# System Operations:

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**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>

Outputs: <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>

Outputs: <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 storate 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

Outputs: <none>

**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>