

DESIGN DOCUMENT

System Architecture:

The library management system is made up of several PHP pages and Javascript. All of these files are in the same root directory “davisbase”.

It contains following files:

addBorrowers.php
borrowers.php
checkIn.php
checkOut.php
config.php
fines.php
index.php
updateFines.php

The following are the descriptions of each page or file:

Config.php:

This page contains the credentials and hostname to connect to the database.

It is included in each an every PHP file which requires access to the database.

By making a separate file for database connection we are ensuring security and confidentiality.

Index.php and checkOut.php:

These two pages allow users to search for a book and then check it out.

The “CHECK OUT” link in the navigation bar will link to the index.php page. This page contains a search form. We can enter any or any combination of Isbn13, Isbn10, Book Title or Author Name information to look for a book. Items can be partially entered.

In the checkout page, we’ll have to enter the borrower’s ID to check out the book.

A message will be shown if the book is successfully checked out. A due date will be given too.

The checkout process will insert a loan record in the BOOK_LOANS table. The Loan_id is auto-incremented. The Due_date is 14 dates after the current Date_out. And the Date_in is set to “0000-00-00” until the book is returned.

CheckIn.php:

This page allows users to search for a loan record and then check a book in.

The “CHECK IN” link in the navigation bar will link to the chekin.php page. This page also contains a search form. We can enter any or any combination of Card ID, Borrower's Name, Isbn13 and Book Title information to look for a loan record. Items can be partially entered.

If results exist, a result table with “CHECK IN” button for each book will be shown. By clicking the CHECK IN button, we directly return the book. A message will be shown if the book is successfully returned. The check in process will update the appropriate loan record to set the Date_in value into the current date.

borrowers.php and addBorrowers.php :

These two pages allow users to search and add borrowers.

The “BORROWERS” link in the navigation bar will link to the borrowers.php page. This page contains a small search form. We can enter any or any combination of Card ID, Borrower's Name information to search for a borrower. Items can be partially entered.

The “ADD” button links to an addborrower.php page which contains a registration form of new borrower. The items with stars * are obligatory items and can't be left blank. Registration won't be completed and prompts will be shown if there are left blank. What's more, every borrower must have a unique Ssn number.

fines.php and updateFines.php:

These two pages allow users to search for fines, view them and pay the fines.

The “FINES” link in the navigation bar will link to fines.php page.

Before entering a card id and search fines, we should click the button “UPDATE AND VIEW RECORDS” to update the FINES table or the data will be out-of-date. This button will lead to updateFines.php page which contains the code that updates the records in the FINES table. A table of unpaid fines will be shown too. On this page, we also have another button “FINES HISTORY” which allow user to see all the fine records, including the fines paid. And all the results are shown by loan ID.

Design:

Bootstrap is used to design the webpages and to give them consistent looking.

Rounded corners philosophy is used every where.

Tables are dark shaded with white fonts.