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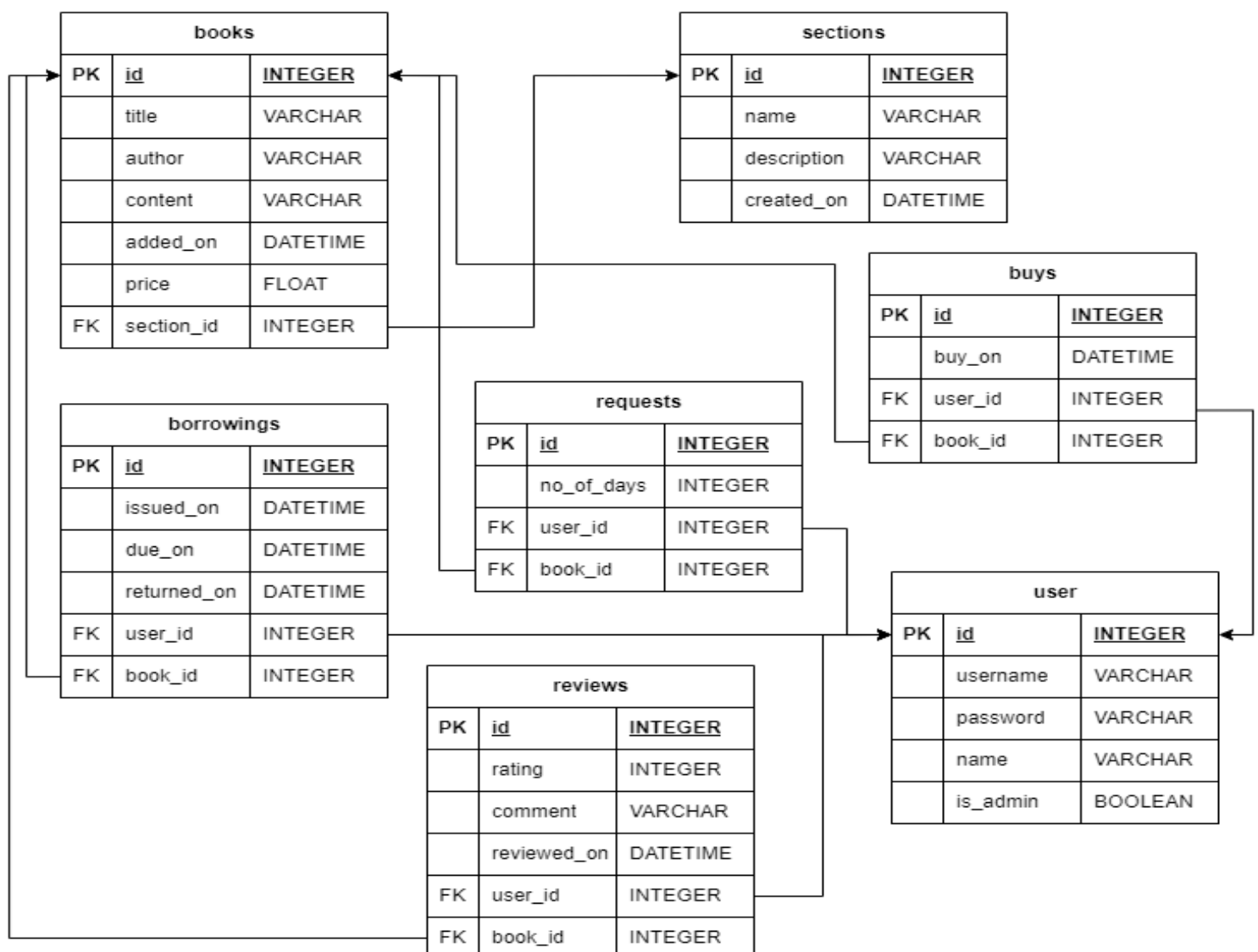Roll no.: 22f3002467
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Description

Library Management System is a multi-user app used for issuing e-books to users. A user can request borrow, read, rate, return, and even buy e-books. There is also a Librarian who can add new sections and e-books, issue or revoke access of e-books.

Technologies used

- » *Flask* – for backend server
- » *Jinja2* – for templating HTML pages
- » *Bootstrap/CSS* – for styling
- » *Flask-SQLAlchemy* – database ORM
- » *SQLite3* – database storage
- » *Flask-RESTful* – for API routes
- » *Datetime* – for storing and getting due dates
- » *Matplotlib.pyplot* – for creating graphs
- » *FPDF* – for generating pdf from text

DB Design

API Design

1. <u>SectionAPI</u> – CRUD on sections
   - `/api/section` – with this endpoint, we can get all sections in the database and create new section
   - `/api/section/<int:id>` – with this endpoint, we can get, update and delete section with respective id

2. <u>BookAPI</u> – CRUD on books
   - `/api/book` – with this endpoint, we can get all books in database and add new book
   - `/api/book/<int:id>` – with this endpoint, we can get, update and delete book with respective id

3. <u>StatsAPI</u> –
   - `/api/stats` – GETs basic stats

More details on APIs are present here -
https://drive.google.com/file/d/1BGBnBGpESPbdg8QJFQggiI_ZFjlZGUpb/view?usp=sharing

Features

- » **Login/Register system** – Login, User Register pages to perform necessary authentication. Login auth is handled using **Flask sessions.**
- » **Librarian Dashboard** – Basic **stats and charts** on librarian dashboard. Librarian can *add/edit/update/delete* sections and books.
- » **User Homepage** – Five most **recently added books** will appear on the homepage, user can see all the e-books in the library grouped by their particular sections.
- » **Search** – User can search for some book **based on book's title, author or the section** in which it belongs.
- » **Borrow to read** – User can request to borrow e-books for some number of days, librarian can either grant or deny access.
- » **Rating/Review** – Users can add reviews and give rating(1-5) for different books.
- » **Auto-revocation** – After the due date passes, the user access to that book get revoked automatically.
- » **Buy for a price** – Users can buy e-book after paying the required amount to have a lifetime access and can even **download book as pdf.**
- » **Profile** – Both users and librarians can view their profile page. They can also their name and update their password.

Video

https://drive.google.com/file/d/1aWh2s0B2WL9MzVHMtz5MiUsCga_53vNu/view?usp=sharing