Introduction

The advanced Library Management System is designed to streamline the processes of book management, user administration, and profile management in a library environment. It introduces two distinct phases: the Student Profile and the Librarian Profile, each offering specific features that cater to the needs of students and librarians, respectively.

Student Profile:

The system empowers students by allowing them to interact with the library efficiently. Students can scan QR codes of books they wish to issue, which generates an issue request that can be reviewed and accepted by a librarian. Additionally, the system provides students with the ability to track their issued books, including details of issue dates, and facilitates seamless book returns through the portal. The profile management feature allows students to view and update their personal information, provided that the super admin has granted the necessary permissions for profile editing.

Librarian Profile:

For librarians, the system simplifies user and book management tasks. Librarians have the ability to accept book issue requests generated by students, ensuring a streamlined and organized book issuance process. They can also add new users to the system, view the entire user list, and manage new arrivals by generating QR codes for newly added books. These features are designed to make the daily operations of librarians more efficient and to enhance overall library management.

Background

Library Management Systems (LMS) have become essential tools in modern educational institutions and public libraries, where efficient management of books and user records is crucial. Traditionally, library operations such as book issuance, returns, and user management were handled manually, which often led to errors, inefficiencies, and delays. To address these challenges, digital solutions have emerged, automating library processes to enhance accuracy, reduce operational overhead, and improve the user experience.

This advanced version of a Library Management System was developed to streamline the interaction between students and librarians. It builds on traditional library systems by integrating modern features such as QR code-based book issuance, user profile management, and real-time data access. The need for this system arose from the growing demand for more flexible and user-friendly library operations, particularly in educational settings where students and staff require quick access to resources.

The system is designed to allow students to easily issue and return books, view their issued history, and manage their profiles. For librarians, it simplifies tasks such as accepting book requests, managing users, and adding new books to the library's

collection. By incorporating features like QR code generation, the system also ensures a seamless process for managing new inventory.

Objective

The primary objective of this advanced Library Management System is to automate and optimize the library operations for both students and librarians, ensuring an efficient, user-friendly, and digitally-driven environment for book management. Specifically, the system aims to:
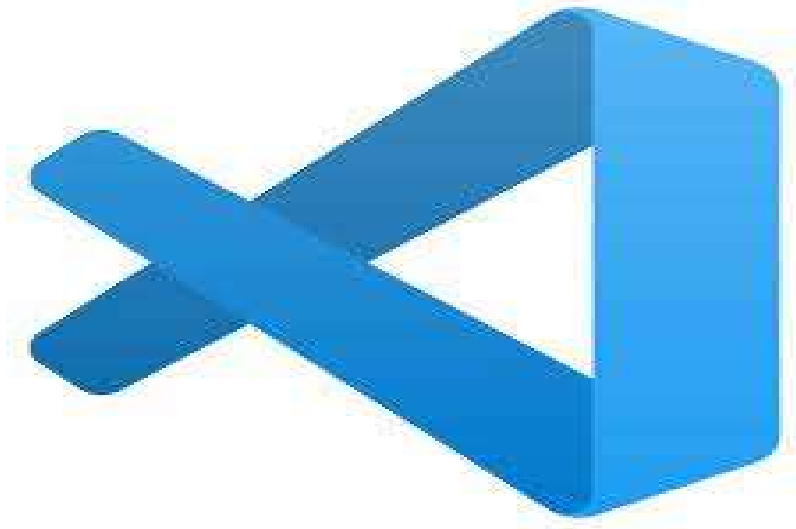
1. **Facilitate Book Issuance and Return:** Enable students to scan QR codes to generate book issue requests, track issued books, and return them seamlessly through the portal.
2. **Enhance User Profile Management:** Allow students to view and update their personal profiles, with editing rights controlled by the super admin.
3. **Streamline Librarian Tasks:** Provide librarians with tools to manage book requests, add new users, view user lists, and generate QR codes for new books.
4. **Improve Library Resource Management:** Automate the process of book cataloguing and tracking using QR codes, reducing manual workload and improving accuracy.
5. **Promote Efficient Communication:** Facilitate smooth interaction between students and librarians, enhancing the overall library experience.

Tools and Technologies Used

Tools:

Visual Studio Code

Visual Studio Code is a lightweight but powerful source code editor which runs on your desktop and is available for Windows, macOS and Linux. It comes with built-in support for JavaScript,

TypeScript and Node.js and has a rich ecosystem of extensions for other languages (such as C++, C#, Java, Python, PHP, Go) and runtimes (such as .NET and Unity).

Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git. Users can change the theme, keyboard shortcuts, preferences, and install extensions that add additional functionality.

Xampp

XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends. The name XAMPP is an acronym derived from the components it bundles:

-X: Cross-platform compatibility (available for Windows, Linux, macOS, and more)
-A: Apache HTTP Server: A widely used open-source web server software that powers a large portion of websites on the internet.
-M: MySQL: An open-source relational database management system (RDBMS) known for its reliability and scalability.
-P: PHP: A server-side scripting language used for web development, particularly suited for creating dynamic web pages and web applications.
-P: Perl: A high-level programming language known for its versatility and powerful text-processing capabilities.

XAMPP is designed to provide developers with a convenient way to set up a local web server environment for testing and development purposes. It includes all the necessary components for hosting dynamic websites and applications, making it easy to develop and test projects locally before deploying them to a live server.

One of XAMPP's key advantages is its simplicity and ease of use. It comes with a user-friendly control panel that allows users to start, stop, and configure the Apache server, MySQL database, and other components with just a few clicks. This makes it accessible to developers of all skill levels, from beginners to seasoned professionals.

WORKING TECHNOLOGY

HTML

HTML or Hyper Text Markup Language is the standard markup language used to create web pages. HTML was created in 1991 by Tim Berners-Lee at CERN in Switzerland. It was designed to allow scientists to display and share their research. HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets (like <html>). HTML tags most commonly come in pairs like <h1> and </h1>, although some tags represent empty elements and so are unpaired, for example <img>. The first tag in a pair is the start tag, and the second tag is the end tag (they are also called opening tags and closing tags).

HTML Structure

```
<html>
<head>
<title>Page title</title>
</head>
<body>
<h1>This is a heading</h1>
<p>This is a paragraph.</p>
```

```
<p>This is another paragraph.</p>
</body>
</html>
```

CSS

    CSS tutorial or CSS 3 tutorial provides basic and advanced concepts of CSS technology. Our CSS tutorial is developed for beginners and professionals. The major points of CSS are given below:

• CSS stands for Cascading Style Sheet.

• CSS is used to design HTML tags.

• CSS is a widely used language on the web.

• HTML, CSS and JavaScript are used for web designing. It helps the web designers to apply

    Style on HTML tags.

Cascading Style Sheets (CSS) is a style sheet language used for describing the look and formatting of a document written in a markup language. While most often used to style web pages and user interfaces written in HTML and XHTML, the language can be applied to any kind of XML document, including plain XML, SVG and XUL. CSS is a cornerstone specification of the web and almost all web pages use CSS style sheets to describe their presentation.

CSS is designed primarily to enable the separation of document content from document presentation, including elements such as the layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple pages to share formatting, and reduce complexity and repetition in the structural content (such as by allowing for table less web design).

JavaScript

JavaScript (JS) is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed. It is also being used in server-side network programming (with Node.js), game development and the creation of desktop and mobile applications.

JavaScript is a prototype-based scripting language with dynamic typing and has first-class functions. Its syntax was influenced by C. JavaScript copies many names and naming conventions from Java, but the two languages are otherwise unrelated and have very different semantics. The key design principles within JavaScript are taken from the self and Scheme programming languages. It is a multi-paradigm language, supporting object-oriented, imperative, and functional programming styles.

The application of JavaScript in use outside of web pages—for example, in PDF documents, site-specific browsers, and desktop widgets is also significant. Newer and faster JavaScript VMs and platforms built upon them (notably Node.js) have also increased the popularity of JavaScript for server-side web applications. On the client side, JavaScript was traditionally implemented as an interpreted language but just-in-time compilation is now performed by recent (post-2012) browsers. JavaScript was formalized in the ECMA Script language standard and is primarily used as part of a web browser (client-side JavaScript). This enables programmatic access to objects within a host environment.

JavaScript is the most popular programming language in the world. It is the language for HTML, for the Web, for computers, servers, laptops, tablets, smart phones, and more. You can use JavaScript to:

- Change HTML elements

- Delete HTML elements
- Create new HTML elements
- Copy and clone HTML elements

PHP

PHP, or Hypertext Preprocessor, is a widely-used server-side scripting language primarily designed for web development. Originally created in 1994 by Rasmus Lerdorf, PHP has since evolved into a powerful tool for building dynamic websites and web applications. Its syntax is similar to that of C and Perl, making it accessible to developers familiar with those languages.

One of PHP's key features is its integration with HTML, allowing developers to embed PHP code directly into HTML pages for dynamic content generation. It also supports a wide range of databases, including MySQL, PostgreSQL, and SQLite, facilitating seamless interaction with data.

PHP boasts a vast ecosystem of frameworks and libraries, such as Laravel, Symfony, and CodeIgniter, which streamline development tasks and promote best practices. It is known for its flexibility, scalability, and ease of deployment, making it a popular choice for both small-scale projects and large-scale enterprise applications.

Despite criticisms regarding its early versions' security and performance issues, PHP has undergone significant improvements over the years, with each new release addressing these concerns and introducing new features. Today, PHP remains a foundational technology in web development, powering millions of websites and applications across the internet.

My SQL

MySQL is an open-source relational database management system (RDBMS) renowned for its reliability, scalability, and speed. Developed by MySQL AB, now owned by Oracle Corporation, MySQL has become one of the most popular database systems used in web development, powering numerous websites, applications, and platforms.

As an RDBMS, MySQL organizes data into tables with rows and columns, allowing for efficient storage, retrieval, and management of structured data. It supports a wide range of data types, including numeric, string, date, and binary, catering to diverse application requirements.

MySQL is known for its high performance, optimized for handling large volumes of data and concurrent connections. It utilizes various storage engines, such as InnoDB, MyISAM, and Memory, each offering distinct features and capabilities tailored to specific use cases.

One of MySQL's key strengths is its versatility, seamlessly integrating with popular programming languages and frameworks, including PHP, Python, Java, and Node.js. This compatibility enables developers to build robust, data-driven applications across different technology stacks.

MySQL also offers advanced features such as transactions, replication, and clustering, ensuring data integrity, availability, and scalability in demanding environments. Additionally, it provides comprehensive security mechanisms, including authentication, access control, and encryption, safeguarding sensitive information from unauthorized access.

With a vibrant community of developers, extensive documentation, and widespread adoption, MySQL continues to evolve, with regular updates introducing performance enhancements, new features, and improvements to meet the ever-changing needs of modern applications.

Requirements

Requirements for USER: -

Hardware	Software
Device [Personal Computer, laptop, tablet or smartphone]	Web Browser [Chrome, safari, edge or Mozilla Firefox]
Internet Connectivity	

Requirements for Developer:-

Hardware	Software
Computer [High – performance computer {PC or Laptop]	Web Browser [Chrome, safari, edge or Mozilla Firefox]
Internet Connectivity	Operating System
	Code Editor [VS code, PyCharm etc.]
	Version Control [Git for tracking and managing code changes]

Source Code and Output

Landing Page

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.4.2/css/all.min.css"/>
    <script src="./main.js" defer></script>
    <link rel="stylesheet" href="index.css">
      <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/swiper@10/swiper-bundle.min.css"/>
    <title>Home Page</title>
</head>
<body>
    <nav>
      <div class="container nav_container">
        <a href="#"><h4>BOOK QR Navigator</h4></a>
        <ul class="nav_menu">
          <li><a href="#Home">Home</a></li>
          <li><a href="#About">About</a></li>
          <li><a href="#Course">Courses</a></li>
          <li><a href="#Contact">Contact</a></li>
        </ul>
        <button id="open-menu-btn"><i class="fa-solid fa-bars"></i></button>
        <button id="close-menu-btn"><i class="fa-solid fa-xmark"></i></button>
        </div>
      </div>
    </nav>
     <header>
      <div class="container header_container">
        <div class="header_left" id="Home">
            <h1>BOOK QR LIBRARY NAVIGATOR</h1>
            <P></P>
            <p>IN THIS WEBSITE YOU CAN SCAN THE QRCODE OF THE BOOKS AND  STORE YOUR ISSUE OR RETURN DETAILS OF THE
BOOKS IN YOUR STUDENT PORTAL</p>
            <a href="StudentLogin/index.php" class="btn btn-primary">Login for Student with Erp id</a>
            <a href="LibrarianLogin/index.php" class="btn btn-primary">Login for Librarian</a>
        </div>
        <div class="header_right">
          <div class="header_right-img">
            <img src="image.jpg" alt="">
          </div>
        </div>
      </div>
    </header>
    <section class="categories" id="About">
      <div class="container categories_container">
        <div class="categories_left" >
          <h1>Features</h1>
          <p>  Features of the this website  </p>
          <a href="#" class="btn">Learn More</a>
        </div>
        <div class="categories_right">
          <article class="category">
            <span class="category_icon"><i class="fa-sharp fa-solid fa-qrcode"></i></span>
            <h5>QR Scanning Feature</h5>
            <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Exercitationem, libero!</p>
          </article>
          <article class="category">
            <span class="category_icon"><i class="fa-regular fa-user"></i></span>
            <h5>Stuent Profile</h5>
            <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Exercitationem, libero!</p>
          </article>
```

```html
        <article class="category">
          <span class="category_icon"><i class="fa-solid fa-book-open-reader"></i></span>
          <h5>Approval of the librarian</h5>
          <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Exercitationem, libero!</p>
        </article>
      </div>
    </div>
  </section>
  <section class="courses" id="Course">
    <h2>Books of the courses</h2>
    <div class="container courses__container">
      <article class="course">
        <div class="course__image">
          <img             src="https://images.unsplash.com/photo-1507721999472-8ed4421c4af2?q=80&w=2070&auto=format&fit=crop&ixlib=rb-
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlHx8fGVufDB8fHx8fA%3D%3D" alt="">
        </div>
        <div class="course__info">
          <h4>MCA</h4>
          <p>We Have all the Books for MCA all semester, you can choose which ever you want</p>
          <a href="" class="btn btn-primary">Learn More</a>
        </div>
      </article>
      <article class="course">
        <div class="course__image">
          <img             src="https://images.unsplash.com/photo-1507721999472-8ed4421c4af2?q=80&w=2070&auto=format&fit=crop&ixlib=rb-
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlHx8fGVufDB8fHx8fA%3D%3D" alt="">
        </div>
        <div class="course__info">
          <h4>BCA</h4>
          <p>We have all the Books for BCA all semester as well as all the Flavours of BCA</p>
          <a href="" class="btn btn-primary">Learn More</a>
        </div>
      </article>
      <article class="course">
        <div class="course__image">
          <img             src="https://images.unsplash.com/photo-1579468118864-1b9ea3c0db4a?q=80&w=2070&auto=format&fit=crop&ixlib=rb-
4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlHx8fGVufDB8fHx8fA%3D%3D" alt="">
        </div>
        <div class="course__info">
          <h4>B. Tech</h4>
          <p>We Currently only have the B. Tech CSE Books in Stock we will try to Find more Branches for B.Tech</p>
          <a href="" class="btn btn-primary">Comming Soon</a>
        </div>
      </article>
    </div>
  </section>
  <section class="faqs">
    <h2>Frequently Asked Questions</h2>
    <div class="container faqs__container">
      <article class="faq">
        <div class="faq__icon">
          <i class="fa-solid fa-plus"></i>
        </div>
        <div class="question__answer">
          <h4>When Will The Latest Addition of the Book will launch?</h4>
          <p>We refill the Books on every Friday, so be patient and check for the Books on Monday's.</p>
        </div>
      </article>
      <article class="faq">
        <div class="faq__icon">
          <i class="fa-solid fa-plus"></i>
        </div>
        <div class="question__answer">
          <h4>How can i Write my Book Suggestions?</h4>
          <p>You Can either write your request in our Suggestion Box or if its any urgent then give your contact details in our concelt Form</p>
        </div>
```

```html
        </article>
        <article class="faq">
          <div class="faq__icon">
            <i class="fa-solid fa-plus"></i>
          </div>
          <div class="question__answer">
            <h4>Lorem ipsum dolor sit amet.</h4>
            <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Minima, vitae, provident explicabo voluptates voluptas assumenda maxime ipsa,
animi nulla exercitationem praesentium perspiciatis mollitia. Mollitia modi adipisci, itaque dicta numquam eaque.</p>
          </div>
        </article>
        <article class="faq">
          <div class="faq__icon">
            <i class="fa-solid fa-plus"></i>
          </div>
          <div class="question__answer">
            <h4>Lorem ipsum dolor sit amet.</h4>
            <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Minima, vitae, provident explicabo voluptates voluptas assumenda maxime ipsa,
animi nulla exercitationem praesentium perspiciatis mollitia. Mollitia modi adipisci, itaque dicta numquam eaque.</p>
          </div>
        </article>
        <article class="faq">
          <div class="faq__icon">
            <i class="fa-solid fa-plus"></i>
          </div>
          <div class="question__answer">
            <h4>Lorem ipsum dolor sit amet.</h4>
            <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Minima, vitae, provident explicabo voluptates voluptas assumenda maxime ipsa,
animi nulla exercitationem praesentium perspiciatis mollitia. Mollitia modi adipisci, itaque dicta numquam eaque.</p>
          </div>
        </article>
        <article class="faq">
          <div class="faq__icon">
            <i class="fa-solid fa-plus"></i>
          </div>
          <div class="question__answer">
            <h4>Lorem ipsum dolor sit amet.</h4>
            <p>Lorem ipsum dolor sit amet consectetur adipisicing elit. Minima, vitae, provident explicabo voluptates voluptas assumenda maxime ipsa,
animi nulla exercitationem praesentium perspiciatis mollitia. Mollitia modi adipisci, itaque dicta numquam eaque.</p>
          </div>
        </article>
      </div>
    </section>
    <section class="container testimonials__container mySwiper">
      <h2>Students testonials</h2>
      <div class="swiper-wrapper">
        <article class="testimonial swiper-slide">
          <div class="avatar">
            <img                   src="https://images.unsplash.com/photo-1494790108377-be9c29b29330?w=500&auto=format&fit=crop&q=60&ixlib=rb-
4.0.3&ixid=M3wxMjA3fDB8MHxzZWFyY2h8NHx8bWFuJTIwYW5kJTIwd29tYW58ZW58MHx8MHx8fDA%3D" alt="">
          </div>
          <div class="testimonial__info">
            <h5>Tanvi Singh</h5>
            <small>Student</small>
          </div>
          <div class="testimonial__body">
            <p>Ma'am This Online LMS with QR Scanner is the best website and most flexible also.</p>
          </div>
        </article>
        <article class="testimonial swiper-slide">
          <div class="avatar">
            <img                   src="https://images.unsplash.com/photo-1604904612715-47bf9d9bc670?w=500&auto=format&fit=crop&q=60&ixlib=rb-
4.0.3&ixid=M3wxMjA3fDB8MHxzZWFyY2h8MzZ8fG1hbiUyMGFuZCUyMHdvbWFufGVufDB8fDB8fHww" alt="">
          </div>
          <div class="testimonial__info">
            <h5>Shruti Agrawal</h5>
```

```html
          <small>Librarian</small>
        </div>
        <div class="testimonial__body">
          <p>Yes Dear, all The credit Goes to <strong> Mr. Rahul Saxena</strong> for Creating best side for us.</p>
        </div>
      </article>
    </div>
    <div class="swiper-pagination"></div>
  </section>
  <footer class="footer" id="Contact">
    <div class="container footer__container">
      <div class="footer__1">
        <a href="index.html" class="footer__logo">
          <h4></h4>
        </a>
        <p>
          Lorem ipsum dolor sit amet consectetur adipisicing elit. Eum, enim.
        </p>
      </div>
      <div class="footer__2">
        <h4>Permalinks</h4>
        <ul class="permalink">
          <li><a href="./index.html">Home</a></li>
          <li><a href="#About">About</a></li>
          <li><a href="#courses">Courses</a></li>
          <li><a href="#contact">Contact</a></li>
        </ul>
      </div>
      <div class="footer__3">
        <h4>Primacy</h4>
        <ul class="privacy">
          <li><a href="#">Privacy Policy</a></li>
          <li><a href="#">Terms and Conditions</a></li>
          <li><a href="#">Refund Policy</a></li>
        </ul>
      </div>
      <div class="footer__4">
        <h4>Contact us</h4>
        <div>
          <p>24MCI10204@cuchd.in</p>
    </div>
    <button class="SuperAdmin" onclick="window.location.href='../SuperAdmin/login.php'">
      <i class="fa-solid fa-bolt"></i> Super Admin
    </button>
  </footer>
  <script src="https://cdn.jsdelivr.net/npm/swiper@10/swiper-bundle.min.js"></script>
  <script>
  var swiper = new Swiper(".mySwiper",{
    slidesPerView: 1,
    spaceBetween: 30,
    pagination: {
    el: ".swiper-pagination",
    clickable: true,
    },
    //when Window is >= 600px
    breakpoints: {
      600: {
        slidesPerView: 2,
      }
    }
  });
  </script>
</body>
</html>
```

Student Dashboard

```php
<?php
// Start session for user authentication
include('../connection.php');
session_start();

$studentname = isset($_SESSION['studentname']) ? $_SESSION['studentname'] : "";
$student_id = isset($_SESSION['student_id']) ? $_SESSION['student_id'] : "";

// Ensure studentname and student_id are not empty before displaying them

?>
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>Dashboard</title>
  <link rel="stylesheet" href="style.css" />
</head>
<body>
<div class="BelowPart" id="belowPart">
  <?php

 // Handle deletion if the form is submitted
 // Handle deletion (returning a book) if the form is submitted
if ($_SERVER["REQUEST_METHOD"] == "POST") {
 if (isset($_POST['delete_id'])) {
    $delete_id = $_POST['delete_id'];

    // Fetch the book details before deletion
    $sql = "SELECT * FROM requested_books WHERE id = $delete_id";
    $result = $conn->query($sql);

    if ($result->num_rows > 0) {
      // Fetch the row data
      $row = $result->fetch_assoc();
      $book_name = $row['Title'];
      $issued_date = $row['Date'];
      $isbn = $row['ISBN'];
      $student_id = $row['Student_ID'];
      $student_name = $studentname; // Assuming you want to use the session's student name
      $returned_date = date('Y-m-d'); // Get the current date for the returned date
```

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```php
        // Insert the data into the History table
        $sql_insert = "INSERT INTO History (UID, Student_name, Book_name, Issued_date, Return_date, ISBN)
                VALUES ('$student_id', '$student_name', '$book_name', '$issued_date', '$returned_date', '$isbn')";

      if ($conn->query($sql_insert) === TRUE) {
          // Now delete from the requested_books table
          $sql_delete = "DELETE FROM requested_books WHERE id = $delete_id";

          if ($conn->query($sql_delete) === TRUE) {
          } else {
              echo "Error deleting record: " . $conn->error;
          }
      } else {
          echo "Error inserting into History: " . $conn->error;
      }
    } else {
    }
  }
}

  // Query to fetch data from your table
  $sql = "SELECT id, name, author, ISBN, Title, Date, Issued FROM requested_books where Student_ID = $student_id";
  $result = $conn->query($sql);
  echo "<h1>History</h1>";
  // Display fetched data in a table
  if ($result->num_rows > 0) {
    echo "<table>";
    echo "<tr><th>ID</th><th>Name</th><th>Author</th><th>ISBN</th><th>Title</th><th>Date</th><th>Issued</th><th>Action</th></tr>";
    // output data of each row
    while($row = $result->fetch_assoc()) {
      echo "<tr><td>" . $row["id"]. "</td><td>" . $row["name"]. "</td><td>" . $row["author"]. "</td><td>" . $row["ISBN"]. "</td><td>" . $row["Title"].
"</td><td>" . $row["Date"]. "</td><td>" . ($row["Issued"] == 0 ? "Pending" : "Issued") . "</td>";
      // Only show the "Return" button if the status is "Issued"
      if ($row["Issued"] == 1) {
                    echo    "<td><form    method='post'><input    type='hidden'    name='delete_id'    value='"    .    $row["id"]    .    "'><button
type='submit'>Return</button></form></td>";
      } else {
        echo "<td>Pending</td>";
      }
      echo "</tr>";
    }
    echo "</table>";
  } else {
    echo "<h1 style='text-align:center'>Scan QR Code to issue Book</h1>";
  }

  $conn->close();
  ?>
</div>
```
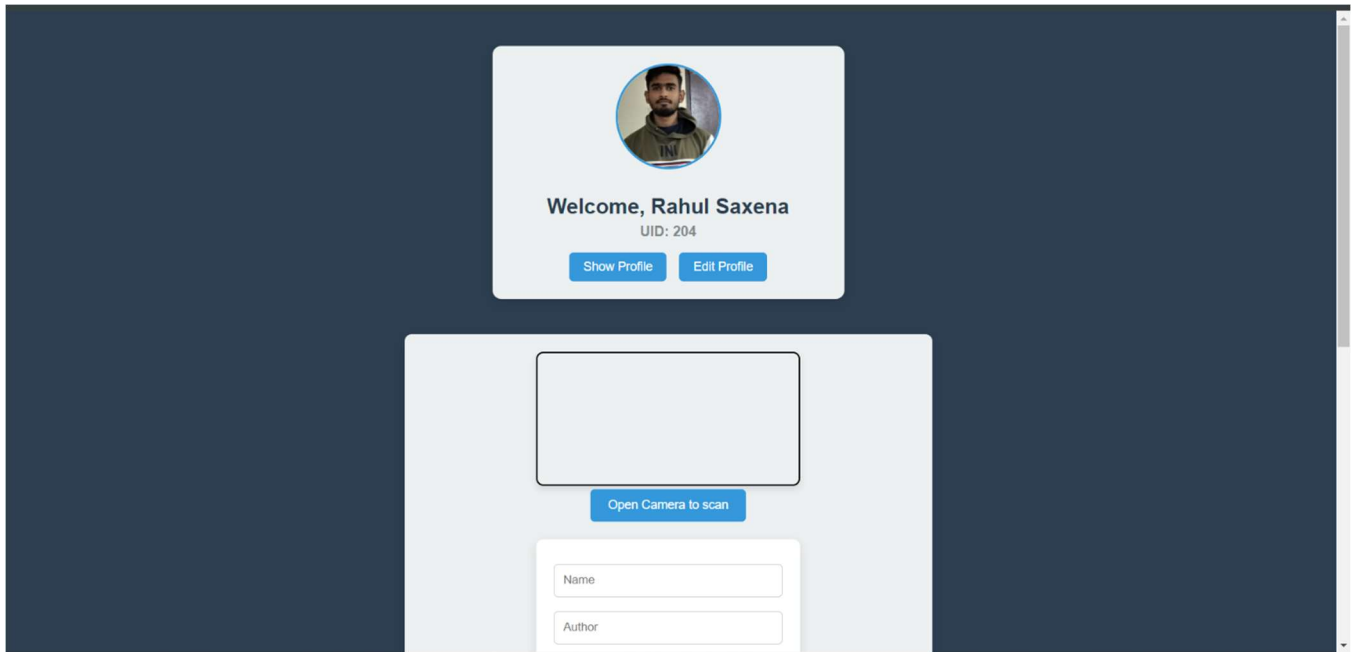
```
<script src="https://cdn.jsdelivr.net/npm/jsqr/dist/jsQR.js"></script>
```


Librarian Dashboard

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
    <link rel="stylesheet" href="style.css">
    <script src="https://kit.fontawesome.com/b5b6622958.js" crossorigin="anonymous"></script>
</head>
<body>
<section class="MainSection">
    <div class="LeftSidebar">
        <li onclick="window.location.href = './index.php'" class="Active">
            <i class="fa-solid fa-hand"></i>
            Requests
        </li>
        <li onclick="window.location.href = './StudentPage.php'">
            <i class="fa-solid fa-graduation-cap"></i> Student List
        </li>
        <li onclick="window.location.href = './Librarian.php'">
            <i class="fa-solid fa-chalkboard-user"></i> Librarian List
        </li>
        <li onclick="window.location.href = './Generate_QR_Code/index.html'">
            <i class="fa-solid fa-qrcode"></i> Create QR Code
        </li>
        <div class="Attribute">
            <p> &copy Rahul Saxena</p>
        </div>
    </div>
    <div class="RightSidebar">
        <?php
        // Database connection
        include('../connection.php');
        $count=0;

        // Check if the accept button is clicked
        if (isset($_POST['acceptBook'])) {
            $bookId = $_POST['bookId'];
            // Update Issued column to 1 for the selected book
            $sql = "UPDATE requested_books SET Issued = 1 WHERE id = $bookId";
            if ($conn->query($sql) === TRUE) {
                echo "<script>alert('Book accepted successfully!');</script>";
            } else {
                echo "<script>alert('Error accepting book: " . $conn->error . "');</script>";
            }
```

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```php
    }
$sql = "SELECT * FROM requested_books";
$result = $conn->query($sql);

if ($result->num_rows > 0) {
    echo '<table class="BooksTable">';
    echo '<tr><th>ID</th><th>Name</th><th>Author</th><th>ISBN</th><th>Title</th><th>Date</th><th>Action</th></tr>';
    // Output data of each row
    while ($row = $result->fetch_assoc()) {
        if ($row['Issued'] == 0) {
            $count+=1   ;
          echo "<tr><td>" . $row["id"] . "</td><td>" . $row["name"] . "</td><td>" . $row["author"] . "</td><td>" . $row["ISBN"] . "</td><td>" . $row["Title"]
. "</td><td>" . $row["Date"] . "</td>";
           echo '<td><form method="post"><button class="AcceptButton" type="submit" name="acceptBook" value="accept" onclick="return confirm(\'Are
you sure you want to accept this book?\')">Accept</button><input type="hidden" name="bookId" value="" . $row['id'] . "'></form></td></tr>';
        }
    }
    echo "</table>";
} else {
    echo "";
}
    $conn->close();
    ?>
  </div>
</section>
<script src="script.js"></script>
</body>
</html>
```
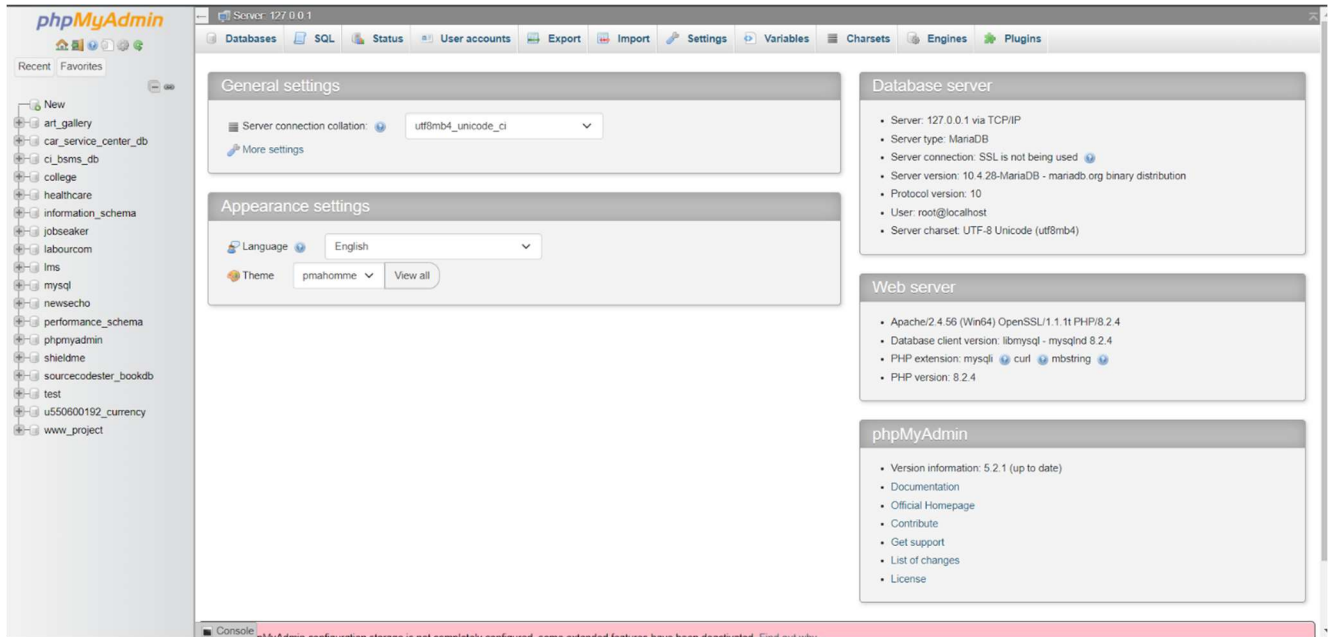
☰ Menu	Scan Book QR					🔔 👤

	ID	Name	Author	ISBN	Title	Date	Action
🖐 Requests	6	Database Management Systems	Jane Smith	9781234567890	Database Management Systems	2024-06-08	Accept
🎓 Student List	7	Marketing Management	Philip Kotler, Kevin Lane Keller	9780131457577	Marketing Management	2024-06-08	Accept
🔌 Librarian List	10	Entrepreneurship Development	S.S. Khanka	9788174463457	Entrepreneurship Development	2024-10-18	Accept
▦ Create QR Code							

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Database Tables

PhpMyAdmin:

Student Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action		
1	id 🔑	int(11)			No	None		AUTO_INCREMENT	✎ Change	⊝ Drop	More
2	Student_ID	int(11)			No	None			✎ Change	⊝ Drop	More
3	StudentName	varchar(30)	utf8mb4_general_ci		No	None			✎ Change	⊝ Drop	More
4	Phone	varchar(30)	utf8mb4_general_ci		No	None			✎ Change	⊝ Drop	More
5	RollNo	varchar(50)	utf8mb4_general_ci		No	None			✎ Change	⊝ Drop	More
6	Password	varchar(20)	utf8mb4_general_ci		No	None			✎ Change	⊝ Drop	More
7	Branch	varchar(50)	utf8mb4_general_ci		No	None			✎ Change	⊝ Drop	More
8	Semester	varchar(5)	utf8mb4_general_ci		No	None			✎ Change	⊝ Drop	More
9	PendingDues	varchar(50)	utf8mb4_general_ci		No	None			✎ Change	⊝ Drop	More

Value:

				id	Student_ID	StudentName	Phone	RollNo	Password	Branch	Semester	PendingDues
☐	✎ Edit	⌗ Copy	⊝ Delete	1	204	Rahul Saxena	7905157775	24MCI10204	12345	MCA	2	0
☐	✎ Edit	⌗ Copy	⊝ Delete	4	203	Lakshya Pratap Singh	902613122	24MCI10203	12345	MCA	I	0

Librarian Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action		
1	id 🔑	int(11)			No	None		AUTO_INCREMENT	Change	Drop	More
2	Name	varchar(30)	utf8mb4_general_ci		No	None			Change	Drop	More
3	Email	varchar(50)	utf8mb4_general_ci		No	None			Change	Drop	More
4	Phone	varchar(11)	utf8mb4_general_ci		No	None			Change	Drop	More
5	UID 🔑	varchar(10)	utf8mb4_general_ci		No	None			Change	Drop	More
6	Department	varchar(5)	utf8mb4_general_ci		No	None			Change	Drop	More
7	Joined_date	varchar(8)	utf8mb4_general_ci		No	None			Change	Drop	More
8	username	varchar(50)	utf8mb4_general_ci		No	None			Change	Drop	More
9	password	varchar(20)	utf8mb4_general_ci		No	None			Change	Drop	More

Value:

	id	Name	Email	Phone	UID	Department	Joined_date	username	password
Edit Copy Delete	1	Rahul Saxena	24MCI10204@cuchd.in	7905157775	120	MCA	23/01/20	admin	11111

Book Request Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action		
1	id 🔑	int(11)			No	None		AUTO_INCREMENT	Change	Drop	More
2	Student_ID	varchar(30)	utf8mb4_general_ci		No	None			Change	Drop	More
3	name	varchar(100)	utf8mb4_general_ci		No	None			Change	Drop	More
4	author	varchar(100)	utf8mb4_general_ci		No	None			Change	Drop	More
5	ISBN 🔑	varchar(100)	utf8mb4_general_ci		No	None			Change	Drop	More
6	Title	varchar(100)	utf8mb4_general_ci		No	None			Change	Drop	More
7	Date	varchar(100)	utf8mb4_general_ci		No	None			Change	Drop	More
8	Issued	varchar(2)	utf8mb4_general_ci		No	None			Change	Drop	More

Value:

	id	Student_ID	name	author	ISBN	Title	Date	Issued
Edit Copy			Database Management Systems	Jane Smith	9781234567890	Database Management Systems	2024-06-08	0
Edit Copy Delete	7	203	Marketing Management	Philip Kotler, Kevin Lane Keller	9780131457577	Marketing Management	2024-06-08	0
Edit Copy Delete	15	204	Entrepreneurship Development	S.S. Khanka	9788174463457	Entrepreneurship Development	2024-10-22	1

Check all   With selected: Edit   Copy   Delete   Export

History:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	UID	varchar(20)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop More
2	Student_name	varchar(30)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop More
3	Book_name	varchar(50)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop More
4	Issued_date	varchar(10)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop More
5	Return_date	varchar(10)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop More
6	ISBN 🔑	varchar(20)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop More

Value:

	UID	Student_name	Book_name	Issued_date	Return_date	ISBN
🖉 Edit 📋 Copy ⊖ Delete	204	Rahul Saxena	Entrepreneurship Development	2024-10-19	2024-10-19	9788174463457

⬑ ☐ Check all *With selected:* 🖉 Edit 📋 Copy ⊖ Delete 🗎 Export

Conclusion

The advanced Library Management System successfully addresses the complexities and inefficiencies of traditional library operations by leveraging modern technology, such as QR code scanning and real-time data access. With dedicated functionalities for both students and librarians, the system enhances the user experience through automation, providing a smooth and organized process for book issuance, returns, and user management.

By empowering students to manage their profiles and book records, and enabling librarians to efficiently handle book requests, user additions, and inventory management, the system brings a new level of convenience and operational efficiency to library environments. This project demonstrates the potential of digital solutions to transform everyday tasks, making library management more accessible, accurate, and streamlined.

The implementation of this system reflects a shift towards more digitized and responsive library services, ultimately benefiting both the users and administrators of the library

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