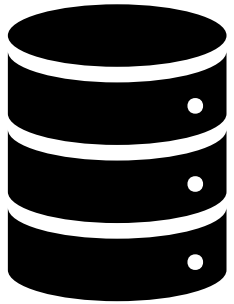


SQL PROJECT

Library Management System

Languages and Tools Used

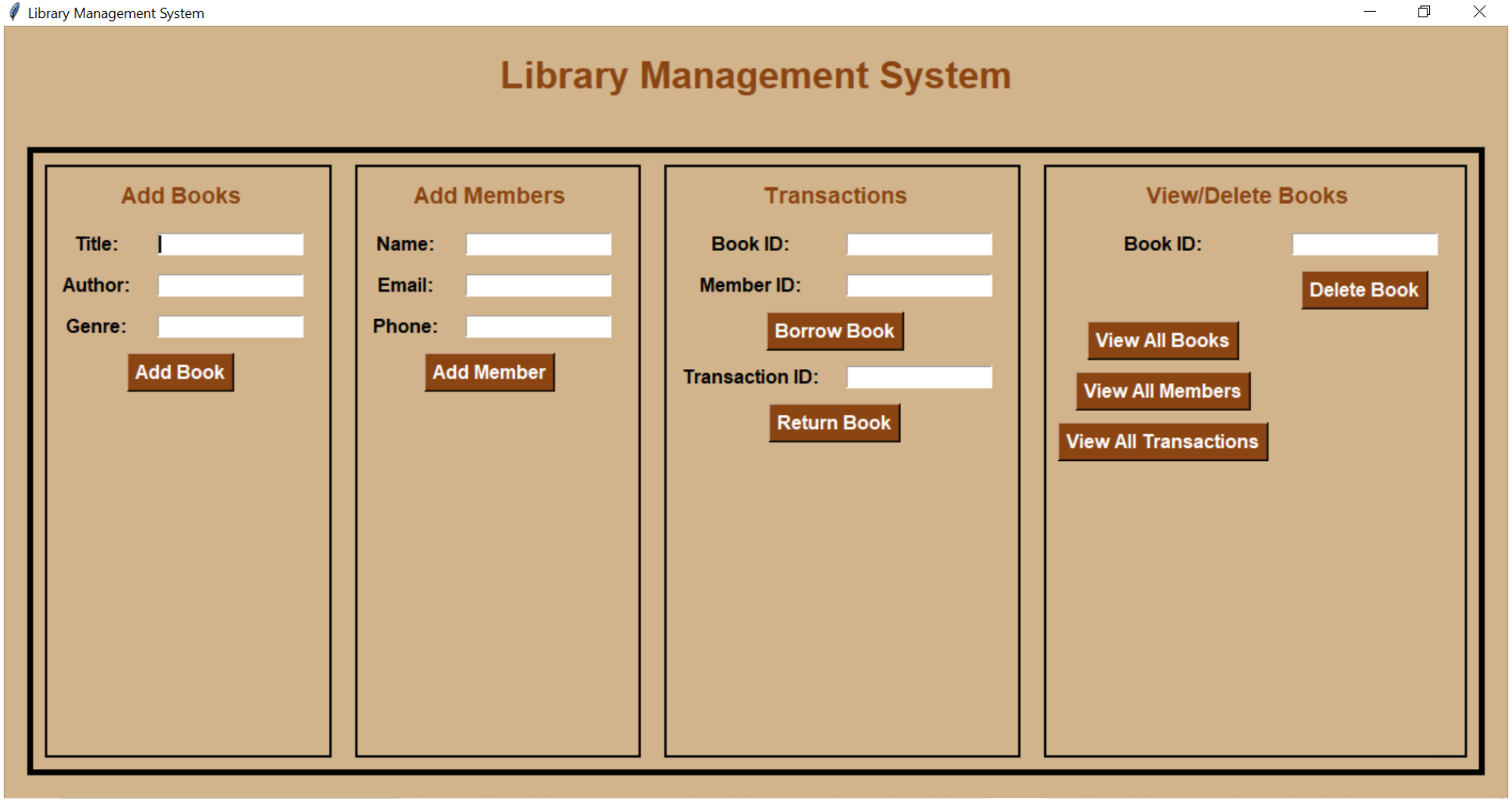
- Languages:
- - SQL
- - Python

- Tools:
- - MySQL
- - Visual Studio Code

Project Overview

- The Library Management System is designed to streamline and organize library operations. This system enables administrators to efficiently manage book inventory, member details, and borrow/return transactions through a user-friendly graphical interface developed using Python’s Tkinter module. It ensures seamless record-keeping and enhances operational efficiency.

GUI OF THE PROJECT



Database Design

- The database consists of three primary tables:

- 1. Books Table:
- - Fields: book_id, book_name, author, genre

- 2. Members Table:
- - Fields: member_id, name, email, phone, membership_date

- 3. Transactions Table:
- - Fields: transaction_id, member_id, book_id, borrow_date, return_date

GUI Functionalities

- The GUI for the Library Management System was built using Tkinter. It includes:

- - Add Book
- - Add Member
- - Borrow Book
- - Return Book
- - View Books
- - Delete Book
- - View Members
- - View Transactions

Admin Functionalities

- The admin can:
- - Add and manage book records
- - Add and manage member records
- - View all books, members, and transactions
- - Record borrowing and returning of books
- - Delete books (with constraints to avoid breaking dependencies)
- - Monitor transaction history

Conclusion

- The Library Management System automates and simplifies library tasks. SQL ensures robust database management, while Python and Tkinter provide an intuitive GUI. This project demonstrates the integration of front-end and back-end systems to deliver a cohesive and functional application.

- This project also provided an excellent opportunity to enhance skills in SQL commands and Python programming.