**Capstone Project Proposal: Fantasy Book Hub**

The project aims to create a web platform dedicated to fans of fantasy literature, addressing the need for a centralized hub to discover, discuss, and share insights about fantasy books. Users will be able to search for books, access detailed information about each title, and contribute personal reviews and ratings. The platform will foster a sense of community by enabling users to form groups, where administrators can select books and facilitate focused discussions through dedicated boards. The database will be pre-populated with curated information on fantasy books, including titles, authors, synopses, and associated subgenres, providing a rich foundation for users to explore and engage with the genre.

**Questions About the project**

**1. What tech stack will you use for your final project?**  
For the Fantasy Book Hub, I'll be using:

* **Node.js** for the backend to handle things like user accounts, book data, and all the behind-the-scenes work.
* **PostgreSQL** to store everything—books, reviews, users, and group discussions.
* **React.js** for the frontend to make the site look good and feel smooth to use.

**2. Is the front-end UI or the back-end going to be the focus of your project? Or are you going to make an evenly focused full-stack application?**  
Fantasy Book Hub will be a full-stack application, but I'll be focusing slightly more on the backend to ensure smooth data management and interactions.

**3. Will this be a website? A mobile app? Something else?**  
Fantasy Book Hub will be a website, primarily designed for desktop users with some optimization for mobile.

**4. What goal will your project be designed to achieve?**  
The goal of Fantasy Book Hub is to demonstrate the knowledge I've gained about the technologies covered in this class while also building a fully featured web platform for fantasy book fans.

**5. What kind of users will visit your app? In other words, what is the demographic of your users?**  
Fantasy Book Hub is for fantasy book fans aged 15 and older who want to discover books, share reviews, and join discussions.

**6. What data do you plan on using? How are you planning on collecting your data?**  
Fantasy Book Hub will use data primarily from the Open Library API. Initially, the platform will feature the top 100 rated fantasy titles, including details such as title, cover image, author, year first published, and up to five topics. Since Open Library does not provide synopses, additional sources will be used to link that information.

**Project Outline Approach**

**Project Schema**

The database for Fantasy Book Hub will include several tables to manage different aspects of the platform:

* **Users:** Stores user information such as login credentials, profile details, and account creation timestamps.
* **Authors:** Holds details about book authors, including optional fields like biography, birth year, and death year.
* **Books:** Contains information about fantasy books, including title, author, cover image, year of publication, and a synopsis.
* **Topics:** Lists possible book topics (e.g., fantasy subgenres and themes) to categorize books.
* **Book-Topic Relationships:** A join table to establish a many-to-many relationship between books and topics.
* **Reviews:** Captures user-submitted book reviews, including ratings, comments, and timestamps.
* **Groups:** Manages user-created groups, including group names, descriptions, and administrators.
* **Group Discussions:** Stores conversations within groups, linking users to discussion threads.

**Possible API Issues**

One major challenge will be finding and linking accurate synopses to the book data from Open Library, as this information isn't directly provided by the API. Another potential issue is handling inconsistencies in book topics—different books might have slightly different topic names that essentially mean the same thing. Similarly, author names might have variations, leading to possible duplicate entries that will need to be cleaned up and standardized to avoid indexing issues.

**Sensitive Information**

The platform will handle sensitive user information such as emails and passwords. Passwords will be securely stored using hashing techniques to prevent unauthorized access.

**Provided Functionality**

Fantasy Book Hub will provide the following key features:

* **User Authentication & Management:** Users can register, log in, and manage their profile information.
* **Book Search & Discovery:** Users can search for books by title, author, or topic, and view detailed book information including cover, author, synopsis, and topics.
* **Reviews & Ratings:** Users can submit reviews and rate books based on their reading experience.
* **Group Creation & Discussions:** Users can create or join groups to discuss books. Group admins can create discussion threads based on books, and group members can participate in conversations.
* **Group Search:** Users can search for groups by looking up titles, authors, or topics. Groups are matched based on the books featured in their threads.

**User Flow**

**User Registration & Login:**  
Users can sign up by providing their email and password on the registration page. After confirming their email, they can log in using their credentials and land onto the on the homepage.

**Searching for Books:**  
Users can go to the search page where they can search books by title, author, or topic. The results will display book covers and basic details, with options to view more information.

**Submitting a Book Review:**  
Users can submit a review by navigating to the book's detail page, clicking the 'Write a Review' button, entering their rating and comments, and submitting it. The review will then be displayed alongside other user reviews on the book’s detail page.

**Searching for Groups:**  
Users can go to the groups search page where they can search by title, author, or topic, the results will bring groups who have featured books that matches the search criteria.

**Creating a Group:**  
Users can create a group by navigating to the 'Groups' page, clicking the 'Create Group' button, and filling in details such as the group name and description. Once the form is submitted, the group will be created, allowing the creator to add members and start discussions.

**Creating a Thread in a Group:**  
To start a discussion within a group, group admins click on 'New Discussion' or 'Create Thread,' select a book by title or id, provide a title along with the initial post content. After submitting the thread, it becomes visible to other group members for discussion.

**Adding a Response to a Thread:**  
When users want to contribute to an existing discussion, they can enter the group’s thread page, select a thread, and scroll down to the reply section, add their comment and click submit.