

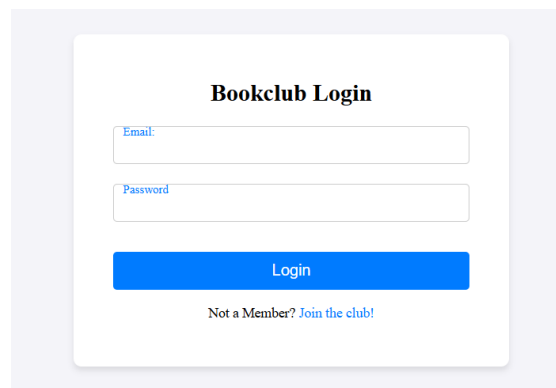
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2024 December 9

Full-Stack Application Final Project – Book Club Application

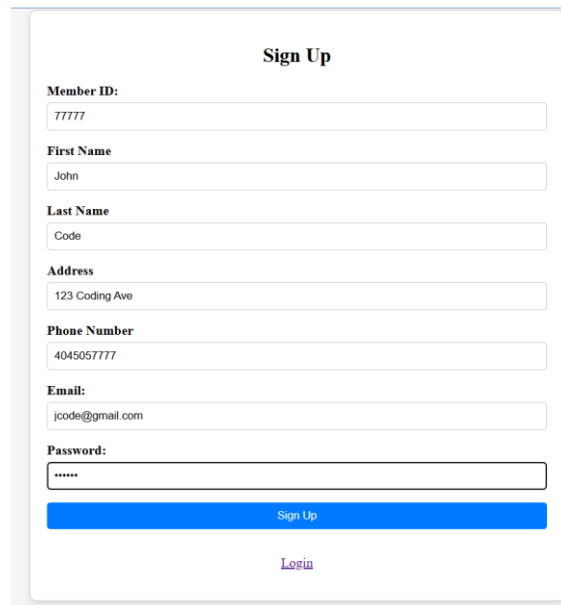
In the age of the internet and social media, many people go online to connect with each other. Many people use various social media platforms to connect over their hobbies and interests. On platforms like Facebook, or Meta, people can form groups on their hobbies and communicate with each other. This inspired me to create a book club application that members could easily sign up and join to share their favorite books with each other. The main function are for members to add their books to the club's library, which other members can borrow and return, and view a log of these borrowings like a library would have.

When entering the web application, the first page the user sees is the login page. On this page, the user can either login with an existing account with their email and password, or if they are new, they can create an account to join the book club.

A screenshot of a web application's login page. The page has a light purple background. In the center is a white rounded rectangle containing the login form. At the top of the white rectangle is the title "Bookclub Login" in bold black text. Below the title are two input fields: the first is labeled "Email:" in blue text and the second is labeled "Password" in blue text. Below these fields is a solid blue button with the word "Login" in white text. At the bottom of the white rectangle, centered, is the text "Not a Member? Join the club!" in a smaller blue font.

On the sign-up page, the user can enter their details like their first and last name, their address, and their email address. Then the user can create a password that they will use along with their email address to login.

To demonstrate this, I will create a new user named “John Code.” I will set John’s email to be jcode@gmail.com and his password to be “Jcode!.” I will enter other information to John’s member data and then hit sign up. The page reloads to indicate the data has been added. Java script is used on this page to make sure the user inputs all the required data into the table and to make sure the email is the correct format.



Sign Up

Member ID:
77777

First Name
John

Last Name
Code

Address
123 Coding Ave

Phone Number
4045057777

Email:
jcode@gmail.com

Password:













[Sign Up](#)

[Login](#)



After creating an account, the user can click the login link under the form to be brought back to the login page. In the backend database, the information or data provided by the user is added to two different tables. One that holds their credentials, and one that holds the rest of the given data. This is the table in the database for the credentials, displays John’s information with the other members, sensitive information like their passwords hashed for encryption. The rest of the information is on the members table, shown below the credentials.

+ Options						id	email	password	members_id
<input type="checkbox"/>						2	aJustice@waa.com	*A6228E8DD67D448610B42F0AA385C62A2EE2AB15	12345
<input type="checkbox"/>						3	kGavin@jppo.com	*BA9EC5AFDE2F49A2A7C59D62AA0055E1D76CDC0E	54321
<input type="checkbox"/>						4	tWright@waa.com	*86BFCA1F0855C27EE2E6CE0EACCCDB9BE67D103C5	22334
<input type="checkbox"/>						6	jcode@gmail.com	*A61B941C0A5F9569124B0F07499EF1C9ECB8B587	77777

+ Options

				id	first_name	last_name	address	phonenumber	
<input type="checkbox"/>				12345	Apollo	Justice	123 Japanformia	8009992222	- D - C - D
<input type="checkbox"/>				22334	Trucy	Wright	134 Japanformia	2245534323	
<input type="checkbox"/>				54321	Klavier	Gavin	223 Japanformia	6883339984	
<input type="checkbox"/>				77777	John	Code	123 street	7777777777	

Once the user logs in through the login page, they are brought to the main page, the library page. On the library page, the user can see a list of all the books that the book club has access to. This list is made from all the books that all the members have added. From this page, the user can add a new book, or view their books, or logout though the links in the navigation bar on the top of the screen.

BookClub					Library	My Books	Logout
Add New Book							
Cover	Name / Title	Author	Owaer	Status			
	Made with Paper	Florence Tembo	12345	Available			
	Of Mice and Men	John Steinbeck	12345	Available			

The next page is the My Books page, which displays the current signed in member's books that they own or added to the book club's library, and the books that they have borrowed from other users. From this page, the user can add a book like they can through the library page, but now they can borrow and return any books, plus update the status of any of their books.

First, on the add a book page, the user can input the title and author of the book and upload an image for the book cover.

BookClub


[Library](#) [My Books](#)

New Book

Title
Author
Upload File (jpeg/png) ultimatepaperairplane.jpg

To demonstrate, I will add a book “The ultimate Paper Airplane by Richard Kline” under John Code. When the data gets sent to the database, all of it goes under the books table, along with the id of the member who added the book. The book is automatically given the “Available” status.

Options

				id	title	author	bookcover	status	members_id
<input type="checkbox"/>	 Edit	 Copy	 Delete	6	Made with Paper	Florence Temko	1733517016-madewithpaper.jpg	Available	12345
<input type="checkbox"/>	 Edit	 Copy	 Delete	8	Of Mice and Men	John Stienbeck	1733535764-ofmiceandmen.jpg	Available	12345
<input type="checkbox"/>	 Edit	 Copy	 Delete	9	The Great International Paper Airplane	Jerry Mander	1733758394-thegreatinternationalpaperairplane.jpg	Available	54321
<input type="checkbox"/>	 Edit	 Copy	 Delete	10	Self-Working Close-Up Card Magic	Karl Fulves	1734018497-cardmagic.jpg	Available	22334
<input type="checkbox"/>	 Edit	 Copy	 Delete	11	The Ultimate Paperairplane	Richard Kline	1734028634-ultimatepaperairplane.jpg	Available	77777

Returning to the My Books page Johns new book shows under the owned books table. To add to the borrowed books table, the user can use the links above the owned books table to borrow a book. Through here, the user can select a book through a drop-down menu to choose a book to borrow, and then click the button to confirm the selection and add the borrow to the database. The data added to the borrows table is the id of the book, the members id for the user who borrowed the book, and the time that the form was submitted for the borrow. The book in the books table is then updated to say borrow and will not show up for other members to borrow.

BookClub

- [Library](#)
- [My Books](#)

Name: John Code

ID: 77777

Which Book?

Select a book to Borrow

Borrow Book

Select a book to Borrow

6: Made with Paper

8: Of Mice and Men

9: The Great International Paper Airplane

10: Self-Working Close-Up Card Magic

BookClub

- [Library](#)
- [My Books](#)

Name: John Code

ID: 77777

Which Book?

Select a book

Return Book

Select a book

10: Self-Working Close-Up Card Magic

The returns page, which can be found through the My Books page and has a similar form, allows the user to choose a book that they borrowed to return. This page uses a JOIN to find the title of the books that the user has borrowed and has not returned yet. All records for borrowing and returning are stored in the borrow table in the database. In the image to demonstrate, next to the borrows image, is John returning the book highlighted. Once the book is returned, its status is updated to say returned.


+ Options											
<div><div></div><div></div><div></div></div>				id	members_id	books_id	borrow_date	return_date			
<input type="checkbox"/>		Edit		Copy		Delete	1	12345	9	2024-12-10 03:24:39	2024-12-11 23:37:34
<input type="checkbox"/>		Edit		Copy		Delete	2	54321	8	2024-12-10 14:46:54	2024-12-11 23:06:46
<input type="checkbox"/>		Edit		Copy		Delete	3	54321	6	2024-12-11 22:09:55	2024-12-11 23:39:28
<input type="checkbox"/>		Edit		Copy		Delete	4	12345	9	2024-12-11 23:20:52	2024-12-11 23:37:34
<input type="checkbox"/>		Edit		Copy		Delete	5	22334	9	2024-12-12 10:49:50	2024-12-12 10:49:59
<input type="checkbox"/>		Edit		Copy		Delete	6	77777	8	2024-12-12 13:37:44	2024-12-12 13:38:07

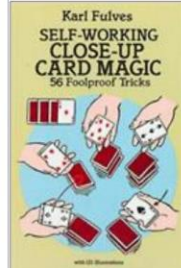
Back on the My books page, the owned books table shows that another member has borrowed John's book and returned it.

BookClub

[Library](#) [My Books](#)

[Add New Book](#) [Borrow a Book](#) [Return a Book](#) [Update Book Availability](#)

Owned Books				
Cover	Name / Title	Author	Owner	Status
	The Ultimate Paperairplane	Richard Kline	77777	Returned

Borrowed Books				
Cover	Name / Title	Author	Owner	Status
	Self-Working Close-Up Card Magic	Karl Fulves	22334	Borrowed

That book has been marked “Returned,” which John can use the link to “Update Book Availability” to make his book available to borrow. When a book is returned, the owner has to make the book available, or else when another member goes to borrow it, it will not show up in the form. This form only updates the status of a book that can be selected from the drop-down menu. The drop down only shows books that the member owns that are marked ”Returned.”

BookClub

- [Library](#)
- [My Books](#)

Name: John Code

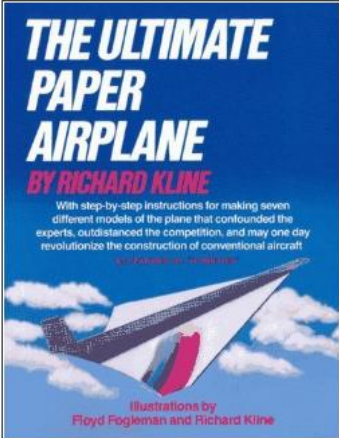
ID: 77777

Which Book? Select a book ▼ Make Book Available

Select a book

11: The Ultimate Paperairplane

The final part of this application is the book log on the library page. The status of each book can be clicked to bring the user to another page which displaces both the cover and name of the book whose logs are show, and the borrow and return logs for it.

Book Data	
Book Cover	Title
	The Ultimate Paperairplane

Borrows/Returns Log		
Member	Borrow Date/Time	Return Date/Time
12345	2024-12-12 17:44:35	2024-12-12 17:45:16

This project met the requirements of the exam, but I had more ideas I wished to implement, like a members list, an update member page, even an edit book page. Applications like these have endless possibilities on ways to expand them and to make them more complex with the functions that can be done, which could give the users more options and more ways to use the application. Although these functions were not added, they are all possible. This project provided a great way to show how much could be created, and how much goes into making a website from complete scratch. This was a valuable experience.