

LibManage-Design Document

Database Structure

- **Book model**- Each object of this model represents a book in the library.
 - It has fields for storing Title, Author, ISBN, Publication, genre, quantity and summary.
 - Quantity stores the number of those books present inside the Library at any time.
- **User Profile model**- An object of this model stores the details of a user of the LibManage system. It has many fields but as of now, username, email, password and account type fields are being used in the webapp. The account type stores whether the account is of a normal user, or librarian or admin.
- **Book Request model**- An object of this model stores the details of a request made to borrow a book from library.
 - It stores username of user who made that request and details of book which the user wants to borrow and period for which the user wants to borrow the book.
- **Book Borrowed model**- An object of this model stores the details of a book which has been borrowed from library. The date of issue, due date, username of user who borrowed the book and book details are contained in this.
- **System Variable Values model**- Only a single object exists of this model which stores details common for all books, users of library. E.g. penalty any user has to pay on losing a book and the penalty imposed when due date to return a book is expired.

Website structure

- There are three levels of access on the site- user, librarian and admin
- A user can register for the library through the register section which can be accessed by the drop-down menu titled 'Sign-In'.
- A normal user has the options to see all the books available in library
- Librarian can also see list of normal users of the library.
- Admin can see list of all users of library
- Books can be searched on the basis of title, author or Genre
- On opening the details page of book, the user can borrow the book and specify the period for which the book is to be borrowed, and librarian/admin can edit/delete the book.
- When a user presses the borrow book button, a request is lodged which can be seen by user in Log section.
- After a librarian or admin accepts the request, it comes in the borrowed book section and user can go to library to take the book.
- Librarian's and Admin's can add a book, edit its details or directly issue the book to a user.
- Admin can change the level of access of user to librarian and vice versa.
- A user can see the penalty amount due in the profile page.
- Admins can change the different penalty amounts.

Some features of web-app

- The present quantity of books available in the library is displayed beside a book issue request in the log page of a librarian. Librarian has the authority to accept/reject a request depending on number of books in library, etc.
- When a book is issued to a user, or borrow request is accepted, the number of those books in library is decreased by 1,
- And when librarian pushes 'Book Returned' button in log section, on a borrowed book, quantity of that book in library is increased by 1.
- If a user presses book lost button, then the penalty amount of the user is increased. When the user deposits that penalty in the library, librarian can enter the amount returned by the user, which changes the due penalty of the user.
- A user can also lodge a request to renew a book, and choose the number of days for the new period of issue.
- There is an Administrator page which can be accessed by admin only, the option to access which is in the Sing-In dropdown.