



# **Library Management System with CRUD Operations**

BATAM ISLAND GROUP



## Group Member

- ★ Athriya Genferin - 03
- ★ Muhammad Baihaqi - 17
- ★ Susila Fajar - 25

# OVERVIEW

**Library is Web-based application library management system for a public library using Microsoft SQL Server. The system allow librarians to manage books, patrons, loans, and fines efficiently**

# PURPOSE

## **Book Management:**

- Displays book data, including ISBN, title, author, genre, year of publication, availability, and total quantity.
- Provides the ability to add new books, Edit Books.

## **Loan Management:**

- Displays loan data, including Loan ID, Book ID, Patron ID, Loan Date, Due Date, Return Date, and Status.
- Provides the ability to add new lending data, Approval Loan, Reservation, Active Loan, Overdue Loan, Returned Loan

## **Fines Management:**

- Displays fine data, including Fine ID, Patron ID, Email, Amount, Payment Status, Due Date, and the option to notify patrons.
- Provides the ability to add new fine data.

## **Member Management (Patron):**

- Member (Patron) data includes ID, name, email address and other information.
- Possible to add patron.

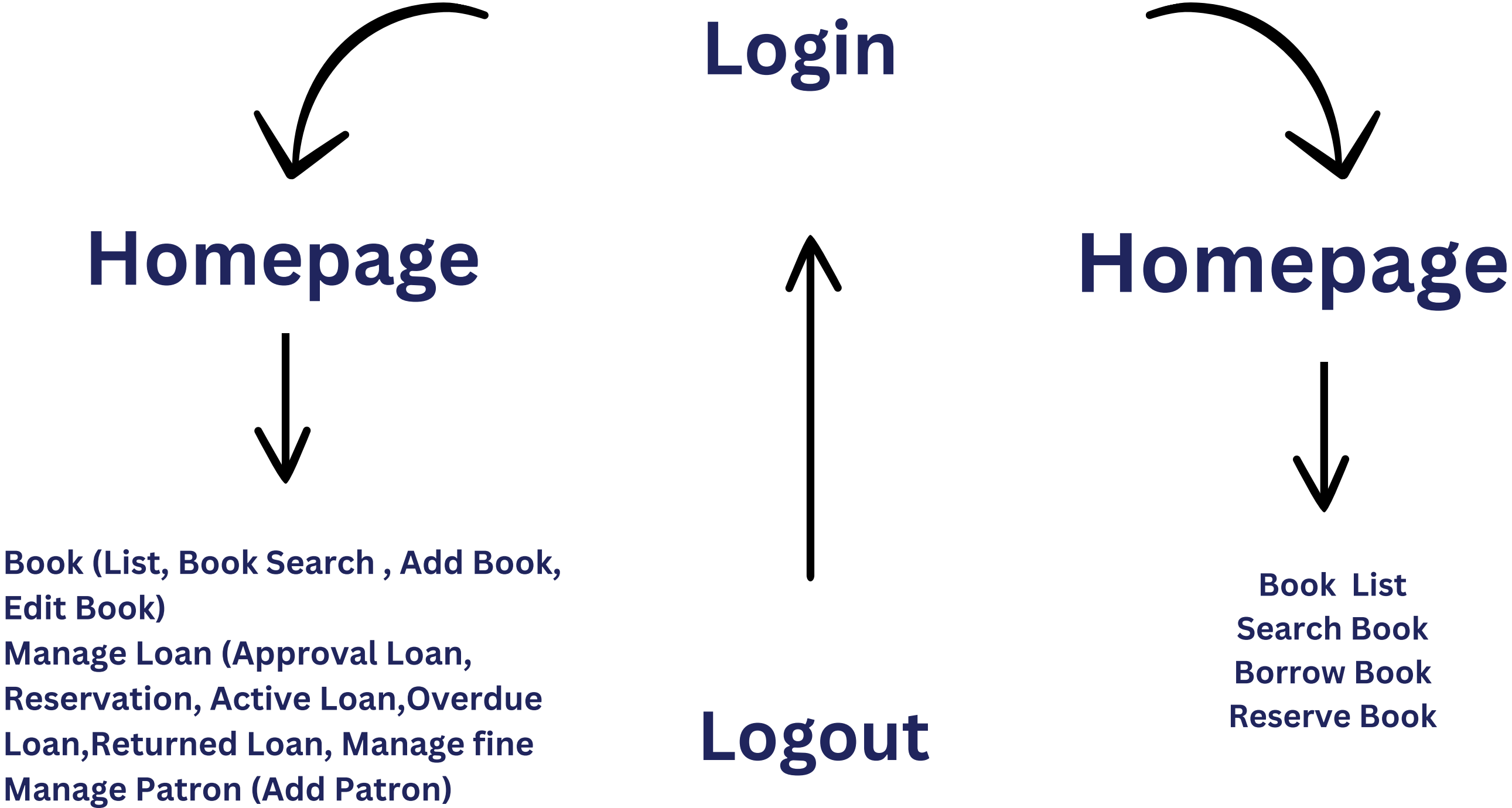
## **Integration with Microsoft SQL Server:**

- Using Microsoft SQL Server to store and manage book, loan and fine data securely.

## Technological Framework

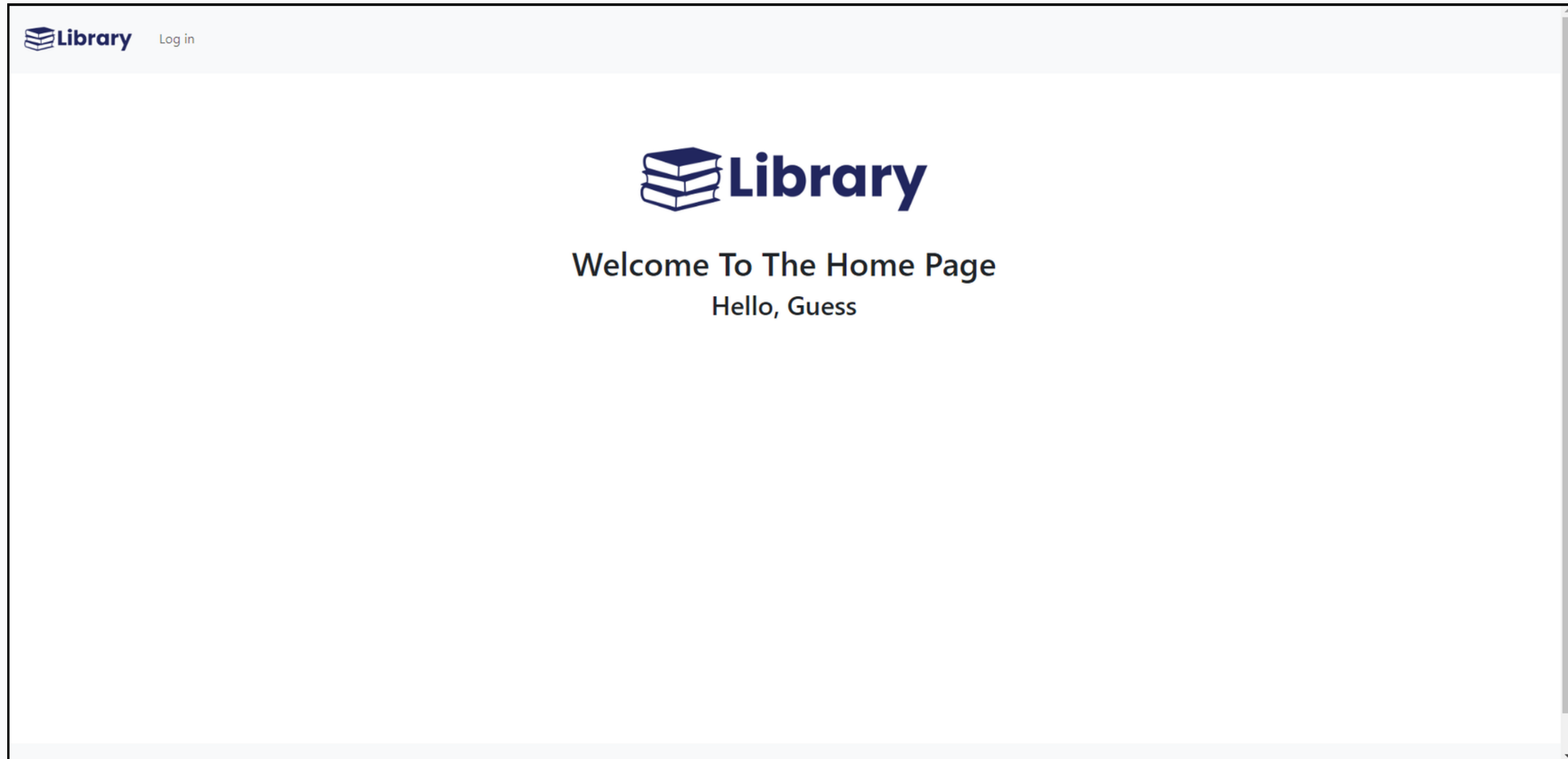
- **Database:** Microsoft SQL Server for secure and efficient data storage.
- **Frontend:** Web or mobile application using appropriate technologies (e.g., HTML, CSS, JS, Bootstrap).
- **Backend:** Server-side logic implemented using a suitable framework (e.g., PHP, Docker).
- **Reporting:** Generate reports using SQL queries or reporting tools.

# Website Flow







## Home Index



## Login Page

 Log in

 Library

Username

Password

User Type

Staff

Login

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## Home Index - Patron



Welcome To The Home Page  
Hello, Lname

## Book List - Patron

### Book List

Title



List of Book

Title	ISBN	Author	Genre	Publication Year	Available Amount	Book Total	Modify
The Quantum Enigma	9781234567890	Olivia Sterling	Science Fiction	2019	48	48	<input type="button" value="Borrow"/> <input type="button" value="Reserve"/>
Echoes of Eternity	9782345678901	Xavier Eclipse	Fantasy	2017	36	36	<input type="button" value="Borrow"/> <input type="button" value="Reserve"/>
Cipher of Shadows	9783456789012	Seraphina Nightshade	Mystery	2018	36	36	<input type="button" value="Borrow"/> <input type="button" value="Reserve"/>
Serenade in Scarlet	9784567890123	Damien Crimson	Romance	2016	29	30	<input type="button" value="Borrow"/> <input type="button" value="Reserve"/>
Whispers of the Cosmos	9785678901234	Luna Stardust	Poetry	2021	35	36	<input type="button" value="Borrow"/> <input type="button" value="Reserve"/>
Chronicles of Nebula	9786789012345	Atlas Celestial	Adventure	2020	29	30	<input type="button" value="Borrow"/> <input type="button" value="Reserve"/>
Gastronomic Tales	9787890123456	Culina Gourmet	Culinary	2015	24	24	<input type="button" value="Borrow"/> <input type="button" value="Reserve"/>



## Home Index - Staff Admin



[Home](#) [Book List](#) [Manage](#) [Logout](#)


Login **successfully** as staff.



Welcome To The Home Page

Hello, Admin

## Book List - Staff Admin

 Home Book List Manage Logout

Book List

Add Book

Title

▼


Search

List of Book

Title	ISBN	Author	Genre	Publication Year	Available Amount	Book Total	Modify
Book 1	8142987651340	Asdf	Education	2023	28	28	<div>DeleteEdit</div>
Book 101	4243957501041	Wasd	Education	2023	27	27	<div>DeleteEdit</div>
Longer Book 101	3123947235421	JKL	Education	2023	28	28	<div>DeleteEdit</div>
New Book	2423168795098	Who	Slice of Life	2022	30	30	<div>DeleteEdit</div>
Hey	1938072465748	Horse	Fairytail	2011	8	8	<div>DeleteEdit</div>

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## Book Search - Staff Admin

 Library

HomeBook ListManage ▾Logout

Book List

Add Book

New

Title ▾

Search

List of Book

Title	ISBN	Author	Genre	Publication Year	Available Amount	Book Total	Modify
New Book	2423168795098	Who	Slice of Life	2022	30	30	<div>DeleteEdit</div>

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## Add book - Staff Admin

Library

HomeBook ListManageLogout

Book List

Search Book

List of Book

Title	ISBN	Author
Book 1	8142987651340	Asd
Book 101	4243957501041	Was
Longer Book 101	3123947235421	JKL
New Book	2423168795098	Who
Hey	1938072465748	Hon

Add Book

Title:

Enter the title of the book

Author:

Enter the author of the book

ISBN:

Enter the ISBN of the book

Genre:

Enter the genre of the book

Publication Year:

Enter the publication year of the book

Quantity:

Enter the quantity of the book

Close

Save changes

Title

▼

Search


Count

Book Total

Modify

28	<div>Delete</div> <div>Edit</div>
27	<div>Delete</div> <div>Edit</div>
28	<div>Delete</div> <div>Edit</div>
30	<div>Delete</div> <div>Edit</div>
8	<div>Delete</div> <div>Edit</div>

## Edit book - Staff Admin

 Library

[Home](#) [Book List](#) [Manage](#) [Logout](#)

### Book List

List of Book

Title	ISBN	Author	Quantity	Book Total	Modify
Book 1	8142987651340	Asdf	28		<a href="#">Delete</a> <a href="#">Edit</a>
Book 101	4243957501041	Was	27		<a href="#">Delete</a> <a href="#">Edit</a>
Longer Book 101	3123947235421	JKL	28		<a href="#">Delete</a> <a href="#">Edit</a>
New Book	2423168795098	Who	30		<a href="#">Delete</a> <a href="#">Edit</a>
Hey	1938072465748	Hon	8		<a href="#">Delete</a> <a href="#">Edit</a>

Edit Book Information

Title:

Author:

ISBN:

Genre:

Publication Year:

Quantity:

Close

Save changes

Add Book

Title

Search

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## Manage Loan - Staff Admin

### List of Pending Approval Loan

Title	Author	ISBN	Borrower	Loan Date	Due Date	Action
Statistic 101 - for collage	Prof. Dr.Eng. Aye Dunno B.Sc M.Sc	3215469780285	Last Name	2023-12-1	2023-12-22	<a href="#">Approve</a> <a href="#">Deny</a>

### List of Reservation

Title	Author	ISBN	Borrower	Reservation Date	Action
Lorem, ipsum dolor.	Lorem, ipsum.	Lorem, ipsum dolor.	Lorem, ipsum.	Lorem, ipsum dolor.	<a href="#">Notify</a>

### List of Active Loan

Title	Author	ISBN	Borrower	Loan Date	Due Date	Action
Lorem, ipsum dolor.	Lorem, ipsum.	Lorem, ipsum dolor.	Lorem, ipsum.	Lorem, ipsum dolor.	Lorem, ipsum dolor.	<a href="#">Return</a>

### List of Over Due Loan


Title	Author	ISBN	Borrower	Loan Date	Due Date	Action
Lorem, ipsum dolor.	Lorem, ipsum.	Lorem, ipsum dolor.	Lorem, ipsum.	Lorem, ipsum dolor.	Lorem, ipsum dolor.	<a href="#">Return &amp; Pay</a>

### List of Returned Loan

Title	Author	ISBN	Borrower	Loan Date	Return Date	Fine Amount
Lorem, ipsum dolor.	Lorem, ipsum.	Lorem, ipsum dolor.	Lorem, ipsum.	Lorem, ipsum dolor.	Lorem, ipsum dolor.	Lorem, ipsum dolor.



## Manage Patron - Staff Admin

 Home Book List Manage Logout

Patron List

Add Patron

List of Patron

First Name	Last Name	Email	Phone Number	Username	Password
Fname fname name	Lname	patron@mail.com	082212345678	patron	password

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## Manage Patron (Add Patron) – Staff Admin

Library

HomeBook ListManageLogout

Patron List

List of Patron

First Name	Last Name
Fname fname name	Lname

Add Patron

Username	Password
patron	password

Add Patron

Username:

Enter the username

Password:

Enter the password

First Name:

Enter the First Name

Last Name:

Enter the Last Name

Email:

Enter the email

Phone Number:

Enter the Phone Number

Close

Save changes



# Demo