Book Review Platform

Objective:

Develop a "Book Review Platform" using Django, Django REST Framework, and PostgreSQL. This application will serve as a platform for users to review books, rate them, and share their thoughts with other readers. The core of this task is to evaluate your proficiency in backend development with Django, understanding of RESTful API design, and implementation of authentication.

Requirements:

Project Setup and Structure:

- Initialize a new Django project and configure it to use PostgreSQL as the database.
- Use Django REST Framework for creating API endpoints.
- Organize the project in a clean and modular architecture, separating concerns appropriately (e.g., models, serializers, views).

Core Features:

- **User and Book Models:** Define models for users and books. Each book should include fields like title, author, published date, and ISBN.
- **Review Model:** Define a model for reviews that includes fields like rating, comment, created date, and is linked to both a user and a book.
- **Book API:** Create RESTful API endpoints to list, create, update, and delete books. Ensure these endpoints require authentication.
- **Review API:** Implement API endpoints to list, create, update, and delete reviews. Ensure these endpoints require authentication.
- **User Profile API:** Implement API endpoints to view and edit user profiles. Profiles should include the user's name, email, and a list of their reviews.

User Authentication:

- Implement a custom user model and use Django REST Framework to create a token based authentication login API. returning an access token and a refresh token upon successful login.
- Allow new users to register through an API endpoint, creating a new user profile.

Authentication and Permissions:

- Utilize token for managing user sessions and securing API endpoints.
- Ensure that only authenticated users can create, update, or delete books and reviews.
- Allow users to edit their own profiles and manage their reviews only.

Database Design:

- Design the database schema with PostgreSQL, ensuring relationships between users, books, and reviews are efficiently modeled.

- Implement migrations for your database models.

Coding Practices and Documentation:

- Write clean, modular, and reusable code
- Use Django best practices for models, views, serializers, and URL routing.
- Document your API endpoints and provide a README file with instructions on how to set up and run your project, including database setup and any initial configuration steps

Prohibited Use of AI Services:

- The use of external AI services or assistance for code generation or problem-solving in this task is strictly prohibited. Your submission will be reviewed for originality and compliance with this rule.

Deliverables:

- A GitHub repository containing the source code for the "Book Review Platform."
- Documentation covering setup instructions, API endpoint details, and a brief explanation of your project structure and design choices.

Evaluation Criteria:

- Adherence to the project requirements and objectives.
- Quality of code, including organization, readability, and adherence to best practices.
- Functionality and reliability of API endpoints, especially the authentication flow with auth tokens.
- Design and implementation of database models.
- Documentation quality and completeness.