

---: Bookshop And Sales management - Enterprise Development

Prepared by-

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| ID: | UC-001 |
| Title: | Check Book Availability |
| Description: | Allows a customer to search for a book in the system to check its availability. The system provides real-time status updates on whether a book is in stock, low stock, or out of stock. The customer can filter results by title, author, genre, and format (e.g., paperback, hardcover, digital). This use case helps customers quickly determine if they can purchase a book or need to request it. |
| Primary Actor: | Customer, Employee |
| Secondary Actor: | None |
| Preconditions: | <ul style="list-style-type: none">• The customer is logged in.• The system's book inventory is up-to-date with current stock levels.• The search function is operational and accessible. |
| Postconditions: | <ul style="list-style-type: none">• If the book is in stock, the system displays its availability, price, and location.• If the book is out of stock, the system offers an option to request it (Use Case: Request Books Not in Stock).• If no exact match is found, the system suggests similar books (Use Case: Suggest Possible Titles/Authors).• The system logs the search query for analytics and restocking recommendations. |
| Dependency | Extend: None Include: None |

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| Generalization | — |
| Main Success Scenario: | <ul style="list-style-type: none"> • Customer selects the "Check Book Availability" option in the system. • The system displays a search bar where the customer can enter the title, author, or genre. • The customer submits the search query. • The system retrieves book availability data and displays results, including: <ul style="list-style-type: none"> ◦ Stock status (in stock, low stock, or out of stock) ◦ Book details (title, author, genre, format, price, location) • If the book is available, the customer may proceed to purchase it. • If the book is out of stock, the system suggests alternatives and offers an option to request it. • The system logs the search query for future analytics. |
| Extensions or Alternate Flow: | <ul style="list-style-type: none"> • Book is currently checked out: The system offers an option to place a reservation. • Book is lost or unavailable: The system informs the user and may provide alternative books. Also allows the customer to request it for future procurement. • Database connection failure: The system displays an error message and prompts the user to try again later. |
| Frequency of Use: | <p>This use case is frequently used, as customers regularly check book availability before making a purchase.</p> <p>Estimated daily usage: High (by multiple customers and employees).</p> |
| Status: | Planned |
| Owner: | --- |
| Priority: | High |

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| ID: | UC-002 |
| Title: | Request Books Not in Stock |
| Description: | This use case describes the process by which a customer requests a book that is currently out of stock. The system captures the customer's contact details, logs the request for future procurement, and notifies the customer upon availability. |
| Primary Actor: | Customer |
| Secondary Actor: | Inventory Manager (for procurement review) |
| Preconditions: | <ul style="list-style-type: none"> • The customer must be a registered user or provide valid contact details. • The book must be unavailable in the inventory system. • The system must be online and accessible. |
| Postconditions: | <ul style="list-style-type: none"> • The customer request is logged for procurement review. • The system sends a confirmation message to the customer. • The system stores the request for future reference. |
| Dependency | Extend: UC-01 Check Book Availability Include: None |
| Generalization | This use case generalises book request functionality applicable to customers across various book categories. |
| Main Success Scenario: | <ul style="list-style-type: none"> • The customer searches for a book but finds it is out of stock. • The system displays an option to request the book. • The customer submits the request by providing their contact details. • The system captures the request and stores it for procurement review. • The system sends a confirmation message to the customer. |

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| | <ul style="list-style-type: none"> • The system logs the request for future inventory updates. |
| Extensions or Alternate Flow: | <ul style="list-style-type: none"> • The customer chooses not to request the book, and the process terminates. • The customer enters invalid contact details, and the system prompts them to re-enter. • The system encounters an error in storing the request, and an error message is displayed. |
| Frequency of Use: | Expected to be used frequently for books in high demand but not currently available. |
| Status: | Planned (Can be updated based on implementation progress) |
| Owner: | --- |
| Priority: | High (Essential for customer satisfaction and procurement planning). |

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| ID: | UC - 003 |
| Title: | Query Books by Title and/or Author |
| Description: | This use case allows a customer or employee to search for books in the system by entering a title, author, or both. The system will return a list of books that match the search criteria, displaying relevant details such as publication year, price, and availability status. |
| Primary Actor: | Customer / Employee |
| Secondary Actor: | None |
| Preconditions: | <ul style="list-style-type: none"> • The system must be online and accessible. • The book database must be populated with book records. • The user must have access to the search interface. |
| Postconditions: | <ul style="list-style-type: none"> • The user receives a list of books matching the search criteria. • If no books match, the system provides a notification. • The user may choose to request a book if it is not in stock. |
| Dependency | Extend: None Include: None |
| Generalization | — |

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| Main Success Scenario: | <ul style="list-style-type: none"> • The user navigates to the book search page. • The user enters a book title, author name, or both in the search field. • The system processes the search request. • The system retrieves and displays a list of books matching the search criteria. • The user views book details (e.g., availability, price, publication year). • The user may proceed to purchase the book or request it if it is out of stock. |
| Extensions or Alternate Flow: | <ol style="list-style-type: none"> 1. Invalid Search Input: <ul style="list-style-type: none"> ○ If the user enters invalid characters or an empty query, the system displays an error message. 2. No Matching Books Found: <ul style="list-style-type: none"> ○ If no books match the search criteria, the system notifies the user and suggests similar titles. 3. Slow or Failed System Response: <ul style="list-style-type: none"> ○ If the system experiences a delay or fails to process the request, the user is shown an error message and prompted to retry. |
| Frequency of Use: | Frequently used by customers and employees to check book availability. |
| Status: | In development |
| Owner: | --- |
| Priority: | High |

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| ID: | UC - 004 |
| Title: | Receive Notifications for Book Arrival |
| Description: | This use case allows a customer to receive notifications when a previously unavailable book arrives in stock. The system monitors book inventory and sends an automated alert (via email) to customers who requested the book. This ensures customers do not have to manually check for availability and can purchase the book as soon as it is restocked. |
| Primary Actor: | Customer |
| Secondary Actor: | Book Inventory System (automatically check inventory and send notification when the book arrives) |
| Preconditions: | <ul style="list-style-type: none"> • The customer has previously requested a book that was out of stock (UC02 - Request Books Not in Stock). • The system has stored the customer's request for book availability notifications. • The book is not currently in stock but is expected to arrive later. |
| Postconditions: | <ul style="list-style-type: none"> • The customer receives a notification when the requested book is restocked. • The system updates the request status, marking the notification as sent. • The customer may proceed to purchase the book (UC05 - Purchase Books). |
| Dependency | Extend: UC02 (Request Books Not in Stock) – This use case only occurs if a customer has previously requested a book that was unavailable. Include: None |
| Generalization | — |

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| Main Success Scenario: | <ul style="list-style-type: none"> • The customer requests a book that is not in stock (UC02 - Request Books Not in Stock). • The system records the request and associates it with the customer's contact details. • When the book arrives in stock, the inventory system updates availability. • The system triggers an automated notification to the customer (via email, SMS, or app). • The customer receives the notification and can visit the store or purchase the book online (UC05 - Purchase Books). • The system marks the notification as delivered and removes the pending requests. |
| Extensions or Alternate Flow: | <p>If the customer no longer wants the book:</p> <ul style="list-style-type: none"> • The system allows the customer to cancel the notification request before the book arrives. <p>If the book does not arrive within a certain timeframe:</p> <ul style="list-style-type: none"> • The system may prompt the customer to modify or cancel their request. <p>If the notification fails (e.g., invalid email):</p> <ul style="list-style-type: none"> • The system logs the failure. |
| Frequency of Use: | Uncommonly, depending on book availability and customer demand. |
| Status: | Planned |
| Owner: | — |
| Priority: | High |

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| ID: | UC - 005 |
| Title: | Purchase Books |
| Description: | This use case describes the process by which a customer purchases books from the system. The system processes the transaction, updates the inventory, and generates a receipt. |
| Primary Actor: | Customer |
| Secondary Actor: | — |
| Preconditions: | <ul style="list-style-type: none"> • The book must be available in stock. • The customer must have a valid payment method. • The system must be online and operational. |
| Postconditions: | <ul style="list-style-type: none"> • The book purchase is completed, and payment is successfully processed. • The system updates the inventory to reflect the purchase. • A receipt is generated and provided to the customer. |
| Dependency | Extend: None Include: (UC-006) Process Sales Transactions (Handles payment processing, receipt generation, and inventory updates). |
| Generalization | — |
| Main Success Scenario: | <ul style="list-style-type: none"> • The customer selects a book for purchase. • The system displays the total cost, including any applicable taxes or discounts. • The customer provides payment details. • The system processes the transaction. • The system updates the inventory to reflect the purchase. |

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| | <ul style="list-style-type: none"> • The system generates a receipt (print or digital). • The system confirms the successful purchase to the customer. |
| Extensions or Alternate Flow: | <ul style="list-style-type: none"> • The payment method is invalid → The system prompts the customer to re-enter details. • The customer cancels the purchase → The transaction is aborted. • Payment fails due to technical issues → The system notifies the customer and suggests retrying. • The book is out of stock due to simultaneous purchases → The system informs the customer and cancels the order. |
| Frequency of Use: | Frequently used for online payments. |
| Status: | Planned (Pending implementation). |
| Owner: | — |
| Priority: | High (Essential for revenue generation). |

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| ID: | UC - 006 |
| Title: | Process Sales Transaction |
| Description: | Allows an employee to complete a book sale transaction in the system. The system verifies the selected books, calculates the total cost (including taxes and discounts), and processes the payment. Upon successful completion, a receipt is generated for the customer, and the inventory is updated accordingly. The transaction can be paid for in various ways. |
| Primary Actor: | Employee - Responsible for processing sales transactions at the point of sale (POS). |
| Secondary Actor: | Inventory Management System – Updates stock levels after a sale. |
| Preconditions: | <ul style="list-style-type: none"> • The customer has selected books for purchase. • The system is online and connected to the inventory and payment gateway. • The employee is logged into the system with appropriate access rights. • The selected books are verified as available in stock. |
| Postconditions: | <ul style="list-style-type: none"> • The transaction is completed, and a receipt is generated (sent via email). • The inventory is updated, reducing the stock count of the purchased books. • The payment is processed, and a confirmation is recorded in the system. • The system logs the transaction details for future reporting and analysis. |

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| Dependency | <p>Extend : None</p> <p>Include: (UC-07) Generate Receipts – If the customer opts for an electronic receipt, the system sends it via email.</p> |
| Generalization | <ul style="list-style-type: none"> Inherited by: <ul style="list-style-type: none"> (UC-05) Purchase Books – This broader use case includes the entire customer purchase process, while "Process Sales Transaction" focuses specifically on the checkout step |
| Main Success Scenario: | <ul style="list-style-type: none"> The employee initiates a new transaction in the system. The clerk scans or manually enters the ISBNs of the selected books. The system retrieves book details and availability from the inventory. The system calculates the total amount (including applicable taxes and discounts). The customer selects a payment method (cash, card, digital wallet). The system processes the payment via the payment gateway. Upon successful payment, the system generates a receipt (emailed). The inventory system updates stock levels to reflect the sold items. The transaction details are logged for reporting and analytics. |
| Extensions or Alternate Flow: | <p>If the selected book is out of stock: The system notifies the employee, who can offer alternatives or suggest placing a book request (Use Case: Request Books Not in Stock).</p> <p>If the payment is declined:</p> |

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| | <p>The system prompts the customer to retry or choose another payment method.</p> <p>If the receipt printer fails: The system offers an option to send a digital receipt via email.</p> |
| Frequency of Use: | Frequent |
| Status: | Not started |
| Owner: | --- |
| Priority: | High - Essential for business operations |

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| ID: | UC - 007 |
| Title: | Generate Receipt |
| Description: | This use case allows bookstore staff to generate a receipt after a successful purchase. The receipt includes details such as book titles, quantities, prices, taxes, total amount, and payment method. It can be printed or sent digitally to the customer. |
| Primary Actor: | Employee |
| Secondary Actor: | System |
| Preconditions: | <ul style="list-style-type: none"> • The customer has completed a purchase. • The payment has been processed successfully. • The system is connected to the sales database. |
| Postconditions: | <ul style="list-style-type: none"> • A receipt is generated and displayed. • The receipt is printed or emailed to the customer. • The sale is recorded in the system for future reference. |
| Dependency | — |
| Generalization | — |
| Main Success Scenario: | <ul style="list-style-type: none"> • The employee completes a sales transaction. • The system retrieves the transaction details. • The system formats and generates a receipt. • The receipt is printed or emailed to the customer. • The system logs the receipt for record-keeping. |

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| Extensions or Alternate Flow: | <ul style="list-style-type: none"> ● Invalid Transaction Data: <ul style="list-style-type: none"> ○ If transaction details are missing, the system alerts the employee and prevents receipt generation. |
| Frequency of Use: | Frequent, every time a purchase is made. |
| Status: | Planned |
| Owner: | --- |
| Priority: | High |

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| ID: | UC - 008 |
| Title: | Update Inventory with new supplies |
| Description: | This use case allows employees to update the book inventory when new stock arrives. The system will adjust stock levels, record batch numbers, and update availability status to reflect the latest inventory changes. |
| Primary Actor: | Employee |
| Secondary Actor: | System |
| Preconditions: | <ul style="list-style-type: none"> • The employee must be logged into the system with appropriate access permissions. • The system must have an existing inventory database. • A new stock shipment must have arrived for update. |
| Postconditions: | <ul style="list-style-type: none"> • The inventory database is updated with new stock levels. • Books that were previously out of stock may now be available. |
| Dependency | — |
| Generalization | — |
| Main Success Scenario: | <ul style="list-style-type: none"> • The employee navigates to the inventory update dashboard. • The employee selects an option to update stock (new arrival, adjustment, or book removal). • The employee enters the book details (ISBN, title, author, quantity, supplier details, rack location). |

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| | <ul style="list-style-type: none"> • The system validates the data and updates the inventory database. • The system reflects real-time availability and stock levels. • The system notifies customers who had requested the book. • The system logs the transaction for auditing purposes. |
| Extensions or Alternate Flow: | <ul style="list-style-type: none"> • Invalid Book Entry: <ul style="list-style-type: none"> ○ If the employee enters an incorrect ISBN or missing details, the system prompts for correction. • Stock Quantity Error: <ul style="list-style-type: none"> ○ If the entered stock quantity is inconsistent with expected values, the system displays a warning. • Database Connection Failure: <ul style="list-style-type: none"> ○ If the inventory database is unreachable, the system alerts the employee and retries the update. |
| Frequency of Use: | Regularly used for inventory updates (daily or upon new stock arrival). |
| Status: | Planned |
| Owner: | --- |
| Priority: | High |

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| ID: | UC - 009 |
| Title: | View sales statistics and trends |
| Description: | This use case allows bookstore managers to view sales data, track trends over time, and analyse book sales performance. The system provides insights through charts, tables, or reports, helping in decision-making for restocking, promotions, and pricing strategies. |
| Primary Actor: | Bookshop Manager |
| Secondary Actor: | System |
| Preconditions: | <ul style="list-style-type: none"> • The user is logged in with appropriate access rights. • The bookstore has recorded sales transactions in the system. • The system is connected to the sales database. |
| Postconditions: | <ul style="list-style-type: none"> • The system displays relevant sales reports and insights. • The user gains an understanding of sales performance and trends. • Optionally, the user can export the data for further analysis. |
| Dependency | Extend: None Include: None |
| Generalization | — |
| Main Success Scenario: | <ul style="list-style-type: none"> • The manager navigates to the sales analytics section. • The manager selects a time period (daily, weekly, monthly, yearly). • The system retrieves and processes relevant sales data. • The system generates visual reports (graphs, charts, tables) showing trends. • The manager reviews key metrics like total sales, best-selling books, and revenue growth. |

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| | <ul style="list-style-type: none"> • The manager can filter or refine the report based on book categories, authors, or other criteria. • The system allows exporting the report in formats like PDF or CSV. |
| Extensions or Alternate Flow: | <ul style="list-style-type: none"> • No sales data available for the selected period: The system informs the user that there are no transactions recorded. • Database connection failure: The system displays an error message and suggests retrying later. • Customisation required: The manager may choose custom filters for more specific insights. |
| Frequency of Use: | Regularly used for business analysis, typically daily or weekly. |
| Status: | Planned |
| Owner: | — |
| Priority: | High |

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| ID: | UC - 010 |
| Title: | Print daily reports for low-stock books |
| Description: | This use case describes the process by which an employee generates and prints a daily report of books that have fallen below a predefined stock threshold. |
| Primary Actor: | Employee |
| Secondary Actor: | None |
| Preconditions: | <ul style="list-style-type: none"> • The system must have up-to-date inventory data. • The employee must have appropriate access to generate reports. • The system must be online and operational. |
| Postconditions: | <ul style="list-style-type: none"> • A report containing details of low-stock books is generated. • The report is available for digital export. |
| Dependency | Include: (None) Extend: UC-009 View Sales Statistics & Trends (for low stock insights) |
| Generalization | Not Applicable |
| Main Success Scenario: | <ul style="list-style-type: none"> • The employee logs into the system. • The employee selects the option to generate a low-stock report. • The system retrieves the list of books below the stock threshold. • The system compiles and formats the report. • The system provides options to print or export the report. • The employee prints or downloads the report. |

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| Extensions or Alternate Flow: | <ul style="list-style-type: none"> • No books are currently low in stock → The system displays a message indicating no report is necessary. • The system encounters an error while generating the report → The system notifies the employee and logs the error. |
| Frequency of Use: | Daily, as part of inventory management tasks. |
| Status: | Planned (Pending implementation) |
| Owner: | — |
| Priority: | Medium (Important for inventory management but not critical for daily operations). |

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| ID: | UC - 011 |
| Title: | Generate on-demand sales reports |
| Description: | This use case allows bookstore managers and authorized staff to generate sales reports for specific periods or criteria. The system retrieves sales data and formats it into a structured report, which can be used for financial analysis, inventory planning, and performance tracking. |
| Primary Actor: | Bookshop Manager |
| Secondary Actor: | System |
| Preconditions: | <ul style="list-style-type: none"> • The user is logged in with the necessary permissions. • Sales transactions are recorded in the system. • The system has access to the sales database. |
| Postconditions: | <ul style="list-style-type: none"> • The requested sales report is generated successfully. • The report is available for viewing, downloading, or printing. |
| Dependency | Extend: UC-009 View Sales Statistics & Trends Include: None |
| Generalization | This use case can be generalised into broader reporting functions, such as "Generate Financial Reports" or "Generate Inventory Reports." |
| Main Success Scenario: | <ul style="list-style-type: none"> • The system collects and analyzes historical sales data. • It identifies books with high, moderate, and low demand. • The system calculates projected inventory requirements based on past trends. • The system generates a list of books that need restocking. • The employee reviews the recommendations. |

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| | <ul style="list-style-type: none"> • If necessary, the employee initiates a procurement request. |
| Extensions or Alternate Flow: | <ul style="list-style-type: none"> • No sales data available for the selected period: The system informs the user and suggests adjusting the filters. • Database connection failure: The system displays an error message and prevents report generation. • Customization required: The manager may refine the report by adding filters or selecting a specific data format. |
| Frequency of Use: | Regularly used for financial reviews and business analysis, typically weekly or monthly. |
| Status: | Planned |
| Owner: | — |
| Priority: | High |

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| ID: | UC - 012 |
| Title: | Calculate Inventory Based On Sales Trends |
| Description: | This use case enables the system to analyze historical sales data and predict future inventory requirements. The system identifies books that need restocking based on demand trends, providing recommendations for procurement. |
| Primary Actor: | Bookshop Manager / Admin |
| Secondary Actor: | — |
| Preconditions: | <ul style="list-style-type: none"> • Sales data must be available in the system. • The system must have access to past inventory and sales records. • The employee must have permission to access inventory analytics |
| Postconditions: | <ul style="list-style-type: none"> • The system generates inventory predictions based on sales trends. • The employee receives recommendations for books that need restocking. • The system triggers alerts for books that require urgent procurement. • Procurement requests can be initiated based on calculated trends. |
| Dependency | Extend: None Include: UC-009 View Sales Statistics & Trends |
| Generalization | — |

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| Main Success Scenario: | <ul style="list-style-type: none"> • The system collects and analyzes historical sales data. • It identifies books with high, moderate, and low demand. • The system calculates projected inventory requirements based on past trends. • The system generates a list of books that need restocking. • The employee reviews the recommendations. • If necessary, the employee initiates a procurement request. |
| Extensions or Alternate Flow: | <ul style="list-style-type: none"> • Insufficient Sales Data: <ul style="list-style-type: none"> ○ If historical sales data is insufficient, the system alerts the employee and suggests manual intervention. • Unexpected Sales Fluctuations: <ul style="list-style-type: none"> ○ If a book shows sudden demand spikes, the system alerts the employee to review the trend. • System Calculation Failure: <ul style="list-style-type: none"> ○ If the trend analysis fails, the system logs the issue and notifies an administrator. |
| Frequency of Use: | Periodically used (weekly or monthly) for inventory planning. |
| Status: | Planned |
| Owner: | — |
| Priority: | Medium |

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| ID: | UC - 013 |
| Title: | Maintain book prices and details |
| Description: | This use case allows bookstore staff to update and manage book details, including pricing, descriptions, and other relevant attributes. The system ensures that pricing remains accurate and reflects discounts, promotions, or price changes over time. |
| Primary Actor: | Bookshop Manager |
| Secondary Actor: | System |
| Preconditions: | <ul style="list-style-type: none"> • The user is logged in with appropriate permissions. • The book exists in the inventory system. • The system has access to the inventory database. |
| Postconditions: | <ul style="list-style-type: none"> • The updated book details, including price changes, are saved in the system. • The new pricing and details are reflected in sales transactions and customer views (if applicable). |
| Dependency | Extend: None Include: None |
| Generalization | — |
| Main Success Scenario: | <ul style="list-style-type: none"> • The staff member navigates to the book management section. • The staff searches for the book by ISBN, title, or author. • The system retrieves the current details of the book. • The staff updates book attributes such as price, description, edition, or genre. • The system validates and saves the changes. • A confirmation message is displayed, and the updated details are applied across relevant sections (e.g., sales, reports, online catalog). |

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| Extensions or Alternate Flow: | <ul style="list-style-type: none"> • Book not found in the system: The staff is prompted to add the book as a new entry. • Invalid price entry: The system warns the staff and requests a valid price format. • Database connection failure: The system displays an error message and prevents updates. • Bulk update required: The system allows multiple book updates in a single operation. |
| Frequency of Use: | Regularly used whenever there are price updates, book detail changes, or promotions. |
| Status: | Planned |
| Owner: | — |
| Priority: | Medium |

