

## Recipe Sharing Application

### Objective:

Develop a "Recipe Sharing Application" using Django, Django REST Framework, and PostgreSQL. This application will serve as a platform for users to share their cooking recipes, rate recipes, and comment on them. The core of this task is to evaluate your proficiency in backend development with Django, understanding of RESTful API design, and implementation of token-based 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 Recipe Models:** Define models for users and recipes. Each recipe should include fields like title, ingredients, instructions, creation date, and an image URL.
- **Comment Model:** Define a model for comments that includes fields like text, created date, and is linked to both a user and a recipe.
- **Recipe API:** Create RESTful API endpoints to list, create, update, and delete recipes. Ensure these endpoints require authentication.
- **Comment API:** Implement API endpoints to list, create, update, and delete comments. Ensure these endpoints require authentication.
- **User Profile API:** Implement API endpoints to view and edit user profiles. Profiles should include the user's name, bio, and a list of their recipes and comments.

#### User Authentication:

- Implement a custom user model and use Django REST Framework to create a login API. Authentication should be based on auth tokens, 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 auth token for managing user sessions and securing API endpoints.
- Ensure that only authenticated users can create, update, or delete recipes and comments.
- Allow users to edit their own profiles and manage their recipes and comments only.

#### Database Design:

- Design the database schema with PostgreSQL, ensuring relationships between users, recipes, and comments 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 "Recipe Sharing Application."
- 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.
-