



# BookRepo

A SUITABLE DIGITAL LIBRARY FOR BOOK ENTHUSIASTS

# Overview:

- ▶ BookRepo is a web platform designed for book enthusiasts, offering a digital library experience with a focus on innovation and sustainability.
- ▶ The website provides a seamless blend of creativity and functionality. The site incorporates a responsive design and an aesthetically pleasing interface to enhance user experience.

BookRepo

All Books My Books

Register Login

## A commitment to innovation and sustainability

BookRepo is a pioneering website that seamlessly merges creativity and functionality to redefine classic libraries.





# Key Features:

- ▶ Digital Library Objectives
- ▶ Responsive Design and User Interface
- ▶ Personalized Experience
- ▶ Administrative Dashboard
- ▶ Data Visualization
- ▶ User Access Management

# Personalized Experience

- ▶ The website emphasizes a personalized reading experience. Users can curate their own libraries, explore a variety of genres, and enjoy the freedom of unrestricted access to a vast collection of books without cost barriers.

## Your Books

| Author            | Title                |
|-------------------|----------------------|
| Dante             | Divina Comedia       |
| Plitcha           | La formula segreta   |
| Sapkowskij        | The Witcher 1        |
| Sapkowskij        | The Witcher 2        |
| Shelley Wrighston | Frankenstein         |
| Daniel Kahneman   | Think, fast and slow |

## Add a Book

Title:  Author:  Add Book

## Delete a Book

Title:  Author:  Delete Book

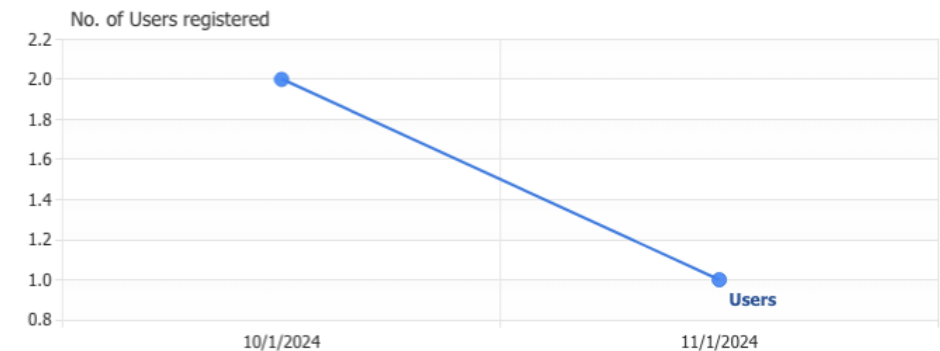
## Books

| Author            | Title                 |     |
|-------------------|-----------------------|-----|
| Rosen             | Discrete Mathematics  | Add |
| Adam Essex        | Calculus              | Add |
| Oscar Wilde       | The canterville ghost | Add |
| Dante             | Divina Comedia        | Add |
| Sapkowskij        | The Witcher 3         | Add |
| Daniel Coleman    | Intelligenza emotiva  | Add |
| J.K. Rowling      | Harry Potter 1        | Add |
| Plitcha           | La formula segreta    | Add |
| Sapkowskij        | The Witcher 1         | Add |
| Sapkowskij        | The Witcher 2         | Add |
| Shelley Wrighston | Frankenstein          | Add |
| Daniel Kahneman   | Think, fast and slow  | Add |

# Administrative Dashboard

- ▶ The website includes an administrative dashboard accessible by administrators. The dashboard provides statistics on the number of registered users and available books. Additionally, administrators can delete specific books or users directly through the dashboard.
- ▶ It also employs data visualization in the form of charts to provide a visual representation of statistics. The charts offer insights into the number of registered users and available books on different dates, enhancing the Administrative employees experience.

|                              |                              |   |   |
|------------------------------|------------------------------|---|---|
| <b>Users Registered</b><br>3 | <b>Books Available</b><br>12 | <b>deleteBook</b><br>Book ID:<br><input type="text"/><br>Delete | <b>deleteUser</b><br>User ID:<br><input type="text"/><br>Delete |
|------------------------------|------------------------------|---|---|



Source: BookShop database

# Technologies Used and Motivations

- ▶ HTML, CSS, JavaScript : These are fundamental web technologies used for structuring the content (HTML), styling (CSS), and adding interactivity (JavaScript) to the website. They ensure a well-organized layout, visually appealing design, and enhanced user experience. Especially is used JavaScript to create interactive login and register from and admin dashboard charts.

```
function createLoginForm() {  
    AddFocusActive();  
    var loginDiv = document.createElement('div')  
    loginDiv.setAttribute('id', 'dybamicLoginForm')  
    loginDiv.setAttribute('id', 'dybamicAccessForm')  
    // Create an input element (you can add more fields as needed)  
    var form = document.createElement('form');  
    form.setAttribute('id', 'loginForm');  
    form.setAttribute('id', 'accessForm');  
    form.setAttribute('action', 'UserAccessManagement/login.php');  
    form.setAttribute('method', 'post');  
    var labelUsername = document.createElement('label');  
    labelUsername.setAttribute('for', 'username');  
    labelUsername.innerHTML = "Username";  
}
```

```
function renderChart(series) {  
    JSC.Chart('chartDiv', {  
        title_label_text: 'No. of Users registered',  
        annotations: [{  
            label_text: 'Source: BookShop database',  
            position: 'bottom left'  
        }],  
        legend_visible: false,  
        xAxis_crosshair_enabled: true,  
        defaultSeries_lastPoint_label_text: '<b>%seriesName</b>',  
        defaultPoint_tooltip: '%seriesName <b>%yValue</b> years',  
        series: series  
    });  
}
```



# PHP

- ▶ PHP is a server-side scripting language suitable for web development. BookRepo utilizes PHP for server-side logic, handling user authentication, managing sessions, and connecting to databases. Its versatility makes it a preferred choice for dynamic web.
- ▶ Various security measures, such as secure data handling, are implemented using a combination of PHP and server-side practices. These measures help protect user data, prevent unauthorized access, and ensure a secure browsing environment.

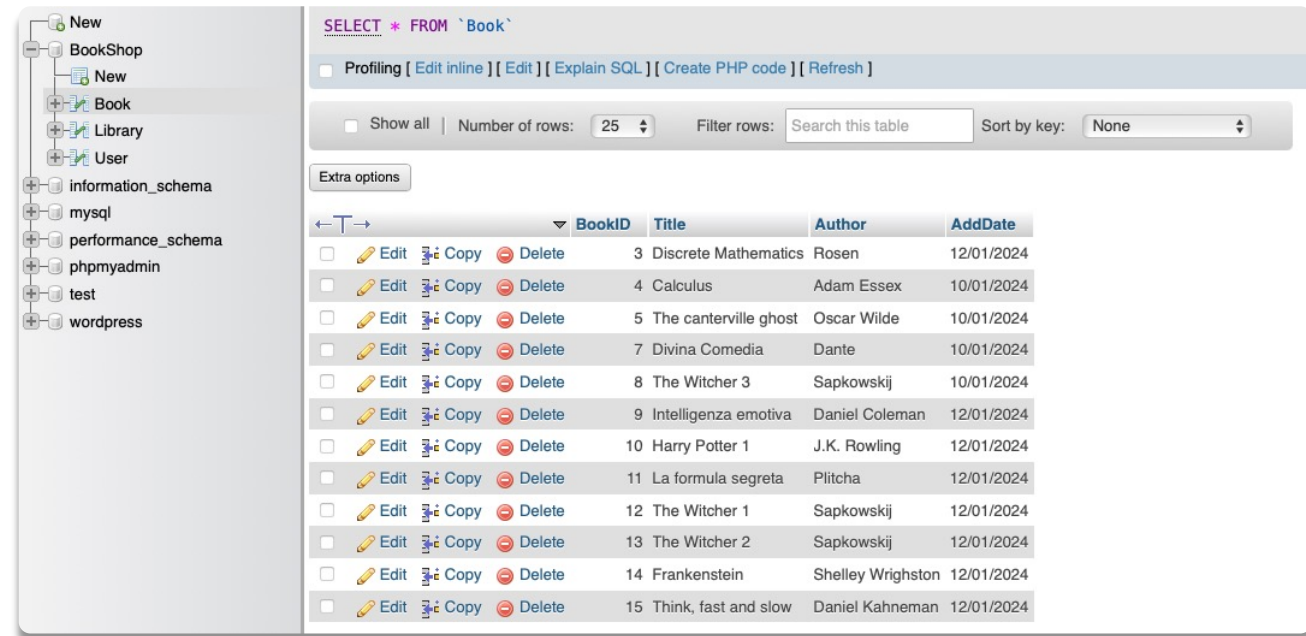
```
conn = new mysqli($servername, $username, $password, $database);

// Check the connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

// Process the form data when the form is submitted
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    // Retrieve user input from the form
    $username = $_POST["username"];
    $password = $_POST["password"];
    $regDate = date("d/m/Y");
    // Hash the password (for security)
    $hashedPassword = password_hash($password, PASSWORD_DEFAULT);
    $sql = "INSERT INTO User (Username, Password, RegDate) VALUES ('$username', '$hashedPassword', '$regDate')";
    if ($conn->query($sql) === TRUE) {
        $_SESSION['username'] = $username;
        $message = "Registration successful!";
        echo "<script>window.location.href = '../index.php';
        document.querySelector('.accessWrapper').setAttribute('data-message', '$message');</script>";
        alert('$message');</script>";
        exit();
    } else {
        echo "Error: " . $conn->error;
    }
}
```

# MySQL

- MySQL is an open-source relational database management system (RDBMS) used for storing and retrieving data efficiently. In BookRepo, MySQL is employed to manage user data, book information, and other relational data. It ensures data integrity and enables seamless data retrieval.



The screenshot displays a MySQL database management interface. On the left, a sidebar shows a tree view of the database structure, including 'New', 'BookShop', 'New', 'Book', 'Library', 'User', 'information\_schema', 'mysql', 'performance\_schema', 'phpmyadmin', 'test', and 'wordpress'. The main area shows a query result for the 'Book' table. The query is 'SELECT \* FROM `Book`'. Below the query, there are options for 'Profiling', 'Edit inline', 'Edit', 'Explain SQL', 'Create PHP code', and 'Refresh'. A table of 15 rows is displayed, with columns for 'BookID', 'Title', 'Author', and 'AddDate'. Each row has a checkbox, an 'Edit' button, a 'Copy' button, and a 'Delete' button. The table data is as follows:

|                          | BookID | Title                 | Author            | AddDate    |
|--------------------------|--------|-----------------------|-------------------|------------|
| <input type="checkbox"/> | 3      | Discrete Mathematics  | Rosen             | 12/01/2024 |
| <input type="checkbox"/> | 4      | Calculus              | Adam Essex        | 10/01/2024 |
| <input type="checkbox"/> | 5      | The canterville ghost | Oscar Wilde       | 10/01/2024 |
| <input type="checkbox"/> | 7      | Divina Comedia        | Dante             | 10/01/2024 |
| <input type="checkbox"/> | 8      | The Witcher 3         | Sapkowski         | 10/01/2024 |
| <input type="checkbox"/> | 9      | Intelligenza emotiva  | Daniel Coleman    | 12/01/2024 |
| <input type="checkbox"/> | 10     | Harry Potter 1        | J.K. Rowling      | 12/01/2024 |
| <input type="checkbox"/> | 11     | La formula segreta    | Plitcha           | 12/01/2024 |
| <input type="checkbox"/> | 12     | The Witcher 1         | Sapkowski         | 12/01/2024 |
| <input type="checkbox"/> | 13     | The Witcher 2         | Sapkowski         | 12/01/2024 |
| <input type="checkbox"/> | 14     | Frankenstein          | Shelley Wrighston | 12/01/2024 |
| <input type="checkbox"/> | 15     | Think, fast and slow  | Daniel Kahneman   | 12/01/2024 |



# AJAX

- ▶ AJAX is employed for asynchronous communication between the client and server. In BookRepo, it enhances user interactivity by allowing data to be exchanged with the server in the background, resulting in a smoother and more responsive user experience.

```
.ajax({
  type: 'POST',
  url: 'exportDataToCSV.php',
  data: { Table: Table },
  success: function (response) {
    console.log('CSV Downloaded');
  }
});

fetch('./exported_data.csv')
  .then(response => response.text())
  .then(function (text) {
    const newData = addBracketsToLastColumn(text);
    console.log(newData);
    let series = csvToSeries(newData);
    renderChart(series);
  })
  .catch(function (error) {
    //Something went wrong
    console.log(error);
  });
```

# Other technologies used

- ▶ Charting Libraries (jsCharting): provides a visually engaging representation of statistical data on the dashboard.
- ▶ JQuery: is utilized for AJAX calls, improving the website's responsiveness and enabling dynamic updates without requiring full page reloads.
- ▶ Moment.js: a JavaScript library for parsing, validating, manipulating, and displaying dates. BookRepo uses Moment.js to handle date-related functionalities, ensuring accurate and consistent date representations throughout the website.
- ▶ Google Fonts: The integration of Google Fonts allows BookRepo to use a variety of high-quality, visually appealing fonts. This enhances the website's aesthetics, readability, and overall user experience.

# Conclusions

- ▶ BookRepo demonstrates a successful blend of modern web technologies, including HTML, CSS, JavaScript, PHP, and MySQL. These technologies form a robust foundation for dynamic content delivery, secure user authentication, and efficient database management, catering to a diverse audience.
- ▶ The incorporation of third-party tools like Google Fonts, jQuery, and jsCharting adds to the website's visual appeal, interactivity, and data visualization. This elevates BookRepo from a simple digital library to a captivating online platform for literary exploration.
- ▶ Emphasizing user security, BookRepo implements session management, secure data handling, and user authentication to ensure a safe online environment. As the platform evolves, the strategic integration of technologies and user-centric features positions BookRepo as an innovative player in the digital library landscape, fostering a community of readers in the digital realm while preserving literary treasures.