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About me – My name is Manav Baldewa. I am currently in the diploma level and simultaneous I am in the final year of B.Tech. specialized in CSE(AIML) from Institute of Engineering and Management, Kolkata.

Description:

A web-based system for managing eBooks and user accounts in a library.

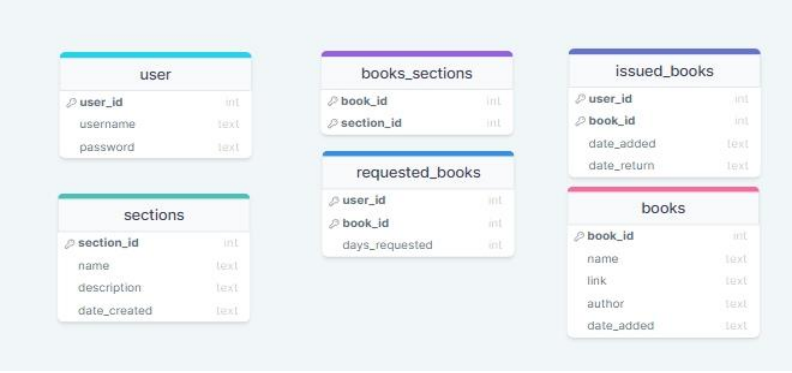
1. User Roles: Librarian and General User
2. Functionalities:
   2.2 Users can browse eBooks, request eBooks (up to 5), and see their borrowed eBooks.
   2.3 Librarians can manage eBooks (add, edit, remove), manage sections, assign eBooks to sections, track borrowed eBooks, and view user requests.
3. Search: Users and librarians can search for eBooks by section or author.
4. Security: Simple username/password login for both user roles (security is not a focus for this version).

Technologies used:

1. flask – application code.
2. jinja2 templates + Bootstrap for HTML generation & Styling.
3. SQLite for data storage.
4. Plotly and Bokeh for graphs.
5. `Werkzeug for password hashing & security.`
6. Flask extensions: flask-sqlalchemy for SQL data manipulation and CRUD operations.

DB schema design:

1. **user** – to store the user details.
2. **sections** – to store the genre details.
3. **books** – to store the book details.
4. **books_sections** – to store the details of books that belong to a particular genre.
5. **requested_books** – to store the books requested by the user.
6. **issued_books** – to store the books issued to a user.



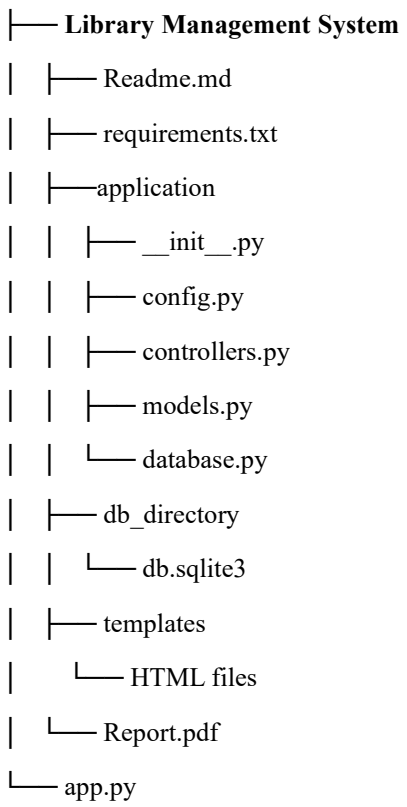
API Design:

The API has been created for a library management system, including routes for users and librarians. Elements such as user registration, login, book search, book rental, section management, and book addition have been

implemented. The implementation involves using Flask for routing, SQLAlchemy for database operations, and Bokeh for data visualization. The API design allows users and librarians to interact with the system efficiently.

Architecture and Features:

1. Architecture:



2. Features:

The implemented features for the library management system include user authentication, book search, book rental, book return, section management, book addition, user profile viewing, and data visualization for statistics.

Default features such as user registration, login, and basic book management are implemented using Flask for routing, SQLAlchemy for database operations, and Bokeh for data visualization. Additional features like section management, book addition, user profile viewing, and data visualization for statistics are also included in the API design to enhance the functionality of the library management system.

Video:

YouTube link - https://youtu.be/kumegxZOCPw