

## **Project Proposal**

COMP 3541 - Web Site Design and Development

Thompson Rivers University

Professor: Reza Abbasi

Stephanie Petrone

T00622296

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## **Project: Digital Library**

### **Description:**

For this project, a multi-page, dynamic web application will be built using PHP along with the MariaDB database. This application will be a CRUD application with user management and a system for storing, searching and retrieving e-books saved in a database as a digital library. Each user will have an account and will have books associated with their account which they can show in a list. In addition to viewing the books in their list, they can search the database for other books to add, with filters for book titles and authors. They can also remove books from their list at any time. An administrator section will allow an administrator to manage users and books.

The website will have a navigation bar so that a user can navigate to the different parts of the website (their book list, their account page, and a library search). CSS will be used to give a clean and consistent look throughout the website.

### **Key Components:**

#### **Administrator Portal:**

- Book Management
  - Administrators can add, edit and delete books from the database
- User Management
  - Administrators can add and delete users from the system

#### **User Authentication and Access Control:**

- There will be user login / logout using form-based authentication, retrieving user information and credentials from the database.
- Sessions will be used when a user is logged in.
- User access control will ensure users can only access areas of the website for which they have permission to access.

## **Book Lists**

- The users will be able to access a page showing the list of books they have selected from the library.
- Users can remove books from their list.

## **Library Search**

- Users can search for books in the “library” database.
- Books will be displayed in a list, ordered by title or author.
- Users can select books from the search results and add them to their own list.
- Users can filter searches by book title and book author.

## **Advanced Features:**

- The MVC architecture will be used throughout.
- File uploading (pdf files) will be implemented in the administrator portal.
- All passwords will be encrypted when stored in the database, and decrypted when verifying users at login.
- Form-based authentication will be used.
- HTTPS will be enforced throughout the website.
- AJAX will be used for the library search function, and possibly for other dynamic parts of the website (such as login).