Introduction:

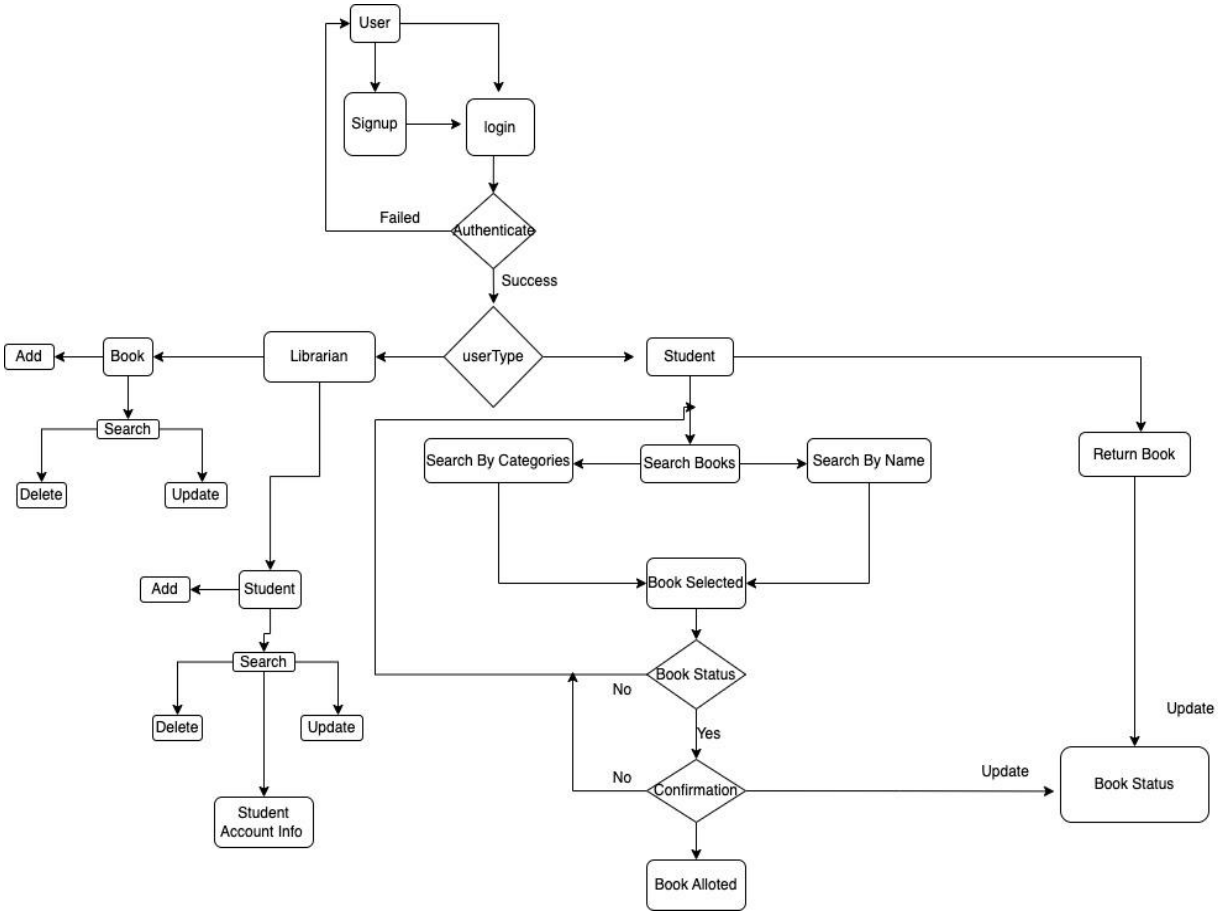
1. A library management system is software that is designed to manage all the functions of a library.
2. It helps librarians to maintain the database of new books and the books that are borrowed by members along with their due dates.
3. This system completely automates all your library's activities. The best way to maintain, organize, and handle countless books systematically is to implement a library management system software.
4. This system is used to maintain library records. It tracks the records of the number of books in the library, how many books are issued, or how many books have been returned or renewed or late fine charges, etc.
5. You can find books in an instant, issue/reissue books quickly, and manage all the data efficiently and orderly using this system.
6. The purpose of a library management system is to provide instant and accurate data regarding any type of book, thereby saving a lot of time and effort.

Functional Requirements:

- Authentication:
    a. userName
    b. Password
    c. userType - On the basis of its credentials, users will be divided into two categories, either librarian or student.
    d. login(): if a user already exists in the database then they can directly go to the login page where we will match its details on our database to authenticate.
    e. signup(): if the user is new, then they first signup and store its data in the database, then the user will be redirected to the login page.
    f. logout(): Session will be destroyed which was created at the time of login.
- Student:
    a. uniqueId
    b. Name
    c. Class
    d. Roll Number
    e. showBookInfo(): After searching a particular book, students should be able to see all the details regarding a particular book like title, author and publication etc.
    f. checkAccount(): This function helps students to get the information about number of books borrowed , no. of books lost, number of books returned etc.
- Account:
    a. bookBorrowed

    b. returnBook
    c. lostBook
    d. calculateFine() : With the help of above variables we can calculate fine on a particular student.
- Book
    a. uniqueId
    b. title
    c. author
    d. Publication
    e. showDueDate(): If someone has borrowed this book then return date will be mentioned
    f. reservationStatus(): This function gives the information about reservation status of the book.
    g. feedBack():
    h. renewInfo(): after returning the book corresponding variables will be updated accordingly.
    i. bookRequest(): this function helps users to issue a book. This function internally calls reservationStatus() to check whether a book is available or not.
- Librarian
    a. uniqueId
    b. Name
    c. searchBooks(): librarian can search a book and can perform CRUD operations accordingly.
    d. searchUser(): this function display the details of each users like account information, personal information etc.
    e. updateAccount():
- bookList
    a. listOfBooks: This will be an array or list of all the books available in the database
    b. add(): librarian with the help of this function can add a new book in the database.
    c. delete(): librarian with the help of this function can delete book in the database
    d. update(): librarian with the help of this function can update a book in the database.
    e. search(): librarian with the help of this function can search a book in the database.

Flowchart: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Search By Name
Return Book
Add
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Search
Book Status
No
Update
Delete
Update
Yes
No
Update
Confirmation
Book Status
Student Account Info
Book Alloted

Class Diagram: