Library Management System

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Introduction

The Library Management System is an application to manage various tasks such as check out and check in of books, adding the borrowers and fine management of the books.

Functions:

1. Search Books based on keywords.
2. Select the book and checkout if available.
3. Check in the book.
4. Pay fines for books checked in after the due date.
5. Add borrowers.

Architecture

To implement the system, various schemas were build which are described below:

1. Book
   The book table contains the isbn, title and availability of book. Here, isbn acts as the primary key of the table.
2. Book Authors
   The Book_Authors table contains the Author_id and isbn number of the book written by the author. Here, Author_id and isbn act as the primary key.
3. Authors
   The Authors table contains the Author_id and name of the author. Here, Author_id is the primary key.
4. Borrower
   The Borrower table contains the card_id, SSN, Name, Address and phone number of the Borrower. Here, card_id is the primary key.
5. Book Loans
   The Book_Loans table contains the Loan_id, ISBN, Card_Id, Date_out, Due_date and Date_in of the book loans. Here, Loan_id is the primary key.
6. Fines
   The Fines table contains the Loan_id and Fine_Amount of the book loans. Here, Loan_id is the primary key.

   The application is built on **MVC**(Model View Control) Architecture.

Software Used: Wamp(Apache, MySQL, php)
Database: MySQL
Language: php, JavaScript, HTML, CSS, SQL
Libraries: Bootstrap

Following is the schema.

BOOK

Isbn	Title

BOOK_AUTHORS

Author_id	Isbn

AUTHORS

Author_id	Name

BORROWER

Card_id	Ssn	Bname	Address	Phone

BOOK_LOANS

Loan_id	Isbn	Card_id	Date_out	Due_date	Date_in

FINES

Loan_id	Fine_amt	Paid