Use-Cases Model

for

Book Rental and Sales System

Version 1.6 approved.

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Group 7

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Revision History

Name	Date	Reason For Changes	Version
Trinh Thai Linh	16-Oct-23	Create Document Template	1.0
Trinh Thai Linh	16-Oct-23	Update Actors Specification	1.1
Trinh Thai Linh	17-Oct-23	Update Use Case *Sell Used Books, Update Books' Information, Manage Orders, read eBook, Register for a Rental Plan, Rent Books*	1.2
Pham Tung Duong	17-Oct-2023	Update Use Case Models	1.2
Do Tien Dung	17-Oct-2023	Update Use Case *Edit Profile, Search Books*	1.2
Le Quang Chinh	17-Oct-2023	Update Use Case *Add to Favorite, Ask Chat box, Create Forum, Request Refund*	1.2
Le Quang Chinh	18-Oct-23	Update Use Case *Manage Member Card*	1.3
Do Tien Dung	18-Oct-23	Update Use Case *Add to Cart, Check Book's Details*	1.3
Nguyen Hoang Anh Dung	18-Oct-23	Update Use Case *Register (Sign up), Login, Log out, Buy Book, Cancel Order*	1.4
Trinh Thai Linh	19-Oct-23	Update changes and update Use Case *Reset Password*	1.4
Le Quang Chinh	19-Oct-23	Update Use Case *Manage Posts and its Use Case Slices*	1.4
Pham Tung Duong	19-Oct-23	Update Domain Model and make changes to Use Case Models	1.4
Trinh Thai Linh	19-Oct-23	Finalize changes	1.5
Trinh Thai Linh	17-Nov-23	Change Document	1.6

1. Actors

1.1 Guest

Any person who visits this system is defined as a Guest. A Guest can do several tasks in this system but is limited from some functions such as Edit Profile, Use Member Card, Create Forum, Manage Order or Add books into a Favorite List. To be able to perform those tasks, a Guest has to Register to become a Member.

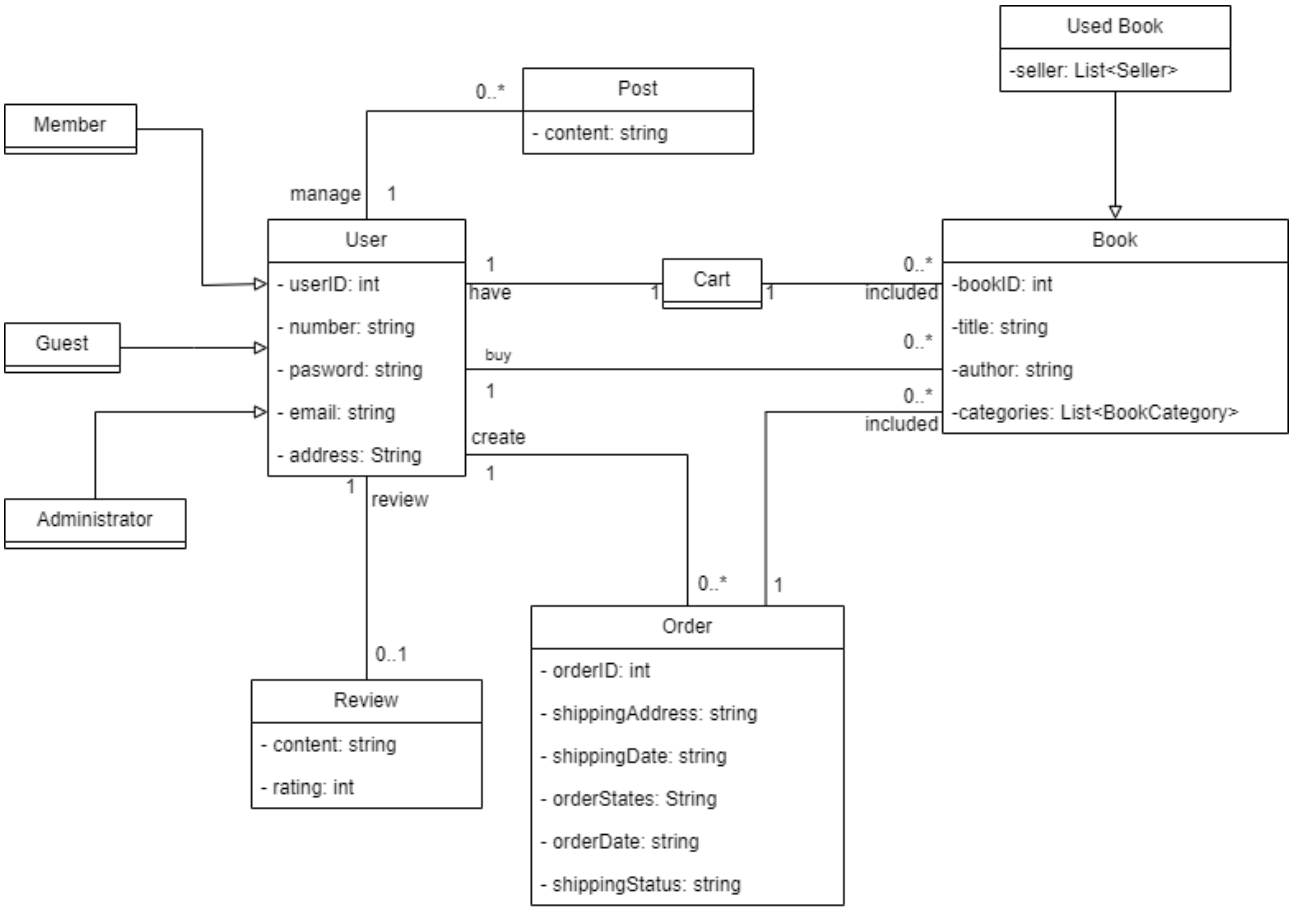
1.2 Member

A Guest who has successfully registered is defined as a Member.

1.3 Administrator

Administrator has responsibilities to manage all the members' registration and performs tasks that are related to business rules. In this project, Administrator can be viewed as the Bookstore's Staff or Owner.

2. Domain Model



3. Use Case Model

3.1 Use Case Model for Guest

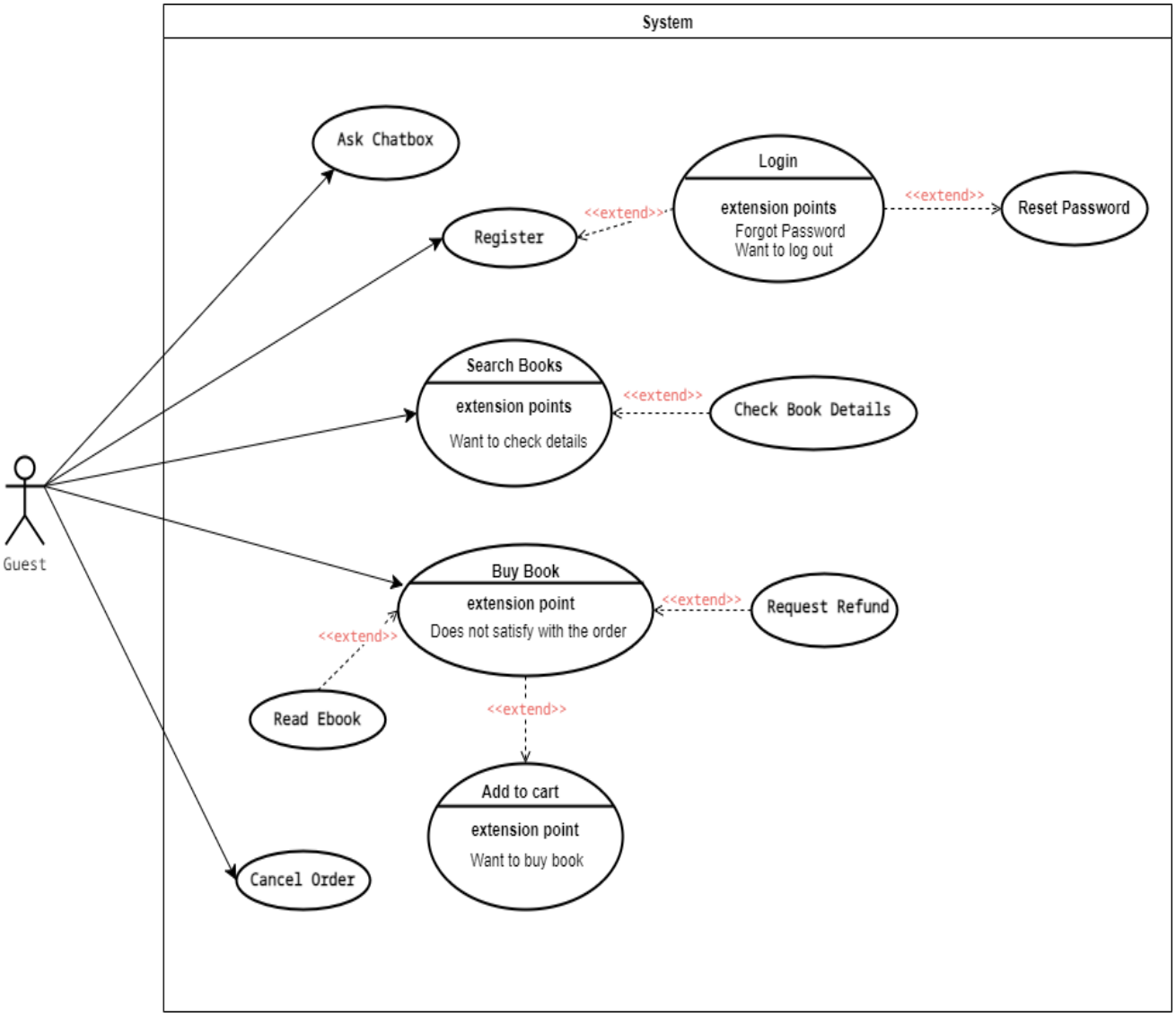


Figure 3-1: Use Case Model for Guest.

3.2 Use Case Model for Member

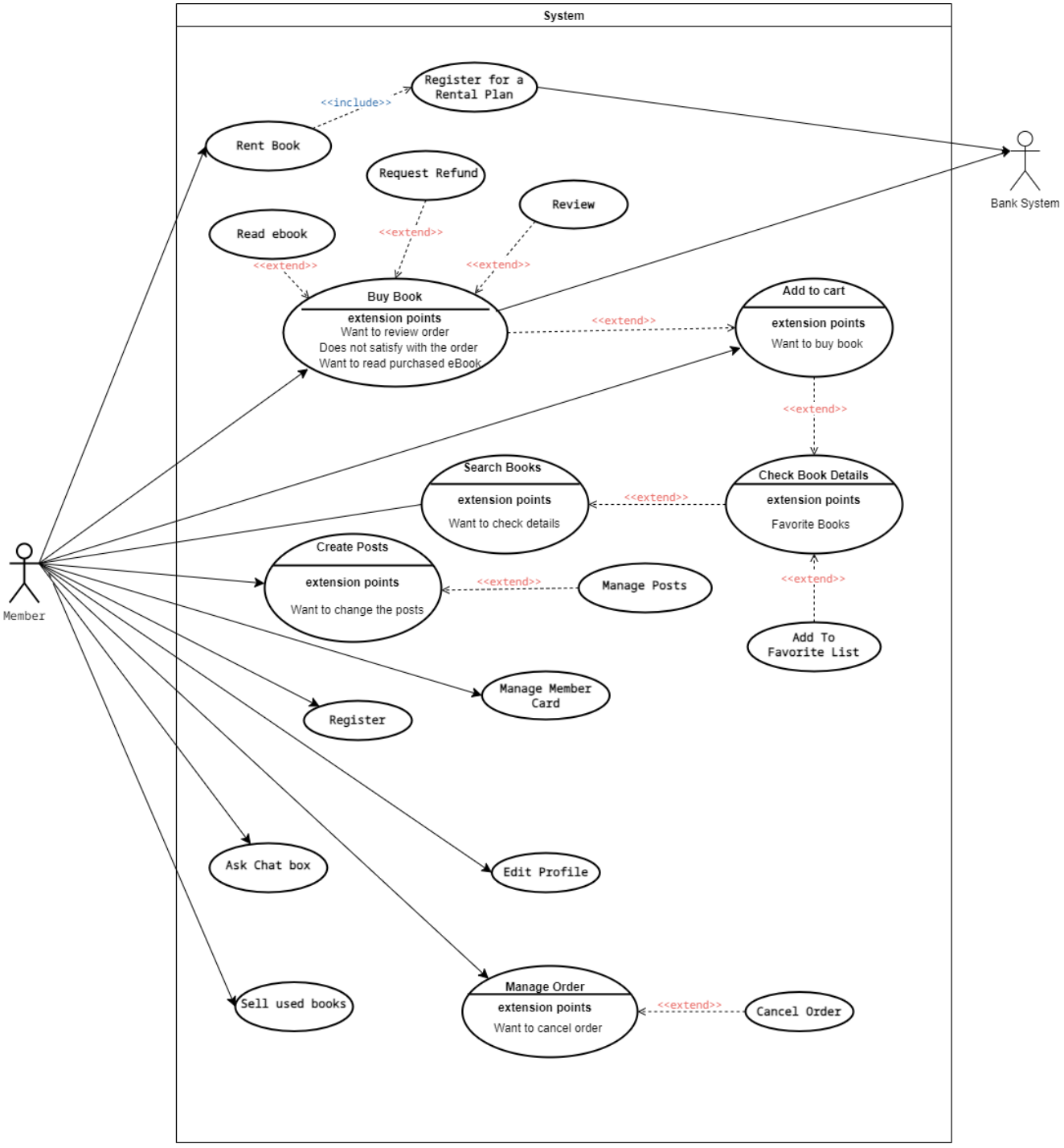


Figure 3-2: Use Case Model for Member.

3.3 Use Case Model for Administrator

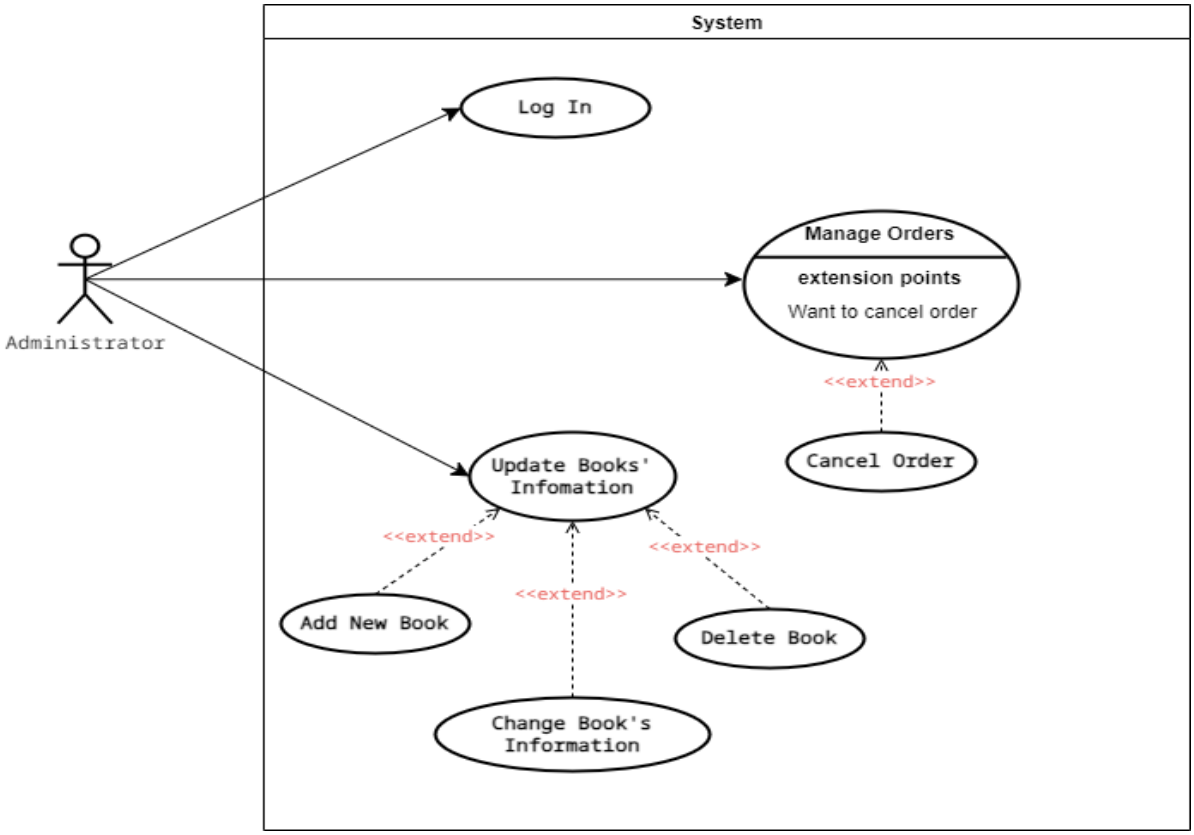


Figure 3-3: Use Case Model for Admin.

4. System Features (Use Cases)

Our Book Rental and Sales System has 20 main use-cases, 7 use-case slices and 3 actors.

4.1 Register (Sign-up)

4.1.1 Brief Description

The Use Case allows a Guest to create a new account to log in to the system.

4.1.2 Flow of Events

4.1.2.1 Basic Flow

1. The Guest visits the System.
2. The Guest chooses the sign-up option.
3. The System gives the Guest a form to fill in their information.
4. The System checks if the information is valid.
5. The system sends an OTP code (register by phone number) to the Guest to verify his information.
6. The Guest enters the code.
7. The System verifies the code, creates a new account, save the information in the User Database and logs the Guest in.

4.1.2.2 Alternative Flows

4.1.2.2.1 The information is invalid/is already exist on the System

- In the Basic Flow, if at the fourth step, the System checks that the information is not valid or is already exist on the System, the System returns a notification to the Guest and asks him to enter the form again.

4.1.2.2.2 The OTP Code reaches time limit/OTP code is unmatched.

- In the Basic Flow, if at the sixth step, the Guest has not yet filled in the OTP or the OTP code that the Guest filled in is unmatched with the one which the System sent him, the System will send a new OTP code and it is back to the fifth step.

4.1.3 Pre-Conditions

None.

4.1.4 Post-Conditions

None.

4.1.5 Extension Points

None.

4.2 Login

4.2.1 Brief Description

The Use Case allows a Member to log into the System with a phone number and a corresponding password in order to perform tasks on the System properly.

4.2.2 Flow of Events

4.2.2.1 Basic Flow

1. The Actor chooses the login option.
2. The System gives the Actor a form to fill in their phone number and password.
3. The System checks if the information is valid.
4. The System checks if the information is matched with the data in the User Database.
5. The System notifies the Actor that he has successfully logged in and displays the main page with the Actor logged in.

4.2.2.2 Alternative Flows

4.2.2.2.1 The information is invalid

- In the Basic Flow, if at step 4, the System checks that the information is invalid (wrong format,…), the System will send an alert to the Actor that he has filled in the invalid information and require the Actor to refill the form. The flow is back to step 3 in the Basic Flow.

4.2.2.2.2 No valid account in the User Database

- In the Basic Flow, if at step 5, the System checks that the phone number and the password is unmatched with any data in the User Database, the System will send a notification to the Actor to inform that there is no matching data to the phone number

and password. The System will also require the Actor to refill the login form. This flow is back to the third step in the Basic Flow.

4.2.3 Pre-Conditions

None.

4.2.4 Post-Conditions

None.

4.2.5 Extension Points

4.2.5.1 The Actor forgot password

- The Actor may forget his password and need to reset the password in order to continue login process.
- This extension point leads to the Use Case *Reset Password.*

4.3 Reset Password

4.3.1 Brief Description

This Use Case allows a Member to reset his password in case he forgets the password and cannot log in. The Actor of this Use Case is a Member.

4.3.2 Flow of Events

4.3.2.1 Basic Flow

1. The Actor chooses the “Forgot Password” button.
2. The System redirects the Actor to the page for resetting password.
3. The System asks for the Actor’s phone number.
4. The Actor types in his phone number that he used to register for the System.

5. The System checks if the phone number is valid.
6. The System sends an OTP code to the Actor's phone number and asks the Actor to fill in the code.
7. The Actor types in the code.
8. The System checks if the code typed in is matched with the code that was sent before.
9. The System displays a form for the Actor to change password.
10. The Actor fills in the form.
11. The System validates the password and notifies that the Actor has successfully changed his password.

4.3.2.2 Alternative Flow

4.3.2.2.1 The phone number is invalid

- If in the Basic Flow, at step 5, the System checks that the phone number is not matched with any data in the User Database, the System will notify the Actor and require the Actor to type in another phone number.

4.3.2.2.2 The OTP typed in is not matched with the sent OTP

- If in the Basic Flow, at step 8, the code that the Actor types in does not match the sent OTP from the System, the System will notify the Actor and ask if the Actor wants to re-send the OTP code.
    - If the Actor chooses "Yes": the flow is back to step 6.
    - If the Actor chooses "No": the System discards the notification and displays the original reset password form.

4.3.2.2.3 The new password is invalid

- If in the Basic Flow, at step 11, the System checks that the password is invalid (wrong format, does not match with the re-type password,…), the System will send

the Actor a notification to inform him that he has to refill the reset password form. The flow is back to step 9 in the Basic Flow.

4.3.3 Special Requirements

None.

4.3.4 Pre-Condition

None.

4.3.5 Post-Condition

The password is changed and the System updates it in the User Database.

4.3.6 Extension Points

None.

4.4 Log out

4.4.1 Brief Description

The Use Case allows the user to log out from their account.

4.4.2 Flow of Events

4.4.2.1 Basic Flow

1. The Actor chooses the log out option.
2. The system asks for their confirmation.
3. The Actor confirms their choice, and the account is logged out.
4. The system redirected the user to the main page.

4.4.2.2 Alternative Flows

4.4.2.2.1 The Actor chooses not to log out

- If in the Basic Flow, at step 3, the Actor chooses “No”, the System’s state stays the same and display the original User Interface before this use case is activated.

4.4.3 Special Requirements

None.

4.4.4 Pre-Conditions

The Actor has successfully logged in.

4.4.5 Post-Conditions

The System displays the User Interface for Guest. The System’s state is logged out.

4.4.6 Extension Points

None.

4.5 Edit Profile

4.5.1 Brief Description

This Use Case allows a Member to edit his own profile on the System.

4.5.2 Flow of Events

4.5.2.1 Basic Flow

1. In the main page, the Actor chooses on the button that navigates to the edit profile page.
2. The System renders a form that contains inputs boxes for the Actor to fill.

3. The Actor changes the data fields and chooses “Save”.
4. The System sends a notification that the Actor has changed his information successfully.

4.5.2.2 Alternative Flow

None.

4.5.3 Special Requirements

None.

4.5.4 Pre-Condition

The Actor must log in first.

4.5.5 Post-Conditions

The System records and saves the changes to the User Database. The Actor now can view his new information in his profile.

4.5.6 Extension Points

None.

4.6 Check Book’s Details

4.6.1 Brief Description

This Use Case that allows a Member to view detailed information of a book listed in the system.

4.6.2 Flow of Events

4.6.2.1 Basic Flow

1. The Actor accesses the system or app and navigates to the book catalog or searching functionality.
2. The Actor selects a specific book they are interested in.
3. The System retrieves and displays detailed information of the selected book.

4.6.2.2 Alternative Flows

None.

4.6.3 Special Requirements

None.

4.6.4 Pre-Conditions

None.

4.6.5 Post-Conditions

None.

4.6.6 Extension Points

4.6.6.1 Add to Favorite List

- After checking the details of the book, the Actor may want to add this book to his Favorite Book List.
- This extension point leads to Use Case *Add to Favorite List*.

4.6.6.2 Add to Cart

- After check the details of the book, the Actor may want to add this book to his cart.
- This extension point leads to Use Case *Add to Cart.*

4.7 Search Books

4.7.1 Brief Description

This Use Case allows a Member to use searching functions to check if the book he wants to buy/rent is exist.

4.7.2 Flow of Events

4.7.2.1 Basic Flow

1. The Actor can choose one of two search methods:
    1.1. Search in the search bar: The Actor enters the keyword for the book they want to search for in the search bar.
    1.2. Choose from the suggested list: The Actor selects one of the suggested keywords related to the book he wants to find displayed in the list.
2. The system displays the corresponding search results.dea

4.7.3 Alternative Flows

None.

4.7.4 Special Requirements

None.

4.7.5 Pre condition

None.

4.7.6 Post condition

None.

4.7.7 Extension point

4.7.7.1 Check Book Details.

- If the Actor found the book that he searched for and wants to check its details
- This extension point leads to the Use Case *Check Book Details.*

4.8 Add Books to Favorite List

4.8.1 Brief Description

This use case allows a Member to add the chosen book to the member's library as a favorite book.

4.8.2 Flow of Events

4.8.2.1 Basic Flow

1. The Member chooses a book to view details/views a book on the User Interface.
2. The Member chooses "*Add to favorite".*
3. The System checks if the book is in the library.
4. The System adds the book to member's favorite list.
5. The System sends a notification to the Member notifying that he has successfully added the book to the library.

4.8.3 Alternative Flows

4.8.3.1 The book is already in the list

- In the Basic Flow, at the third step, if the System checks and notices that the book has already in the Actor's Library, this book will not be added to the list.
- The System sends a notification to the Member notifying that he has already added the book to the library.

4.8.4 Special Requirements

4.8.5 Pre-Conditions

The member is logged in.

4.8.6 Post-Conditions

If this Use Case is successful with the Basic Flow, the book is added to the Actor's Library as his favorite book. The System updates these changes to the database. Otherwise, the System's state is unchanged.

4.8.7 Extension Points

None.

4.9 Add to Cart

4.9.1 Brief Description

This Use Case allows a Member to choose a product and add it to cart.

4.9.2 Flow of Events

4.9.2.1 Basic Flow

1. The Actor selects a product and view its details.
2. The Actor chooses the product's category and the quantity he wants to purchase.
3. The Actor chooses "Add to Cart".
4. The System checks the corresponding product category and quantity left in stock.
5. The Actor selects "Add to cart".

6. System saves and add the product into user's cart.

4.9.2.2 Alternative Flows

4.9.2.2.1 The product is out of stock

- In the Basic Flow, at step 4, if the System has checked and noticed that the quantity of this product which the Actor is selecting is more than the quantity of this product left in stock, the System will inform the Actor that the product is out of stock and that the Actor can only choose the quantity that equals to the quantity left in stock. The flow is back to step 2.

4.9.2.2.2 The Actor selects "Purchase"

- In the Basic Flow, at step 5, if the Actor chooses to purchase the book instead of adding the book to cart, the Actor will be navigated to the "Buy Book" Use Case.

4.9.3 Pre condition

None.

4.9.4 Post condition

If this Use Case is successful, the product is added to the Member's Cart.

4.9.5 Extension point

4.9.5.1 The Actor want to buy the product after adding it to cart

- After adding the product to cart, the Actor may want to buy it.
- This extension point leads to the Use Case *Buy Book.*

4.10 View Member Card

4.10.1 Brief Description

Each Member will have a Member Card to claim discounts, gifts and earn special offers through a point program. Member Card is also used to rank your answers in forum posts and show your contribution to the forum. This Use Case describes how a Member manage his Member Card.

4.10.2 Flow of Events

4.10.2.1 Basic Flow

1. The member opens account settings.
2. The member chooses “View Member Card”.
3. The system displays information of the card.

4.10.2.2 Alternative Flows

4.10.3 Special Requirements

None.

4.10.4 Pre-Conditions

The member must successfully register for an account.

4.10.5 Post-Conditions

None.

4.10.6 Extension Points

None.

4.11 Buy Books

4.11.1 Brief Description

The Use Case allows a Member to make purchases for selected book(s).

4.11.2 Flow of Events

4.11.2.1 Basic Flow

1. The Member chooses the “Buy” option. This option is available with both of the book’s details view, and in the Actor’s shopping cart.
2. The System navigates the Member to the purchasing User Interface which includes all of the Member’s information for shipping and the information of the books.
3. The Member here confirms all the information, adds vouchers to the order if he has any.
4. The System calculates the final price that the Member has to pay to proceed this order and displays it on the User Interface.
5. The Member confirms the price and chooses a payment method.
6. The System redirects the Member to the payment page or to the application that is responsible for the payment method (digital wallet, internet banking application,…).
7. The Member pays for the order.
8. The System notifies the Member that the purchase is successful.

4.11.2.2 Alternative Flows

4.11.2.2.1 The current payment method is not available right now, which leads to the transaction failing

- At the 4th step of the Basic Flow, The System will ask for a new payment method, else the purchase will be canceled.

4.11.2.2.2 The Actor buys an eBook

- At the 8th step of the Basic Flow, if the books in the order are eBook, the eBook will immediately be added to the Actor's Library after the payment and the order's state is updated to "Successfully delivered".

4.11.3 Special Requirements

None.

4.11.4 Pre-Conditions

None.

4.11.5 Post-Conditions

The order's state is changed to "In transit".

4.11.6 Extension Points

4.11.6.1 The Actor wants to read eBook

- After purchasing an eBook, the Actor may want to read the eBook that he just bought.
- This extension point leads to the Use Case *Read eBook.*

4.11.6.2 The Actor wants to Review the order

- After the order is successfully delivered, the Actor may want to give feedbacks about the books that he just bought.
- This extension point leads to the Use Case *Review Order.*

4.11.6.3 The Actor is not satisfied with the order

- After the order is successfully delivered, the Actor may not be satisfied with the order for several reasons. In this case, the Actor can request to be refunded and can send back the books in the order.
- This extension point leads to the Use Case *Request Refund.*

4.12 Review Order

4.12.1 Brief Description

A Member can choose to provide feedback on the quality of the product or the quality of the order fulfillment process after completing an order on the system.

4.12.2 Flow of Events

4.12.2.1 Basic Flow

1. After the Actor confirming that he has received the order, the Actor chooses on the "Add Review" section.
2. The System sends a assessment form that contains the order information and input boxes to the Actor to fill in.
3. The Actor fills in the form.
4. The Actor chooses “Submit”.
5. The system check if the form is valid.
6. The System displays the review immediately after the submission.

4.12.2.2 Alternative Flows

4.12.2.2.1 The form is invalid

- If in the Basic Flow, at step 6, the System checked that the required fields have not been filled or the inputs are not valid, the System will send a notification to the Actor to inform him that the form is invalid and request him to re-fill the form. The flow is back to step 3.

4.12.3 Special Requirements

None.

4.12.4 Pre condition

The order's state is "Successfully Delivered".

4.12.5 Post condition

The review is posted on the System and it can now be viewed by other Guests or Members.

4.13 Request Refund

4.13.1 Brief Description

This Use Case allows a Member to send a Refund Request to the Administrator.

4.13.2 Flow of Events

4.13.2.1 Basic Flow

1. The Member opens orders history.
2. The System shows list of the Member's orders.
3. The Member chooses an order.
4. The System shows the selected order's information.
5. The Member chooses "Request refund".
6. The System asks for information and proof/reason to refund this order.
7. The Member provides his proof and fill in the reason.
8. The System verifies the request and sends to the Administrator.
9. The System updates the order's state in the Order Database to "Request Refund".
10. The Administrator reviews the request and chooses to approve the request.
11. The System notifies the Member that his request has been accepted.

4.13.2.2 Alternative Flows

4.13.2.2.1 System verification returns fail

1. In the Basic Flow, at step 8, if the System verification returns fail, a notification will be sent to the Member and the request is declined.

4.13.3 Special Requirements

4.13.4 Pre-Conditions

The order's state is "Successfully Delivered" and the order is still in the refund time limit.

4.13.5 Post-Conditions

The order's state in the Order Database is changed and the Administrator receives the Refund Request.

4.13.6 Extension Points

None.

4.14 Read eBook

4.14.1 Brief Description

This Use Case allows a Buyer to read books online from his own library after he has purchased or chosen to rent any book. The Actor in this Use Case is a Buyer.

4.14.2 Flow of Events

4.14.2.1 Basic Flow

1. The Buyer chooses on his Library.
2. The System shows the list of the Buyer's purchased or rented books.

3. The Buyer chooses on the book he wants to read.
4. The System shows the Table of Contents of the book and sends a message to ask which chapter the Buyer wants to read.
5. The Buyer chooses the chapter he wants to read.
6. The System displays contents of the selected chapter.

4.14.2.2 Alternative Flows

None.

4.14.3 Special Requirements

None.

4.14.4 Pre-Conditions

The Buyer must buy or rent the book he wants to read before he chooses to read this book online.

4.14.5 Post-Conditions

None.

4.14.6 Extension Points

None.

4.15 Create Post on a Forum

4.15.1 Brief Description

When Member is interested in a topic, a book, he can open a forum to share his thoughts and discusses with other Members. The Actor in this use case is a Member.

4.15.2 Flow of Events

4.15.2.1 Basic Flow

1. The Member opens the forum tab.
2. The system shows list of recent posts and a navigator.
3. The Member chooses to create a post.
4. The System sends a form to the Member to fill in all the post's information.
5. The Member fills in the form.
6. The Member submits the form.
7. The system verifies if the form is valid and creates a new forum.

4.15.2.2 Alternative Flows

None.

4.15.3 Special Requirements

None.

4.15.4 Pre-conditions

None.

4.15.5 Post-conditions

None.

4.16 Manage Posts

4.16.1 Edit a Discussion Post

4.16.1.1 Brief Description

This Use Case allows a Member to update their created posts on the forum.

4.16.1.2 Flow of events

4.16.1.2.1 Basic Flow

1. The Member opens the forum tab.
2. The System shows a list of recent posts and a navigator.
3. The Member chooses on “My posts” tab.
4. The System displays all the Member’s posts.
5. The Member chooses on the post they want to edit.
6. The System displays an option menu.
7. The Member chooses to edit post.
8. The System sends the form that contains all of the fields required for the post’s information.
9. The Member makes changes and submits.
10. The System updates the changes to the Databases and displays the post with new contents after changes.

4.16.1.2.2 Alternative Flow

4.16.1.2.2.1 The Member cancels the edit process

- In the Basic Flow, at any step, if the Member choose “Cancel”, the System will discard the changes and return to the original state.

4.16.1.3 Special Requirements

None.

4.16.1.4 Pre-conditions

The Actor has logged in.

4.16.1.5 Post-conditions

The post data is updated in the Databases.

4.16.1.6 Extension points

None.

4.16.2 Delete a Discussion Post

4.16.2.1 Brief Description

This Use Case allows a Member to delete their posts on the forum.

4.16.2.2 Flow of events

4.16.2.2.1 Basic Flow

1. The Member opens the forum tab.
2. The System shows a list of recent posts and a navigator.
3. The Member chooses on “My posts” tab.
4. The System displays all the Member’s posts.
5. The Member chooses on the post they want to delete.
6. The System displays an option menu.
7. The Member chooses to delete post.
8. The System asks for confirmation.
9. The Member confirms that he wants to delete the post.
10. The System updates the changes to the Databases and notifies the Member that he has successfully deleted the post.

4.16.2.2.2 Alternative Flow

4.16.2.2.2.1 The Member confirms that he do not want to delete the post

- In the Basic Flow, at the nineth step, if the Member choose “No”, the System will discard the changes and return to the original state.

4.16.2.3 Special Requirements

None.

4.16.2.4 Pre-conditions

The Actor has logged in.

4.16.2.5 Post-conditions

The post data is updated in the Databases.

4.16.2.6 Extension points

None.

4.16.3 Close a Discussion Post

4.16.3.1 Brief Description

This Use Case allows a Member to close their posts on the forum.

4.16.3.2 Flow of events

4.16.3.2.1 Basic Flow

1. The Member opens the forum tab.
2. The System shows a list of recent posts and a navigator.
3. The Member chooses on “My posts” tab.
4. The System displays all the Member’s posts.
5. The Member chooses on the post they want to close.
6. The System displays an option menu.
7. The Member chooses to close post.
8. The System asks for confirmation.
9. The Member confirms that he wants to close the post.
10. The System updates the changes to the Databases and notifies the Member that he has successfully closed the post.

4.16.3.2.2 Alternative Flow

4.16.3.2.2.1 The Member chooses not to close the post

- In the Basic Flow, at the 9th step, if the Member choose “Cancel”, the System will discard the changes and return to the original state.

4.16.3.3 Special Requirements

None.

4.16.3.4 Pre-conditions

The Actor has logged in.

4.16.3.5 Post-conditions

The post data is updated in the Databases.

4.16.3.6 Extension points

None.

4.16.4 Add a Comment to a post

4.16.4.1 Brief Description

This Use Case allows a Member to close their posts on the forum.

4.16.4.2 Flow of events

4.16.4.2.1 Basic Flow

1. The Member opens the forum tab.
2. The System shows a list of recent posts and a navigator.
3. The member chooses a post.
4. The system displays the post's contents.
5. The member chooses to add a new comment or reply to a comment.
6. The System displays the input text box.
7. The Member types in the comment and choose "Send".
8. The system adds the comment to the discussion post database and displays it on the User Interface.

4.16.4.2.2 Alternative Flow

None.

4.16.4.3 Special Requirements

None.

4.16.4.4 Pre-conditions

The Actor has logged in.

4.16.4.5 Post-conditions

The post data is updated in the Databases and a new comment is added.

4.16.4.6 Extension points

None.

4.17 Rent Books

4.17.1 Brief Description

This Use Case allows the Buyer to rent books on the System. Actor for this Use Case is a Buyer.

4.17.2 Flow of Events

4.17.2.1 Basic Flow

1. The Buyer chooses on a book that captured his interest.
2. The System displays the book's information.
3. The Buyer chooses "Rent this book".
4. The System receives the Buyer's request and checks if this Buyer has joined the rental plan.
5. The System displays the information of the rental book and send confirmation message.
6. The Buyer choose "Rent this book".
7. The System adds the rented book to the user's library and update the User Database that this user has rented this book.
8. The System sends the Buyer a successful notification and shows Read eBook User Interface of this book.

4.17.2.2 Alternative Flows

4.17.2.2.1 The Buyer has not joined the monthly-rental plan

- In the Basic Flow, at the fourth step, if the System checks that this Buyer has not joined a monthly-rental plan, the System will notify the Buyer that he has not joined any rental plan.

- The System will also ask the Buyer if he wants to join a rental-plan.
    - If the Buyer choose "Yes", the Use Case *Register for a Rental Plan* is activated.
    - If the Buyer choose "No", the System is back to its original state before this Use Case is activated.

4.17.3 Special Requirements

None.

4.17.4 *Pre-Conditions*

The Actor must login as a Buyer.

4.17.5 Post-Conditions

If this Use Case is successful, the book will be added to User Databases as a Buyer's rented book. Otherwise, the system state is unchanged.

4.17.6 Extension Points

4.17.6.1 Read eBook

- After this Use Case is successful, the Buyer can choose to read eBook.
- This extension point lead to the Use Case *Read eBook.*

4.18 Register for a Rental Plan

4.18.1 Brief Description

This Use Case allows the Buyer join a Rental Plan on the System. Currently, this System is only provide a Monthly-Plan. Actor for this Use Case is a Buyer.

4.18.2 Flow of Events

4.18.2.1 Basic Flow

1. The Buyer chooses “Join a Rental Plan”.
2. The System displays the information of the rental plan.
3. The Buyer chooses “Join this Rental Plan”.
4. The System receives the Buyer’s request and checks if this Buyer has joined the rental plan.
5. The System displays the form of payment with the Buyer’s information.
6. The Buyer confirms the form that it contains his correct information and chooses a payment method.

   6.1. The Buyer chooses to pay with a digital wallet/credit cards.

   6.2. The Buyer chooses to pay with his bank account/debit cards.
7. The System redirects the Buyer to the payment User Interface of the internet banking application/digital wallet.
8. The Buyer pays for the plan.
9. The System notifies the Buyer that he has successfully joined the plan.

4.18.2.2 Alternative Flows

4.18.2.2.1 The Buyer has already joined the monthly-rental plan

- In the Basic Flow, at the fourth step, if the System checks that this Buyer has already joined a monthly-rental plan, the System will notify the Buyer that he has already joined any rental plan.

4.18.3 Special Requirements

None.

4.18.4 *Pre-Conditions*

The Actor must login as a Buyer.

4.18.5 Post-Conditions

If this Use Case is successful, the book will be added to User Databases as a Buyer's rented book. Otherwise, the system state is unchanged.

4.18.6 Extension Points

4.18.6.1 Read eBook

- After this Use Case is successful, the Buyer can choose to read eBook.
- This extension point lead to the Use Case *Read eBook.*

4.19 Ask Chat box

4.19.1 Brief Description

This Use Case allows Member and Guest to chat with the Administrator. The Actor in this Use Case is Member and Guest.

4.19.2 Flow of Events

4.19.2.1 Basic Flow

1. A Member or Guest chooses on the chat box icon.
2. The System opens the chatting tab.

4.19.2.2 Alternative Flows

None.

4.19.3 Special Requirements

None.

4.19.4 Pre-Conditions

None.

4.19.5 Post-Conditions

None.

4.19.6 Extension Points

None.

4.20 Mange Orders (for Buyer)

4.20.1 Brief Description

This Use Case allows a Member to keep track of his orders. Actor for this Use Case is a Member, in this Use Case, the Member who made an order is referred to as a Buyer.

4.20.2 Flow of Events

4.20.2.1 Basic Flow

1. The Buyer chooses the button “Orders”.
2. The System received the Buyer’s request and display the list of orders including both accepted and new orders.
3. The Buyer chooses on an order.
4. The System retrieves and shows all the information (including shipping information if that order is accepted) of the selected order.

5. The Buyer now can see all the information (including shipping information if that order is accepted) of the selected order.

4.20.3 Special Requirements

None.

4.20.4 ***Pre-Conditions***

The Actor must login as a Member.

4.20.5 Post-Conditions

None.

4.20.6 Extension Points

4.20.6.1 Cancel Order

- When viewing the selected accepted order, the Buyer can choose to cancel the order if it has not been given to the delivery service.
- This extension point lead to the Use Case *Cancel Order.*

4.21 Manage Orders (for Administrator)

4.21.1 Brief Description

This Use Case allows the Administrator to keep track of orders. Actor for this Use Case is the Administrator.

4.21.2 Flow of Events

4.21.2.1 Basic Flow

1. The Administrator chooses the button “Orders”.
2. The System received the Administrator’s request and display the list of orders.
3. The Administrator chooses on an order.
4. The System retrieves and shows all the information (including shipping information) of the selected order.
5. The Administrator now can see all the information (including shipping information) of the selected order.

4.21.3 Special Requirements

None.

4.21.4 Pre-Conditions

The Actor must login as a Administrator.

4.21.5 Post-Conditions

None.

4.21.6 Extension Points

4.21.6.1 Cancel Order

- When viewing the selected accepted order, the Administrator can choose to cancel the order if it has not been given to the delivery service.
- This extension point lead to the Use Case *Cancel Order.*

4.22 Cancel Order

4.22.1 Brief Description

The Use Case allows a Member to cancel an order.

4.22.2 Flow of Events

4.22.2.1 Basic Flow

1. The Actor chooses to view his orders.
2. The System displays a list of the orders.
3. The Actor chooses on one of the orders which he wants to cancel.
4. The System shows the details of the order.
5. The Actor chooses “Cancel Order”.
6. The System displays a form for the Actor to fill in the reason he wants to cancel this order.
7. The Actor fills in the form and submits.
8. The System changes the status of the order to “Cancelled” and notifies the Actor that he has successfully cancelled the order.

4.22.2.2 Alternative Flows

None.

4.22.3 Special Requirements

None.

4.22.4 Pre-Conditions

The order has not been handed over to the Delivery.

4.22.5 Post-Conditions

The System changes the status of the order in the Order Database if the Basic Flow of this Use Case is successful.

4.22.6 Extension Points

None.

4.23 Update Books' Information

This Use Case is specified for the Administrator and is sliced into 3 Use Case Slices: Add New Book, Change Book's Information and Delete Book.

4.23.1 Add New Book

4.23.1.1 Brief Description

This Use Case allows the Administrator to add a new book on the System and sell it online. Actor for this Use Case is the Administrator.

4.23.1.2 Flow of Events

4.23.1.2.1 Basic Flow

1. The Administrator chooses the button "Add New Book".
2. The System received the Administrator's request and gives a form that contains input boxes for Book's Information to the Administrator to fill.
3. The Administrator fills the form with all the necessary information of the book he wants to sell and choose "Add New Book".
4. The System checks if this form is valid or not.
5. The System saves the new book in Book Database, sends successful notification to the Actor and now the book can be viewed on the display by this Seller, Guest and other Members.

4.23.1.2.2 Alternative Flows

4.23.1.2.2.1 The Administrator choose "Cancel"

- In the Basic Flow, at any steps except for the first and before the fourth step, if the Administrator chooses "Cancel", the System will discard the form and be back to the original state before this Use Case was activated.

4.23.1.2.2.2 The form is not valid

- At the fourth step of the Basic Flow, if the System checks and detects input field(s) which is not valid (the box(es) was left blank, the texts were not in right format,…), the System will send the Administrator a notification that he has to re-fill/fill that input field to make it valid.
- If after re-filling the form, the form is checked and confirmed as valid, it will continue as the Basic Flow from step 4. Otherwise, the System continues to notify (as a loop) the errors until the Administrator chooses "Cancel" or put in valid information.

4.23.1.3 Special Requirements

None.

4.23.1.4 Pre-Conditions

The Actor must login as a Administrator.

4.23.1.5 Post-Conditions

If the Use Case is successful, a new book is created and added to the Book Database. This book can now be viewed by Guest or other Members on the User Interface.

4.23.1.6 Extension Points

None.

4.23.2 Change Book's Information

4.23.2.1 Brief Description

This Use Case allows the Administrator to change a book's information on the System. Actor for this Use Case is the Administrator.

4.23.2.2 Flow of Events

4.23.2.2.1 Basic Flow

1. The Administrator chooses the button "Change Book's Information".
2. The System received the Administrator's request and gives a form that contains input boxes for Book's Information to the Administrator to fill.
3. The Administrator fills the form with all the necessary information of the book he wants to change information of and choose "Change Book's Information".
4. The System checks if this form is valid or not.
5. The System saves the book's new information in the Book Database, sends successful notification to the Actor and now the book can be viewed on the display by Guests and other Members.

4.23.2.2.2 Alternative Flows

4.23.2.2.2.1 The Administrator choose "Cancel"

- In the Basic Flow, at any steps except for the first and before the fourth step, if the Administrator chooses "Cancel", the System will discard the form and be back to the original state before this Use Case was activated.

4.23.2.2.2.2 The form is not valid

- At the fourth step of the Basic Flow, if the System checks and detects input field(s) which is not valid (the box(es) was left blank, the texts were not in right format,…), the System will send the Administrator a notification that he has to re-fill/fill that input field to make it valid.

- If after re-filling the form, the form is checked and confirmed as valid, it will continue as the Basic Flow from step 4. Otherwise, the System continues to notify (as a loop) the errors until the Administrator chooses "Cancel" or put in valid information.

4.23.2.3 Special Requirements

None.

4.23.2.4 Pre-Conditions

The Actor must login as a Administrator.

4.23.2.5 Post-Conditions

If the Use Case is successful, latest information is added to the Book Database.

4.23.2.6 Extension Points

None.

4.23.3 Delete a Book

4.23.3.1 Brief Description

This Use Case allows the Administrator to delete a book on the System and from the Book Database. Actor for this Use Case is the Administrator.

4.23.3.2 Flow of Events

4.23.3.2.1 Basic Flow

1. The Administrator chooses the button "Delete Book".
2. The System received the Administrator's request and gives a confirmation message to ask if the Administrator was sure to delete the book.
3. The Administrator choose "Yes".

4. The System delete the book from the Book Database, sends successful notification to the Actor and now the book cannot be viewed on the display by Guests and other Members anymore.

4.23.3.2.2 Alternative Flows

4.23.3.2.2.1 The Administrator choose "Cancel"

In the Basic Flow, at the second step, if the Administrator chooses "Cancel", the System will discard the message box and be back to the original state before this Use Case was activated.

4.23.3.3 Special Requirements

None.

4.23.3.4 Pre-Conditions

The Actor must login as an Administrator.

4.23.3.5 Post-Conditions

If the Use Case is successful, the book is deleted from the Book Database. This book can no longer be viewed by Guest or other Members on the User Interface.

4.23.3.6 Extension Points

None.

4.24 Sell Used Books

4.24.1 Brief Description

This Use Case allows Member to sell a used book to the Bookstor. Actor for this Use Case is a Member.

4.24.2 Flow of Events

4.24.2.1 Basic Flow

1. The Actor chooses the button “Add new Used Book”.
2. The System received the Actor’s request and gives a form that contains input boxes for the Book’s Information to this Actor to fill.
3. The Seller fills the form with all the necessary information of the book he wants to sell and choose “Add new Used Book”.
4. The System checks if this form is valid or not.
5. The System notifies the Seller that the form is valid and asks the Seller to wait for Administrator’s Approval.
6. The System sends a request to the Administrator to check if the book can be sold as an Old Book.
7. The Administrator then opens a page that contains “Add new Used Book” requests and chooses on this request.
8. The Administrator checks the request, verifies all the information and accepts the request.
9. The System sends successful notification to the Actor and create an order to deliver the book.

4.24.2.2 Alternative Flows

4.24.2.2.1 The Actor chooses “Cancel”

- In the Basic Flow, at any steps except for the first and before the fourth step, if the Actor chooses “Cancel”, the System will discard the form and be back to the original state before this Use Case was activated.

4.24.2.2.2 The form is not valid

- At the fourth step of the Basic Flow, if the System checks and detects input field(s) which is not valid (the box(es) was left blank, the texts were not in right

format,…), the System will send the Member a notification that he has to re-fill/fill that input field to make it valid.

- If after re-filling the form, the form is checked and confirmed as valid, it will continue as the Basic Flow from step 4. Otherwise, the System continues to notify (as a loop) the errors until the Member chooses "Cancel" or put in valid information.

4.24.2.2.3 The Administrator does not approve the request

- At the eighth step, if the Administrator does not approve the request, the Administrator will type in a reason this request cannot be approved.
- The System then will notify the Member that his request was not accepted and also show the message that contains the reason his request cannot be approved.

4.24.3 Special Requirements

None.

4.24.4 Pre-Conditions

The Actor must login as a Member.

4.24.5 Post-Conditions

If the Use Case is successful, a new book is created and added to the Book Database. This book can now be viewed by Guest or other Members on the User Interface.

4.24.6 Extension Points

None.

5. References

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