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**Description:**

This project is Library Management System web application.

- where a user can register, login and search for book by author or section.
- user can also make a request for book and return it.
- admin can add, edit and delete a sections and books, also approve the book requests and issue a book to the user for particular time period.

**Technologies used:**

1. Flask-for application code
2. Jinja2 templates and Bootstrap for HTML generation and styling.
3. SQLite and SQLAlchemy for data storage.
4. Flask-Restful for crud operations on data.

**DB Schema design:**

- a. The database has several models created: **User**, **Section**, **Book** and **Cart**. Each table has different attributes and helper functions.
- b. The database is design to store Users, sections, books and book requests from users.
- c. Structure and details in the columns:
  - **User:** This table store information about user with user\_id, user\_mail, password, user\_name, profile\_img\_path, user\_bio and role.
  - **Section:** This table stores information about sections with section\_id, section\_name
  - **Book:** This table stores information about Books with book\_id, book\_title, Author, book\_img\_path, book\_pdf\_path, book\_content, section\_name, book\_price, date\_added
  - **Cart:** This table stores information about book requests made by users with id, user\_id, book\_id, book\_title, section\_name, book\_price, status, date\_issue, date\_return.

**API design:**

Implemented API functionality on User, Section and Book

- **UserAPI:** define a method GET, PUT, POST and DELET to show, add, edit and delete the user from database
- **SectionAPI:** define a method GET, PUT, POST and DELET to show, add, edit and delete the section from database.
- **BookAPI:** define a method GET, PUT, POST and DELET to show, add, edit and delete the book from database.

## Architecture and Features:

This project is organized using Model-View-Controller (MVC) architecture, with controllers handling logic and routing, templates for displaying views, and models for interacting with the database.

### 1. Core features:

- a. Admin login and User login:
  - ☒ Admin login
  - ☒ User login
- b. Section Management (only for admin)
  - ☒ Create a new section
  - ☒ Edit a section
  - ☒ Delete a section
- c. Book Management (only for admin)
  - ☒ Add a new book
  - ☒ Edit a book
  - ☒ Delete a book
- d. Admin Dashboard
  - ☒ See total number of Requests, users, Sections and Books.
  - ☒ Approve, not approve or delete a book request.
  - ☒ Give the access to the book requests for specific period of time.
  - ☒ Issue maximum five books to a user.
- e. User functionalities
  - ☒ See total number of Sections and Books.
  - ☒ See the new arrival book.
  - ☒ Make maximum five book requests.
  - ☒ Able to edit a profile page.
  - ☒ Access the book once it is approved by admin for specific time.
  - ☒ Return a book.
- f. Search functionality
  - ☒ User can search a book by section or Author
  - ☒ Admin can search a book by section or Author

### 2. Additional features:

- a. Proper login system
  - ☒ Login manager for user with hash password

## Video link:

[https://drive.google.com/file/d/1LowbEGJldtJN-d\\_gpcLbVFoMUjb5B1rG/view?usp=sharing](https://drive.google.com/file/d/1LowbEGJldtJN-d_gpcLbVFoMUjb5B1rG/view?usp=sharing)