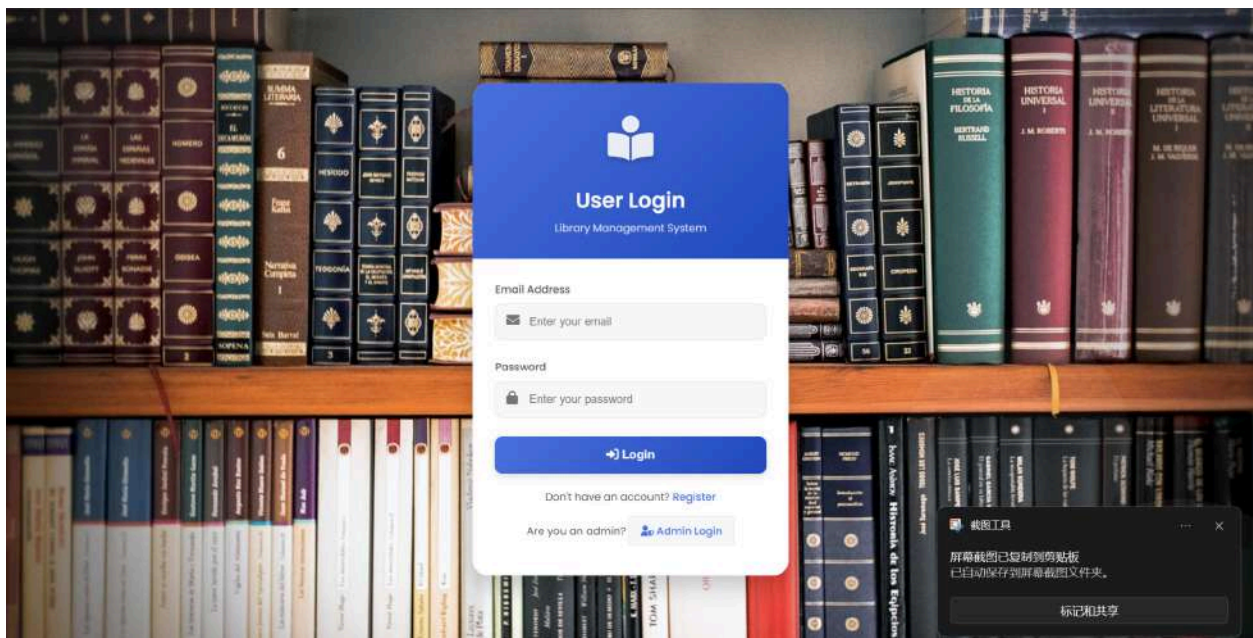


A.1 OVERVIEW

My project aims to create a Library_Management_System website, The book management system is a software application used to assist libraries or various book collection institutions to efficiently manage book resources, reader information and borrowing processes. It uses computer technology and database management to replace traditional manual management methods and improve management efficiency and accuracy.



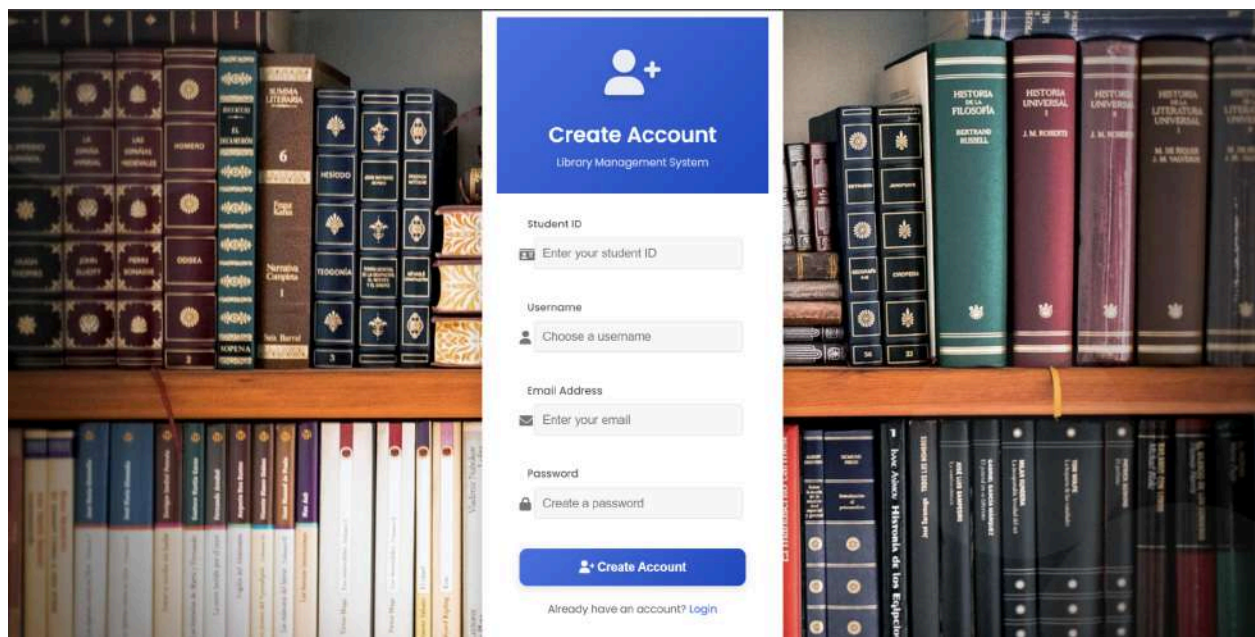
(User login page)

In the center of the page is a white login box. The top part of the box is a blue area with a book icon, the title "User Login", and the subtitle "Library Management System". Inside the box, there are two input fields. One is labeled "Email Address" for users to enter their email, and the other is labeled "Password" for password

entry. Each input field has a corresponding icon on the left side, an envelope for the email field and a lock for the password field.

Below the input fields is a blue "Login" button for submitting login credentials. Further down, there are two links. "Don't have an account? Register" is for users who don't have an account and want to register. "Are you an admin? Admin Login" is provided for administrators to log in.

If you have Email address and password, you can login .



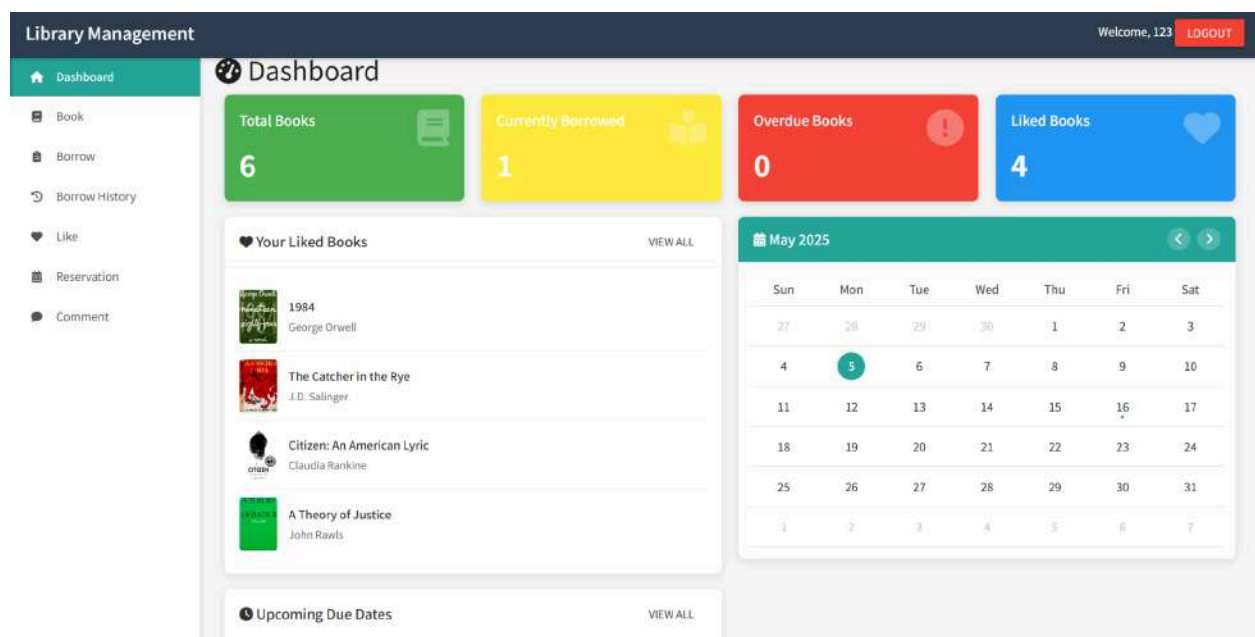
The image displays a 'Create Account' form for a 'Library Management System'. The form is overlaid on a background of library bookshelves. The form includes the following fields and elements:

- Title:** Create Account (Library Management System)
- Student ID:** Enter your student ID (with an ID card icon)
- Username:** Choose a username (with a person icon)
- Email Address:** Enter your email (with an envelope icon)
- Password:** Create a password (with a lock icon)
- Buttons:** A blue 'Create Account' button and a link 'Already have an account? Login'.

(User register page)

When you click register button, you will enter this register page, you need to enter the corresponding informations(Student ID,username,etc.),when you done,you will redirect to the login page.

If you fill in the wrong informations on the login page, it wil also prompt you with an error message, if the login is successful,a success prompt box will pop up.



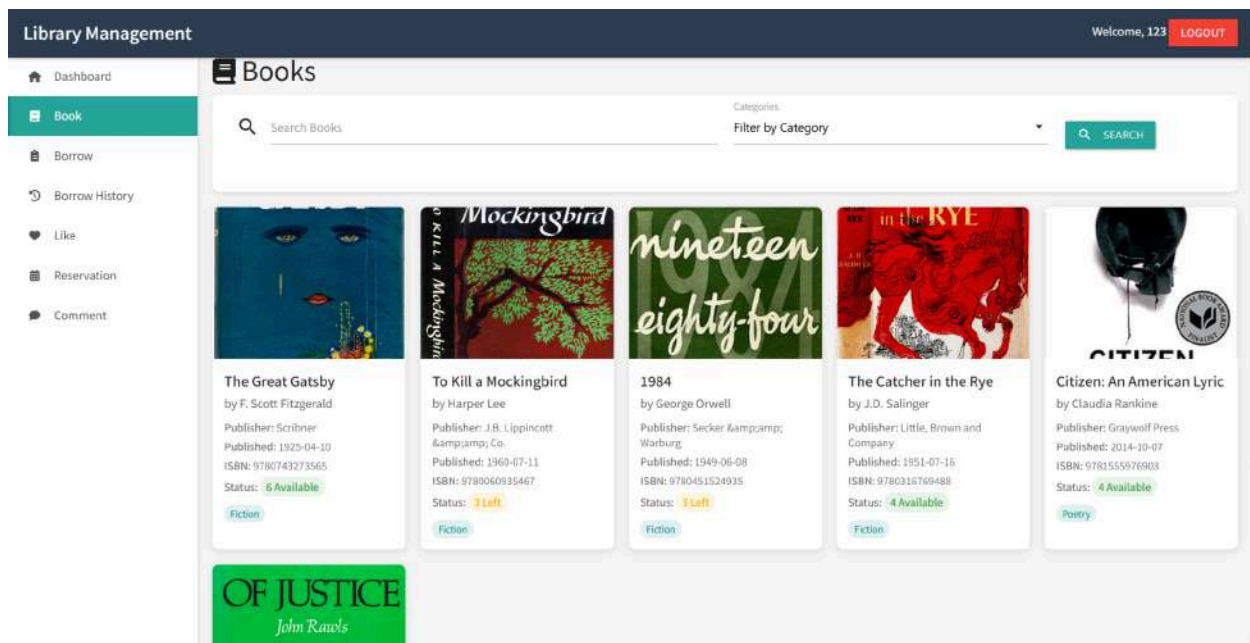
(dashboard page)

If you successfully log in, you will be taken to this page, At the top left of the page, it says "Library Management", and at the top right, there is a welcome message and a "LOGOUT" button.

On the left side is the navigation bar, which includes functional options such as "Dashboard", "Book", "Borrow", "Borrow History", "Like", "Reservation", and "Comment".

At the top of the main page, there are four information cards, respectively showing the total number of books in the library, the current number of borrowed books, the number of overdue books, and the number of books favorited by users.

The left - hand area below lists the books favorited by the user. On the right is a calendar displaying the date information for May 2025.



(book page)

The page has a search bar where you can enter keywords to search for books. There is a "Filter by Category" drop-down menu and a "SEARCH" button next to it to facilitate finding specific books.

The main body of the page displays multiple book information cards, such as "The Great Gatsby", "To Kill a Mockingbird", "1984", "The Catcher in the Rye", "Citizen: An American Lyric", etc. Each book card shows the title, author, publisher, publication date, ISBN number, number of books available for borrowing (Status) and the category it belongs to (such as Fiction, Poetry).

Library Management

Welcome, 123 [LOGOUT](#)

- Dashboard
- Book
- Borrow**
- Borrow History
- Like
- Reservation
- Comment

Borrow Books

Borrow a Book

Books are borrowed for 14 days. Please return them on time to avoid late fees.

Borrower Name: Student ID:

Select Book

Choose a book to borrow

[BORROW BOOK](#) [VIEW HISTORY](#)

Your Current Borrows

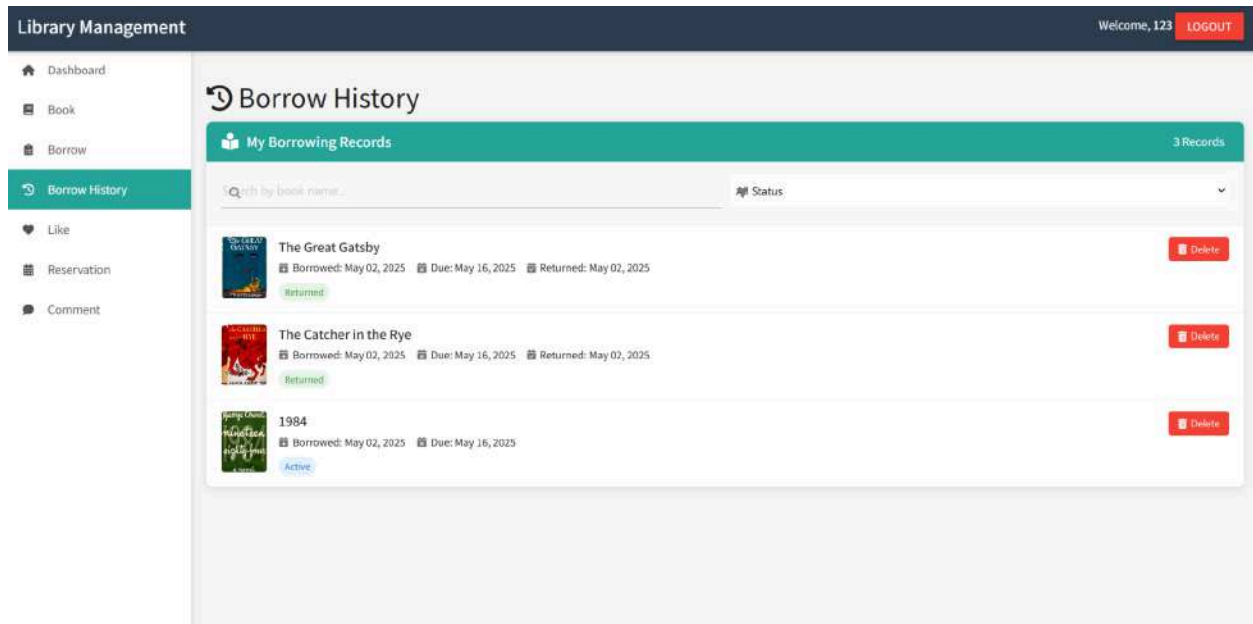
1 Books

	<p>1984</p> <p>by George Orwell</p> <p>Borrowed: May 02, 2025 Due: May 16, 2025</p> <p>Due in 10 days</p>
--	---

(borrow page)

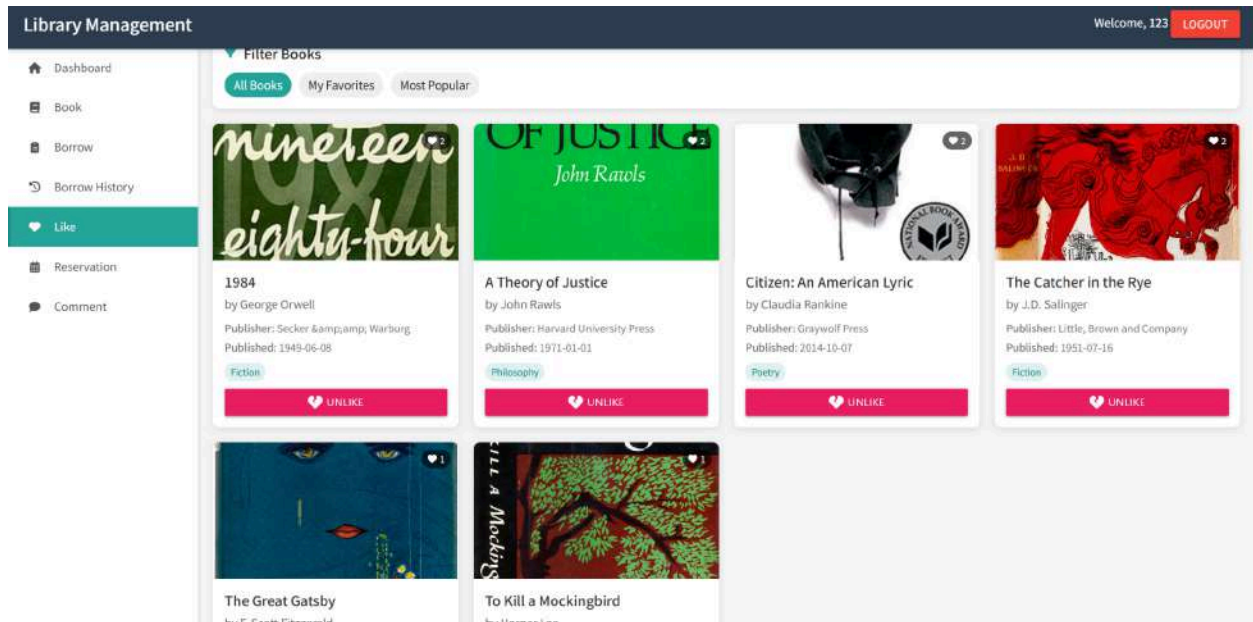
The upper part is the borrowing function area, where you can fill in the borrower's name and student ID, and select books to borrow from the drop-down menu. There is a reminder that the borrowing period is 14 days, and there are buttons for "borrowing books" and "view history". The lower part shows the currently borrowed books, such as "1984", including information such as the author, borrowing and due date. If you fill in the book information, then click "BORROW BOOK" button, The following "your current borrows" will show your books, The

dashboard page can record some informations about this book too.



(borrow history page)

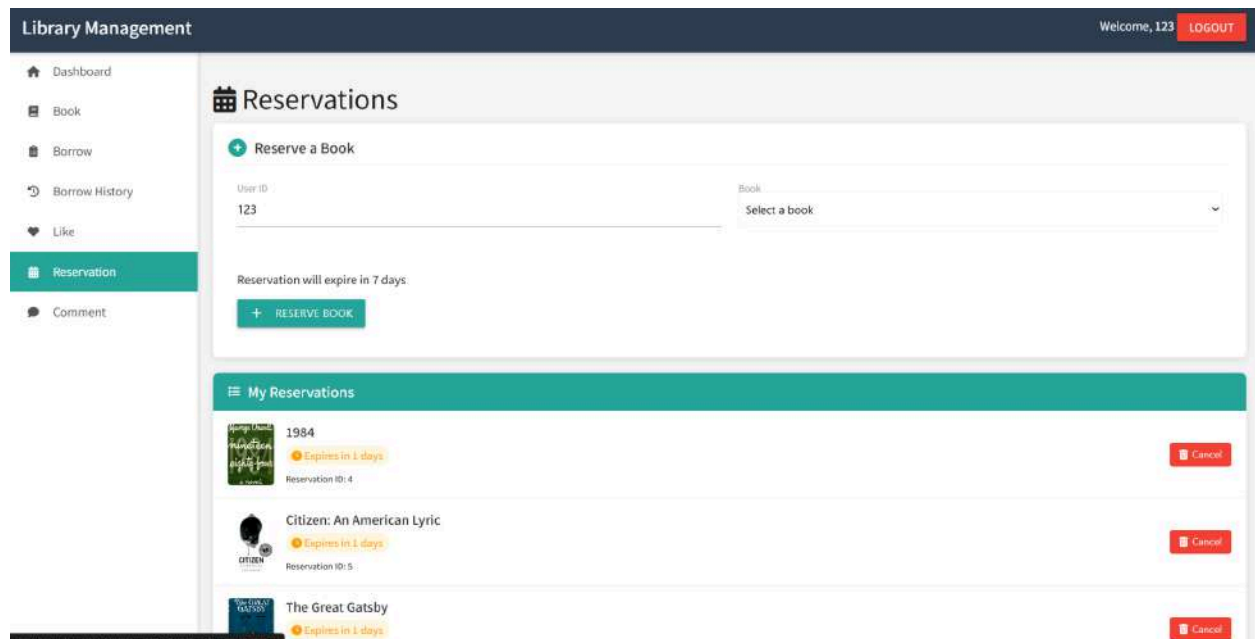
This is the "Borrowing History" page of the library management system, which displays the borrowing information of books, including borrowing, due date and return status. There is a search box by book title and a drop-down menu for filtering by status to facilitate finding specific records. The "Delete" button on the right side of each record can delete the corresponding record, making it easier to manage borrowing history.



(Like page)

This is the "Collection" page of the library management system. There is a "Filter Books" filtering function at the top, which can be filtered by "All Books", "My Favorites" and "Most Popular". The page displays information about multiple books, including title, author, publisher, year of publication, and category. There is an "UNLIKE" button

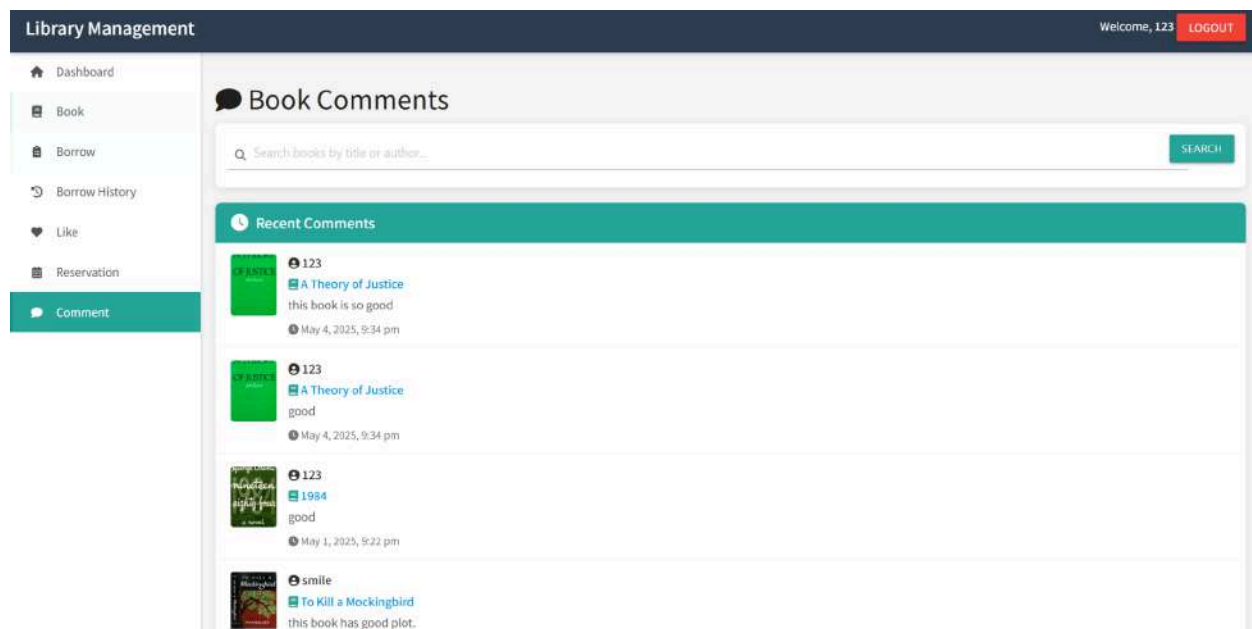
under each book to cancel the collection, making it easier for users to manage their favorite books.



(reservation page)

This is the "Reservation" page of the library management system. The upper area allows you to reserve books, with the user ID already filled in. You can select books from the drop-down menu, which indicates that the reservation will expire in 7 days. There is a "RESERVE BOOK" button for submitting the reservation. The "My Reservations" area below shows the books that the user has reserved, such

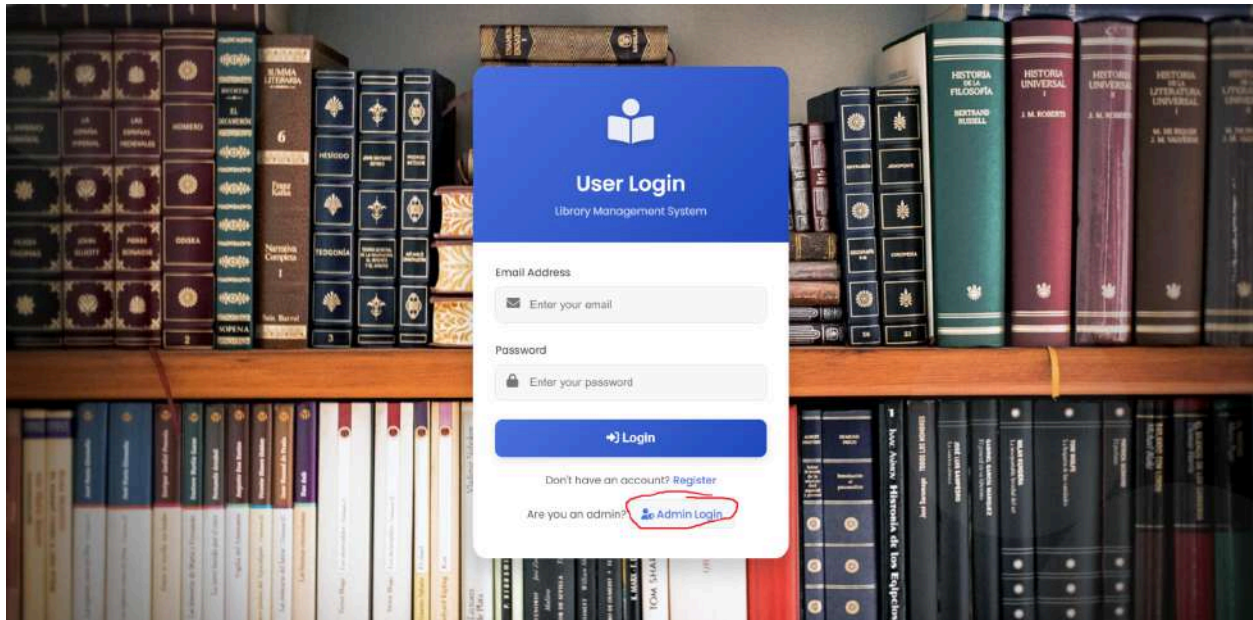
as "1984", "Citizen: An American Lyric", and "The Great Gatsby". It shows that the reservation will expire in 1 day and the reservation ID. There is a "Cancel" button on the right side of each record to cancel the reservation.



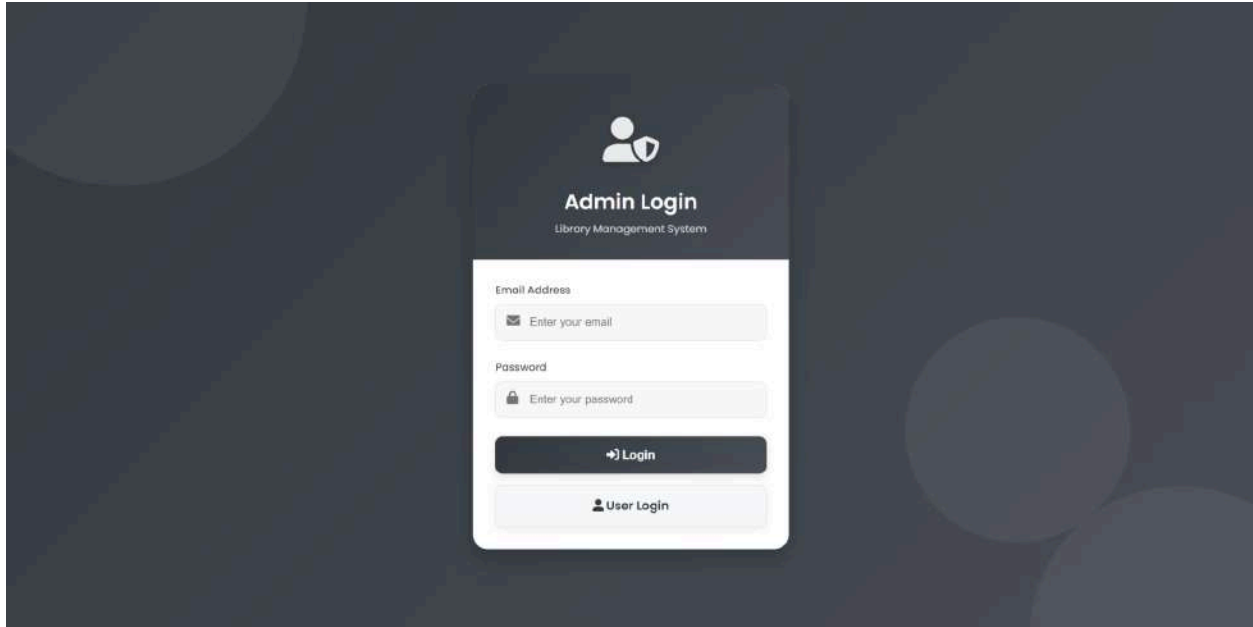
(comment page)

This is the "Comments" page of the library management system. There is a search box to search for books by title or author. The "Recent Comments" area displays recent comments, such as the comments of user "123" on "A Theory of Justice" and "1984" and user "smile" on "To Kill

a Mockingbird", including the content and time of the comments, so that users can easily view other people's comments on the book.



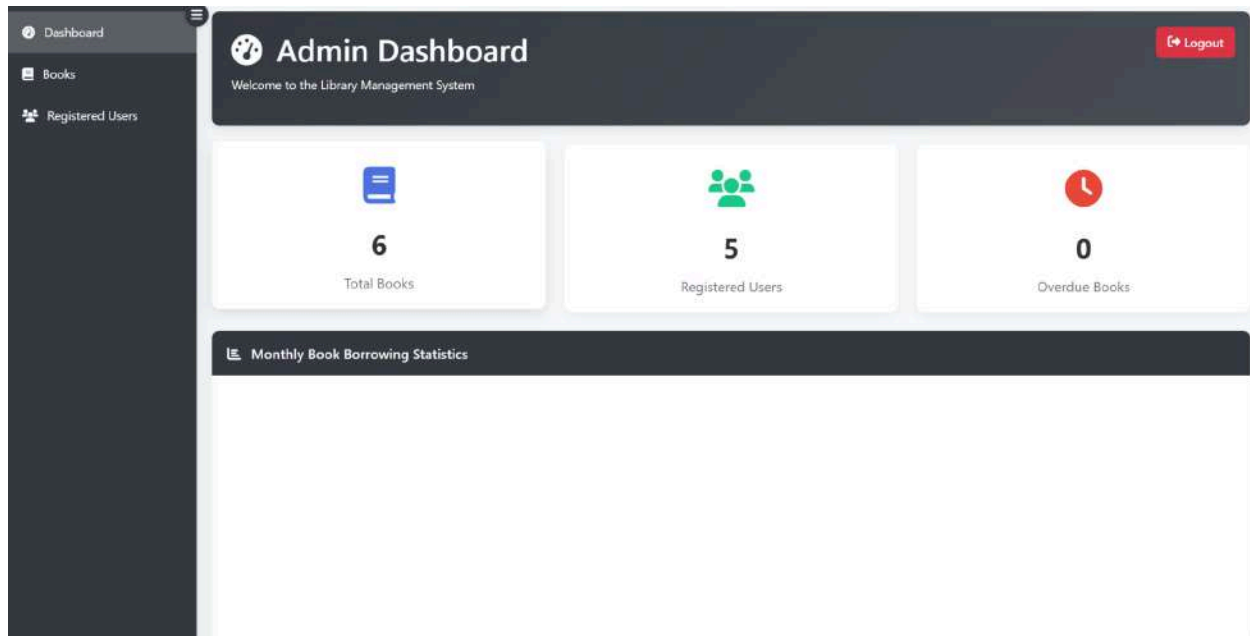
(Redirect to Admin Login Page Button)



(admin page)

There is an admin login button below the login page. Click it to jump to the admin login page.

In the admin page, log in to the admin informations to jump to admin dashboard page.



(admin dashboard page)

The top shows "Admin Dashboard" and a welcome message, and there is a "Logout" button in the upper right corner. The left navigation bar contains "Dashboard", "Books", and "Registered Users" options. The main page displays three key data: total number of books, number of registered users, and number of overdue books. There is a "Monthly Book Borrowing Statistics" area at the bottom to display relevant statistical information.

Dashboard
Books
Registered Users

Admin Book Management

Manage all books in the library system

+ Add a New Book

Book ID

ISBN

Book Name

Author

Publisher

Publication Date

Copies Available

YYYY-MM-DD

Enter date in YYYY-MM-DD format (e.g., 2023-05-15)

Category

Select Category

Book Image





















选择文件

未选择任何文件

Upload a cover image for the book (JPG, JPEG, PNG, or GIF).

Dashboard
Books
Registered Users

Books List

Image	ID	Book Name	Author	Publisher	Publication Date	Copies	ISBN	Category	Action
	1	The Great Gatsby	F. Scott Fitzgerald	Scribner	1925-04-10	6	9780743273565	Fiction	  
	2	To Kill a Mockingbird	Harper Lee	J.B. Lippincott & Co.	1960-07-11	3	9780060935467	Fiction	  
	3	1984	George Orwell	Secker & Warburg	1949-06-08	3	9780451524935	Fiction	  
	4	The Catcher in the Rye	J.D. Salinger	Little, Brown and Company	1951-07-16	4	9780316769488	Fiction	  
	5	Citizen: An American Lyric	Claudia Rankine	Graywolf Press	2014-10-07	4	9781555976903	Poetry	  

(admin books page)

There is an "Add a New Book" area, which provides input boxes or selection boxes such as "Book ID", "ISBN",

"Book Name", "Author", "Publisher", "Publication Date",
"Copies Available", "Category", and "Book Image".

Administrators can enter various information about the new book, including book number, international standard book number, title, author, publisher, publication date, number of copies available for borrowing, category, and upload a picture of the book cover.

Display "Books List" to present the existing book information in a table, including book cover, ID, title, author, publisher, publication date, number of copies, ISBN, category, etc. The "Action" column provides edit (blue pencil icon), user (blue user icon), and delete (red trash can icon) action buttons, It is convenient for administrators to edit and modify book information, query borrowing users or delete them.

Dashboard

Books

Registered Users

Registered Users

Manage all registered users in the library system

8

Total Users

3

Administrators

5

Regular Users

Regular Users

Search by username, email or role...

Search

User ID	Username	Email	Password	Role	Created Time	Actions
123	123	j13787810907@163.com	\$2y\$10\$g6vAcQmT9.axZ91DP4Be...	User	2025-04-28 02:51:30	<div></div>
123456	smile	123421765675@163.com	\$2y\$10\$IktHnjyTgFn4lBvq8eS4Cted...	User	2025-04-30 08:57:32	<div></div>
123456789	apple	13787810907j@gmail.com	\$2y\$10\$05twlZbb9y7chpAtWvr3HuTJ...	User	2025-04-30 08:56:52	<div></div>
1234567890	lisongjie	1756211215@gmail.com	\$2y\$10\$VH7BNk8BnZowlT3sdBK9w...	User	2025-05-01 18:05:30	<div></div>
1234567891	admin	1234567891@163.com	\$2y\$10\$FluX0S8kykjdHhG3mmVDF...	User	2025-05-02 21:07:18	<div></div>

Previous

1

2

3

Next

Administrators

Search by name or email...

Search

Admin ID	Admin Name	Email	Password	Actions
1	admin	1756211215@163.com	\$2y\$10\$yLSWwmPKa.NFS9gfaip02uzF7cCQc9omks...	<div></div>
2	smile	1756211215@gmail.com	\$2y\$10\$OQlmojKcWvgs79ES7c6kvuct6lpt/a0l85ZD...	<div></div>
3	apple	15197388050@163.com	\$2y\$10\$sXivJ3hMmkFVedgVEhRknuGe6.plfCtR.R1...	<div></div>

Previous

1

2

3

Next

(admin registered users)

The top shows statistics such as the total number of users, administrators, and ordinary users. Ordinary users and

administrators can be managed separately, and search by conditions through the search box. User ID, email address and other information are displayed in a table. The "Actions" column provides operation buttons such as delete (ordinary users) and edit (administrators), and there is also a paged navigation to facilitate viewing records on different pages.

A.2. BUSINESS FUNCTIONS

User should be able to:

- View Statistics (View the total number of books in the library, the number of currently borrowed books, the number of overdue books, and the number of liked books.)
- View Favorite Books (View the list of books personally marked as favorites.)
- View Date (View the current date and calendar.)

- View Statistics(View the total number of books in the library, the number of currently borrowed books, the number of overdue books, and the number of liked books.)
- View Favorite Books(View the list of books personally marked as favorites.)
- View Date(View the current date and calendar.)
- Search Books(Search for books by keywords.)
- Filter Books(Filter books by category.)
- View Details(View book cover, title, author, publisher, publication date, ISBN, available copies, and category.)
- Delete Records>Delete corresponding borrowing history records.)
- Filter Books(Filter to view all books, personally - liked books, and most popular books.)
- Manage Favorites(Remove the mark of liked books.)
- Reserve Books(Fill in information to reserve books.)
- View Reservations(View the list of personally reserved books.)
- Cancel Reservations(Cancel reserved books.)

- Search Comments(Search book comments by title or author.)
- View Comments(View recent book comments.)
- Change Email and Username (Change their email address and username to another available one)
- Change Password(Change their password by using their old password and confirming their new password)
- Log-Out (Log out of the currently logged-in account)

Admins should be able to:

- View Statistics (View the total number of books in the library, the number of registered users, and the number of overdue books; view the monthly book borrowing statistics chart.)
- Add Books (Enter Book ID, ISBN, Book Name, Author, Publisher, Publication Date, Copies Available, Category, and upload the book cover image to add new books.)
- Manage Books (View the list of books and perform operations such as editing, marking as favorite, and deleting books.)

- View User Statistics (View the total number of registered users, the number of administrators, and the number of regular users.)
- Manage Regular Users (Search for regular users by username, email, or role; view detailed information of regular users (User ID, Username, Email, Password, Role, Created Time); perform the operation of deleting regular users.)
- Manage Administrators (Search for administrators by name or email; view detailed information of administrators (Admin ID, Admin Name, Email, Password); perform the operation of editing administrator information.)

A.3. DATA REQUIREMENTS

- User Account Information (Username, Email, Password, Role)
- User Profile Information (Name, Student ID)
- User Comments (which book is commented on, text, and time)
- User Like (who like, which book liked,time)

- User borrow(who borrow,which book borrowed,borrow_date,return_date,actul_return_date)
- User reservation(who book,which book booked,expiry time)
- Admin Information (admin's name, admin's email, and password)

A.4. BUSINESS RULES

1. Users can search for books by keywords such as book title, author, and ISBN. Search results are displayed in order of relevance, and fuzzy search is supported.
2. Users can filter books by categories (such as fiction, poetry, philosophy, etc.) to easily find books of specific types. Multiple category tags can be selected.
3. Clicking on the book cover or title allows users to view detailed information, including the author, publisher, publication date, book introduction, and available inventory.

4. Regular users can borrow a maximum of 3 books at a time to prevent over - occupation of resources. Premium users can borrow up to 5 books.
5. The borrowing period for books is 14 days, starting from the date of borrowing. The borrowing start time is the moment when the borrowing operation is completed.
6. If there are no overdue records and the book is not reserved by other users, users can renew the book once within 3 days before the due date. The renewal period is 14 days.
7. If a book is not returned on time, an overdue fee of 0.5 yuan per book per day will be charged. If the overdue period exceeds 30 days, the user's borrowing privilege will be restricted until the overdue book is returned and the fees are paid.
8. Users can view their borrowing records at any time, including the borrowing date, due date, book information, and return status. They can delete historical borrowing records.
9. Users can favorite books they are interested in for easy future reference. They can cancel the favorite at any time. The favorite list is updated in real - time.

10. Users can view all their favorite books in the personal favorite list and sort them by the time of favoriting. The system provides personalized book recommendations based on the user's favorite records.
11. The total number of books, current loan number, overdue number of books and collection number of books are updated in real time to reflect the latest status of library resources.
12. Users can leave comments on books without borrowing them.
13. Users can only view their own borrowing history, not others' borrowing history.
14. Administrator dashboard regularly counts book borrowing status.
15. When administrators add new books on the book management page, they need to accurately enter information such as the book ID, ISBN, title, author, publisher, publication date, category, inventory quantity, and upload cover images to ensure that the data is complete and accurate.

16. Administrators can view all user information on the registered user page, including ordinary users and administrators, and can delete user information.
17. Administrators can view who has borrowed this book.
18. On the borrowing page, users enter the borrower's name and student ID and select the book to be borrowed before they can borrow it.
19. Users can perform fuzzy searches on books.
20. The user should be able to change their email address and username to another available and valid email address and username.