DIGITAL LIBRARY SYSTEM

A MINI-PROJECT REPORT

Submitted By

OVIYA G   2116220701192

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IN

COMPUTER SCIENCE AND ENGINEERING

**RAJALAKSHMI ENGINEERING COLLEGE
(AUTONOMOUS) THANDALAM
CHENNAI-602105**

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BONAFIDE CERTIFICATE

Certified that this project report " **DIGITAL LIBRARY SYSTEM** " is the bonafide work of **" OVIYA G (220701192) "** who carried out the project work under my supervision.

SIGNATURE

Mrs.JANANEE.V
Assistant Professor ,
Computer Science and Engineering,
Rajalakshmi Engineering College
(Autonomus)
Thandalam, Chennai - 602 105.

Submitted for the Practical Examination held on_____

INTERNAL EXAMINER   **EXTERNAL EXAMINER**

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OVIYA G   2116220701192

ABSTRACT

The Digital Library System plays a crucial role in modern education and research by offering a centralized platform for managing and accessing vast collections of digital content. Users benefit from fast and efficient access to materials through keyword-based searches and categorized browsing options.

The system supports multiple user roles, such as students, teachers, and administrators, each with appropriate access rights. By automating tasks like borrowing, returning, and tracking overdue items, it reduces the workload on library staff. Integration with databases ensures smooth management of large volumes of data, including user records and book inventories.

With features like email notifications for due dates and system logs for tracking activities, the platform enhances operational efficiency. The digital format ensures resource availability without geographic or time constraints, fostering a culture of continuous learning.

Furthermore, the Digital Library System fosters collaboration among users, enabling them to share recommendations and reviews, which enriches the overall user experience. The incorporation of multimedia content, such as videos and audio files, caters to diverse learning preferences, making the platform more inclusive.

Overall, this innovative platform significantly enhances the educational landscape by providing a comprehensive, user-friendly resource for students, researchers, and educators alike.

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CHAPTER 1
INTRODUCTION

1.1 INTRODUCTION

In today's digital age, access to information plays a crucial role in personal, academic, and professional success. This project aims to address the increasing need for an **intuitive, web-based platform** that facilitates the storage, management, and retrieval of digital content. The **Digital Library System** is designed to serve as a comprehensive solution for organizing resources such as e-books, research articles, journals, and multimedia files, empowering users to stay connected with information regardless of their location.

By leveraging **modern web technologies** including **HTML, CSS, JavaScript, PHP, MySQL, and Bootstrap**, the system delivers a reliable, scalable, and user-friendly platform.

This project aims to provide an **efficient, interactive, and accessible platform** that promotes learning and knowledge-sharing by streamlining the way users engage with information. The system's ability to **support online education, research, and personal enrichment** makes it a valuable resource for academic institutions, public libraries, and individual learners alike.

By combining the strengths of **front-end and back-end technologies**, the Digital Library System offers a robust and scalable solution that aligns with modern trends in information management.

1.2 SCOPE OF THE WORK

The scope of this project is to develop a **web-based digital library system** that enables users to effectively store, manage, and access various types of digital content, such as **e-books, research articles, journals, and multimedia resources**. The system focuses on delivering essential functionalities, such as **user authentication** to ensure secure access, **content management tools** for administrators, and intuitive features to help users navigate the library effortlessly.

The key features include the ability for users to **search, view, download, and organize digital resources**. Administrators will have the capability to **add, edit, and delete content**, manage user roles, and monitor library activity. Advanced search and filter options will allow users to find materials based on **keywords, categories, authors, or publication dates**, ensuring quick and relevant access to information.

A **responsive user interface** designed with **Bootstrap** will provide seamless access across various devices, including desktops, tablets, and smartphones, ensuring usability at all times.

The goal of this project is to deliver an **efficient, user-friendly platform** that promotes knowledge-sharing and makes learning accessible to a diverse audience. By combining modern technologies, the digital library system aims to offer a **reliable, scalable, and sustainable solution** for managing digital resources in today's connected world.

1.3 AIM AND OBJECTIVES OF THE PROJECT

The aim of this project is to develop a **comprehensive web-based digital library system** that streamlines the management, storage, and retrieval of digital resources such as **e-books, research articles, journals, and multimedia content**.

By leveraging modern web technologies, the project seeks to create a **user-friendly platform** that provides seamless access to information for individuals, students, researchers, and academic institutions.

To achieve this aim, the project focuses on several core objectives. It will implement a **secure user authentication system** to ensure safe and personalized access to the library's resources. Registered users will be able to **search, view, download, and organize digital content**, while administrators can **add, edit, and delete resources** to keep the collection updated and relevant.

Ultimately, the goal of this project is to deliver a **robust and functional digital library platform** that empowers users by making knowledge accessible anytime and from anywhere. With a focus on efficiency, security, and user experience, the system will contribute to improving productivity and promoting knowledge-sharing in an increasingly digital world.

CHAPTER 2
SYSTEM SPECIFICATIONS

2.1 HARDWARE SPECIFICATIONS

s hardware applications play a crucial role in enhancing functionality, user experience, and management. **Servers** are fundamental, including web servers that host the library's website and database servers that store and manage digital collections, user data, and access logs. These servers ensure that the library's digital content is readily accessible to users while maintaining efficient data management.

Storage devices are also vital for a digital library's operations. Network Attached Storage (NAS) provides centralized storage for large volumes of digital content, enabling easy access and management.
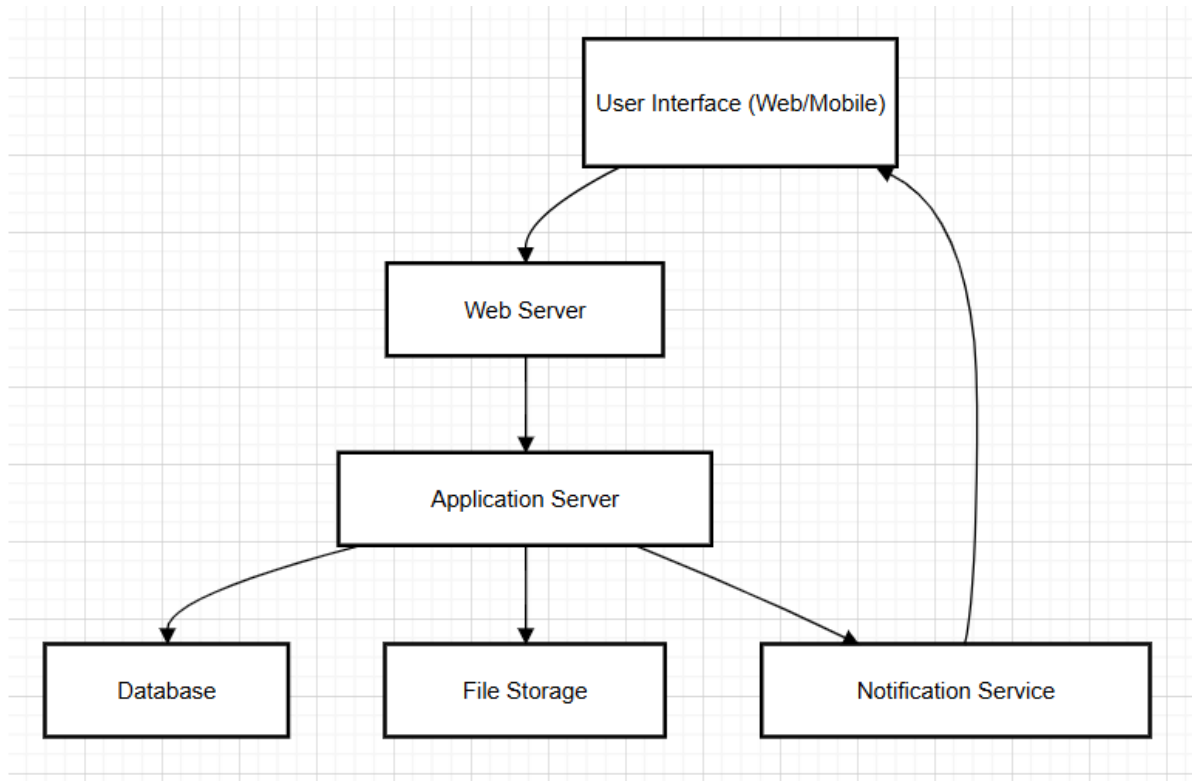
2.2 SOFTWARE SPECIFICATIONS

The front-end of the project uses HTML for the structure and layout of the web pages, ensuring semantic and well-organized content. CSS is employed for styling, with Bootstrap included to achieve a responsive design, making the application accessible on various devices. JavaScript adds interactivity and real-time updates, allowing for a dynamic user experience.

On the back-end, PHP is utilized for server-side processing, managing user requests and interacting with the database. For data storage, the system relies on DATABASE , which securely manage and store user data, tasks, and other relevant information.

CHAPTER 3
ARCHITECTURE DIAGRAM

CHAPTER 4
MODULE DESCRIPTION

4.1 USER REGISTRATION AND LOGIN MODULE

The User Registration and Login Module in the Digital Library System is designed to provide secure access to users, including students, faculty, and administrators. Users can create accounts by providing necessary details and undergo verification processes. Role-based access ensures that each user type has the appropriate level of access to resources and administrative functions. This module also supports password recovery options and session management to enhance security and user convenience.

4.2 CATALOG MANGEMENT MODULE

The Catalog Management Module serves as the central repository for organizing and managing digital resources, including e-books, journals, research papers, and multimedia files. This module allows administrators to add, update, or remove resources, ensuring that the collection remains relevant and up to date

4.3 BORROWING AND RETURN MANAGEMENT

The Borrowing and Return Management Module automates the lending process, allowing users to borrow digital resources with defined borrowing periods. It provides automated notifications to users regarding due dates and overdue items, helping them manage their borrowing activities efficiently. Administrators can monitor loan status, view borrowing histories, and impose penalties or restrictions on overdue items. The module ensures seamless tracking and availability of resources.
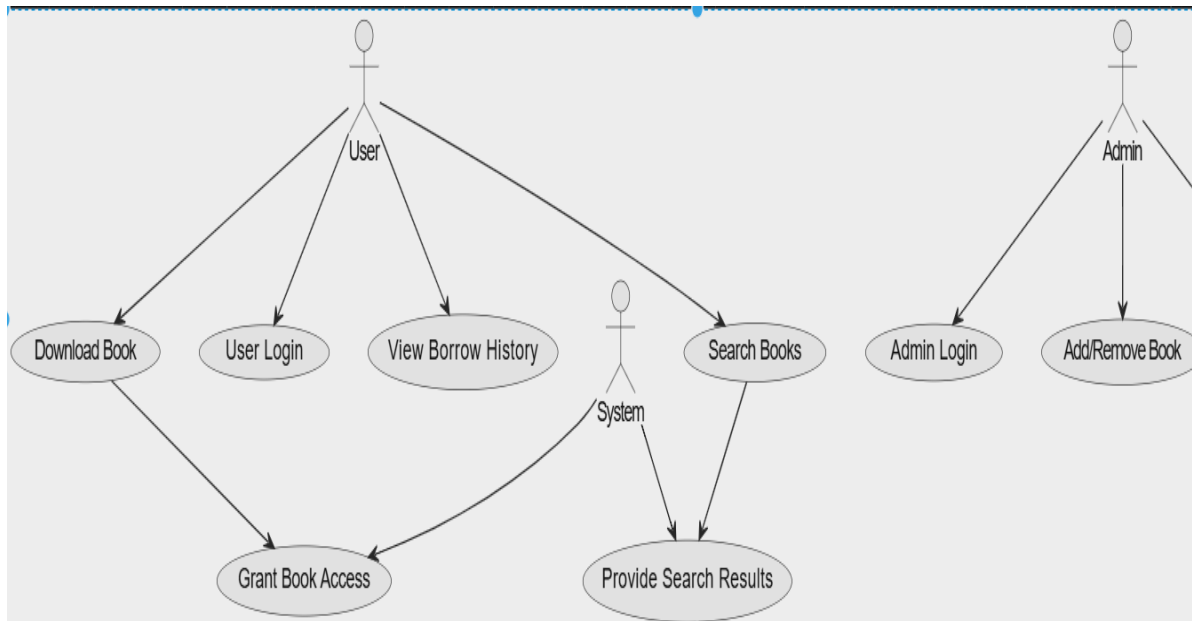
4.4 ADMIN MODULE

The Admin Module is the control center of the Digital Library System, equipping administrators with tools to manage user accounts, resources, and system configurations. Administrators can add, modify, or deactivate user profiles with role-based permissions. The module provides a dashboard with analytics and reports on resource usage, popular items, and system activity, enabling data-driven decision-making..
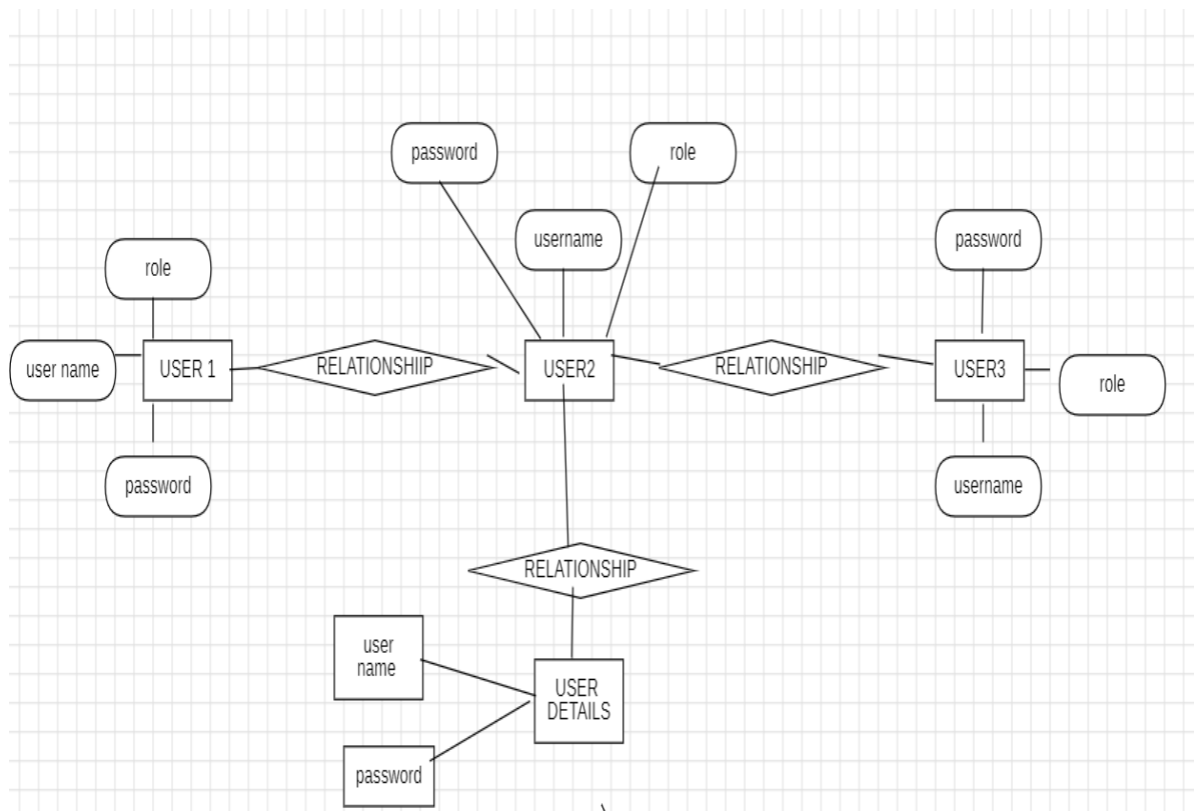
CHAPTER 5

SYSTEM DESIGN

5.1 USE CASE DIAGRAM

5.2 ER DIAGRAM

5.3 DATA FLOW DIAGRAM

CHAPTER 6

SAMPLE CODING

HOMEPAGE.HTML:

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Digital Library</title>

  <style>
    /* Global Styles */
    body, html {
      margin: 0;
      padding: 0;
      font-family: Arial, sans-serif;
      background-color: #f0f0f0;
    }

    /* Navbar Styles */
    .navbar {
      background-color: #007bff;
      padding: 15px;
      color: #fff;
      display: flex;
      justify-content: space-between;
      align-items: center;
    }

    .navbar .logo {
      font-size: 24px;
      font-weight: bold;
    }

    .navbar ul {
      list-style: none;
      margin: 0;
      padding: 0;
```
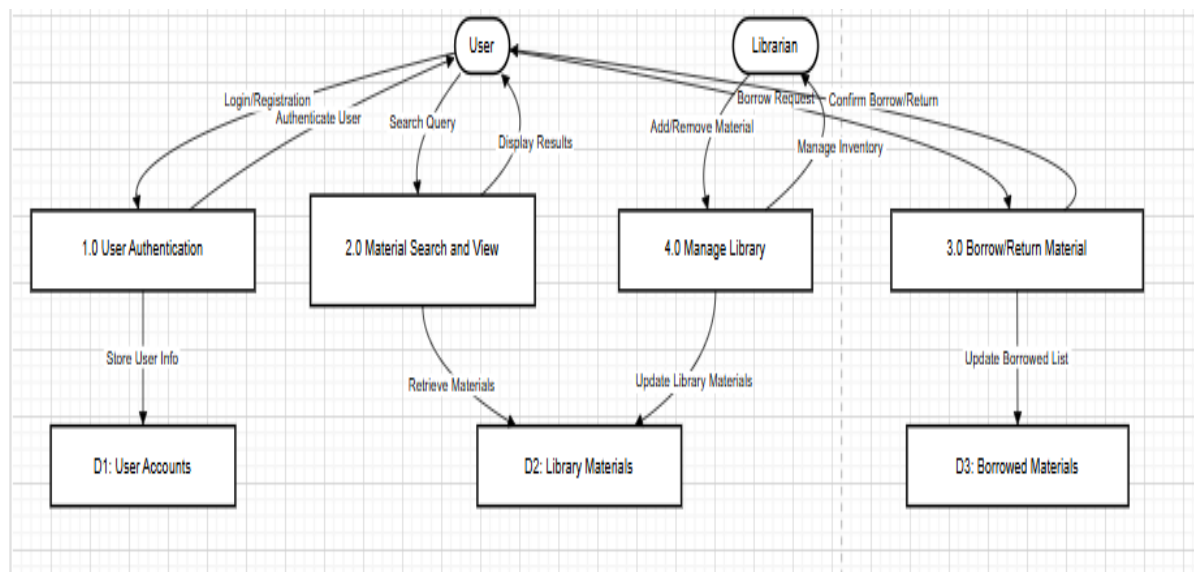
```css
    display: flex;
}

.navbar ul li {
    margin-left: 20px;
}

.navbar ul li a {
    color: #fff;
    text-decoration: none;
    font-size: 18px;
}

.navbar ul li a:hover {
    text-decoration: underline;
}

/* Search Bar */
.search-container {
    text-align: center;
    margin-top: 50px;
}

.search-container input[type="text"] {
    width: 50%;
    padding: 15px;
    font-size: 16px;
    border: none;
    border-radius: 5px;
    box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
}

.search-container input[type="submit"] {
    padding: 15px;
    font-size: 16px;
    background-color: #007bff;
    color: white;
    border: none;
    border-radius: 5px;
    cursor: pointer;
}

.search-container input[type="submit"]:hover {
```

```css
  background-color: #0056b3;
}

/* Welcome Section */
.welcome {
  text-align: center;
  margin: 50px;
}

.welcome h1 {
  font-size: 36px;
  color: #007bff;
}

.welcome p {
  font-size: 18px;
  color: #333;
  max-width: 600px;
  margin: 0 auto;
}

/* Categories Section */
.categories {
  display: flex;
  justify-content: space-around;
  margin: 50px auto;
  width: 80%;
}

.category-card {
  background-color: white;
  padding: 30px;
  border-radius: 10px;
  box-shadow: 0 4px 8px rgba(0, 0, 0, 0.1);
  text-align: center;
  width: 22%;
}

.category-card h3 {
  font-size: 24px;
  margin-bottom: 20px;
}
```

```css
.category-card a {
    display: inline-block;
    padding: 10px 20px;
    background-color: #007bff;
    color: white;
    text-decoration: none;
    border-radius: 5px;
}

.category-card a:hover {
    background-color: #0056b3;
}

/* Footer Styles */
.footer {
    background-color: #333;
    color: white;
    padding: 20px;
    text-align: center;
}

.footer a {
    color: #fff;
    text-decoration: none;
}

.footer a:hover {
    text-decoration: underline;
}
profile-container {
    position: relative;
    display: inline-block;
}

.profile-button {
    background-color: #007bff;
    color: white;
    padding: 10px 15px;
    border: none;
    border-radius: 5px;
    cursor: pointer;
}
```

```
        .profile-button:hover {
            background-color: #0056b3;
        }
.dropdown {
        display: none;
        position: absolute;
        right: 0;
        background-color: white;
        min-width: 160px;
        box-shadow: 0 4px 8px rgba(0, 0, 0, 0.1);
        z-index: 1;
    }

    .dropdown a {
        color: black;
        padding: 12px 16px;
        text-decoration: none;
        display: block;
    }

    .dropdown a:hover {
        background-color: #f1f1f1;
    }

    /* Show dropdown on click */
    .show {
        display: block;
    }


  </style>
</head>
<body>

  <!-- Navbar -->
  <div class="navbar">
     <div class="logo">Digital Library</div>
     <div class="profile-container">
        <button class="profile-button"
onclick="toggleDropdown()">Profile</button>
        <div id="myDropdown" class="dropdown">
           <a href="view profile.html">View Profile</a>
           <a href="settings.html">Settings</a>
           <a href="logout.html">Logout</a>
```

```html
        </div>
    </div>


</div>


<!-- Search Box -->
<div class="search-container">
    <input type="text" placeholder="Search for books, articles, and more...">
    <input type="submit" value="Search">
</div>


<!-- Welcome Section -->
<div class="welcome">
    <h1>Welcome to the Digital Library</h1>
    <p>Discover a vast collection of e-books, research materials, and resources for children and teens. Explore, learn, and grow with our digital offerings.</p>
</div>


<!-- Categories Section -->
<div class="categories">
    <div class="category-card">
        <h3>E-books</h3>
        <a href="page 1.php">Browse E-books</a>
    </div>
    <div class="category-card">
        <h3>Research</h3>
        <a href="reserach.html">Explore Research</a>
    </div>
    <div class="category-card">
        <h3>Articles and News paper</h3>
        <a href="articles and newspaper.html">Library Services</a>
    </div>
    <div class="category-card">
        <h3>Children & Teens</h3>
        <a href="childern and teen.html">For Young Readers</a>
    </div>
</div>


<!-- Footer -->
<div class="footer">
```

```html
    <p>&copy; 2024 Digital Library. All rights reserved. | <a
href="#">Privacy Policy</a> | <a href="#">Terms of Service</a></p>
  </div>
  <script>
    function toggleDropdown() {
      document.getElementById("myDropdown").classList.toggle("show"
);
    }


    // Close the dropdown if the user clicks outside of it
    window.onclick = function(event) {
      if (!event.target.matches('.profile-button')) {
        var dropdowns =
document.getElementsByClassName("dropdown");
        for (var i = 0; i < dropdowns.length; i++) {
          var openDropdown = dropdowns[i];
          if (openDropdown.classList.contains('show')) {
            openDropdown.classList.remove('show');
          }
        }
      }
    }
  </script>

</body>
</html>
```

LOGIN PAGE.HTML:

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Digital Library - Login</title>
  <style>
    body {
      background-image: url(dl.jpeg);
      display: flex;
      justify-content: center;
      align-items: center;
      height: 100vh;
      font-family: Arial, sans-serif;
      margin: 0;
    }
```

```css
.login-container {
  background-color: white;
  padding: 20px;
  border-radius: 10px;
  box-shadow: 0 0 15px rgba(0, 0, 0, 0.1);
  width: 300px;
  text-align: center;
}
h2 {
  color: #4CAF50;
  margin-bottom: 20px;
}
.input-group {
  margin-bottom: 15px;
}
.input-group label {
  display: block;
  font-size: 14px;
  margin-bottom: 5px;
}
.input-group input {
  width: 100%;
  padding: 10px;
  border: 1px solid #ddd;
  border-radius: 5px;
  }
 button {
  width: 100%;
  padding: 10px;
  background-color: #4CAF50;
  color: white;
  border: none;
  border-radius: 5px;
  cursor: pointer;
}
button:hover {
  background-color: #45a049;
}
.footer-links {
  margin-top: 15px;
}
.footer-links a {
  color: #4CAF50;
```

```
            text-decoration: none;
            display: block;
            margin-top: 10px;
         }
         .footer-links a:hover {
            text-decoration: underline;
         }
      </style>
</head>
<body>
   <div class="login-container">
      <h2>Login to Digital Library</h2>
      <form method="POST" action="login.php">
         <div class="input-group">
            <label for="username">Username</label>
            <input type="text" id="username" name="username" required>
         </div>
         <div class="input-group">
            <label for="password">Password</label>
            <input type="password" id="password" name="password"
required>
         </div>
         <button type="submit">Login</button>
      </form>

      <div class="footer-links">
         <a href="htmll.html">Sign Up</a> <!-- Link to the signup page -->
         <a href="forgot password page .html">Forgot Password?</a> <!--
Link to the forgot password page -->
      </div>
   </div>
</body>
</html>
```

SIGN PAGE.HTML:

```
<!DOCTYPE html>
<html lang="en">
   <head>
      <meta charset="UTF-8">
      <title>DIGITAL LIBRARY - Signup</title>
      <style>
         body {
            background-image: url(dl.jpeg);
```

```css
    font-family: Arial, sans-serif;
    display: flex;
    justify-content: center;
    align-items: center;
    height: 100vh;
    margin: 0;
    padding: 0;
}

.login-container {
    background-color: white;
    padding: 20px;
    border-radius: 10px;
    box-shadow: 0 0 15px rgba(0, 0, 0, 0.1);
    width: 300px;
    text-align: center;
}

h2 {
    margin-bottom: 20px;
    color: #4CAF50;
}

.input-group {
    margin-bottom: 15px;
    text-align: left;
}

.input-group label {
    font-size: 14px;
    color: #333;
}

.input-group input,
.input-group select {
    width: 100%;
    padding: 10px;
    margin-top: 5px;
    border: 1px solid #ddd;
    border-radius: 5px;
}

button {
```

```css
        width: 100%;
        padding: 10px;
        background-color: #4CAF50;
        color: white;
        border: none;
        border-radius: 5px;
        cursor: pointer;
        font-size: 16px;
    }

    button:hover {
        background-color: #45a049;
    }
  </style>
</head>

<body>
  <div class="login-container">
    <h2>Signup to Digital Library</h2>
    <form id="Signup-form" method="POST" action="html.php">
      <div class="input-group">
        <label for="username">Username</label>
        <input type="text" id="username" name="username"
placeholder="Enter your username" required>
      </div>
      <div class="input-group">
        <label for="password">Password</label>
        <input type="password" id="password" name="password"
placeholder="Enter your password" required>
      </div>
      <div class="input-group">
        <label for="role">Select Role</label>
        <select id="role" name="role" required>
          <option value="user">User</option>
          <option value="admin">Admin</option>
        </select>
      </div>
      <button type="submit">Signup</button>
    </form>
  </div>
</body> </html>
```
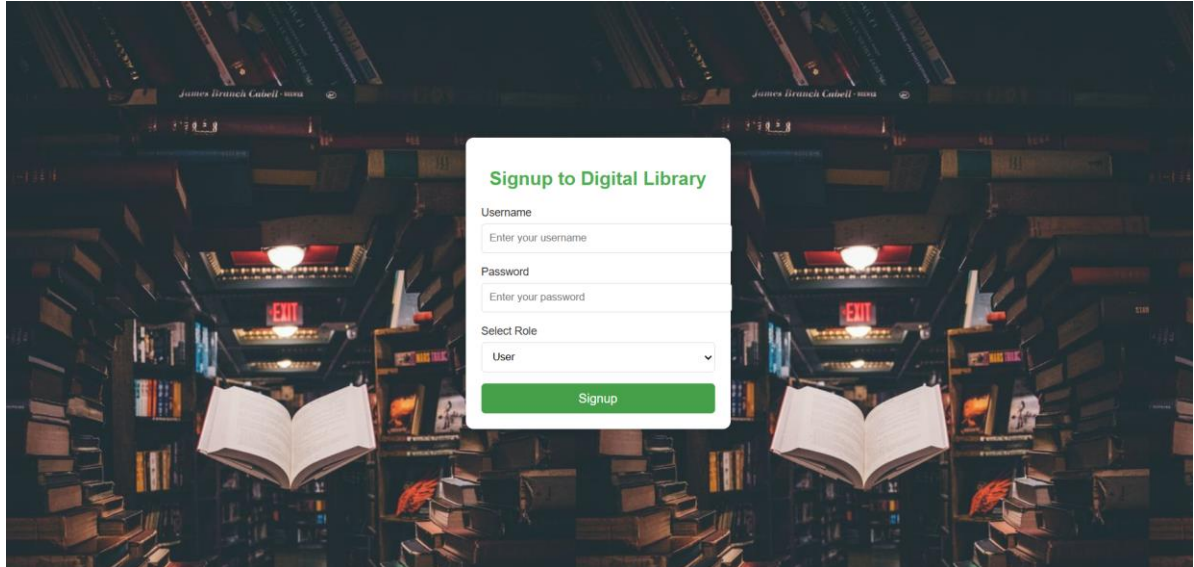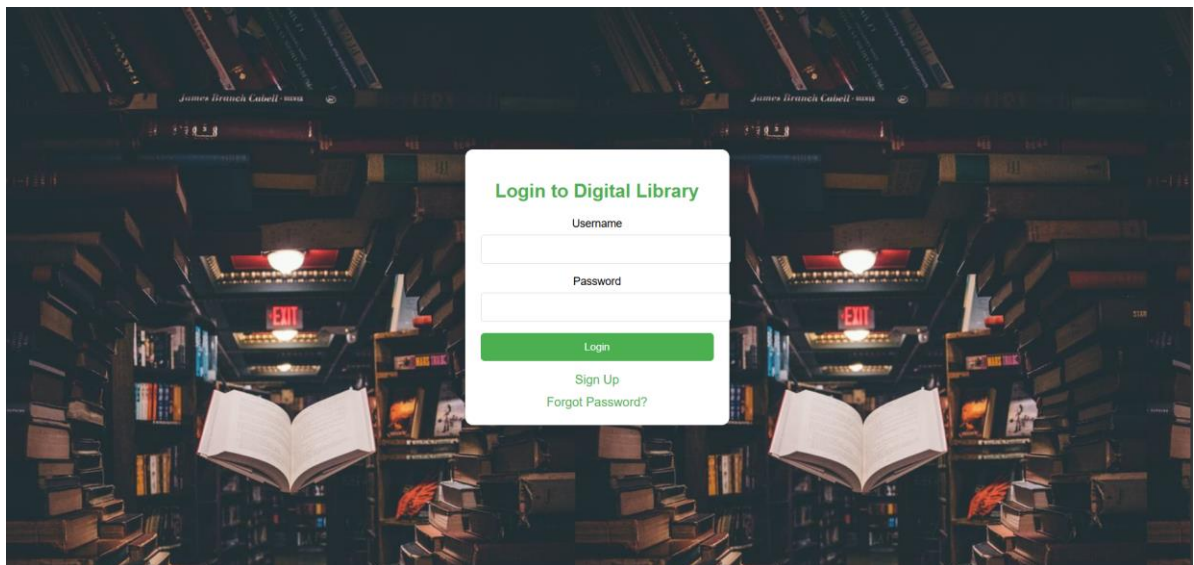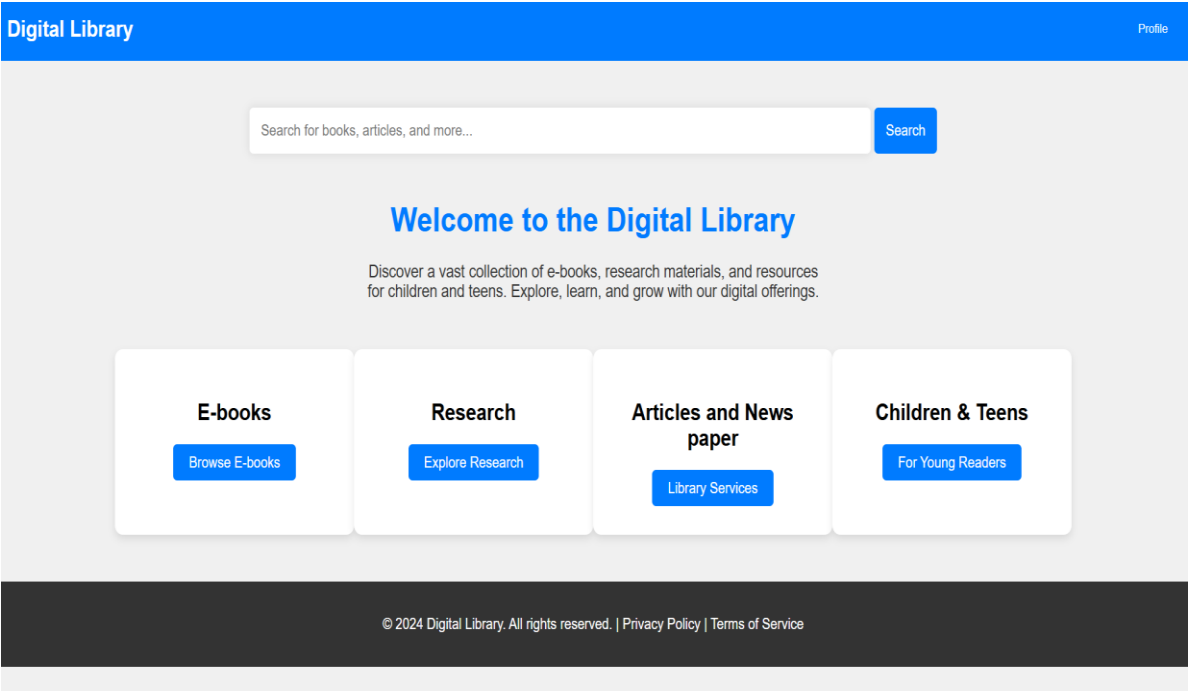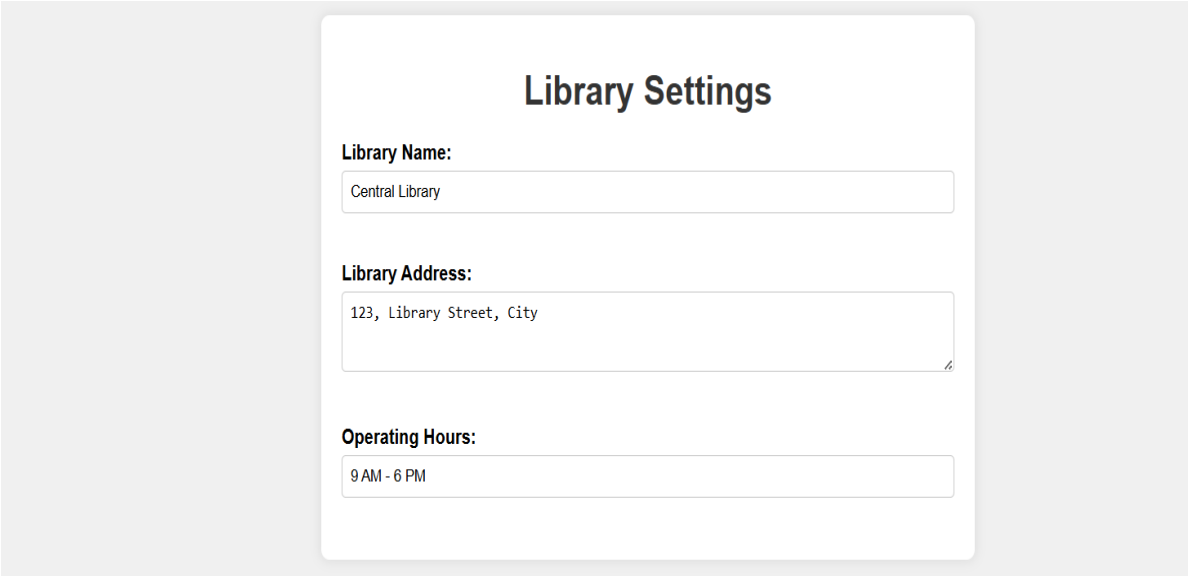
CHAPTER 7
SCREEN SHOTS

SIGN IN PAGE:

LOGIN PAGE:

HOME PAGE:

Digital Library   Profile

Search for books, articles, and more...   Search

Welcome to the Digital Library

Discover a vast collection of e-books, research materials, and resources
for children and teens. Explore, learn, and grow with our digital offerings.

E-books	**Research**	**Articles and News paper**	**Children & Teens**
Browse E-books	Explore Research	Library Services	For Young Readers

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SETTING PAGE:

Library Settings

Library Name:

Central Library

Library Address:

123, Library Street, City

Operating Hours:

9 AM - 6 PM

RESEARCH PAPERS PAGE:

Research Papers

Deep Learning in Medical Imaging

John Doe, Jane Smith

Abstract

This paper explores the application of deep learning models in medical imaging. With the increasing availability of medical data and advances in computational power, deep learning has shown significant potential in automating medical diagnoses.

Authors: John Doe, Jane Smith

Keywords: Deep Learning, Medical Imaging, Artificial Intelligence

Read Full Paper

NEWSPAPER PAGE:

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Headlines   World News   editorial   Sports

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A quick look at how AI-driven tools are transforming the medical field for faster, better diagnosis.

🥇 Sports News

Olympics Preparation in Full Swing

Athletes around the world are training hard for the upcoming Olympics, aiming for victory.

ADMIN PAGE:

Welcome, Admin!

You have access to manage the Digital Library.
Use the options below to manage content.

Manage Books

View Users

Logout

SETTING PAGE

Library Settings
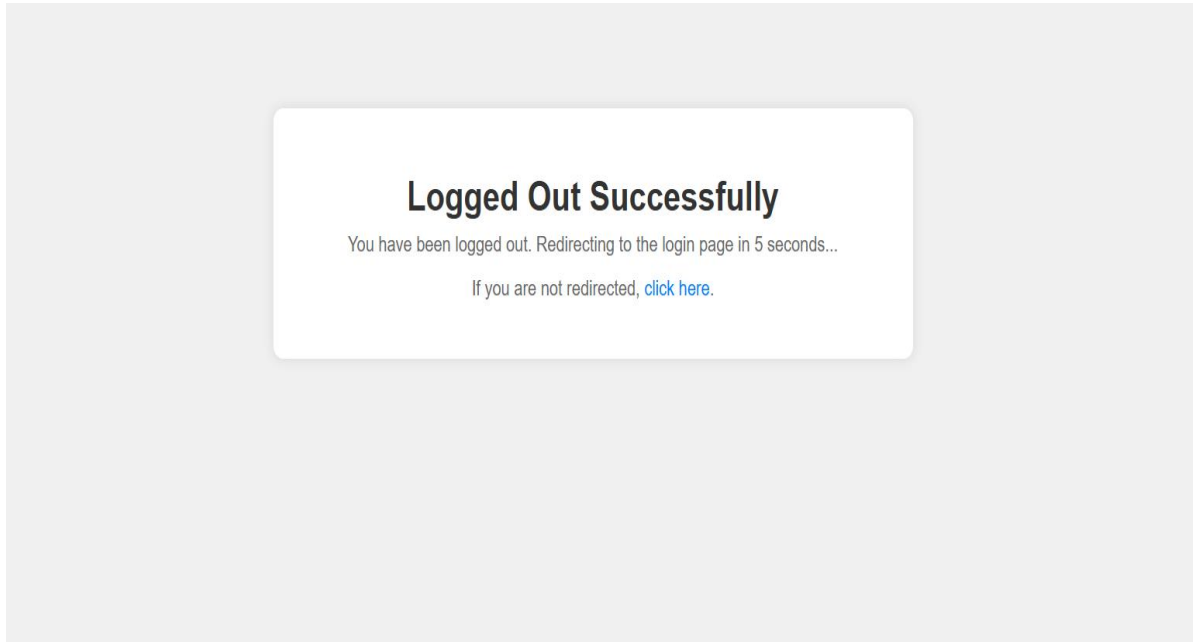
Library Name:

Central Library

Library Address:

123, Library Street, City

Operating Hours:

9 AM - 6 PM

LOGOUT PAGE:

Logged Out Successfully

You have been logged out. Redirecting to the login page in 5 seconds...

If you are not redirected, click here.

CHAPTER 8
CONCLUSION

The implementation of a Digital Library System is essential for modernizing the way information is accessed, managed, and shared. This system provides a structured framework for the storage, retrieval, and dissemination of digital resources, ensuring that users can access materials conveniently and efficiently. With features like advanced search filters, seamless borrowing processes, and role-based access control, the system promotes continuous learning and research, aligning with the growing demand for digital access in education and other sectors.

By adopting a comprehensive Digital Library System, educational institutions, libraries, and organizations can enhance the accessibility of knowledge, reduce reliance on physical materials, and foster collaboration among users. Regular updates, continuous monitoring of resource usage, and feedback mechanisms ensure that the system evolves to meet changing user needs. Integration with emerging technologies, such as data analytics and artificial intelligence, enables personalized recommendations, usage insights, and predictive content management, making the system more responsive and user-friendly.

Furthermore, the ability to access resources remotely ensures uninterrupted learning and research, even in situations where physical access to libraries is restricted. The shift towards digital resources not only promotes sustainability but also encourages the development of scalable, interconnected systems that can adapt to future demands.

In summary, the Digital Library System serves as a cornerstone for modern education and research by providing an accessible, efficient, and sustainable platform for knowledge sharing. It addresses both current challenges and future needs, contributing to a more informed, connected, and resource-efficient global community.

CHAPTER 9
REFERENCES

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https://www.w3schools.com/js/default.asp

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https://www.php.net/docs.php

https://www.timehero.com/