LIBRARY MANAGEMENT SYSTEM

Modern Application Development-2 project report

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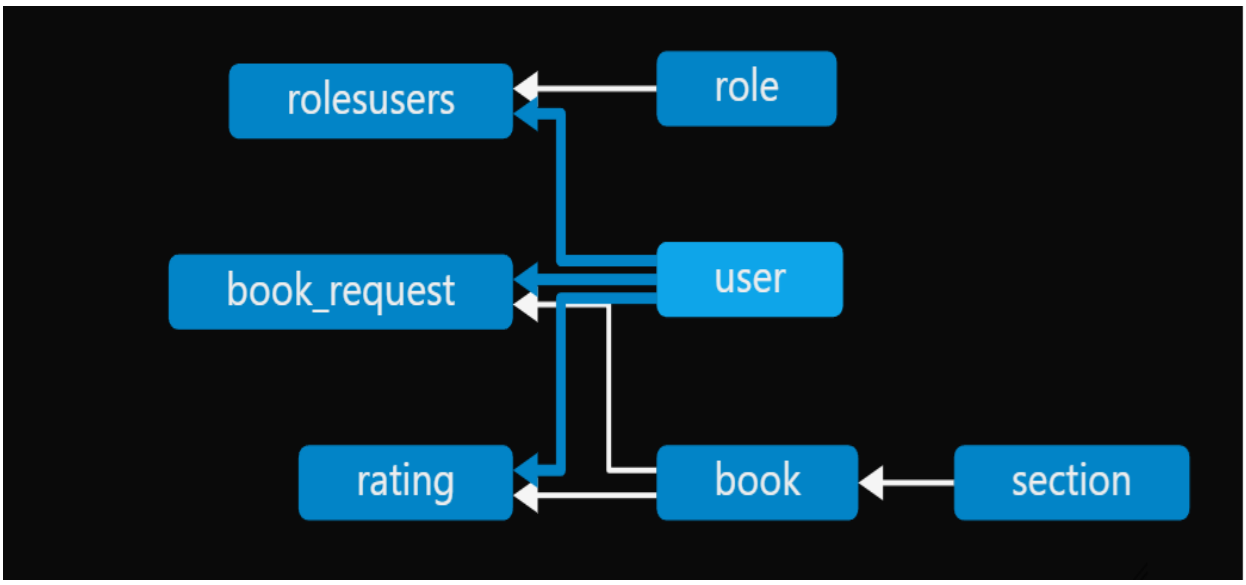
DESCRIPTION

The library management system provides distinct portals for users and librarians. Users can sign up, log in, and browse through the available eBooks and various sections. They have the ability to request access to specific eBooks, search for eBooks by title or section, and get access to read the book. Additionally, users can view detailed information about each eBook. Librarians have the authority to approve or deny access requests, as well as manage the eBook collection and library sections by adding, updating, or removing items. The system also features a dashboard for librarians to monitor statistics, track active users, and analyse data through various graphical representations.

TECHNOLOGIES USED

- **Flask**: Manages routing and request handling.
- **Vue.js**: Frontend development using CDN.
- **SQL Alchemy**: ORM for handling SQLite database interactions.
- **Bootstrap**: Ensures a responsive and user-friendly interface.
- **userStats.js**: Enables dynamic data visualization.
- **Celery**: Schedules and manages background tasks.
- **Caching**: Leverages Flask-Caching, Celery, and Redis.

DB SCHEMA DESIGN



ARCHITECTURE AND FEATURES

Model:

- Users: Maintains user information, including login history and profile details.
- eBooks: Stores metadata related to eBooks, such as genres, authors, and user ratings.
- Sections: Categorizes eBooks into various sections for easier navigation.
- Requests: Records user requests for eBook access, along with their approval statuses.
- Ratings: Collects user-provided ratings and reviews for the available eBooks.
- Mailing**:** Mails User and admin on daily and monthly basis regarding book information

View:

- The frontend is developed using Vue CDN, Bootstrap, and CSS to ensure a user-friendly experience.
- For dashboard statistics, userStats.js is employed to create dynamic and interactive charts.

Controllers:

- The backend leverages Flask and Python, with SQL Alchemy facilitating data management and enabling seamless interaction between the frontend and the database.

Video Link