ARTTIFAI TECH

Full Stack Development

Project Idea: E-Library System

Aim:

The aim of this internship is to provide students with hands-on experience in **Full Stack Development** by designing and building an **E-Library System**. This project will help students understand how to develop a complete **digital book borrowing system**, manage user profiles, and implement **search and filtering functionalities** for books.

Objectives:

1. **Understanding Full Stack Development:**

- Learn the fundamentals of front-end, back-end, and database integration.
- Gain knowledge of library management systems and user authentication.

2. **Front-End Development (Vue.js or Angular):**

- Develop a modern and interactive UI using Vue.js or Angular.
- Implement features such as:
  ✓ User authentication (register, login, and profile management).
  ✓ Borrow/return books digitally with a real-time status update.
  ✓ Search books by title, author, or category with an intuitive UI.
  ✓ Book details page with descriptions, availability status, and borrowing history.

3. **Back-End Development (Django):**

- Build a RESTful API using Django and Django REST Framework (DRF).
- Implement CRUD operations (Create, Read, Update, Delete) for books, borrowing records, and user profiles.
- Ensure secure user authentication using JWT or Django's built-in authentication.

4. **Database Management (PostgreSQL):**

- Store book records, user details, borrowing history, and return dates in PostgreSQL.
- Optimize database queries for efficient book search and retrieval.
- Implement status tracking for borrowed and available books.

5. **User Profiles & Borrowing History:**

- Allow users to view their borrowing history and due dates for borrowed books.
- Implement notifications or reminders for return deadlines.

6. Search & Filtering System:

- Implement advanced search by title, author, and category.
- Allow filtering based on availability, most borrowed, and new arrivals.

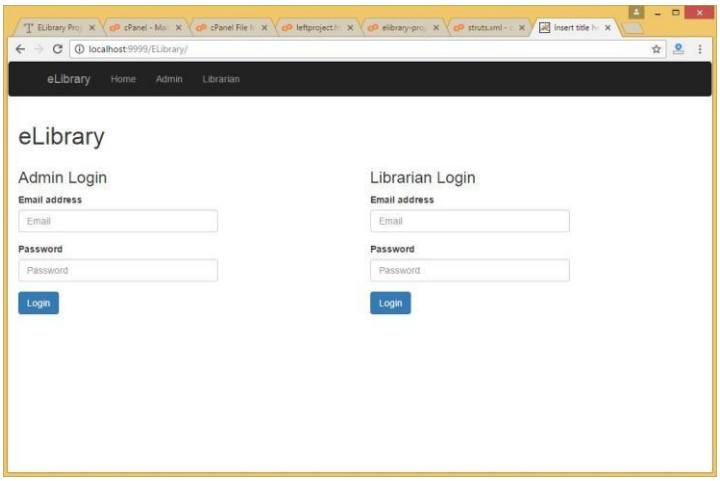
7. Deployment & Hosting(Optional):

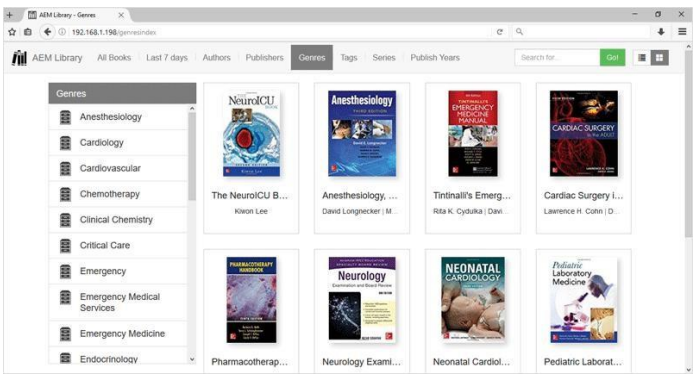
- Deploy the front-end on Vercel, Netlify, or Firebase Hosting.
- Deploy the back-end on Heroku, AWS, or DigitalOcean.

Expected Output:

At the end of this internship, students will develop a fully functional **E-Library System** with:
✓ A **user-friendly interface** for browsing and searching books.
✓ Features to **borrow and return books digitally**.
✓ **User authentication** with profiles and borrowing history tracking.
✓ **Efficient book search and filtering options**.
✓ A **secure back-end system** with database integration.
✓ (Optional)A **deployed application** accessible online.

Sample Output:





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Note:

- The completed project must be uploaded to the student's own GitHub repository.
- The GitHub repository must be public for evaluation purposes.
- The repository link should be submitted via the Google Form: https://forms.gle/tNFMkX5wt343vpCo7