Vivlio Library

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Problem Statement:

Create a Library File System.

Structural Design

Classes used to implement the system:

Person

Admin

Customer

Transaction

Book

Catalogue

AuthService

CustomerOptions

AdminOptions

Main

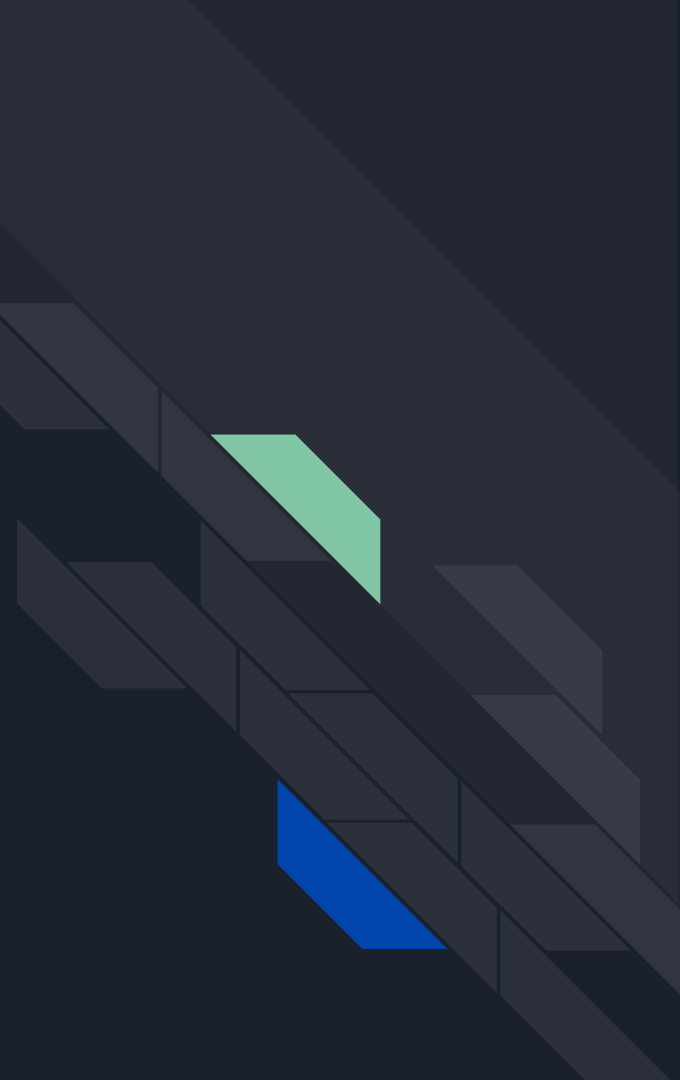# Features Implemented: An Overview

Welcome!

You are greeted with a welcome page!

A New Customer has to create an account by paying a one-time membership fee before availing the facilities of Vivlio Library.

An existing customer can login directly.

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                  WELCOME TO VIVLIO LIBRARY!
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(L)ogin, (S)ign up or (E)xit: S

Enter name: Pari Kishore
Enter age: 20
Enter username (without the @vivlio.org): parik
Enter password: PariK123
One-time membership is Rs. 100.00. Pay amount (Y/N): Y

Enter debit/credit card number:
1234567891234567

Enter Expiry Date in MM/YY format:
02/23

Enter CVV/CVC:
654

Processing transaction...

Transaction Successful!


New user created:

Name      : Pari Kishore
Age       : 20
User Name: parik20@vivlio.org
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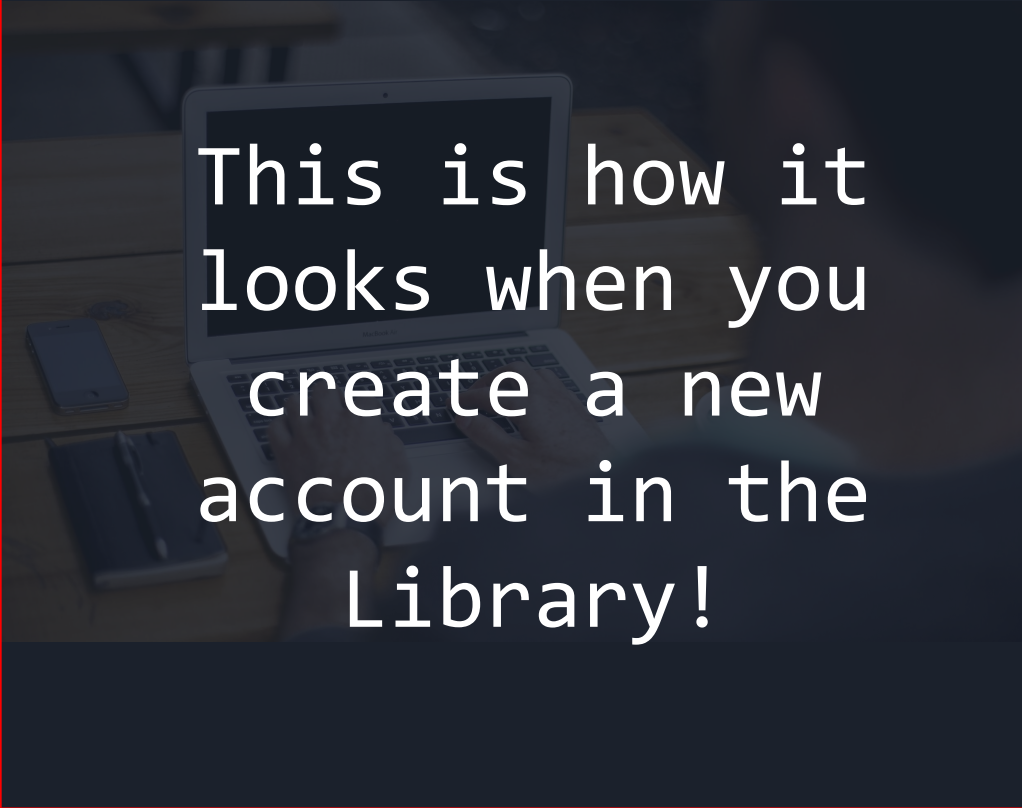
This is how it looks when you create a new account in the Library!

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A list of instructions:

1. The maximum number of books that can be borrowed at once is 5.
2. Each book can be borrowed for a maximum of 14 days.
3. After 14 days, fine will be imposed at the rate of Rs 100.00 x days exceeded.
4. Be sure to note down your username and password. Your username will be generated and displayed after you sign up.

IMPORTANT: You cannot change your username and password!
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I am a customer now, what can I do?

After creating an account and logging in, you can borrow, return, buy any book in the library, view your history, or just take a look and browse through all the options!

Browse through the Catalogue

You can directly search for a book by its title.

You could also filter the books based on your favourite authors' names, your preferred genres, maximum price, ISBN and availability in the library.

View your History

You can view your history of borrowed and bought books with the necessary details!

You can also view the list of books you've currently borrowed, and check the last date to return it (to avoid paying any fine).

Borrow a Book

You can decide which book to borrow by browsing through our catalogue.

Once you decide, you need to confirm.

You can borrow a maximum of 5 books at a time. Don't worry about that though, our system keeps track of the list for you!

Return a Book

You can return a book that has been borrowed with two major conditions:

1- Return within limit (14 days). This way there will be no fine.

2- If you return after 14 days, there will be a fine as set by the administration.

Buy a Book

You can select a book for buying by browsing through our catalogue.

Once you finalize, you need to confirm.

This will lead to the payment section. You need to enter your credit/debit card details to pay and buy the book.

Admin Functions

❖ View a list of all the customers and books.
❖ View the history of a customer.
❖ View the history of a book's borrowers and buyers.
❖ View number of books sold and borrowed.
❖ Modify the details of a book or add a new book.
❖ Remove a book and a customer.
❖ Check revenue (from membership fees, fine, sales).

View History of a Book and Customer

Admin can view the history of a book's borrowers and buyers as well as the current borrowers.

Admin can also view the history of transactions of any customer by entering the username.

Modifying details of a book or Adding a new Book

Admin can add a new book to the library by entering its title, author(s), genre(s), price and ISBN.

Admin can also modify the details of a book already existing in the library.

Removing a Book and a Customer

Admin can remove a book from a library (if it is not currently not borrowed).

Admin can also remove a customer as a member of a library (if the customer does not have any remaining dues).

(L)ogin, (S)ign up or (E)xit: L

Enter your username: andrewj@vivlio.org
Enter your password: aDm1n-PasS

Welcome administrator Andrew Jarvis, logging you in...

Name   : Andrew Jarvis
Age   : 35
User Name: andrewj@vivlio.org

Number of books on rent: 8
Number of books sold   : 7
Total revenue earned   : Rs. 1935.00

What would you like to do?
1. See list of all customers
2. See list of all books along with their copies
3. See the complete details of a book
4. Modify the details of a book or add a book
5. Remove a book
6. See the history of a customer
7. Delete an account of a customer
8. Log out

Enter option number: _

Admin Functions

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2. See list of all books along with their copies
3. See the complete details of a book
4. Modify the details of a book or add a book
5. Remove a book
6. See the history of a customer
7. Delete an account of a customer
8. Log out

Enter option number: 3

Enter the title of the book:
Starsight

Title : Starsight
Author : Brandon Sanderson
Genre : Fiction, Science Fiction
Price : 290.00
ISBN   : 9780399555817

Number of Copies: 10

Borrowers:

1

Name   : Adarsh
Age   : 24
User Name: ash786@vivlio.org
Returned : Yes

2

Name   : Adarsh
Age   : 24
User Name: ash786@vivlio.org
Returned : Yes

Buyers:
No Buyers!

Borrowers and Buyers of a Book

Enter your username: andrewj@vivlio.org
Enter your password: aDm1n-PasS

Welcome administrator Andrew Jarvis, logging you in...

Name   : Andrew Jarvis
Age   : 35
User Name: andrewj@vivlio.org

Number of books on rent: 8
Number of books sold   : 7
Total revenue earned   : Rs. 1935.00

What would you like to do?
1. See list of all customers
2. See list of all books along with their copies
3. See the complete details of a book
4. Modify the details of a book or add a book
5. Remove a book
6. See the history of a customer
7. Delete an account of a customer
8. Log out

Enter option number: 7

Enter the username of customer: harry123@vivlio.org

Name   : Harish
Age   : 25
User Name: harry123@vivlio.org

Delete this account? (Y/N): Y
Account deleted successfully!

Removing an Account

Project
Demonstration

Thank You!