Author

My Full Name : K R NIJANDHAN

Roll number : 22f3003192

Student email : 22f3003192@ds.study.iitm.ac.in

Couple of lines about me : I'm an aspiring web developer with a beginner's mindset, fueled by a strong enthusiasm for building web applications. Eager to learn and grow in the field, I'm committed to honing my skills and contributing positively to web development projects.

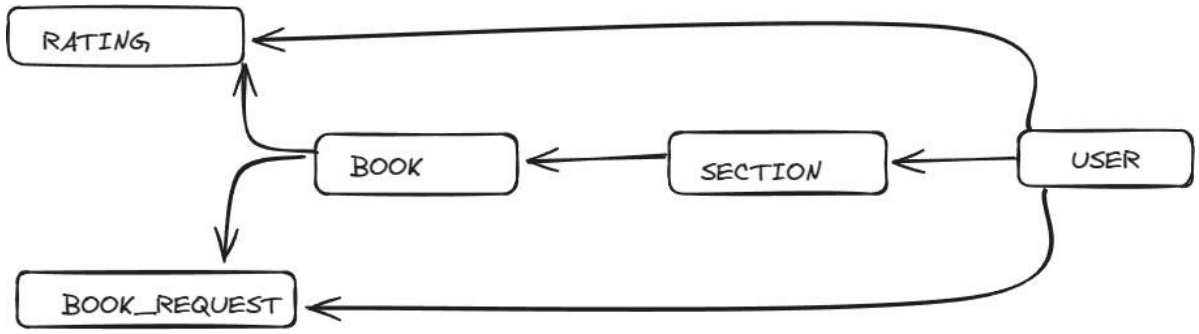
Description

This Project is about E-Library. There are two types of users, one is Librarian and other one is user.A Librarian who can add,delete,update sections/ebooks, issue/revoke a book provided to a user and users who can register and login and request/return books.

Technologies used

1)Flask for application code
2)SQLite3 for DateStorage
3)jinja2 templates+Bootstrap for HTML generation and styling
4)matplotlib.pyplot to plot graph

DB Schema Design



1) **User Table:**
- Contains user information including username, email, password, and librarian status.
- Primary Key: User ID.
- Foreign Key: None.
- Relationships:
  One-to-Many with Book_Request (one user can make multiple book requests).
  One-to-Many with Rating (one user can give multiple ratings).

2) **Section Table:**
- Represents different sections in the library, with attributes such as name, creation date, and description.
- Primary Key: Section ID.
- Foreign Key: User ID (identifies the user who created the section).
- Relationships:
  One-to-Many with Book (one section can contain multiple books).
  Many-to-One with User (many sections can be created by one user).

3) **Book Table:**
- Stores information about books available in the library, including title, author, content, and dates related to issuance and return.

- Primary Key: Book ID.
- Foreign Key: Section ID (identifies the section to which the book belongs).
- Relationships:
  Many-to-One with Section (many books can belong to one section).

4) **Book_Request Table:**
   - Tracks requests made by users to borrow books, storing details like request date, return date, and status.
   - Primary Key: Request ID.
   - Foreign Keys:
   - User ID (identifies the user making the request).
   - Book ID (identifies the book requested).
   - Relationships:
     Many-to-One with User (many requests can be made by one user).
     Many-to-One with Book (many requests can be for one book).

5) **Rating Table:**
   - Records user ratings and feedback for books, associating them with specific users and books.
   - Primary Key: Rating ID.
   - Foreign Keys:
   - User ID (identifies the user giving the rating).
   - Book ID (identifies the book being rated).
   - Relationships:
     Many-to-One with User (many ratings can be given by one user).
   - Many-to-One with Book (many ratings can be for one book).

The reason behind the schema design is the most efficient way of my idea in making the Library Management app work better.

Architecture and Features

The Features of the app are :

1) Separate Login page for user and Librarian.
2) Manual revoke is available for Librarian.
3) The user can give a rating to the requested book.
4) Book return date is provided for requested books.
5) Statistics Page for Librarian to know the top rated books.

Video

Recorded Video Link:

https://drive.google.com/file/d/1GCnrG5OVxiW-If2s7N0vHIWGTbvnZ80J/view?usp=drive_link