# Library Management System

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# Team Members:

|  |  |  |
| --- | --- | --- |
| Roll No | Student Name | Role |
| 123cs0024 | Deepanshu Malakar | Programming (Team Lead) |
| 123cs0056 | Kumar Bhaskar | Backend Management |
| 523cs0006 | Aman Jella | Design and Documentation |
| 523cs0019 | Jayarusha K | Programming |

# Objective:

To create a desktop app that can be used to manage the complete system of the library. It will be a one-stop solution for all the important needs of a library system, improving efficiency and reducing the human effort of our staff and our students.

1. 📚 **Core Library Operations Automation:**

* To automate the process of issuing, returning and tracking books.
* To enable barcode / QR code scanning to save time on issue and return book entry.
* To allow digital reservation of books so users can book in advance if a book is unavailable.

**2.** **🗂️ Efficient Data Management:**

* To maintain accurate and updated records of books and members.
* To maintain history of user activity. (previously borrowed books, preferences, etc.)
* To keep track of Fine Collection.

**3.** **🔍 Search and Recommendations:**

* To save time by enabling quick search of books and member details.
* To recommend books to the users they might like based on their borrow history, search history and books they are currently reading.

**4.** **🔔 User Notifications and Reminders:**

* To provide remainders and notifications for overdue books, issued and returned books.
* To enable notifications via email and messages for new books arrival and due dates.

**5.** **👥 User Roles and Access:**

* Different Login pages for students, librarians, faculties and research scholars.

**6.** **📊 Reporting and Analytics:**

* To generate useful reports about library usage and stock.

**7.** **🔒 Security and Backup:**

* Reduce manual errors and paperwork.
* To provide data backup and security to protect records from loss or unauthorized access.

# Technology Used:

|  |  |  |
| --- | --- | --- |
| S no. | Front End | Back End |
| 1 | Python ( Tkinter ) | Node js |
| 2 | HTML | My SQL ( Database Management ) |
| 3 | CSS | Python ( eel ) #to connect python and JavaScript |
| 4 | JavaScript |  |

# Expected Output:

📲 **Login Page (Role based):**

* The first page contains a sign in/ sign up page which asks to select role like student, faculty, librarian or scholar. Based on your role a different sign in/ sign up page will be opened for secure sign in.

💻 **User Interface:**

* User can explore all the books present in the library on the Home page that will be recommended using his history.
* Search new books based on genre, name, author etc.
* New books can be added either manually or using barcode.
* Issue, reserve or return book and database gets updated in backend.
* Check notifications for new books, due dates or fines.
* Librarian can view report of books about library usage and stock.

💬 **Help and Support:** For users facing difficulty using the software.