Name: RAVULA GANESH GOUD

Regno: 42111554

Year/Section:3rd/G-1

Course: Full Spectrum Web Development

Project: Library Management System Documentation

Problem statement:

Create webpage for Library Management System to insert bookdetails into database(Book ID, Name of the book, Author Name, Year of publication) using HTML, CSS, JS, PHP and MYSQL.

1.User should enter all the book details in a HTML form and the data should be stored into database.

2.Files required – Book_Insert.php, dbcon.php, script.js,

style.css

Date:22/08/2024 **Co-ordinator sign:**

Library Management System Documentation

Overview

This system provides a user interface to insert book records into a library database. It includes a frontend developed with HTML, CSS, and JavaScript for form handling, and a backend developed with PHP and MySQL for data storage and processing.

Table of Contents:

- System Features
- Technologies Used
- Setup Instructions
- Code Breakdown
    - HTML
    - CSS
    - JavaScript
    - PHP
    - SQL
- Database Schema
- Error Handling
- Known Issues

System Features

1. **Insert New Book**: The user can input a new book's details such as Book ID, Name, Author, and Year of Publication.
2. **Form Validation**: The system validates the input and ensures the Book ID is unique.
3. **Error Handling**: Displays error messages and animations when a book already exists or input is invalid.
4. **Success Notification**: A success animation is triggered when a new book is successfully inserted.
5. **Background Video**: Provides a background video for visual enhancement.

Technologies Used

- **Frontend**: HTML, CSS, JavaScript
- **Backend**: PHP
- **Database**: MySQL

Icons & Fonts: Google Fonts, PNG Icons

Setup Instructions

1. Database Setup:

- Create a MySQL database called library_management.
- Import the following SQL structure for the books table:

sql

```
CREATE TABLE books (
  bookId VARCHAR(255) PRIMARY KEY,
  bookName VARCHAR(255),
  authorName VARCHAR(255),
  publicationYear INT
);
```

2. Server Setup:

- Install a local or remote web server with PHP and MySQL support.
- Place the project files in the server's root directory.
- Update the database connection details in dbcon.php:

php

```
$servername = "localhost";
$username = "Gani";
$password = "Ganesh@4598";
$dbname = "library_management";
```

3. Run the Application:

- Access the application through a web browser (e.g., http://localhost/library-management-system).

Code Breakdown

HTML

Structure:

- The HTML file contains the structure for the Library Management System interface.
- A form is created to take inputs like Book ID, Book Name, Author Name, and Publication Year.

html

```
<form id="bookForm" action="Book_insert.php" method="POST">
  <input type="text" id="bookId" name="bookId" placeholder="Enter Book ID" required>
  <input type="text" id="bookName" name="bookName" placeholder="Enter Book Name" required>
  <input type="text" id="authorName" name="authorName" placeholder="Enter Author Name" required>
  <input type="number" id="publicationYear" name="publicationYear" placeholder="Enter Year" required>
  <button type="submit" class="submit-btn">Insert Book</button>
</form>
```

Media Integration:

- A video is added as a background using the <video> tag, set to autoplay and loop.

html

```
<video id="background-video" class="video-background" autoplay loop muted playsinline>
  <source src="media/library.mp4" type="video/mp4">
</video>
```

CSS

Styling:

- **Main Container:** Centers the form with responsive design.
- **Navbar and Form Styling:** Styled to be clean and professional with hover effects on buttons.
- **Animations:** Includes success and error animations displayed when a book is added or when an error occurs.

```
css
/* Success Animation */
.success-animation {
    position: fixed;
    top: 50%;
    left: 50%;
    background-color: #4CAF50;
    padding: 20px;
    color: white;
    border-radius: 8px;
}

/* Error Animation */
.error-animation {
    position: fixed;
    top: 50%;
    left: 50%;
    background-color: #f44336;
    padding: 20px;
    color: white;
    border-radius: 8px;
}
```

JavaScript

AJAX Submission:

- Handles form submission via AJAX to prevent page reload. Sends data to Book_insert.php and processes the response.

```
javascript
document.getElementById('bookForm').addEventListener('submit', function (event) {
    event.preventDefault(); // Prevent default form submission
```

```
    var formData = new FormData(this);

    fetch('Book_insert.php', {
        method: 'POST',
        body: formData
    })
    .then(response => response.json())
    .then(data => {
        if (data.status === 'success') {
            triggerSuccessAnimation();
            clearForm();
        } else {
            triggerErrorAnimation(data.message);
        }
    });
});
```

Animations:

- Success and error animations are triggered upon form submission based on the response from the server.

javascript

Copy code

```
function triggerSuccessAnimation() {
    var animationDiv = document.createElement('div');
    animationDiv.className = 'success-animation';
    animationDiv.innerHTML = '<p>✓ Book Inserted Successfully!</p>';
    document.body.appendChild(animationDiv);

    setTimeout(() => {
        animationDiv.style.opacity = '0';
        setTimeout(() => { animationDiv.remove(); }, 1000);
    }, 3000);}
```

PHP

Database Connection:

- dbcon.php handles the connection to the MySQL database.

php

Copy code

```
$servername = "localhost";

$username = "Gani";

$password = "Ganesh@4598";

$dbname = "library_management";


$conn = new mysqli($servername, $username, $password, $dbname);


if ($conn->connect_error) {

   die("Connection failed: " . $conn->connect_error);

}
```

Insert Book Data:

- The Book_insert.php file processes form data and inserts the new book into the books table. It checks if the Book ID already exists and returns success or error messages.

php

Copy code

```
if ($_SERVER['REQUEST_METHOD'] === 'POST') {

   $bookId = $_POST['bookId'];

   $bookName = $_POST['bookName'];

   $authorName = $_POST['authorName'];

   $publicationYear = $_POST['publicationYear'];


   // Check if the bookId already exists in the database

   $checkQuery = $conn->prepare("SELECT bookId FROM books WHERE bookId = ?");

   $checkQuery->bind_param("s", $bookId);

   $checkQuery->execute();

   $checkQuery->store_result();
```

```
    if ($checkQuery->num_rows > 0) {
        echo json_encode(['status' => 'error', 'message' => 'Book ID already exists']);
    } else {
        $stmt = $conn->prepare("INSERT INTO books (bookId, bookName, authorName, publicationYear) VALUES (?, ?, ?, ?)");
        $stmt->bind_param("sssi", $bookId, $bookName, $authorName, $publicationYear);
        $stmt->execute();
        echo json_encode(['status' => 'success']);
    }
}
```

Database Schema

- **Books Table:**

Column	Data Type	Description
bookId	VARCHAR(255)	Primary Key, Unique ID
bookName	VARCHAR(255)	Name of the Book
authorName	VARCHAR(255)	Author's Name
publicationYear	INT	Year of Publication

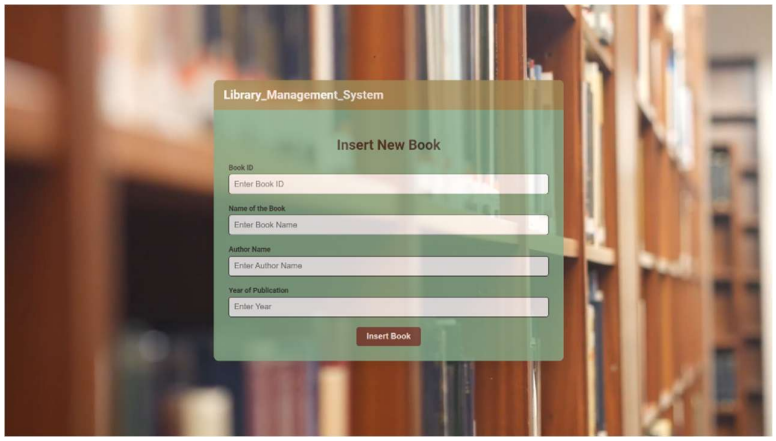
Error Handling

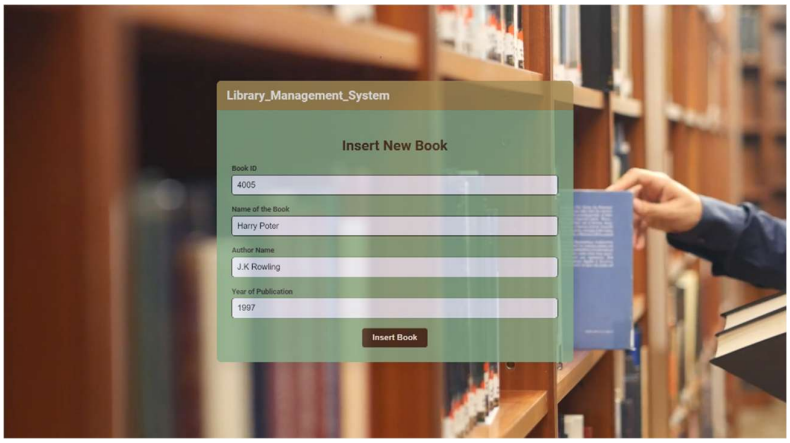
1. **Duplicate Book ID:** Returns an error if the Book ID already exists.
2. **Connection Error:** Gracefully handles MySQL connection errors with a fallback message.

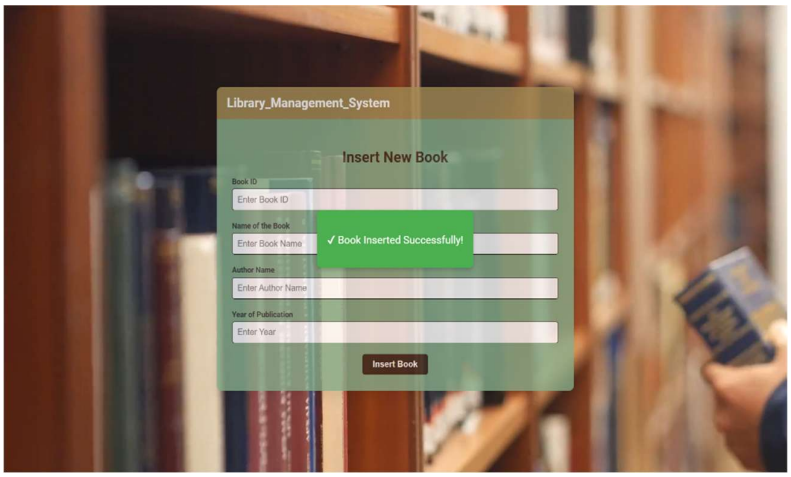
Known Issues

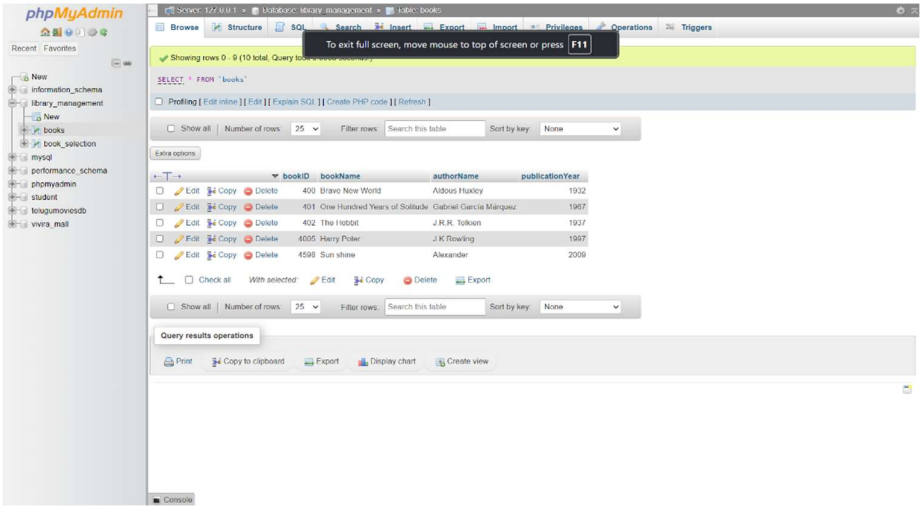
- None reported at this time

Snapshots:


Library_Management_System
Insert New Book
Book ID
Enter Book ID
Name of the Book
Enter Book Name
Author Name
Enter Author Name
Year of Publication
Enter Year
Insert Book


Library_Management_System
Insert New Book
Book ID
4005
Name of the Book
Harry Poter
Author Name
J.K Rowling
Year of Publication
1997
Insert Book


Library_Management_System
Insert New Book
Book ID
Enter Book ID
Name of the Book
Enter Book Name
✓ Book Inserted Successfully!
Author Name
Enter Author Name
Year of Publication
Enter Year
Insert Book


phpMyAdmin
Recent
Favorites
New
information_schema
library_management
New
books
book_selection
mysql
performance_schema
phpmyadmin
student
telugumoviesdb
vivira_mail
Server: 127.0.0.1 » Database: library_management » Table: books
Browse
Structure
SQL
Search
Insert
Export
Import
Privileges
Operations
Triggers
To exit full screen, move mouse to top of screen or press F11
SELECT * FROM `books`
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
Show all
Number of rows: 25
Filter rows: Search this table
Sort by key: None
Extra options
bookID
bookName
authorName
publicationYear
Edit Copy Delete 400 Brave New World Aldous Huxley 1932
Edit Copy Delete 401 One Hundred Years of Solitude Gabriel Garcia Marquez 1967
Edit Copy Delete 402 The Hobbit J.R.R. Tolkien 1937
Edit Copy Delete 4005 Harry Poter J K Rowling 1997
Edit Copy Delete 4598 Sun shine Alexander 2009
Check all
With selected:
Edit
Copy
Delete
Export
Query results operations
Print
Copy to clipboard
Export
Display chart
Create view
Console