Use Cases

Find Title
Use case name: Find Title
Participating actor: Librarian
Parameters: in ISBN: Integer, out title: String
Entry condition:
1. The *librarian* requests to look up the *title* from the *librarianterminal.*
Flow of events:
2. The *librarian* inputs the title ISBN into the system.
3. If the *title* doesn't exist, the system will return a *"Title does not exist."* message to the *librarian*. If the *title* does exist, the system will notify the user with a "*Title already exists.*".
Exit condition:
4. The *librarian* completes finding the title and is returned to the *librarianterminal* main menu.

Find User
Use case name: Find User
Participating actor: Librarian
Parameters: in UserID: Integer, out UserID: String
Entry condition:
1. The *librarian* requests to look up the *user* from the *librarianterminal.*
Flow of events:
2. The *librarian* inputs the UserID into the system.
3. If the *user* doesn't exist, the system will return a *"User does not exist."* message to the *librarian*. If the *user* does exist, the system will notify the user with a "*User already exists.*".
Exit condition:
4. The *librarian* completes finding the user and is returned to the *librarianterminal* main menu.

Check Reservation
Use case name: Check Reservation
Participating actor: Librarian
Parameters: in ISBN: Integer, in copyID, out boolean
Entry condition:
1. The *librarian* requests to look up a reservation from the *librarianterminal.*
Flow of events:
2. The *librarian* inputs the ISBN and copyID into the system.
3. If the ISBN or copyID is invalid proceed to 5.
4. If the book with the ISBN and copyID is on loan, the system will return a false to indicate that it is not available and true otherwise to indicate that it is available.
Exit condition:
5. The *librarian* completes checking the reservation and is returned to the *librarianterminal*.

Find Loan
Use case name: Find Loan
Participating actor: Librarian
Parameters: in UserID: Integer, in itemID, out loan: Loan
Entry condition:
1. The *librarian* requests to look up if a *user* has a *loan* on an title from the *librarianterminal.*
Flow of events:

2. The *librarian* inputs the UserID, and itemID into the system.
3. If the *user* doesn't exist, the system will return a *"User does not exist."* message to the *librarian* and proceed to 6.
4. If the itemID does exist, the system will notify the user with a "*Item does not exist.*" and proceed to 6.
5. If the UserID and ItemID are valid the system will look for the loan and return it, if not proceed to 6.
Exit condition:
4. The *librarian* completes finding the loan and is returned to the *librarianterminal* main menu.

User Stories

1) As a librarian I can add a user so that they can be added to the system and are able to use the library.
    - The librarian can choose to add a user using a UserID.
        - If the UserID is already in the system, the user can not be added again.
        - If the UserID does not exist, the user is to be added to the system.

2) As a librarian I can create a title so that it is available to users and is part of the librarysystem.
    - The librarian can choose to add a title using the ISBN.
        - If the entered ISBN is not a proper ISBN. i.e. It is not 13 digits long. The system shall prompt the librarian and ask that it be entered again.
        - If the title of the entered ISBN is the same as another in the system, i.e. same ISBN is already in the system, the title can not be added again.
        - If the ISBN is proper and does not exist in the system then the new title is to be added to the system.

3) As a librarian I can allow a user to borrow a title.
    - The librarian can choose to enter the borrowers UserID and the items ItemID.
        - If the UserID does not exist in the system, do not allow the user to borrow a title.
        - If the ItemID does not exist in the system, there is nothing to do.
        - If the UserID and ItemID are valid then the system shall:
            - Check the user's privilage, if there is a fine, then the system can collect the fine.
                - If the fine is not cleared, the user can not borrow a title.
            - Check that the user does not exceed the number of loan items, if they do, the user can not borrow a title.
            - Check that the requested title is not reserved, if it is, the user can not borrow a title.
                - If all checks above pass, the user is able to borrow the title and the system is updated.

4) As a librarian I can process a title return, i.e. a borrowed title.
    - The librarian can choose to return a loancopy by entering a UserID and ItemID.
        - If the ItemID is not found to be loaned out, then there is nothing to do.
        - If the ItemID is found to be loaned out, the system shall:
            - Check if the loan is overdue, if it is, notifies the librarian.
            - Check if the loan has been overdue for more than 4 days, remove the user privilege.
                - If all checks pass, the loan is 'destroyed', i.e. removed from the system.

5) As a librarian I can renew a loan for a user.
    - The librarian can choose to renew a loan by entering the UserID and ItemID.
        - If the ItemID is not found to be loaned out, then there is nothing to do.
        - If the users privilege is revoked then there is nothing to do.
        - If the loan is valid the system shall:
            - Check that the title is not reserved, if it is, then the user is not allowed to renew.
            - Check if the title can not be renewed anymore, if it can't, then the user is not allowed to

renew.
  - If all checks pass, the loan is renewed.

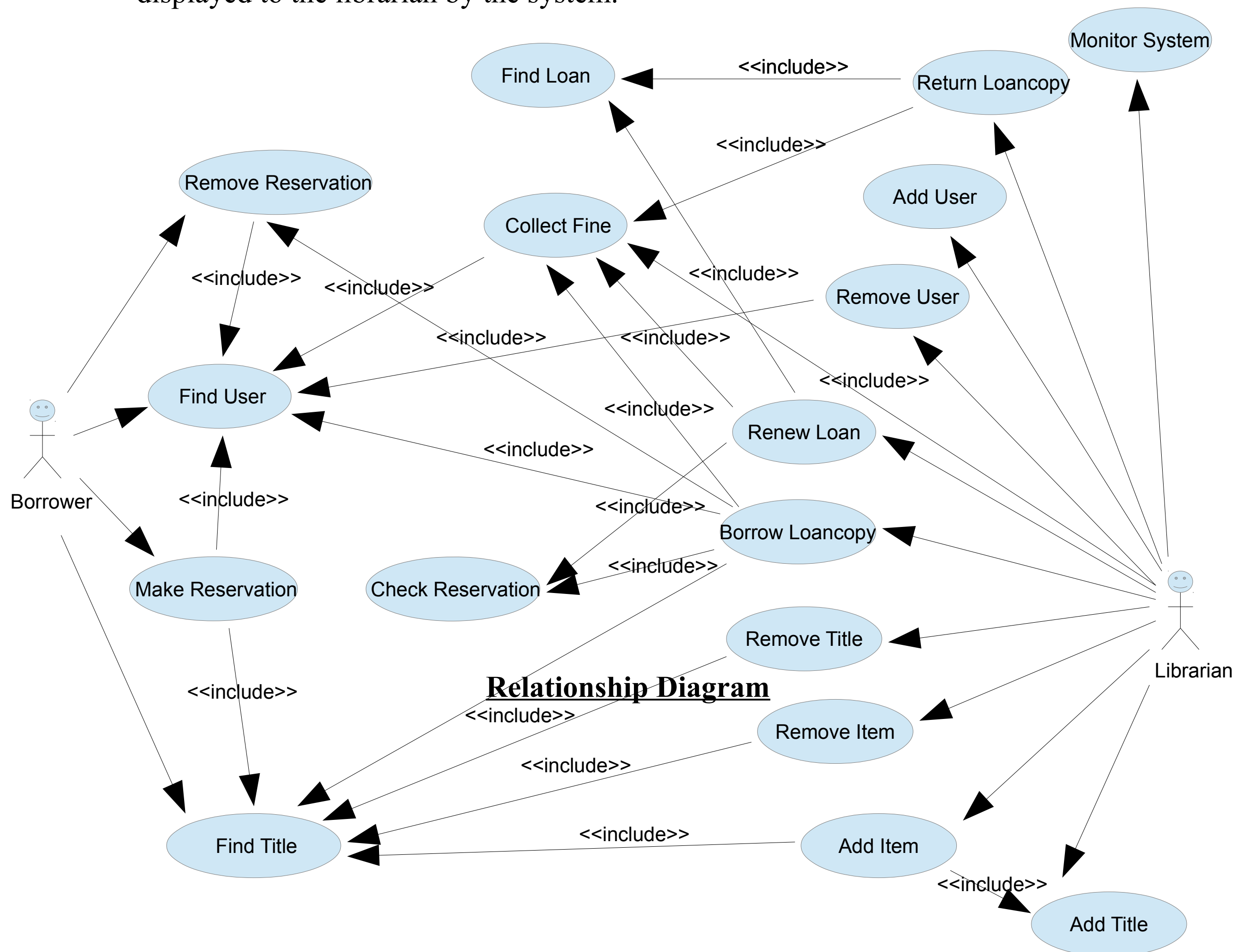
6) As a librarian I can collect a fine from a user.
   - The librarian can choose to collect a fine by entering a UserID and ItemID into the system.
     - If the UserID is not found, there is nothing to do.
     - If the user is in the system and there is a file, collect it and update the system.

7) As a librarian I can delete a user from the system.
   - The librarian can choose to delete a user by entering the UserID into the system.
     - If the UserID is not found, there is nothing to do.
     - If the user has a loan, then the user can not be removed.
     - If the user is in the system and has no loan, the system removes the user.

8) As a librarian I can delete a title.
   - The librarian can choose to delete a title by entering the ISBN into the system.
     - If the ISBN is not found in the system, there is nothing to do.
     - If the title is reserved or on loan, there is nothing to do.
     - If the title is in the system and is not reserved or on loan, it is removed form the system.

9) As a librarian I can delete a copy.
   - The librarian can choose to delete a copy from the system by entering the ItemID and CopyNumber into the system.
     - If the ItemID is not found in the system, there is nothing to do.
     - If the CopyNumber is not found in the system, there is nothing to do.
     - If the item is reserved or on loan, there is nothing to do.
     - If the item is valid then the copy is removed from the system.

10) As a librarian I can monitor the system.
     - When the librarian chooses to monitor the system, information about all titles and users is displayed to the librarian by the system.



Relationship Diagram