



## System Operations:

1. System creates a new user account
2. System prompts for credentials
3. System authenticates the user
4. System lists available audio books
5. System adds/removes an available audio book
6. System marks an audio book reserved/not reserved/checked in/checked out
7. System updates audiobook physical location
8. System checks if account is in good standing
9. System generates a report
10. System checks for expired reservations
11. System adjusts inventory levels
12. System displays error message
13. System dispenses audiobook
14. System opens receptacle to receive audiobook
15. System moves audiobook to holding bin
16. System terminates the session



### System Operation

Name: System creates a new user account  
Description: Generates a new account object based on user input  
Actors: User, System  
Trigger: User selects "Create New Account"  
Inputs: User library card  
Classes of objects involved: User, Kiosk  
Precondition: User has library card  
Postcondition: User has account  
Outputs: User Object

### System Operation

Name: System prompts for credentials  
Description: Provides a short message requesting user credentials.  
Actors: User, System  
Trigger: User initiates session with kiosk  
Inputs: kiosk, session  
Classes of objects involved: User, Kiosk, and Session  
Precondition: User has account  
Postcondition: <none>  
Outputs: <none>



### System Operation

Name: System authenticates the user

Description: System provides a method for the user to enter their username and password.

Actors: User, System

Trigger: System prompts user for credentials

Inputs: username, password

Classes of objects involved: User, Kiosk, and Session

Precondition: User has account and kiosk has unauthenticated session.

Postcondition: User has an authenticated session

Outputs: success or failure

### System Operation

Name: System lists available audio books

Description: System provides a user a browsable list of audio books in the kiosk.

Actors: User, System

Trigger: User authenticates

Inputs: <none>

Classes of objects involved: Kiosk, audiobook

Precondition: User has active, authenticated session on kiosk.

Postcondition: <none>

Outputs: <none>



### System Operation

Name: System adds/removes an available audiobook

Description: System updates the internal database of audiobooks

Actors: User, System

Trigger: User checks out audiobook OR user checks in audiobook

Inputs: audiobook

Classes of objects involved: User, Kiosk, Audiobook

Precondition: User has active, authenticated session on kiosk

Postcondition: <none>

Outputs: <none>

### System Operation

Name: System marks an audio book reserved/not reserved/checked in/checked out

Description: System updates the internal database to reflect a new audiobook status

Actors: User, System

Trigger: User checks in/out audiobook OR user reserves/unreserves an audiobook

Inputs: audiobook, new status

Classes of objects involved: User, Kiosk, Audiobook

Precondition: User has active, authenticated session on kiosk

Postcondition: <none>



### System Operation

Name: System updates audiobook physical location

Description: System updates the internal database to reflect a new audiobook physical location

Actors: User, System

Trigger: User physically receives OR returns an audiobook

Inputs: User, audiobook, new status

Classes of objects involved: User, Kiosk, Audiobook

Precondition: User has active, authenticated session on kiosk

Postcondition: <none>

### System Operation

Name: System checks if account is in good standing

Description: System checks that user has no outstanding fines

Actors: User, System

Trigger: User checks out OR reserves an audiobook

Inputs: User, audiobook

Classes of objects involved: User, Kiosk, Audiobook

Precondition: User has active, authenticated session on kiosk

Postcondition: <none>

Outputs: Account standing status



### System Operation

Name: System generates a report  
Description: System summarizes database status and history into human-readable report  
Actors: User, System  
Trigger: Manager requests report generation  
Inputs: User, Kiosk, Report type  
Classes of objects involved: User, Kiosk, Audiobook  
Precondition: User has active, authenticated session on kiosk  
Postcondition: <none>  
Outputs: Human-readable report

### System Operation

Name: System checks for expired reservations  
Description: System scans the database for expired reservations  
Actors: System  
Trigger: Periodic autonomous clock trigger  
Inputs: <none>  
Classes of objects involved: User, Kiosk, Audiobook  
Precondition: <none>  
Postcondition: <none>  
Outputs: List of all expired reservations



### System Operation

Name: System adjusts inventory levels

Description: System updates the audiobooks in the database

Actors: Manager, System

Trigger: manager updates inventory

Inputs: Changes to audiobook list

Classes of objects involved: User, Kiosk, Audiobook

Precondition: User has active, authenticated session on kiosk

Postcondition: <none>

Outputs: <none>

### System Operation

Name: System displays error message

Description: System informs the user that an exception has occurred

Actors: System

Trigger: System experiences an exception

Inputs: <none>

Classes of objects involved: <Any>

Precondition: <none>

Postcondition: System is non-functional until serviced

Outputs: <none>



### System Operation

Name: System dispenses audiobook  
Description: System physically releases an audiobook from its internal storage  
Actors: User, System  
Trigger: User checks out an audiobook  
Inputs: Audiobook  
Classes of objects involved: User, Kiosk, Session, Audiobook  
Precondition: User has active, authenticated session on kiosk AND kiosk has audiobook selected  
Postcondition: kiosk no longer holds selected audiobook  
Outputs: <none>

### System Operation

Name: System opens receptacle to receive audiobook  
Description: System physically accepts an audiobook into its temporary storage  
Actors: User, System  
Trigger: User checks in an audiobook  
Inputs: Audiobook  
Classes of objects involved: User, Kiosk, Session, Audiobook  
Precondition: User has active, authenticated session on kiosk  
Postcondition: kiosk now holds selected audiobook in temporary storage  
Outputs: <none>





### System Operation

Name: System moves audiobook to holding bin

Description: System physically moves an audiobook from temporary storage into its internal storage

Actors: System

Trigger: System receives audiobook into temporary storage.

Inputs: Audiobook

Classes of objects involved: Kiosk, Audiobook

Precondition: System has audiobook in temporary storage.

Postcondition: kiosk now holds selected audiobook in internal storage

### System Operation

Name: System terminates the session

Description: System no longer services the session, as it has become inactive

Actors: System

Trigger: Session times out OR user logs out

Inputs: <none>

Classes of objects involved: User, Session

Precondition: User has active session on kiosk

Postcondition: User does not have active session on kiosk

Outputs: <none>