**Food Waste Reduction System**

Food waste is a significant global issue contributing to environmental degradation and economic inefficiency. To address this problem, we propose the development of a Food Waste Reduction System. This system aims to assist users in minimizing food waste by providing various functionalities such as suggesting recipes for leftover ingredients, offering expiration date reminders, and providing tips for proper food storage to prolong freshness. By leveraging these features, users can effectively manage their food inventory, optimize their grocery shopping habits, and make more informed decisions regarding meal planning and consumption.

**Functional Requirements:**

1. **User Registration and Profile Management:**

* Users should be able to create accounts and manage their profiles within the system.
* Profile management features should include options to update personal information, dietary preferences, and allergy information.

1. **Food Inventory Management:**

* Users should be able to input and manage their food inventory within the system.
* The system should support manual input of food items OR barcode scanning for convenience.
* Each food item entry should include details such as name, quantity, expiration date, and storage location.

1. **Recipe Suggestions for Leftover Ingredients:**

* The system should analyze the user's food inventory and suggest recipes based on available ingredients.
* Recipe suggestions should consider the user's dietary preferences, allergies, and cooking skill level.
* Users should be able to filter recipe suggestions by cuisine, meal type, and cooking time.

1. **Expiration Date Reminders:**

* The system should provide reminders for approaching expiration dates of food items in the user's inventory.
* Users should be able to customize notification settings for expiration date reminders, including frequency and timing.

1. **Food Storage Tips and Guidelines:**

* The app should offer tips and guidelines for storing various types of food to prolong freshness and prevent spoilage.

1. **Search and Filter Functionality:**

* Users should be able to search for specific recipes, ingredients, or storage tips within the system.
* The system should support filtering of search results based on various criteria such as ingredient availability, dietary restrictions, and cooking difficulty.

1. **User Feedback and Rating System:**

* The system should allow users to provide feedback on recipe suggestions, storage tips, and overall user experience.
* Users should be able to rate recipes they have tried and share comments or suggestions for improvement.

**Tools and Technologies**:

**Frontend Technologies:**

HTML5, CSS3, JavaScript (ES6+), Bootstrap, jQuery

**Backend Technologies:**

PHP (Latest Version: PHP 8.1), Laravel, Symfony, CodeIgniter, MySQL, PostgreSQL, MongoDB, RESTful APIs, Apache

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