**Library Management System**

**Use case:**

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.

***⦁ Types of users :***

⦁ Admin - It is to be operated by the admin with unique id and password. The admin is the person who decides authentication and authorization for all the different users of the application

⦁ Librarian - Includes all the library staff who are required to enter the records in the system and keep an eye on the various activities like the issue of the book, the return of the book, non-availability of books etc. through the developed system.

⦁ Normal Users – Includes all the user to register to issue the books

***⦁ Admin User Functionalities***

⦁ Login as admin – Authentication of admin using id and password

⦁ Add user – Have the authority to add the user and its details after verifying them

⦁ Update user - Have the authority to update the user and its details

⦁ Search user - Have the authority to search the user and its details if needed

⦁ Deactivate user - Have the authority to search the user and its details if not required

***⦁ Normal User Functionalities***

⦁ Login as normal user - Authentication of users using id and password

⦁ Search for the book - Have the option to search for a particular book and get the details of that book including its cost and authors

⦁ Search for category – Search the books using its categories

⦁ Search for author - Search the books using its authors

⦁ Request for the book – Request to purchase a particular book

⦁ Request for renew a book - Request to Renew an issued book

***⦁ Librarian User Functionalities***

⦁ Login as Librarian user

⦁ Add books

⦁ Delete Books

⦁ Allocate a book to a user

⦁ Deallocate a book from a user (Getting book back from the user)

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

**View pages**

***⦁ Login Page (common for all user type)-***

* Accept User id and password
* Forgot Password button

***⦁ Admin User Pages-***

⦁ Admin Home Page – Page having a form with - :

* search a user
* View all users
* Deactivate option (hyperlink) for every user
* Delete option (hyperlink) for every user
* Update option (hyperlink) for every user
* Button for create new user
* Button for 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
* Button Option for Logout
* Update Page
* Option (hyperlink) for home page
* Form to accept user details with old values
* Button Option for 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 (Button) for Logout

b. 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

⦁ Button for Logout

***⦁ Librarian User Pages***

*a. 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

⦁ Check all the available books and its quantity

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

⦁ Option for (Button) Logout

*b. Allot Book Page*

*⦁ Option (hyperlink) for home page*

*⦁ Form to accept user id, book id, and date to allot the book*

*⦁ Option for (*Button*) Logout*

*c. Return Book Page*

⦁ Option (hyperlink) for home page

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

⦁ Option for (Button) Logout

*d. Allotted Book Page*

⦁ Option (hyperlink) for home page

⦁ View all allotted books

⦁ Option (hyperlink) to return book

⦁ Option for (Button) Logout

*e. 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 (Button) Logout

*f. Add Book Page*

*⦁ Option (hyperlink) for home page*

*⦁ Form to accept book id, book name and all the details to add the book*

*⦁ Option for (*Button*) Add the book*

*⦁ Option for (*Button*) Logout*

*b. View All Book Page*

*⦁ Option (hyperlink) for home page*

*⦁ Form to show all the book available in the library*

*⦁ Deactivate a book if not available in the library*

*⦁ Option for (*Button*) Logout*

**⦁ DATABASE TABLES :**

**a. User :**

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Type | Null | Key |
| UserType | varchar | no |  |
| Id | int | No | Primary |
| Name | Varchar(50) | No |  |
| Address | varchar (50) | No |  |
| city | varchar (50) | yes |  |
| Phone\_no | long | yes |  |
| Registration\_date | date | no |  |
| Fine\_amount | int | yes |  |

**b. Book:**

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Type | Null | Key |
| BookId | int | No | Primary |
| Book\_Title | varchar (50) | No |  |
| Category | varchar (50) | No |  |
| Rental\_price | int | No |  |
| Book\_Quantity | int | yes |  |
| No\_of\_availablebooks | int |  |  |
| No\_of\_issuedbooks | int |  |  |
| Status | varchar (50) | Yes |  |
| author | varchar (50) | No | Foreign |
| publisher | varchar (50) | No |  |

**c. Issued Status:**

|  |  |  |  |
| --- | --- | --- | --- |
| Field | Type | Null | Key |
| Issued\_Id | int | No | Primary |
| Issued\_User | varchar (50) | No |  |
| Issued\_BookName | varchar (50) | No |  |
| Issued\_date | date | No |  |
| Return\_date | date | No |  |