Book Inventory Management System Documentation

Overview

This project is a Book Inventory Management System developed to allow users to:

- Add new books to the inventory.
- Filter existing books based on specific criteria (e.g., title, author, genre, and publication date).
- Export the filtered book data in formats such as CSV.

The system uses PHP for the backend, MySQL for database management, and HTML/CSS for the user interface. The design is simple, responsive, and aims to ensure a good user experience.

1. **Database Design Database Schema** The database schema includes a table named

Inventory that holds the details of each book. The table includes the following columns: Entry ID (Primary Key, Auto Increment) Title (VARCHAR 255) - The title of the book. Author (VARCHAR 255) - The author of the book. Genre (VARCHAR 100) - The genre or category of the book. Publication Date (DATE) - The publication date of the book. ISBN (VARCHAR 13) - A 13-character identifier for the book. SQL Script for Database Setup

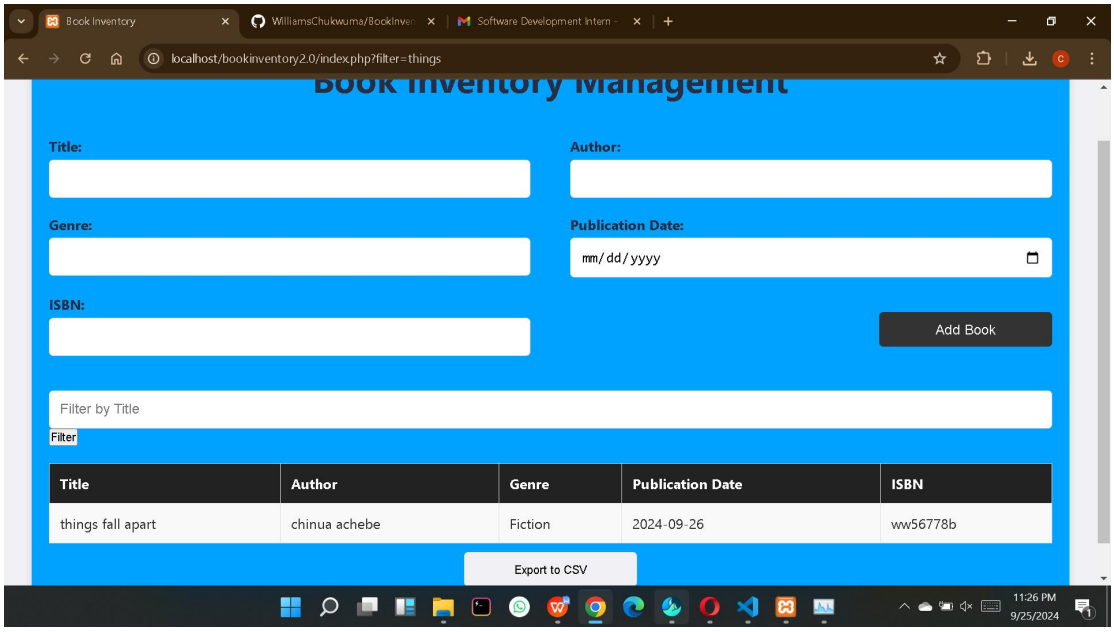
2. **CRUD Operations**

- Adding New Books The system provides functionality to add

new books via an HTML form. The form is located in add_book.php and consists of fields such as: Title Author Genre Publication Date ISBN The PHP script behind the form validates the input and ensures fields such as ISBN are formatted correctly. If any field is missing or incorrect, error messages are displayed to the user. Valid submissions are saved into the MySQL database.

- Filtering Books The system allows filtering of books based on several criteria: Title Author Genre Publication Date Users can input their desired criteria in a form, and the filtered results are displayed in a table format. The filtering logic is handled in filter_books.php.
- Exporting Data The export functionality allows users to export the filtered data in CSV format. The export can be triggered by a button click, and the system dynamically generates the file for download. CSV Export is implemented using PHP's fputcsv function.The export logic is in export_data.php.

3. **User Interface UI Components** Add Book Form: A form allowing users to input details of new books. Located at add_book.php Filter Form: A form that allows users to filter books based on title, author, genre, or publication date. Located at filter_books.php Books List: A table format displaying books in the inventory, based on filtered results. Export Button: Located on the filtering page, this allows users to export the results. Design Considerations The interface is designed to be: Responsive: Works on different screen sizes, including mobile devices. User-Friendly: Simple forms with validation to ensure data integrity. Basic CSS for structure and design consistency.



4. **Error Handling** The system incorporates error handling for various edge cases: Empty fields when adding a new book. Duplicate ISBNs (ISBN is a unique field). Invalid filter criteria. If any error occurs, the system displays user-friendly messages explaining the issue.

5. **Deployment Instructions** To set up and run the project locally: Clone the repository: bash Copy code git clone https://github.com/WilliamsChukwuma/BookInventory.git Set up the MySQL database using the SQL script provided (db_setup.sql). Update the database connection details in the config.php file. Run the project on a local PHP server (e.g., XAMPP or MAMP). Access the system via your browser at localhost.