Bookstore Management
Use-Case Specification

Version 1.0

Revision History

Date	Version	Description	Author	Student ID
13/04/2025	1.0	Create use-case models	Pham Ngoc Bao Uyen	22120424
13/04/2025	1.0	Write use-case specification	Pham Nguyen Quang Thoai	22120352

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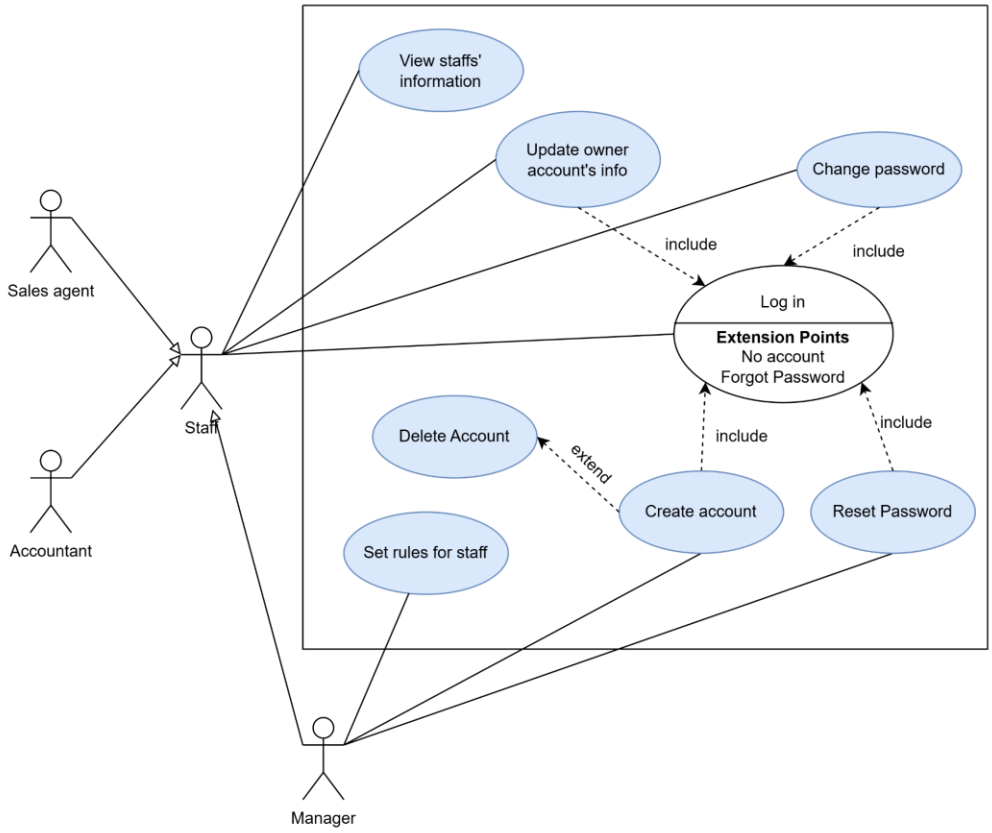
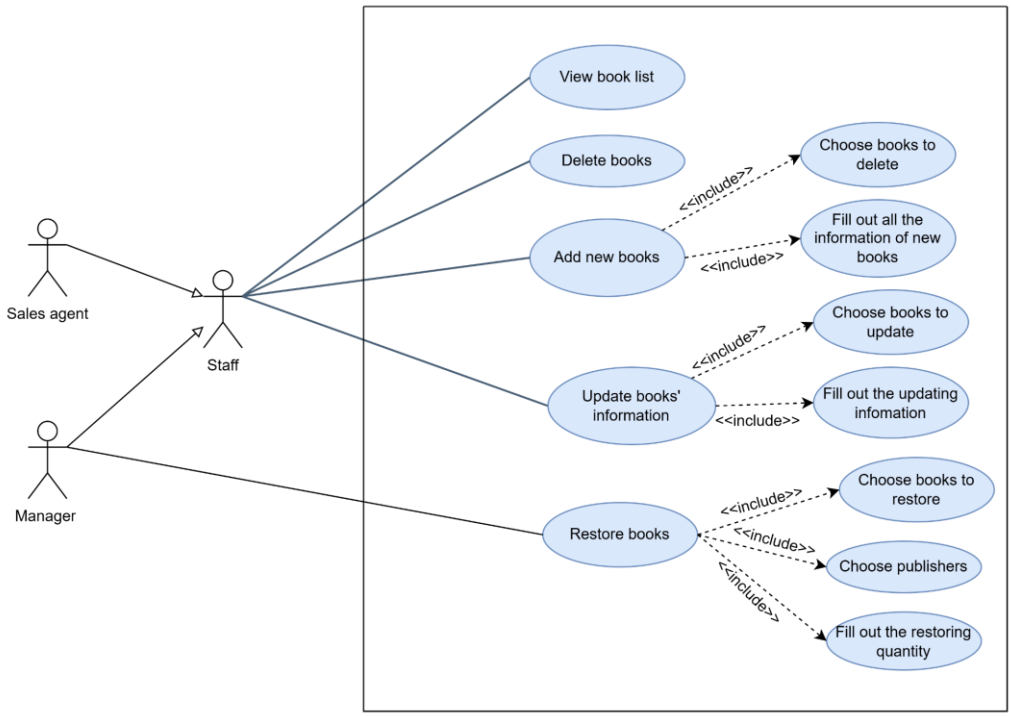
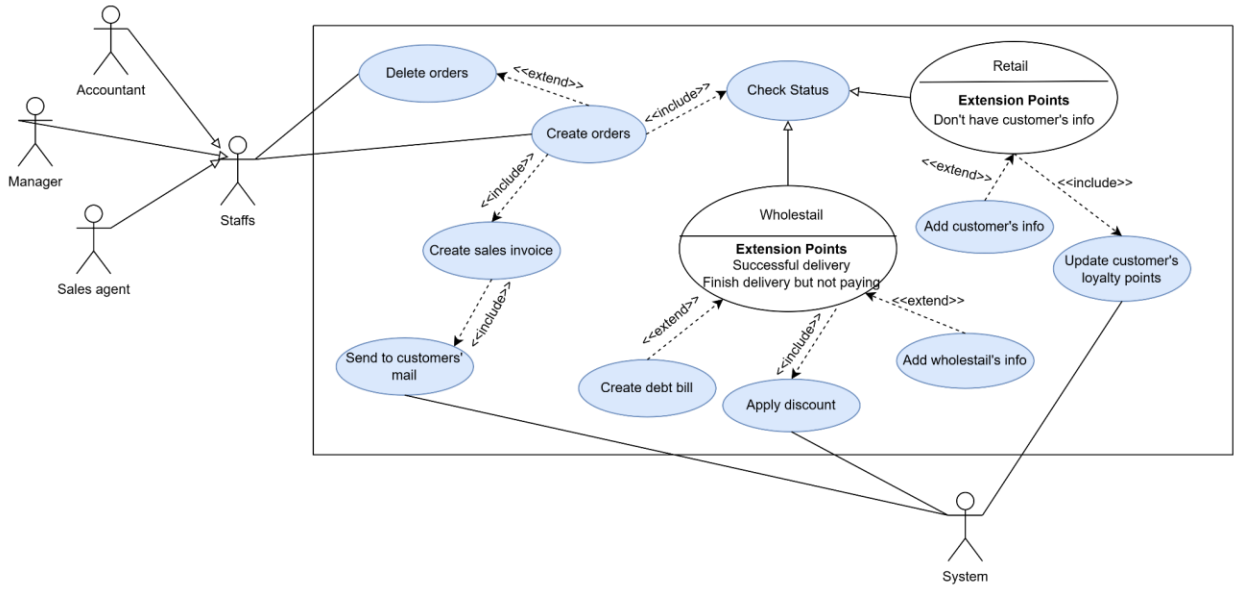


1.2 Use case Model: Book Management:



1.3 Use case Model: Order Management:



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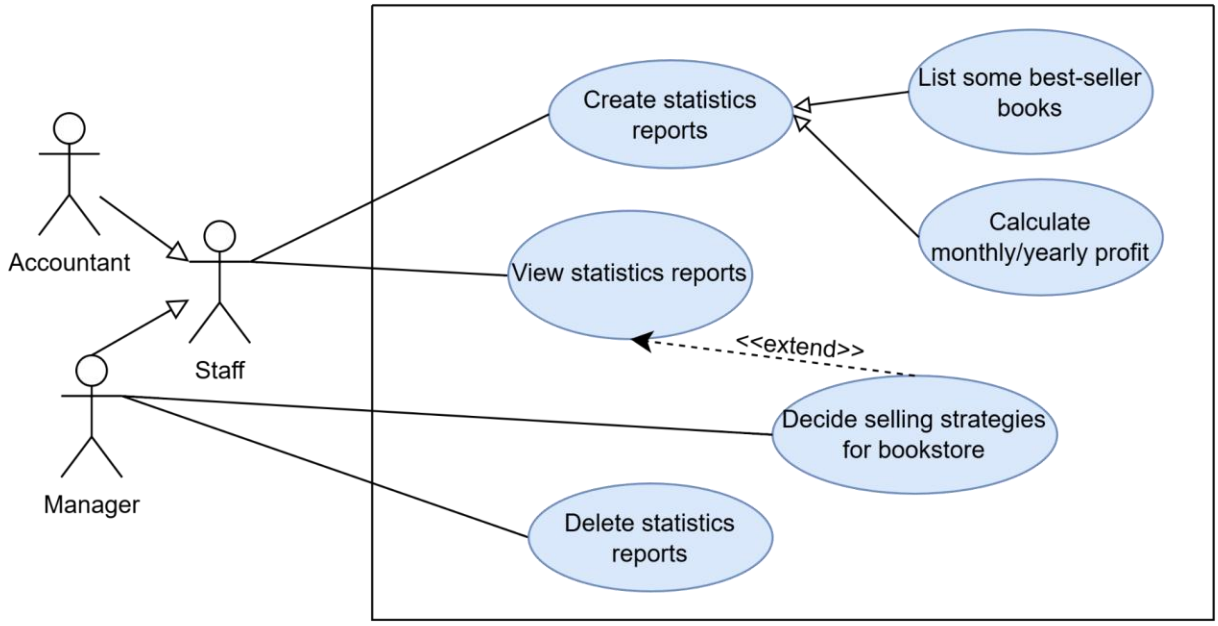

2. Use-case Specifications

2.1 Use-case: Update new books information

Use case Name	Update new books' information
Brief description	This use case describes how the staff can update or edit the details of a book.
Actors	Sale Agent, Store Manager
Basic Flow	1. The user logs in to the system. 2. The user navigates to the "Books" section. 3. The user searches for or selects a book. 4. The user clicks the "Edit" button. 5. The user updates information like price, quantity in stock, author, etc. 6. The system validates and saves changes. 7. The system confirms the update to the user.
Alternative Flows	**Alternative flow 1: Book not found** 1. From #3 of the basic flow, the user enters another name. 2. Continue step #4 in the basic flow. **Alternative flow 2: User inputs invalid data** 1. From #5 of the basic flow, the system asks for correct data. 2. Continue step #6.
Pre-conditions	The user has a valid login and permission to edit book information.
Post-conditions	The book information is updated and visible to all users with view access.

2.2 Use-case: Add or delete books

Use case Name	Add or delete books
Brief description	This use case describes how sales agents and store managers can add new books or delete unavailable books from the system.
Actors	Sale Agent, Store Manager
Basic Flow	1. The sales agent logs into the system. 2. The sales agent navigates to the “Books” section. 3. The agent clicks on “Add Book” or “Delete Book”. 4. Agent fills in book information or selects a book to delete. 5. The system submits a request to the store manager for approval. 6. The store manager logs in and reviews the request. 7. The store manager approves or rejects the request. 8. If approved, the system updates the book list accordingly. 9. The system notifies both the sales agent and store manager of the result.
Alternative Flows	**Alternative flow 1: Store manager rejects the request** 1. From #9 of the basic flow, the system informs the sales agent with reason.
Pre-conditions	The sales agent and store manager must be logged into the system.
Post-conditions	The book list is updated by adding a new book or removing an unavailable one after approval.

2.3 Use-case: View book lists

Use case Name	View book lists
Brief description	This use case allows staff members to view the list of all books available in the store with support for searching and filtering by various attributes such as author, publisher, and stock status.
Actors	Store Manager, Sale Agent, Accountant
Basic Flow	1. The user logs into the system. 2. The user navigates to the “Books” section. 3. The user clicks on the “List” button. 4. The system displays the full list of books in the store including title, author, publisher, price, quantity, etc. 5. The user uses the search bar to look for specific books (by title, author, publisher, etc.). 6. The user applies filters (e.g. books that are out of stock, books by certain publishers). 7. The system displays results based on search and filter criteria.
Alternative Flows	**Alternative flow 1: No books match the search/filter** 1. From #7 of the basic flow, the system displays “No results found.”
Pre-conditions	The user must have a valid staff account and be logged into the system.
Post-conditions	The user successfully views and interacts with the book list using search and filter tools.

2.4 Use-case: Create orders and sale invoices

Use case Name	Create orders and sale invoices
Brief description	This use case describes how employees can create an order and a sales invoice for customers by selecting available products and applying discounts, promo codes, and loyalty points.
Actors	Store Manager, Sale Agent, Accountant
Basic Flow	1. The user logs into the system. 2. The user navigates to the "Order" section. 3. The user clicks on the “Create Order” button. 4. The user searches for the products. 5. The system displays only products that are in stock and available for sale. 6. The user selects products and quantities to be sold. 7. The user applies promo codes, discounts, or customer loyalty points if applicable. 8. The system calculates the total amount and displays the order summary. 9. The user confirms and submits the order. 10. The user clicks on the “Create Invoice” button. 11. The system generates the sales invoice, sends it into customers’ mail and stores it in the system.
Alternative Flows	**Alternative flow 1: Product is out of stock** 1. From #5 of the basic flow, the system does not display the product. 2. Continue step #6 in the basic flow. **Alternative flow 2: Promo code is invalid** 1. From #7 of the basic flow, the system notifies the user. 2. Continue step #7 in the basic flow, the user re-enters other valid promo codes. **Alternative flow 3: Customer does not have enough loyalty points** 1. From #7 of the basic flow, the system notifies the user. 2. Continue step #8 in the basic flow with regular payment.
Pre-conditions	The user must be logged into the system. Products must already exist in the system.
Post-conditions	A valid sales order and its invoice is created, stored in the system, and ready for printing or further processing.

2.5 Use-case: Books restored

Use case Name	Books restored
Brief description	This use case allows the store manager to review books that are out of stock or nearly out of stock and selectively restore them into inventory based on predefined rules such as maximum restore quantity or current stock limits.
Actors	Store Manager
Basic Flow	1. The store manager logs into the system. 2. The manager navigates to the “Books” section.

	3. The manager clicks on the “Restored” button. 4. The system automatically displays a list of books with quantity = 0 or below threshold. 5. The system also displays inventory limits and maximum allowed restore quantities (based on rules set previously). 6. The manager reviews the list and selects books to restore. 7. The manager enters the number of books to restore (must follow system rules). 8. The manager confirms the restore action. 9. The system updates inventory and displays confirmation.
Alternative Flows	**Alternative flow 1: Manager restore quantity exceeding allowed limit** 1. From #7 of the basic flow, the system returns to step #5. 2. Manager re-enters valid quantity. **Alternative flow 2: Manager chooses not to restore any book** 1. From #6, the system returns to the dashboard without changes.
Pre-conditions	The store manager must be logged in. Inventory rules must be predefined in the system.
Post-conditions	Selected books are successfully re-imported into the inventory with updated stock levels.

2.6 Use-case: Create Loyalty Account for Customer

Use case Name	Create Loyalty Account for Customer
Brief description	This use case describes how store employees can create a new loyalty account for a customer using the customer's phone number, enabling the accumulation of reward points.
Actors	Store Manager, Sale Agent, Accountant
Basic Flow	1. The customers provide their phone numbers at checkout. 2. Staff searches the system for the phone number. 3. The system checks if the phone number already exists: • If **found**, the system links the transaction to the existing account and updates points. • If **not found**, staff continue to create a new customer loyalty account. 4. Staff enters customer details: phone number (required) and name (optional). 5. The system creates a new loyalty account. 6. Points from the transaction are added to the new/existing account. 7. The system displays a confirmation message.
Alternative Flows	**Alternative flow 1: Invalid phone number format** 1. From #2 of the basic flow, the system notifies to the staff 2. Return to step #1.
Pre-conditions	Staff must be logged into the system. Customers must provide a valid phone number.
Post-conditions	Customers have a loyalty account in the system and receive points for the

	purchase.

2.7 Use-case: Collect and Use Customer Loyalty Points

Use case Name	Collect and Use Customer Loyalty Points
Brief description	This use case allows store employees to accumulate reward points for customer purchases and apply those points as a discount in future purchases based on store-defined rules.
Actors	Store Manager, Sale Agent, Accountant
Basic Flow	1. Customers provide their phone numbers at checkout. 2. The system checks for an existing loyalty account: • If found, proceed to collect or apply points. • If not found, prompt to create a new account. 3. The system calculates points to be added using the formula (e.g., 1 point per 10,000 VND spent). 4. If the customers want to use points: • Staff checks current points balance. • System applies eligible discounts based on X points = Y VND. • Customers select which bill to apply the discount on. 5. The system deducts used points from the customer's account. 6. The remaining points are updated and shown on the receipt.
Alternative Flows	**Alternative flow 1: Customer does not have enough points** 1. From #4 of the basic flow, the system notifies staff. 2. Continue step #6 in the basic flow without discount application.
Pre-conditions	Customers must have a loyalty account. Staff must be logged into the system. Store discount rules (X → Y) must be configured.
Post-conditions	Points are either added to or deducted from the customer's account. Discount (if any) is applied to the bill. The transaction is completed.

2.8 Use-case: Points recreation

Use case Name	Points recreation
Brief description	This use case describes how the system automatically resets each customer's accumulated loyalty points to zero after one year, as per store policy.
Actors	System (automated process)
Basic Flow	1. The system tracks when each customer's points were last reset. 2. At the start of 1 year (01/01 each year), the system checks each customer's point balance. 3. If the customer has a non-zero point balance, the system sets it to zero.
Alternative Flows	**Alternative flow 1: Reset fails due to system/database error** 1. From #3 of the basic flow, the system notifies the manager.
Pre-conditions	Customers have loyalty points. The system tracks the accumulation date or has a scheduled yearly reset process.
Post-conditions	The loyalty points are set to 0 after one year. The system is ready to re-accumulate points from new purchases.

2.9 Use-case: Debt management

Use case Name	Debt management
Brief description	This use case allows accountants to manage credit sales for large customers such as organizations, schools, and agents. It includes creating, tracking, and resolving customer debts.
Actors	Accountant
Basic Flow	1. Customer (unit/agent) makes a large purchase and requests delayed payment. 2. Accountant enters debt record with agreed repayment period. 3. The system tracks the due dates for each debt. 4. As the due date approaches, the system sends a reminder/notification to an accountant. 5. The accountant contacts the customer to resolve the debt. 6. Based on the situation, the accountant may: • Mark the debt as paid • Extend the due date • Write off the debt • Convert it to bad debt • Block the customer from owing in the future 7. The system automatically sends an email about debt for customers.
Alternative Flows	
Pre-conditions	The customer must be a verified unit/agent eligible for credit. An accountant is logged in. Agreement on repayment terms exists.
Post-conditions	Debt record is created, tracked, or updated. Status (paid/overdue/written-off/etc.) is stored. Customer credit status is updated if necessary.

2.10 Use-case: Manage units and agents purchasing in bulk

Use case Name	Manage units and agents purchasing in bulk
Brief description	This use case enables the store manager to manage a list of customers who qualify as purchasing units or agents. The manager can assign discounts and upgrade regular customers to agents or units based on their buying behavior.
Actors	Store manager
Basic Flow	1. The store manager views the purchase history of customers. 2. The store manager identifies customers who meet specific criteria, such as high order volume or frequent purchases. 3. The store manager adds these customers to the agents/units list. 4. The store manager assigns a discount level for each agent/unit. 5. The system automatically applies the assigned discount for future purchases made by these customers.
Alternative Flows	
Pre-conditions	Customers are recorded in the system with their purchase history.

	The store manager is logged in.
Post-conditions	Customers can be added, removed, or updated in the wholesale customer list, and the associated discounts are saved accordingly.

2.11 Use-case: Profit Statistics

Use case Name	Profit statistics
Brief description	This use case allows the accountant to generate profit reports (monthly or yearly) and allows the store manager to view these reports to make strategic decisions.
Actors	Store manager, Accountant
Basic Flow	1. The accountant logs into the system. 2. The accountant selects a time range (e.g. monthly, yearly) and generates a profit report. 3. The system retrieves relevant sales, cost, and expense data. 4. The system calculates profit and generates a visual/text report. 5. The store manager logs in and views the report. 6. Store manager uses reports to support strategic planning.
Alternative Flows	**Alternative flow 1: Store manager requests specific/custom report** 1. From #2, the accountant changes the parameters according to the specific requirements of the store manager. 2. Continue step #3 in the basic flow.
Pre-conditions	Sales and cost data must exist in the system. Actors are logged in with appropriate roles.
Post-conditions	The report is generated and stored. The store manager has access to view it. Decisions may be based on the report.

2.12 Use-case: Human Resource Management

Use case Name	Human resource Management
Brief description	Store manager manages the list of employees including adding, deleting, and editing employee details. Also controls roles and account access.
Actors	Store manager
Basic Flow	1. The store manager logs in. 2. Navigate to the HR management section. + Adds new employee information (name, phone, role, etc.). ● The system creates an account for the new employee. + The store manager can remove employees. ● When deleting an employee, the system delays revocation for 24 hours. + The store manager can edit the employee list. + Managers can also set rules for staff permissions.
Alternative Flows	**Alternative flow 1: Employee responds to deletion request within 24h** 1. From #2, the store manager is notified and can reconsider.
Pre-conditions	Store manager is authenticated.
Post-conditions	The employee list is updated. Accounts created/modified/removed accordingly.

2.13 Use-case: Log in

Use case Name	Log in
Brief description	Allows employees to access the system after entering valid credentials.
Actors	Store manager, Sale agent, Accountant
Basic Flow	1. Users access the login page. 2. Users enter username and password. 3. The system verifies credentials. 4. If correct, the user is redirected to the homepage.
Alternative Flows	**Alternative flow 1: Incorrect credentials** 1. From #3, the system notifies show errors. 2. Continue with step #2 in the basic flow. **Alternative flow 1: Account is locked or deleted** 1. From #4, the system sends users a notice of “Access denied”. 2. Users ask manager to reset password.
Pre-conditions	Users have an active account.
Post-conditions	Users gain access to system functions.

2.14 Use-case: Change password

Use case Name	Change password
Brief description	After logging in, users can change their password securely using an OTP code.
Actors	Store manager, Sale agent, Accountant
Basic Flow	1. Users log in and click on “Change Password”. 2. The system sends OTP to users' phones. 3. Users enter their current passwords, new passwords, and OTP. 4. The system verifies OTP and updates passwords.
Alternative Flows	**Alternative flow 1: OTP is expired** 1. From #4, the system sends a notification that the OTP has expired. 2. Continue to step #2 in the basic flow.
Pre-conditions	Users are logged in and their phone numbers are verified.
Post-conditions	The password is changed and the user can use the new password for the next login.