Project Overview

The Book Review Application is a platform where users can discover, review, and engage with books. Users can perform various actions such as adding books to their favorites, writing reviews, and interacting with other users' reviews. The platform allows users to search for books, and administrators manage book listings. If a book isn't available, users can submit a request by providing the book's ISBN.

Project Deliverables

The project consists of three main deliverables:

1. **ER Model**: Develop an Entity-Relationship (ER) model to define the structure of the application. This can be submitted as an image file.
2. **Relational Schema**: Translate the ER model into a relational schema using Postgres SQL. Create tables, define constraints, and add indexes where appropriate.
3. **Application**: Implement a Book Review Application (web or desktop) that uses the relational schema. Optional bonus requirements are available for additional credit.

Data Requirements

- **Users**: Each user has the following details:
    - Username
    - Email Address (unique identifier)
    - Password
    - Role (either "user" or "admin")
- **Books**: Each book has:
    - Title
    - ISBN (unique identifier)
    - Publisher
    - Publication Year
    - Page Count
- **Reviews**: Reviews include:
    - Rating (1 to 5 scale)
    - Written Review
    - Review Author (foreign key from Users)
    - Timestamp

Application Features

1. **User Management**
    - **Admins**:

- ■ Add new books
- ■ Update book details or remove book copies
- ■ Process book addition requests from users
    - ○ **Users**:
        - ■ Write reviews and rate books
        - ■ Engage with other reviews (like/dislike)
        - ■ Add books to their favorites list
        - ■ Submit requests to add a book (by ISBN)
2. **Search and Sort**:
    - ○ Users can search for books using filters (title, author, genre, etc.) and sort results based on different criteria.
    - ○ Allow sorting by popularity, rating, or other user-defined attributes.
3. **Reading Lists and Recommendations**:
    - ○ Users can create custom reading lists ("Favorites," or "Best of 2024") and organize books into various categories.
    - ○ The app can provide personalized book recommendations based on users' reading lists, favorite genres, and past reviews, enhancing the discovery of new titles.

Bonus:

Full-text search functionality across book attributes using Postgres full-text indexing.

Timeline

Deliverables and deadlines are outlined on the course website.

ER Model:

Books

PK	Title
	ISBN
	Publisher
	Publication Year
	Page Count

Users

PK	Username
	Email Address
	Password
	Role (either "user" or "admin")

Reviews

FK	Rating
	Review Author
	Written Review
	Timestamp

have
(one-to-many)

write
(one-to-many)

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