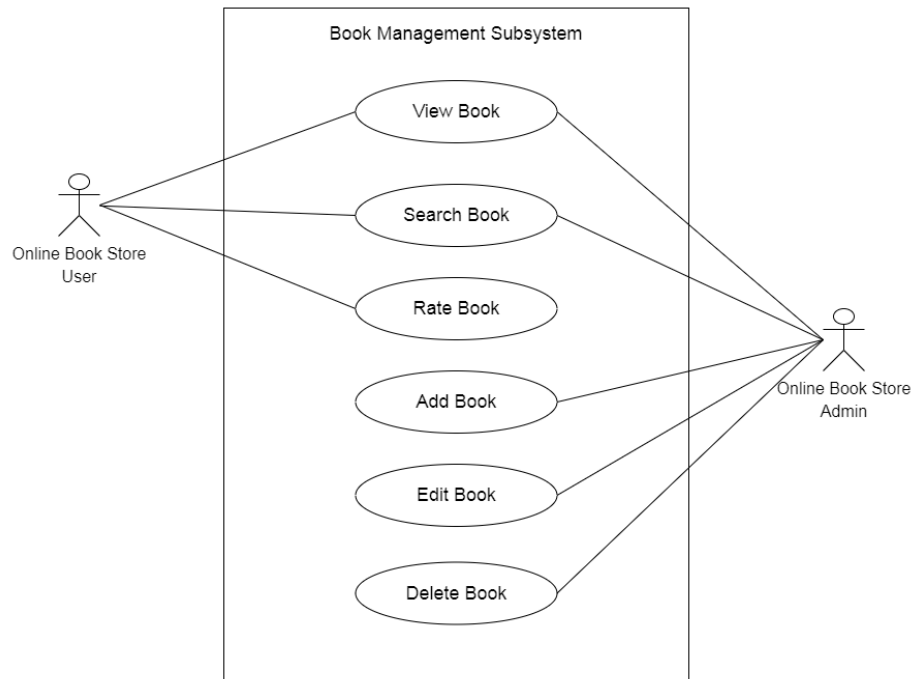


Diagram 16 : Use case diagram for Book Management Subsystem

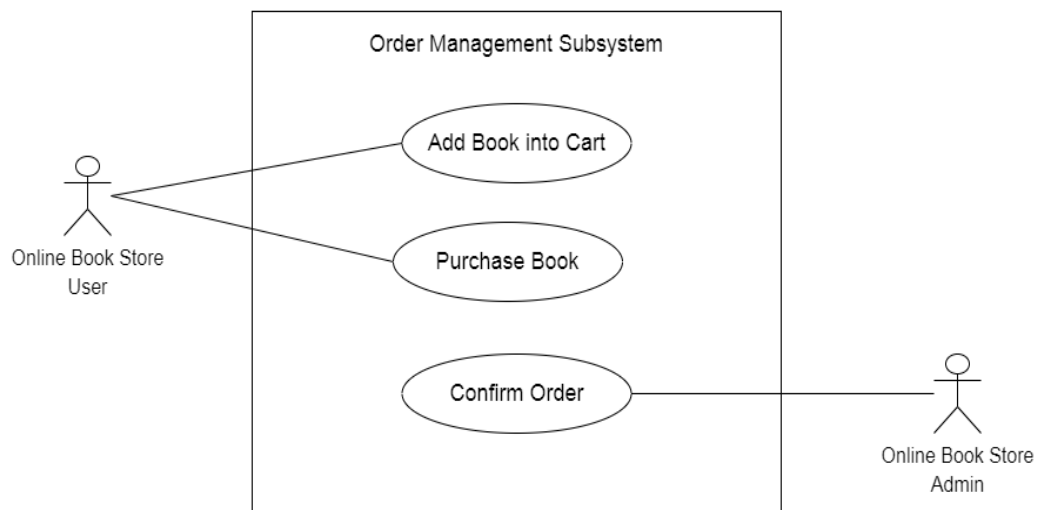
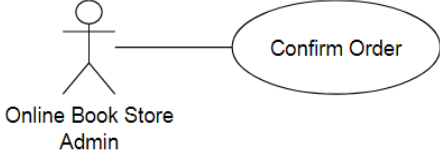


Diagram 17 : Use case diagram for Order Management Subsystem

3.4.2 Use Case Description

3.4.2.1 Use Case Description for Admin- Confirm Order

Table 7: Use Case Description for Admin- Confirm Order

 <pre>graph LR Actor[Online Book Store Admin] --- UseCase((Confirm Order))</pre> <p>The diagram shows a stick figure actor labeled 'Online Book Store Admin' connected by a line to an oval use case labeled 'Confirm Order'.</p>			
Use Case ID	UC014	Author	Tang Li Ping
Use Case Name	Confirm Order	Written Date	26/6/2022
Actor	Online Book Store Admin		
Description	A function for the admin to confirm orders made by the login user. Admin will confirm the order if that particular order has enough storage and payment was successfully received.		
Pre-condition	Online Book Store Admin has logged in [UC002]		

Basic Steps	<ol style="list-style-type: none"> 1. The app displays the header on the home page screen. 2. 'Order List' button is enabled. 3. Online Book Store admin clicks on the "Order List" button. 4. The list of order appears on the screen, confirmation button is displayed at the right hand side of order on the screen. 5. Admin clicks on the 'confirm' button. 6. A pop up is displayed and states that "Order is successfully confirmed."
Alternative Steps	N/A
Exception	<p>[EXC 4] No details appear on screen except the Error Page.</p> <p>1.1 Online Book Store admin has to log out and login back into the app. (If the problem still occurs, it might be a problem with internet access).</p>
Post Condition	Order status in 'Order List' (Admin view) and 'My Cart' (User view) will update from 'paid' to 'confirmed'.
Business Validation / Rules (constraint)	<p>Require Internet Access [CR001].</p> <p>All appointments must be confirmed by the admin. [CR007].</p>

3.4.2.1 Use Case Description for User – Add Book Into Cart

Table 8: Use Case Description for User – Add Book Into Cart

<p>The diagram shows a stick figure actor labeled 'Online Book Store User' connected by a line to an oval use case labeled 'Add Book Into Cart'.</p>			
Use Case ID	UC012	Author	Tang Li Ping
Use Case Name	Add Book Into Cart	Written Date	26/6/2022
Actor	Online Book Store User		
Description	A function for users to add books into their own shopping cart. Users can view the books in a list [FR006] and add a particular book into his/her own shopping cart.		
Pre-condition	Online Book Store User has created a User Account (Registered) [UC001]. Online Book Store User has logged in [UC002].		

Basic Steps	<ol style="list-style-type: none"> 1. The app displays the header on the home page screen. 2. 'Book' button is enabled. 3. Users click on the "Book" button. 4. The list of books appears on screen. 5. Users select a particular book they want to buy by clicking the 'Add to Cart' button on the right side. 6. The details of the book appear on screen. Users can select the quantity of books they want to purchase. 7. "Add" button is enabled on the bottom. 8. Users click the "Add" button. 9. A pop up is displayed and states that "Add successfully." 10. A new order record will appear in 'My Cart'. 11. Users will see the change of status when his /her order is confirmed.
Alternative Steps	<ol style="list-style-type: none"> 5. Users select a particular book they want to buy by clicking the 'Detail' button on the right side. 6. Detail of book will display, 'Add to Cart' button is enabled in the left hand side. 7. Users select a particular book they want to buy by clicking the 'Add to Cart' button on the right side.

Exception	<p>[EXC 4] No details appear on screen except the Error Page.</p> <p>1.1 Online Book Store users have to log out and login back into the app. (If the problem still occurs, it might be a problem with internet access).</p>
Post Condition	A new order record will appear in 'My Cart' (user view) and 'Order List' (admin view), the order status is 'pending'.
Business Validation / Rules (constraint)	<p>Require Internet Access [CR001].</p> <p>All appointments must be confirmed by the admin. [CR007].</p>

3.5 Structural (Classes/ Data) Requirements

3.5.1 Class Diagram

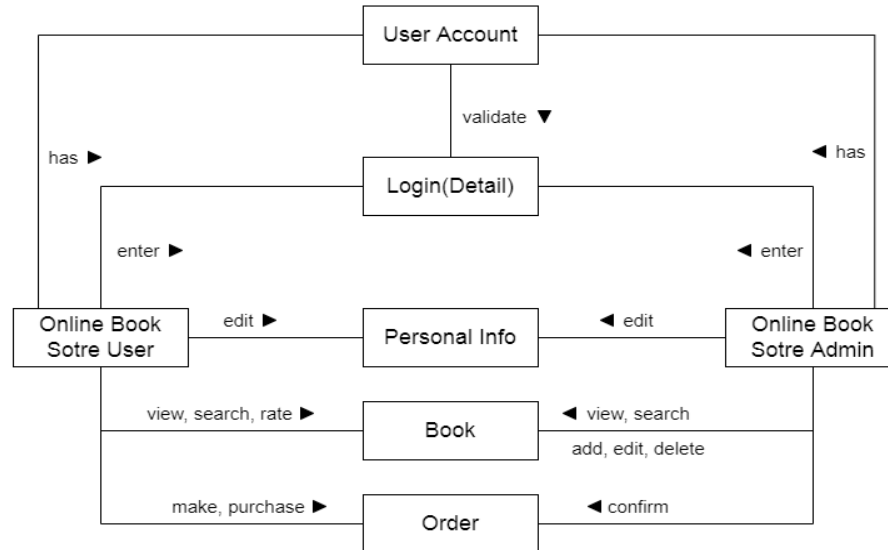


Diagram 18 : Class Diagram

3.5.2 Logical Database

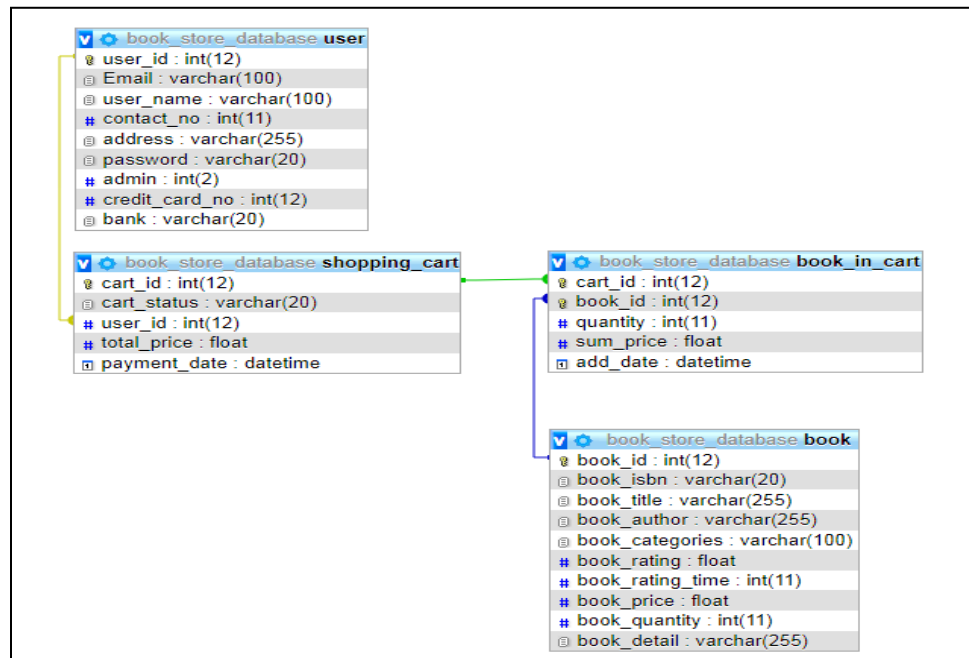


Diagram 19 : Logical database

3.6 Behavioral Requirements

3.6.1 Activity Diagram

3.6.1.1 Activity Diagram for Admin - Confirm Order

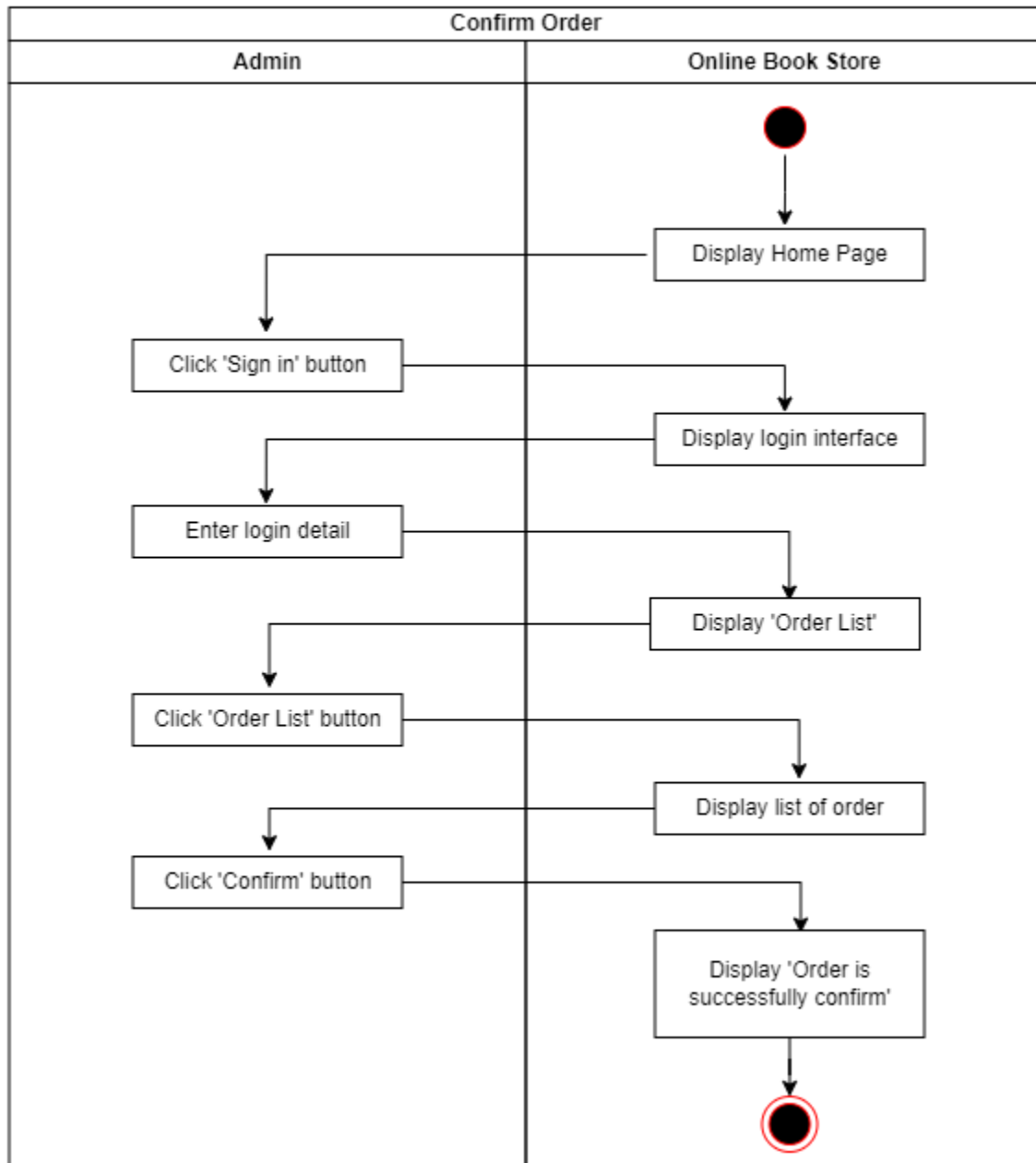


Diagram 20 : Activity Diagram for Admin- Confirm Order

3.6.1.2 Activity Diagram for User - Add Book Into Cart

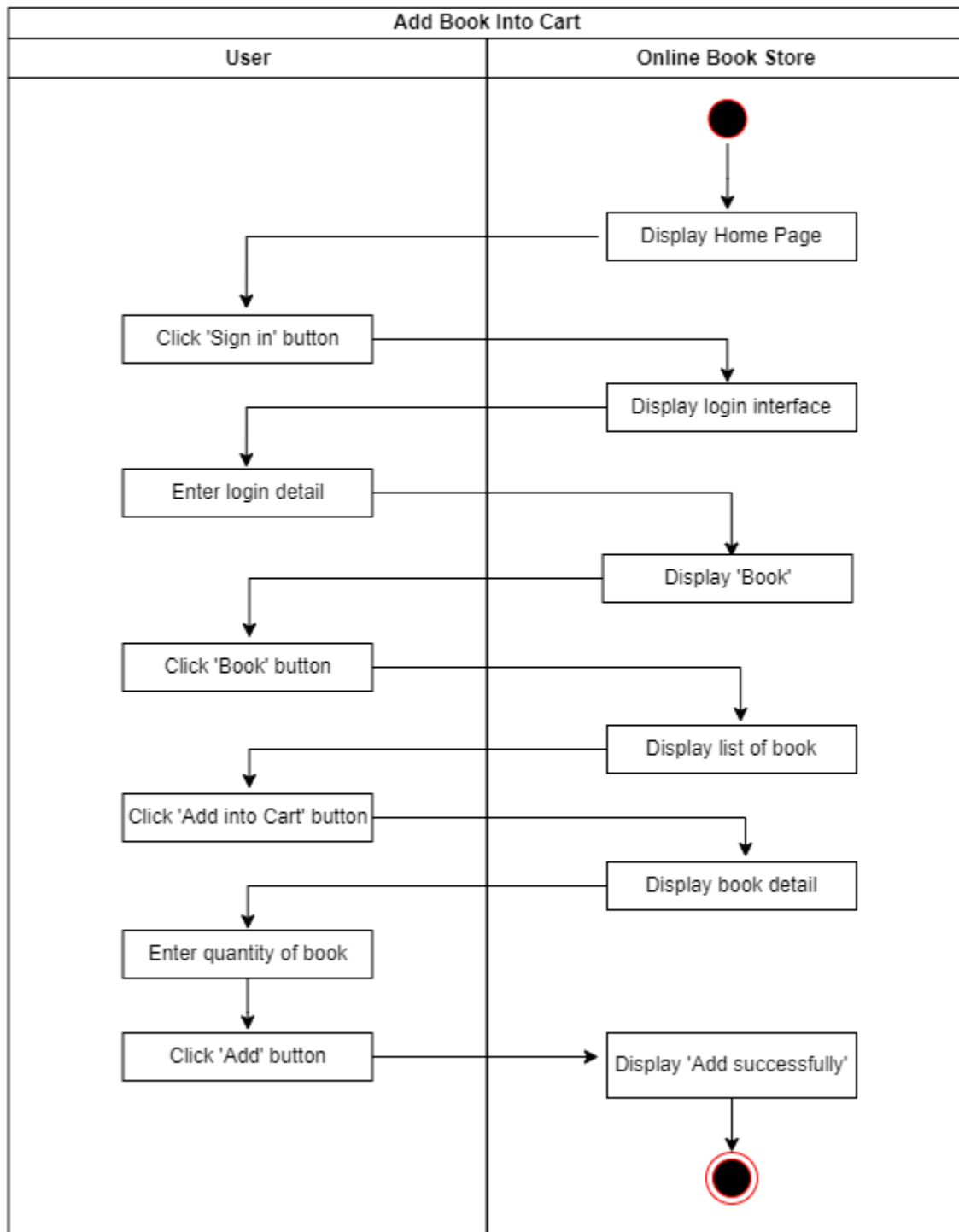


Diagram 21 : Activity Diagram for User- Add Book Into Cart

3.7 Design Constraints Requirements

3.7.1 Design Constraints

Table 9: Design Constraints Requirements for Online Book Store

CR_ID	Constraint Requirement	Related FR-ID
CR002	Online Book Store users must provide real credit card numbers, bank, address, and contact details.	FR001
CR003	Online Book Store users must remember their login details.	FR002
CR004	Online Book Store users must remember their old password if they want to change their password.	FR004
CR005	Online Book Store users must save after any update is made, or else data will be lost.	FR004
CR006	Online Book Store admin must edit or delete books if the record is incorrect or out-of-date.	FR009, FR010
CR007	All orders must be confirmed by the admin.	FR012, FR013

3.7.2 Inverse Constraints

Table 10: Inverse Constraints Requirements for Online Book Store

CR_ID	Constraint Requirement	Related FR-ID
CR008	Online Book Store admin can only view users' information; admin cannot edit others' profile.	FR005
CR009	After Online Book Store users make payment for a pending shopping cart, they cannot edit that shopping cart.	FR011
CR010	The quantity of books added into the shopping cart cannot be more than the quantity of the book.	FR011
CR011	Online Book Store admin cannot rate books and add books into cart, nor purchase books.	FR011, FR012, FR014

3.8 Quality Requirements

Table 11: Quality Requirements for Online Book Store

QR_ID	Quality Requirement	Related FR-ID
QR001	Easy to manage, prevent users from making errors.	FR001, FR004, FR011, FR012, FR014
QR002	Online Book Store web App should work all the time 24/7 with condition internet access is available.	FR001, FR002, FR003, FR006, FR007
QR003	All personal data in the Online Book Store web app is protected with password.	FR001, FR002, FR004