**Library Management System**

**Requirement:**

Create an application that simulate the library functionalities. Types of users for this application is given below. There must be one login page. Once the user login that user should get respective home page. i.e. if an admin user logs in then that admin should get admin home page.

**1. Types of users:**

a. Admin

b. Librarian

c. Normal Users

2. Admin User Functionalities

a. Login as admin

b. Add user

c. Update user

d. Search user

e. Remove user

3. Normal User Functionalities

a. Login as normal user

b. Search for the book

c. Search for category

d. Search for author

e. Request for the book

f. Request for renew a book

4. Librarian User Functionalities

a. Login as Librarian user

b. Add books

c. Delete Books

d. Allocate a book to a user

e. Deallocate a book from a user (Getting book back from the user)

f. Renew the book to a user after 15 days (only 3 times)

**2. View Pages:**

• Login Page (common for all user type)

• Accept User id and password

• Admin User Pages

Admin Home Page

•Form for search a user

• View all users

•Delete option (hyperlink) for every user

•Update option (hyperlink) for every user

• Option (hyperlink) for create new user

• Option for (hyperlink) Logout

Search page

• Option (hyperlink) for home page

•Form for search a user

• View searched user

• Delete option (hyperlink) for every user

• Update option (hyperlink) for every user

• Option for (hyperlink) Logout

Update Page

•Option (hyperlink) for home page

• Form to accept user details with old values

•Option for (hyperlink) Logout

• Normal User Pages

Normal User Home Page

• Option (hyperlink) for home page

• One form for search a book/category/author

•Display the books the user borrowed

• Option for (hyperlink) Logout

Search Page

• Option (hyperlink) for home page

•One form for search a book/category/author

• Display the book details which is available

• Option (hyperlink) to request a book

• Option for (hyperlink) Logout

• Librarian User Pages

Librarian User Home Page

• Option (hyperlink) for home page

• Form to insert a book

• Option (hyperlink) to allot book to a user

• Option (hyperlink) to accept the returned book

•Check all the allotted books

•Option (hyperlink) to go to the User Request Page

• Option for (hyperlink) Logout

Allot Book Page

• Option (hyperlink) for home page

• Form to accept user id, book id, and date to allot the book

• Option for (hyperlink) Logout

Return Book Page

•Option (hyperlink) for home page

•Form to accept user id, book id, and date to return the book

• Option for (hyperlink) Logout

Allotted Book Page

• Option (hyperlink) for home page

•View all allotted books

•Option (hyperlink) to return book

•Option for (hyperlink) Logout

User Request Page

• Option (hyperlink) for home page

• View all the user request for the books

•Option (hyperlink) to accept the request

• Option (hyperlink) to reject the request

• Option for (hyperlink) Logout

**3. Databases:**

1. Table for keeping track of book

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Datatype | Default | Key | Extra |
| Book\_Id | INT | Not null | Primary |  |
| Book\_title | VARCHAR | Null |  |  |
| Category | VARCHAR | Null |  |  |
| Author | VARCHAR | Null |  |  |
| Number\_0f\_Copies | INT | Null |  |  |
| Available | Boolean | Null |  |  |

2. User Table for User Information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Datatype | Default | Key | Extra |
| User\_Id | INT | Not null | Primary |  |
| User\_Name | VARCHAR | Null |  |  |
| Address1 | VARCHAR | Null |  |  |
| Address2 | VARCHAR | Null |  |  |
| Phone\_Number | LONG | Null |  |  |
| Password | VARCHAR | Null |  |  |
| User\_Type | VARCHAR | Not null | Primary |  |

3. Issued Table books out on loan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Datatype | Default | Key | Extra |
| Book\_Id | INT | Not null | Primary |  |
| User\_Id | INT | Not null | Primary |  |
| Request\_saction | Boolean | Null |  |  |

4. Table for keeping track of book taken by student

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Datatype | Default | Key | Extra |
| Book\_Id | INT | Not null | Primary |  |
| Date\_issued | INT | Null |  |  |
| Date\_due\_for\_return | DATE | Null |  |  |
| Fine | INT | Null |  |  |
| User\_Id | INT | Not Null | Primary |  |
| Book\_Renew | DATE | Null |  |  |

**Functionality**:

• Login Page (common for all user type)

a. Admin

b. Librarian

c. Normal Users

**Admin User Functionalities**

a. Login as admin

Admin user after inserting correct login creditatial will be taken to homepage.

b. Add user

Admin will have the authority to insert new user to the database.

c. Update user

Admin can change or modify the detail of the registered user.

d. Search user

Admin can search for registered user.

e. Remove user

Admin can remove the registered user.

**Normal User Functionalities**

a. Login as normal user

b. Search for the book

User will be given a page to search the book by title or author

c. Search for category

Book can also be searched by type of category

d. Search for author

Book can searched by author

e. Request for the book

User has to request the book which he/she has to take for loan

f. Request for renew a book

User can renew the book which he/she taken and can be renew upto 3 times

**Librarian User Functionalities**

a. Login as Librarian user

b. Add books

Librarian can add new books which will be registered into database

c. Delete Books

Librarian can delete or remove the book from the database

d. Allocate a book to a user

Librarian can allocated a book to user based on request he/she has made

e. Deallocate a book from a user (Getting book back from the user)

Librarian can Deallocate a book from the user on returning.

f. Renew the book to a user after 15 days (only 3 times)

Librarian can extend or renew the deadline of returning the book upto 3 times on request