

Library Management Model

Description

This project is a user-friendly GUI-based Model for managing a library.

Installation

Make sure that the `Github CLI` is properly installed on your device. After that, you're good to go ahead and clone the code into your system.

```
gh repo clone frankmathewsajan/library-management-system
```

Before executing the main script, ensure you have installed the necessary Python libraries. To do this, run the following commands in your terminal, making sure you're in the `root` of the project folder:

```
pip install -r requirements.txt
```

Usage

To run the script, navigate to the directory containing the script and run the following command:

```
python project.py
```

This will open a GUI authentication window asking for `Login` or `Register` . Follow the instructions in the window as it is.

Use the following credentials to log in for review purposes.

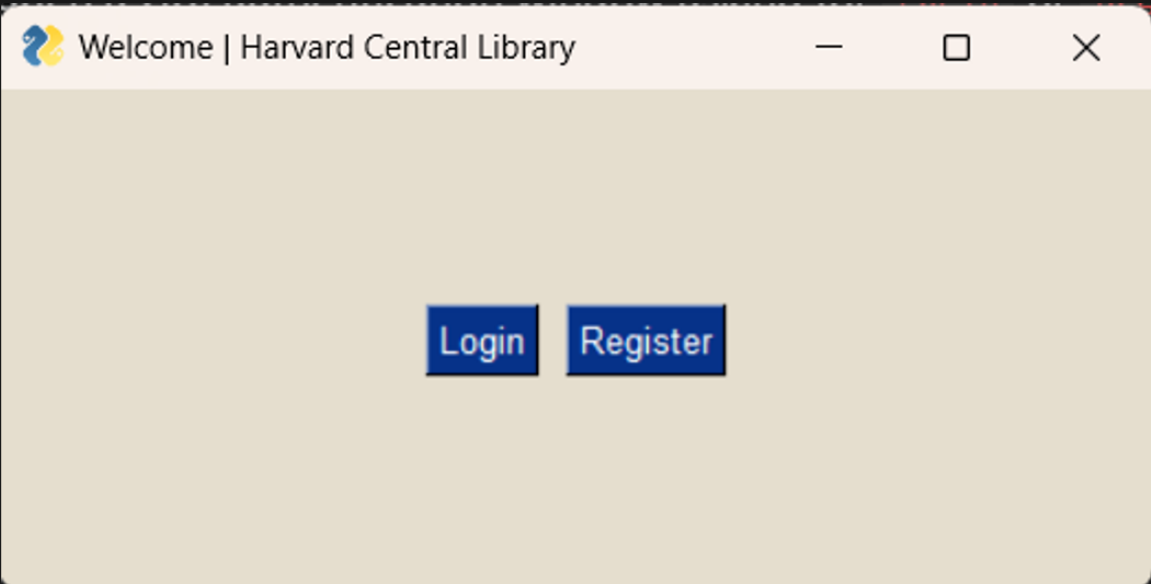
Username: FrankMathewSajan Password: Frank@2005

Tech Stack

Front-End: `PySimpleGUI` , `Python`

Database: `SQLite3`

Screenshots and Output



Welcome Page: If you're not logged in, you have options to either [Login](#) or [Register](#) .

Authentication | Harvard Central Library

Register

Username

Password

Submit

...

Welcome | Harvard Central Library

Continue as FrankMathewSajan

Shows this when the user is already logged in.

Register Page: You can register as a new user here.

Authentication | Harvard Central Library

Login

Username

Password

Reset Password

Submit

...

Login Page: Log in using the demo credentials or the newly registered credentials.

Reset Password Button: Opens a GUI for resetting the user’s password.

Reset Password | Harvard Central Library

RESET

Username

Password

Confirm Password

Submit

...

Reset Password Page: Let the user change their password, assuming the account exists, and the new password is confirmed.

Home | Harvard Central Library

CHECK-OUTS

1

2

3

TRANSACTIONS

Add Money

BALANCE: 2900

LIBRARY

Search NEW Books

See Available Books

Reset Password

Full Screen

Logout

Refresh

Delete Account

CHECKED OUT

Name	Author
------	--------

PURCHASED

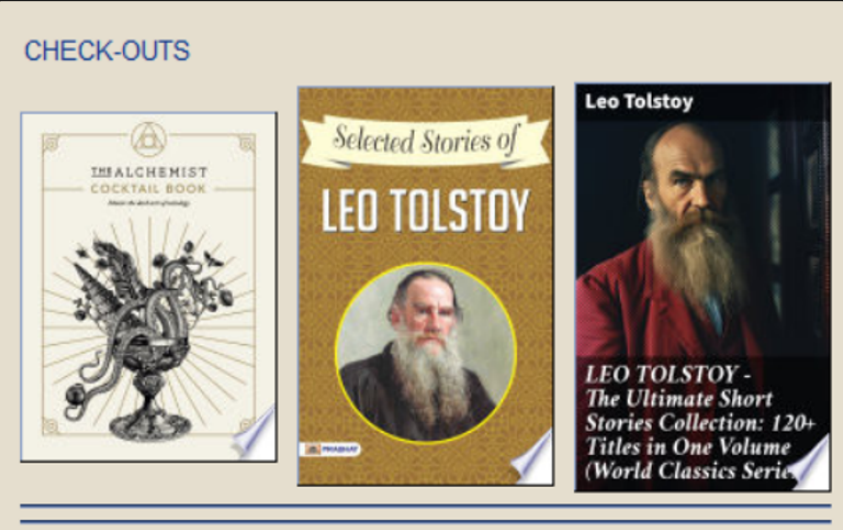
Name	Author	Price
------	--------	-------

MEMBERS

Name	Checked Out	Purchased
FrankMathewSajan	0	0

Home Page: After logging in, you'll land on the system's Home page. By default, the library is titled 'Harvard Central Library', but you can modify this `TITLE` in the `__init__.py` file located in the `classes` folder.

Checkouts: Displays the images of the checked-out books. Clicking on each book will trigger `Accounts.return()` . This action will check the book back in and deduct any late submission fines, if applicable.



CHECKED OUT: Displays the name of the checked-out book and its author in a table.

CHECKED OUT

Name	Author
The Alchemist Cocktail Book	The Alchemist
Selected Stories of Leo Tolstoy	Leo Tolstoy
LEO TOLSTOY – The Ultimate Sho	Leo Tolstoy

PURCHASED: Displays the name of the books purchased and their author on a table.

PURCHASED

Name	Author	Price
The Secret of The Alchemist	Colm Holland	883.07

MEMBERS: Displays the name, number of books checked out, and number of books purchased by other members.

MEMBERS

Name	Checked Out	Purchased
FrankMathewSajan	3	1

TRANSACTIONS:

TRANSACTIONS

Add Money

BALANCE: 2900

Enter the amount of money to add to the account in the input box. If the balance falls below zero due to any fines, all services, such as checkout, will be blocked until the balance is cleared.

T...

Amount ₹100 credited ✓

Current Balance = ₹3000

OK

LIBRARY SECTION

LIBRARY

Search NEW Books

See Available Books

Reset Password

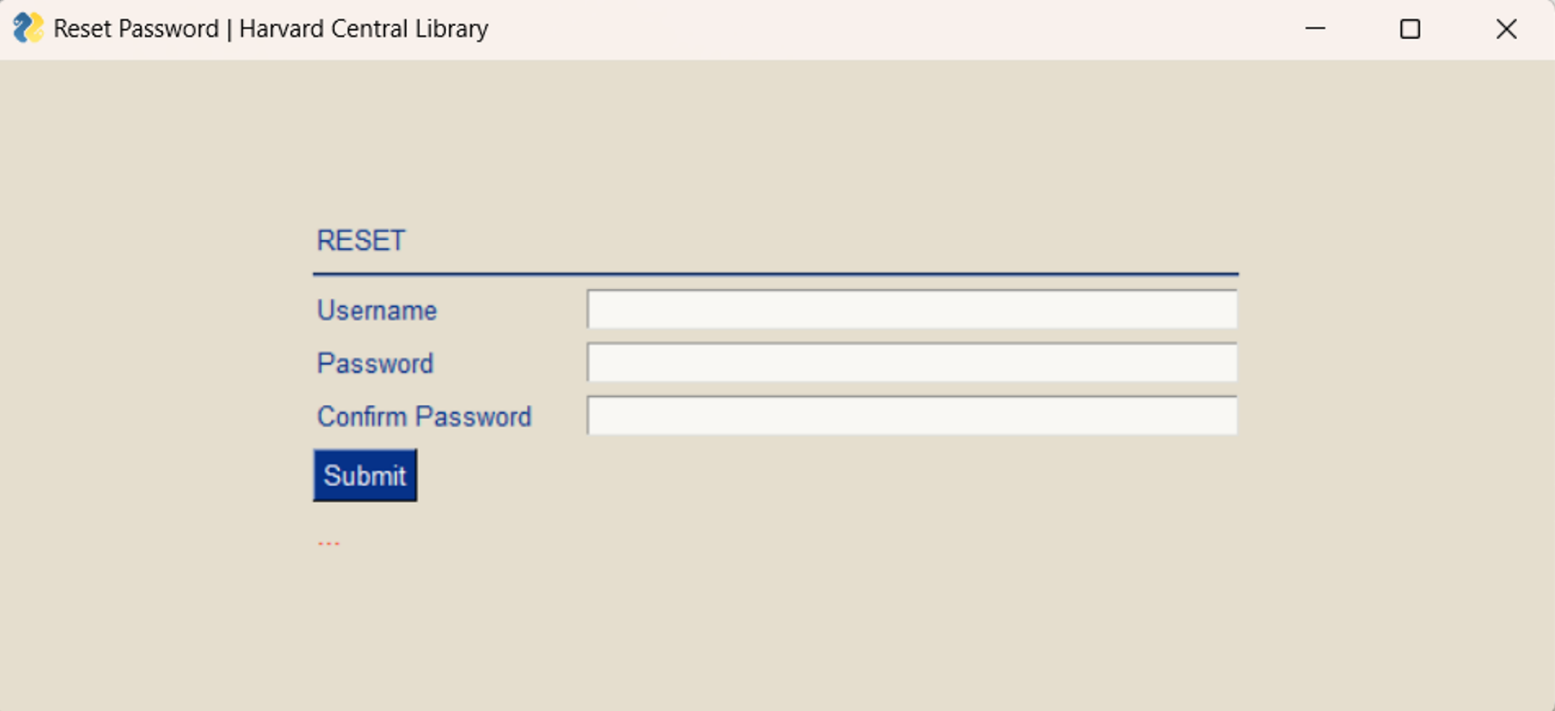
Full Screen

Logout

Refresh

Delete Account

Reset Password: This opens the Reset Password Page.

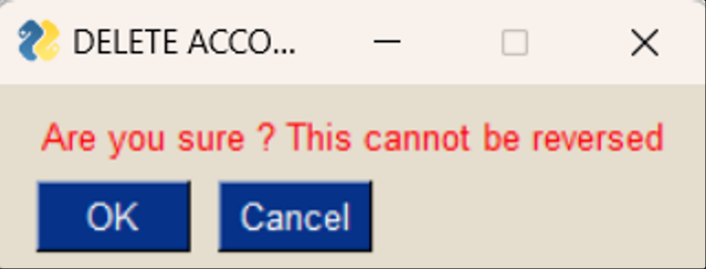


Full Screen: This maximizes the window.

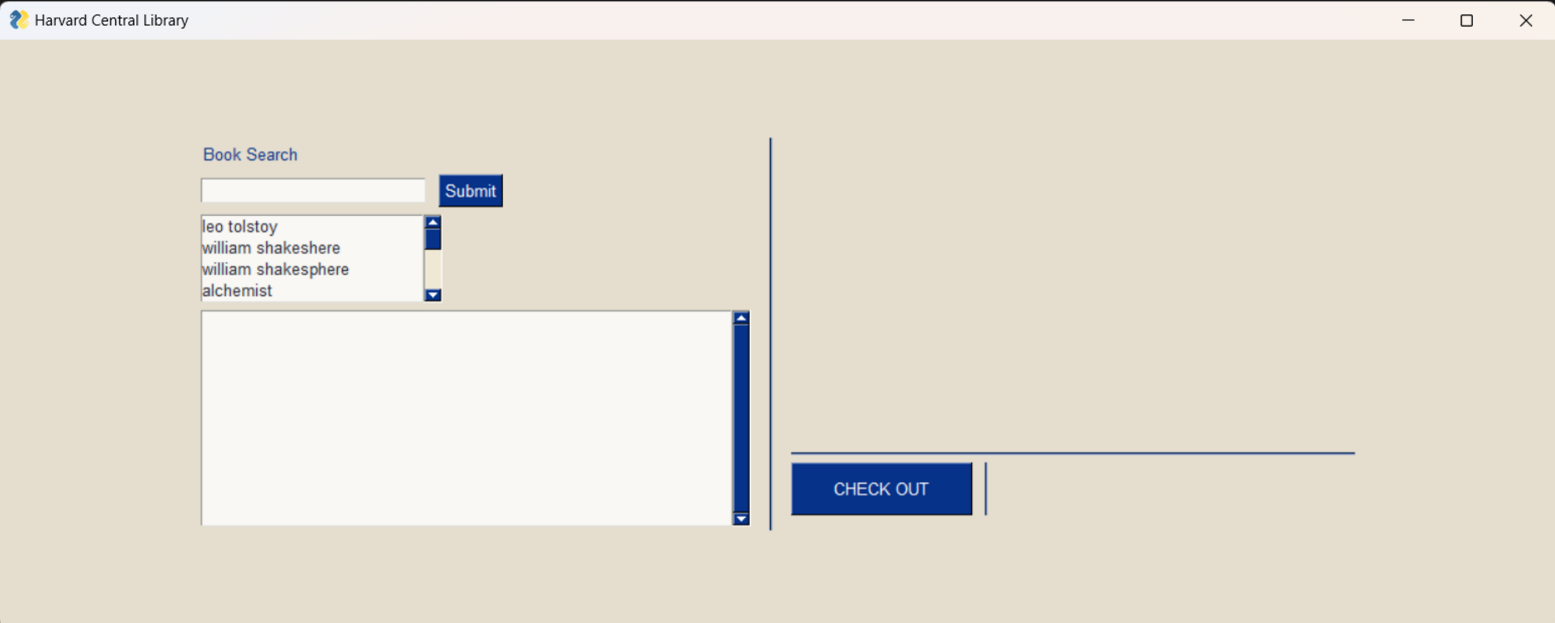
Logout: This logs out the current user.

Refresh: This refreshes the page with new information.

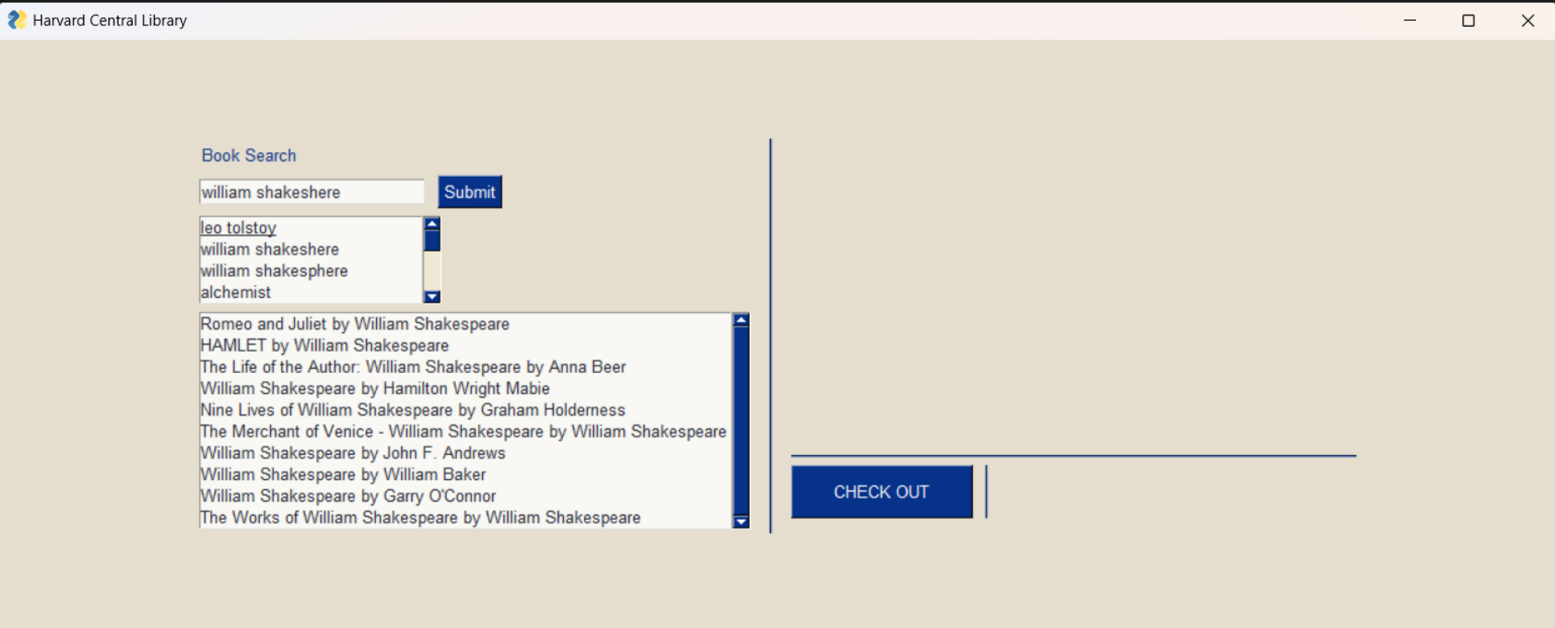
Delete Account: This deletes the account and its data.



Search NEW Books & See Available Books:



Both interfaces have the same GUI. The only difference is that **Search NEW Books** uses the **Google Books API** to search online. The small box below the search bar displays suggestions and recently searched books.



When the search button is pressed, a list of 10 books is displayed along with a preview. This preview includes a description, price, type, maturity rating, and the number of pages with the book preview, if the network is available.

Harvard Central Library

Book Search

leo tolstoy

Submit

leo tolstoy

william shakespeare

william shakespeare

alchemist

Leo Tolstoy by Harold Bloom

Master and Man by Leo Tolstoy

Leo Tolstoy by Andrei Zorin

Leo Tolstoy by Liza Knapp

Selected Stories of Leo Tolstoy by Leo Tolstoy

Leo Tolstoy: A Letter to a Hindu by Leo Tolstoy


LEO TOLSTOY – The Ultimate Short Stories Collection: 120+ Titles in One Volume by Leo Tolstoy

Aaru Tolstoy Kathegalu by Leo Tolstoy

Leo Tolstoy by Ernest Joseph Simmons

The Complete Novels of Leo Tolstoy in One Premium Edition (World Classics) by Leo Tolstoy

Book : Master and Man by Leo Tolstoy



This short story from renowned Russian author Leo Tolstoy takes on an almost fable-like quality in its stark simplicity and moral truth. A wealthy man's greed and avarice lead him to treat his servant in a spectacularly cruel manner. Will he continue with his evil ways, or will he have a change of heart before it's too late?

No of Pages : 75

Publisher : The Floating Press

Audience : NOT_MATURE

CHECK OUT

₹392.01

Buy

CHECKOUT: Check out the selected book.

Confirm Check-Out

Confirm Book Check Out

Book Name : Nine Lives of William Shakespeare by Graham Holderness

OK

Cancel

Check-Out | Success ✓✓✓

Name : Nine Lives of William Shakespeare by Graham Holderness

Added to Check Out List ✓ , 1/3

Due Date : 03-February-2024

Please return your book before due date to avoid fines.

OK

There is a checkout limit of 3 books. This can be changed in

CHECKOUT_LIMIT classes.__init__.py

Buy: You can purchase a book if it's available for sale and you have sufficient balance.

Failed

Name : The Secret of The Alchemist

Insufficient Balance ✓ , 1

OK

Book : The Secret of The Alchemist by Colm Holland



In The Secret of The Alchemist, Colm Holland reveals how you can discover the power to miraculously change the world around you beyond all recognition and for the better. Colm will tell you the story of his encounter with Paulo Coelho and his bestselling book The Alchemist and how discovering the secret in Paulo's novel gave him the insights to achieve true empowerment in his life. Alchemy is all about transformation and draws upon the greatest power of all to convert seemingly insurmountable obstacles into life

No of Pages : 192

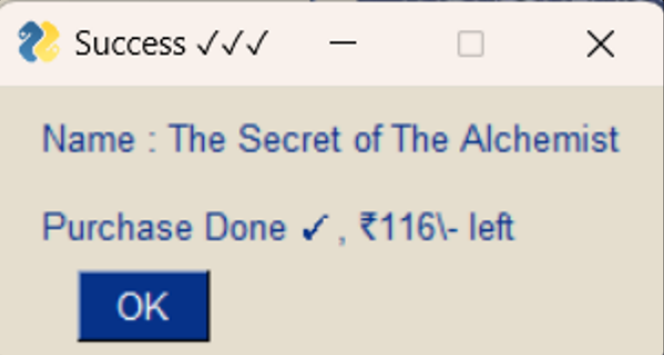
Publisher : John Hunt Publishing

Audience : NOT_MATURE

CHECK OUT

₹883.07

Buy



Technical Side & Source Code


The project folder has the following structure.

```
| log.txt | project.py | README.md | requirements.txt | |—assets | 1.png | 2.png |
3.png | image.png | |—classes | Accounts.py | Database.py | Layouts.py | Library.py |
__init__.py | |—databases | sqlite.db
```

Constants and commonly use functions are saved in `classes.__init__.py`

```
AUTH = False TITLE = "Harvard Central Library" THEME = "TanBlue" ADMIN_PASS =
b"$2b$12$RfGCPEzC5GwCCcnmpDIBhuZnZIItstycBgpQWEqz/bqYcOJzsB9D9C" USERNAME_REGEX = r"^[a-
zA-Z0-9]{3,20}$" USERNAME_CONDITIONS = """ Username Conditions 1. Be between 3 to 20
characters with no space in between. 2. Consist of only capital and small letters and
numbers. 3. Not be only numbers """ PASSWORD_REGEX = r"^(?=[\d])(?=[a-zA-Z])(?=[\W\
s]).{8,20}$" PASSWORD_CONDITIONS = """ Password Conditions 1. Be between 8 to 20
characters. 2. Be combination of letters, digits and special characters. 3. Atleast one
digit, one alphabet and a special character (0-9A-Za-z ~!@#$$%^&*). """ CHECKOUT_LIMIT =
3 DUE_DAYS = 10 FINE = 10 MAX_QUERIES = 10 #Functions are not displayed due to large
number of code lines.
```

The entire source code is hosted on GitHub.



library-management-system

frankmathewsajan • Updated 17 days ago

[frankmathewsajan/library-management-system \(github.com\)](https://github.com/frankmathewsajan/library-management-system)