**Fridge contents management app**

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**Overview**

The Fridge Contents Management App is a comprehensive meal planning tool built with Spring Boot and Java. It helps users manage their fridge contents by adding the products to their virtual fridge and generate meal suggestions based on available ingredients. Additionally, the app tracks nutritional information and allows users to set dietary goals such as losing weight, gaining weight, or maintaining a balanced diet. The app ensures users can optimize their nutrition while reducing food waste and simplifying meal planning.

**Key Features:**

1. **User Authentication**:

* Secure login using **Spring Security** with OAuth2 for social logins.

1. **Meal Generation**:

* Suggest meals based on the ingredients available in the fridge.
* Generate personalized meal plans based on user-defined dietary goals, such as weight loss or muscle gain.

1. **Expiration Date Tracking**:

* Track expiration dates of ingredients and prioritize meals that use items nearing expiration, helping users reduce food waste.

1. **Recipe Search & Meal Plan Creation**:

* Users can search for recipes based on dietary preferences (e.g., vegetarian, gluten-free).
* Automatically generate weekly meal plans and shopping lists based on the available ingredients.

1. **Nutritional Insights**:

* Provides nutritional breakdowns for suggested meals, helping users meet their dietary goals.

**What’s new:**

The inovative concept that this app provides is that each user will be able to add their own recipes in order to help other people whether it is from grandma’s cookbook or their favorite food blog. This gives our app the opportunity to always be updated on the newest dishes and also keeps our community connected.

**Database Description**

The Fridge Contents Management App utilizes a PostgreSQL relational database to efficiently manage user data, recipes, ingredients, and meal plans. PostgreSQL is an open-source relational database known for its robustness, scalability, and support for advanced features.

**Key Entities:**

* User Table: Description: Stores user information, including authentication details, user preferences, and dietary goals.

Key Fields:

* user\_id (Primary Key)
* username
* password\_hash
* email
* profile\_settings
* Ingredient Table: Description: Keeps track of ingredients stored in the user's virtual fridge, including their names, quantities, and expiration dates.

Key Fields:

* ingredient\_id (Primary Key)
* user\_id (Foreign Key)
* name
* quantity
* expiration\_date
* Recipe Table: Description: Contains recipes contributed by users, detailing the ingredients required and nutritional information.

Key Fields:

* recipe\_id (Primary Key)
* user\_id (Foreign Key)
* title
* ingredients (stored as a JSON array)
* instructions
* nutritional\_info (stored as a JSON object)
* Meal Plan Table: Description: Stores generated meal plans based on the user's available ingredients and dietary preferences.

Key Fields:

* meal\_plan\_id (Primary Key)
* user\_id (Foreign Key)
* meal\_date
* meal\_suggestions (stored as a JSON array)