

Design Document

Aim: Implementing library management system using backend SQL and PHP for GUI.

Description: In this Project, we have implemented a Library management system that assists librarians to keep track of the books, check-out and check-in books and keep track of fines. For this we are using MySQL as database backend and PHP to create frontend GUI.

We, have created a database books using the book.csv and borrower.csv file which was provided. The database has six tables namely book, authors, book_authors, book_loans, fines and borrower. The schema used for designing this tables is same as the one Described in the Project instructions.

Modifications:

1. We have added a availability column to book table. This helps in checking if the book is still available in the library of checked out.
2. We have Created a view called books_view for making the queries simple.

Assumptions:

1. It is assumed that there is only one copy of each book mentioned in the database available in the library. If someone has check-out the book there are no more copies available.
2. It is assumed that the author with different ISBN associated with them are different even if the names are same, they are given different author id.
3. Books with same name but different ISBN are different.
4. Form validation is not performed. Its up to user to enter correct detail in correct format.

Implementation:

PHP is used for the front-end GUI. There are 5 pages created. Indexv2.php, checkoutv2.php, fines.php, register.php and checkin.php.

1. Indexv2.php : This the homepage for the system. It has the search bar which searches for the book based on the text entered. User can enter partial book name, author(s) name, ISBN10 and ISBN13. It shows the list of the matching the entered text. The table shows ISBN10, ISBN13, Title, authors and availability of the book. If the book is available user can check out the book clicking the button. If the book is unavailable it cannot be checked out.
2. Checkoutv2.php: When user try to check-out a book they are directed to this page where they asked to enter their borrow_id to check-out the book. If they have already borrowed

3 books, a alert is displayed and they are redirected to homepage. If they enter a borrow_id that is not present in the database they are if they want to register a new user.

3. Fines.php: This page displays all the fines. It displays if the fine is payed or not. If its not payed they can pay the fine by clicking the button.
4. Register.php: Here new users can be registered by entering their details and their borrow_id is displayed.
5. Checkin.php: here checkout books are display along with date out and due date. The user can check in a book by clicking the button.