



TEAM BEANS

Use Case Document

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Table of Contents

1	Use Case.....	3
1.1	Use-Case Name: Customer Borrows Audiobook	3
1.2	Use-Case Name: Customer Returns Audiobook	3
1.3	Use-Case Name: Customer cancels reservation	4
1.4	Use-Case Name: Customer creates an account with GBALS	5
1.5	Use-Case Name: Customer searches audiobook	6
1.6	Use-Case Name: Customer reserves audiobook	7
1.7	Use-Case Name: System administrator requests reports	7
1.8	Use-Case Name: System administrator adds new titles to inventory	8
1.9	Use-Case Name: Library Employee Updates Kiosk Inventory	9
1.10	Use-Case Name: Time cancels reservation	10
2	Use Case Diagram	12
3	Actor Glossary	14

1 Use Case

1.1 Use-Case Name: Customer Borrows Audiobook

Use Case Goal: To allow customers to place reservations of audiobooks at desired kiosk through the GreenBox website and borrow books at kiosks.

Actors: Customer, Main Library Kiosk Authentication System, Main Library Account Status Management System.

Pre-Conditions: The system is operational.

Post-Conditions: Reservation initiated by customer will be fulfilled, the audiobook inventory system will be updated, and customer lending accounts status will be updated.

Trigger: Customer logs into the library website and redirects to the GreenBox web interface.

Main Success Scenario:

1. Customer searches audiobook (Use Case 8).
2. Customer reserves audiobook (Use Case 9).
3. Customer exits system.

Alternate Scenario:

N/A

1.2 Use-Case Name: Customer Returns Audiobook

Use Case Goal: To update inventory of the returned audiobooks and to create reservations for that audiobook if there are pending requests for that title of book.

Actors: Customer, Main Library Kiosk Authentication System, Main Library Account Status Management System, Main Library Accounting System

Pre-Conditions: The system is operational.

Post-Conditions: Audiobook inventory is updated.

Main Success Scenario:

1. Customer presents their card to the kiosk for authentication
2. The kiosk authenticates the customer
3. Customer chooses option to return borrowed audiobook
4. Customer returns audiobook to kiosk
5. Kiosk checks for lateness of audiobook, not late

6. Kiosk updates inventory
7. Kiosk checks for open requests for returned audiobook, none found
8. Customer leaves

Alternate Scenario:

3A. Customer returns audiobook late.

Description: This scenario describes when the customer returns an audiobook after the allowed period and must be fined.

3A1. Fine issued via Library Accounting System.

3A2. Message regarding fine displayed to customer Scenario then returns to Main Success Scenario.

6A. Another customer requested audiobook.

Description: This scenario describes when reservations must be automatically created for customers who requested an unavailable audiobook that has been returned.

6A1. Customer reserves book

6A2. Customer notified of new reservation. Scenario then returns to Main Success Scenario.

1.3 Use-Case Name: Customer cancels reservation

Use Case Goal: To cancel a reservation for customer and make copy of previously reserved book available again.

Actors: Customer

Pre-Conditions: The system has reservation for customer.

Post-Conditions: Customer's audiobook reservation has been cancelled.

Trigger: Customer logs on to the library website and redirects to the GreenBox web interface. Customer selects 'Cancel Reservation' option.

Main Success Scenario:

1. Customer selects 'Cancel Reservation' option.
2. System displays input field for reservation number.
3. Customer enters reservation number and clicks 'submit'.

4. System displays reservation details.
5. Customer clicks 'Cancel this reservation' option.
6. System displays successful cancellation message.
7. System updates available number of copies for the title of book.

Alternate Scenario:

7A. The book is used to service the next request on the queue.

Description: This scenario describes results of cancelation of reservation if there is request on the queue.

7A1. System creates reservation for the first request for that title.

7A2. System sends email notification of reservation to customer.

1.4 Use-Case Name: Customer creates an account with GBALS

Use Case Goal: To create an account with GBALS to utilize its features.

Actors: Customer

Pre-Conditions: Library branch is open.

Post-Conditions: Create a new customer account.

Trigger: Customer determines a need for a lending account.

Main Success Scenario:

1. Customer arrives at a branch location under the GBALS.
2. Customer requests assistance from Library employee with creation of a lending account.
3. Customer provides the Library employee with information required to create a new lending account.
4. Customer successfully creates a lending account to enjoy the features of GBALS.

Alternate Scenario:

1A. The branch location is closed.

1A1. Customer visits the Library website to create a lending account.

1A2. Customer provides the Library website with information required to create a new lending account.

1A3. Customer successfully creates a lending account to enjoy the features of GBALS

1B. A lending account associated with the Customer already exists for the Customer and is in good standing

Description: This scenario describes when the Customer already has a lending account and would like to reactivate it

1B1. Library employee verifies if the previously created lending account is in good standing.

1B2. Customer provides the Library employee with information required to update lending account.

1B3. Customer successfully reactivates their lending account to enjoy the features of GBALS

1C. A lending account associated with the Customer already exists for the Customer and is not in good standing

Description: This scenario describes when the Customer already has a lending account and would like to reactivate it

1C1. Library employee verifies if the previously created lending account is not in good standing.

1C2. Customer pays all the outstanding fines necessary to change the status of their lending account.

1C3. Library employee verifies all the outstanding fines have been paid off.

1C4. Customer provides the Library employee with information required to update lending account.

1C5. Customer successfully reactivates their lending account to enjoy the features of GBALS.

1.5 Use-Case Name: Customer searches audiobook

Use Case Goal: To search for a book using keywords to filter for the result.

Actors: Customer

Pre-Conditions: The system is operational.

Post-Conditions: Customer retrieves search results.

Trigger: Customer navigates to search menu.

Main Success Scenario:

1. System displays a search bar that allows multiple input fields for searching.

2. Customer enters keywords into the input field and clicks option to search.
3. System does the following:
 - a) Display loading page while retrieving search results based on the keyword.
 - b) Display book information and which kiosks have available copies.

Steps 2-3 repeated until customer finds the desired title.

1.6 Use-Case Name: Customer reserves audiobook

Use Case Goal: To place a book on hold for 3 days for the customer to pick up.

Actors: Customer

Pre-Conditions: The system is operational.

Post-Conditions: Customer's audiobook reservation has been created. Inventory is updated.

Trigger: Customer finds desired audiobook.

Main Success Scenario:

1. Customer selects to reserve desired audiobook at desired kiosk.
2. System does the following:
 - a) Displays a successful reservation message that contains customer name, book title, kiosk location, and reservation expiration date.
 - b) Updates inventory of that title of book.

Alternate Scenario:

2A. The title has no available copies at desired kiosk location.

2A1. Customer selects to request the desired audiobook.

2A2. System adds customer's request to audiobooks request queue (FIFO).

2A2. System notifies customer when a copy is available via email and returns to step 2 of main success scenario.

1.7 Use-Case Name: System administrator requests reports

Use Case Goal: To list status of book distribution at kiosks.

Actors: System Administrator

Pre-Conditions: None.

Post-Conditions: Reports of book distribution at kiosks are generated and saved to specified destination.

Main Success Scenario:

1. System administrator logs onto the Main Library website using the administrator user account and redirects to the GreenBox website.
2. System display options: 'View Books', 'View users', 'View borrowed books', 'Update Book', 'Update User'.
3. System administrator clicks 'View Books' option.
4. System retrieves the book titles, and number of available copies at kiosk locations.
5. System displays the information retrieved.
6. System administrator clicks 'Export As Report' option.
7. System administrator specifies the columns to include in the report.
8. System administrator specifies the file name for the report.
9. System administrator specifies the report format to be saved.
10. System administrator specifies the location to be saved at.
11. System administrator clicks 'Export' option.
12. System saves the report to the specified location.

Alternate Scenario:

- 7A. System administrator doesn't specify the columns to include in the report.
 - 7A1. System includes all columns in the report.
- 8A. System administrator doesn't specify the file name of the report.
 - 8A1. System sets the name of the report to be<time generated_GBALS Book Report>.
- 9A. System administrator doesn't specify the report format to be saved.
 - 9A1. System uses the default file format: PDF.
- 10A. System administrator doesn't specify the location to be saved at.
 - 10A1. System saves the report to the desktop.

1.8 Use-Case Name: System administrator adds new titles to inventory

Use Case Goal: To add new titles of books to the inventory.

Actors: System Administrator

Pre-Conditions: None.

Post-Conditions: New titles of books are added to the system.

Main Success Scenario:

1. System administrator logs onto the Main Library website using the administrator user account and redirects to the GreenBox website.
2. System displays options: 'View Books', 'View users', 'View borrowed books', 'Update Book', 'Update User'.
3. System administrator clicks 'Update Books' option.
4. System displays options: 'Add Book', 'Delete Book'.
5. System administrator clicks 'Add Book' option.
6. System displays input fields for book title, author, publisher, ISBN, available copy number, and available kiosk locations.
7. System administrator types into input field and clicks 'Submit' option.
8. System adds the title to the inventory.

1.9 Use-Case Name: Library Employee Updates Kiosk Inventory

Use Case Goal: To rebalance the distribution of audiobooks among the kiosks.

Actors: Library Employee

Pre-Conditions: Kiosks are operational.

Post-Conditions: Kiosk inventory is updated.

Trigger: Regular inventory updates.

Main Success Scenario:

1. Library employee presents their special card to the kiosk for authentication
2. The kiosk authenticates the library employee
3. Library employee inspects the contents of a kiosk
4. The contents indicate a lack of or a surplus of audiobooks
5. Library employee determines which audiobooks are required to rebalance the distribution
6. Library employee adds or removes the set number of audiobooks to the kiosk
7. Library employee verifies the updated contents of the kiosk
8. Library employee logs out of the kiosk

Alternate Scenario:

3A. The contents do not indicate any need for updates.

Description: This scenario describes when there are no updates necessary to the inventory of a kiosk.

3A1. Library employee logs out of the kiosk.

3B. The contents indicate a need for an inventory reset due to maintenance.

Description: This scenario describes when the inventory must be emptied regardless of a lack or surplus of audiobooks.

3B1. Library employee selects all the audiobooks in the kiosk.

3B2. Library employee removes all the selected audiobooks from the kiosk.

3B3. Library employees store the set of audiobooks in a temporary storage location.

3B4. Library employee verifies the updated contents of the kiosk.

3B5. Library employee logs out of the kiosk.

3C. The contents indicate completion of maintenance, and the inventory may be restored

Description: This scenario describes when the inventory must be restocked after maintenance is completed.

3C1. Library employee retrieves the set of audiobooks previously removed from the kiosk from a designated storage location.

3C2. Library employee selects all the audiobooks previously removed from the kiosk.

3C3. Library employee manually adds back all the selected audiobooks to the kiosk.

3C4. Library employee verifies the updated contents of the kiosk.

3C5. Library employee logs out of the kiosk

1.10 Use-Case Name: Time cancels reservation

Use Case Goal: To automatically make a copy of a reserved book available again if not borrowed.

Actors: Time

Pre-Conditions: The system is operational.

Post-Conditions: Audiobook becomes available for reservations.

Trigger: Customer fails to retrieve the audiobook within three days of reservation.

Main Success Scenario:

1. Time service in GBALS detects a reservation made by a lending account three days prior has not been picked up.
2. System cancels reservation and makes audiobook available to all customers.

2 Use Case Diagram



Figure 1: Most Common Use Cases of Customers

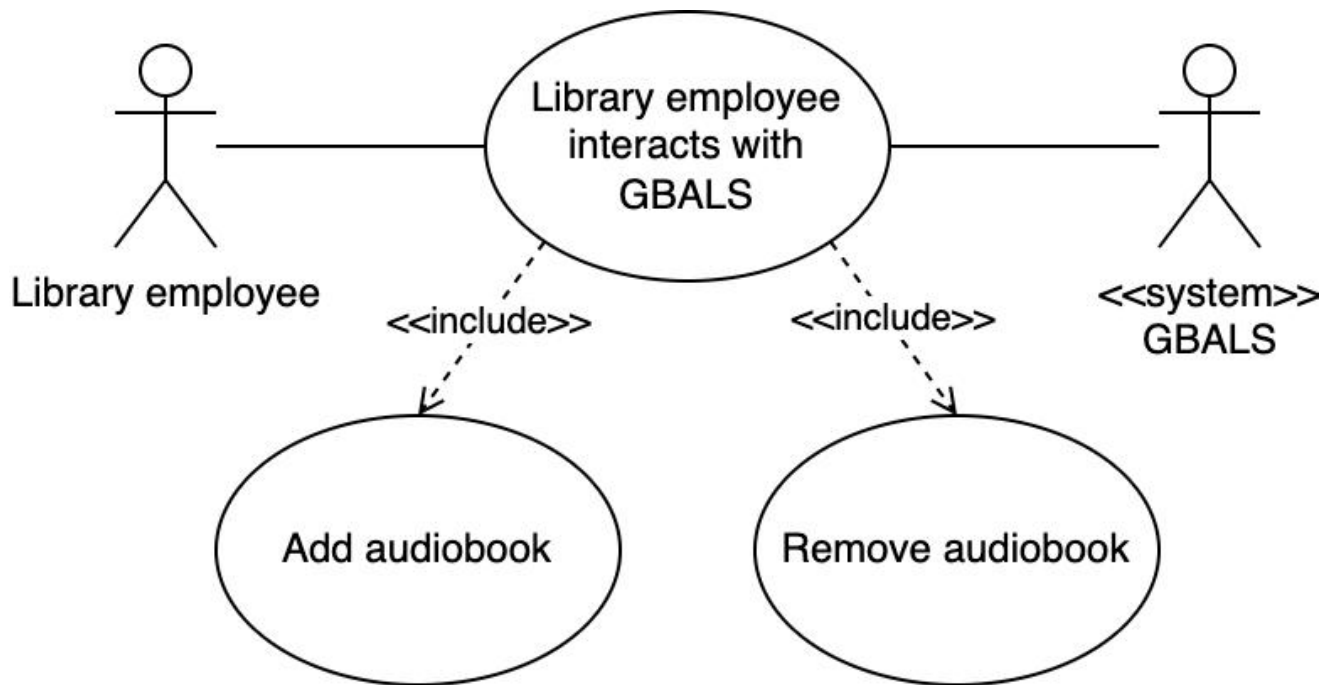


Figure 2: Most Common Use Cases of Library Employees

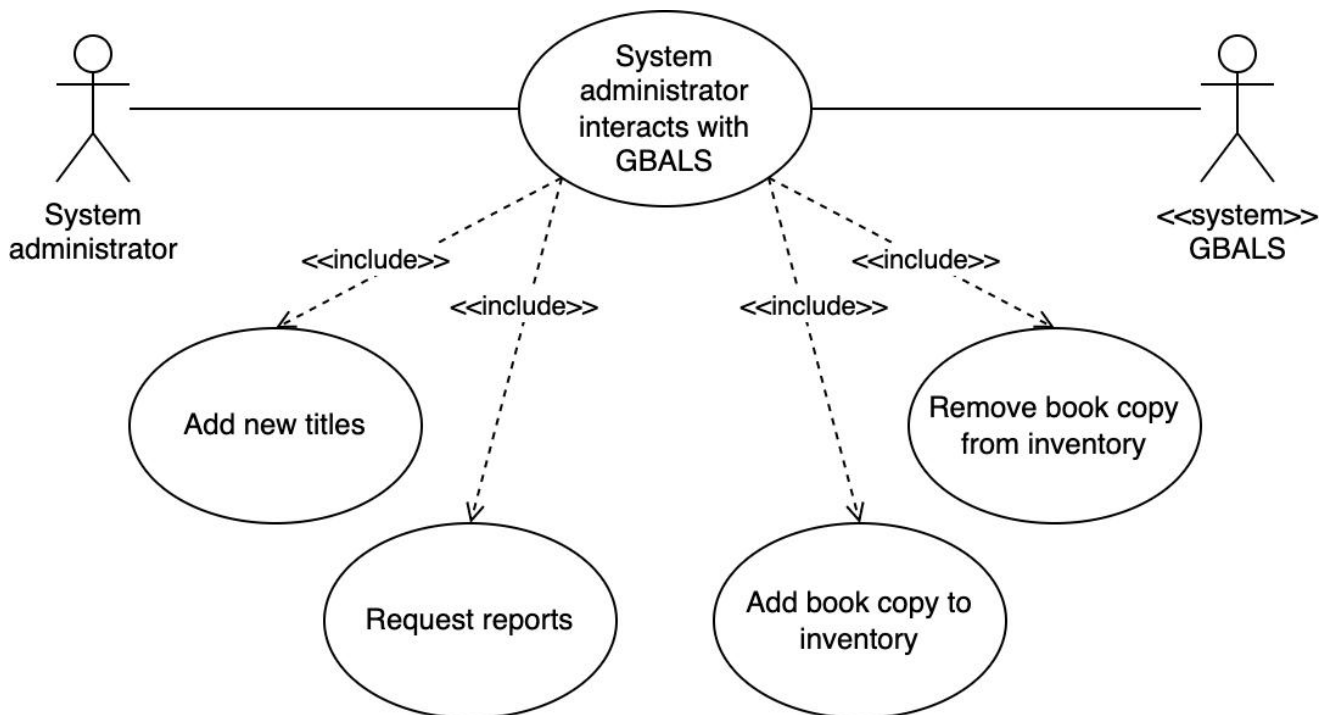


Figure 3: Most Common Use Cases of System Administrators

3 Actor Glossary

Actor Name	Description
Customer	The customers interact with the GBALS web interface and kiosks to search, reserve, and borrow the audiobooks available at the local branch.
System administrator	The system administrators with sufficient technical background to generate various reports and manage inventory via the GBALS kiosks.
Library employee	The staff employed by the Library with prior experience in tasks similar to the features provided by the GBALS kiosks.
Time	The passage of time can trigger certain scheduled/automated processes.
Library Accounting System	The system that handles financial interactions with customers, such as the issuing and paying of late fees
Main Library Kiosk Authentication System	The system authenticates users to allow them access to the library kiosks, and therefore the GreenBox system.
Main Library Account Status Management System	The system manages user accounts, tracking what books they have checked out and their respective return dates.