Heaven's Light is Our Guide

Rajshahi University of Engineering and Technology

CSE-2100

Software Development Project 1

InkLight: Book Reviewing Website Proposal

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Background Analysis

Book review websites play a crucial role in helping readers discover new books, make informed decisions, and engage in literary discussions. However, like any online platform, these websites face several challenges that can impact user experience and overall effectiveness. For example, inconsistent and poor-quality reviews, fake reviews and manipulation, limited diversity of reviews, inadequate search and recommendation systems etc. Moreover, there is no review website that focuses Bangladeshi audience.
As a result, a large number of books written in bangla are not in the datasets and due to this issue there is a huge lack of exploratory data analysis on these books. So there is a need of a platform that includes the huge audience that focus these large datasets and practice a good culture of reviewing books regularly.

Overview

I propose the development of a Book Reviewing Website using Django, a high-level Python web framework. This platform will provide users with a seamless and interactive experience to discover, review, and discuss books. Also using the trained model the website will recommend books. Using sentiment analysis model the system will try to make reviews more useful for the users.

Objectives

1. **User Registration and Authentication**
    - Allow users to create accounts and log in securely.
    - Implement user authentication to ensure data privacy and personalized experiences.
2. **Book Database Integration**
    - Integrate a comprehensive book database with details such as title, author, ISBN, genre, and cover images.
    - Utilize APIs or databases to fetch book information dynamically.
3. **User Profiles**
    - Create user profiles for personalized experiences.
    - Track users' reading history, favorite genres, and book reviews.
4. **Book Reviews**
    - Enable users to write and submit reviews for books.
    - Implement a rating system for users to score books.
5. **Search and Filtering**
    - Develop a robust search functionality for users to find specific books easily.
    - Implement filtering options based on genres, authors, and user ratings.

6. **Recommendation & Sentiment analysis**
    - Implement a recommendation system using trained model.
    - Implement a sentiment analysis model on reviews.
7. **Dataset Export System**
    - Create an dataset export system (e.g. CSV file) that will be used to train the model and keep it updated.
8. **Admin Panel**
    - Create an admin panel to manage user accounts, review content.
    - Implement content moderation features to ensure the platform's integrity.

Technologies

- **Django:** For the backend development, ensuring rapid and secure development.
- **Bootstrap or Tailwind CSS:** For creating a responsive and visually appealing user interface.
- **JavaScript:** To enhance user interactions and dynamic content loading.
- **Database:** Utilize Django's built-in ORM to interact with a relational database (Mysql or Postgres).

Datasets and Models

- **Books Dataset**: Amazon Books Reviews from Kaggle[1]. This dataset contains details information about 212404 unique books. The file is built by using google books API.
- **Sentiment Analysis Model:** Logistic regression model trained on the mentioned books reviews dataset.[2]

Timeline

- **Weeks 1-2:** Project setup, database integration, user authentication, book details page, review submission functionality, and rating system.
- **Weeks 3-4:** User profiles, history tracking, admin panel development, and content moderation features.
- **Weeks 5-6:** Search functionality, filtering options.
- **Weeks 7-8:** Recommendation and sentiment analysis system development.
- **Week 9:** Testing, debugging, and deployment.

[1] https://www.kaggle.com/datasets/mohamedbakhet/amazon-books-review

[2] https://www.kaggle.com/code/shubham2703/amazon-books-review-eda-sentiment-analysis/output