Coding Crew

A Proposal for Recipe Management App

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Project Background

The Recipe Management App allows users to organize and manage recipes efficiently. It enables users to add new recipes, derive new ones from existing recipes, set up shopping lists, and track pantry inventory. The application focuses on simplifying meal planning and supporting dietary preferences.

Project Functions and Features

I.   **Feature Name: Dashboard Page**

Feature Description: Serves as the landing page, giving an overview of key functions. It includes several sub-features that provide insight and quick access to recipes and lists. Sub-features are detailed below.

Technical Requirement: Requires integration of multiple data sources and components to display aggregated information in one view.

Feature Name: Active Shopping List

Feature Description: Displays the currently active shopping list.

Technical Requirement: Supports persistent storage of shopping list items and live retrieval to display the active list.

Feature Name: Recipe of the Day

Feature Description: Randomly selects a recipe from the user's favorites or created recipes. Users can add its ingredients directly to the shopping list.

Technical Requirement: Requires random selection algorithm and linking between recipes and the shopping list.

Feature Name: Weekly Meal Overview

Feature Description: Provides a weekly snapshot of planned meals, showing recipe titles and preparation times.

Technical Requirement: Requires data aggregation of user's scheduled meals with date-based filtering.

Feature Name: Nutritional Insights Panel

Feature Description: Summarizes the nutritional breakdown (calories, protein, carbs, fats) of selected recipes.

Technical Requirement: Requires integration of nutritional data per recipe and calculations for totals.

II. Feature Name: Cookbook Page

Feature Description: Allows users to view and search recipes created by themselves and shared by others. Users can mark favorites and filter by category (dessert, casserole, etc.) or dietary needs (gluten-free, vegetarian, etc.).

Technical Requirement: Requires database querying and search functionality with filtering options.

III. Feature Name: Recipe Creator Page

Feature Description: Enables users to build custom recipes with ingredients, tags/categories, upload pictures of completed dishes, set preparation instructions, and mark recipes as public (shared) or private.

Technical Requirement: Supports CRUD operations, image upload, and tagging system.

IV. Feature Name: Shopping List Generator

Feature Description: Creates shopping lists manually or from recipes. Users can add, edit, remove ingredients, and manage multiple shopping lists and set one as active.

Technical Requirement: Supports relational linking between recipes and shopping list entries.

V. Feature Name: Additional Page – Pantry Ingredients

Feature Description: Tracks ingredients users already own and shows how often they're used. Alerts users when items are running low and syncs with the shopping list.

Technical Requirement: Persistent ingredient tracking and real-time synchronization with shopping lists.

VI. Feature Name: Settings Page

Feature Description: Stores user preferences that remain saved across sessions. Includes:

1. App Font Specifications – Options for font size and type to improve accessibility.
2. Color Theme – Options: Light Mode, Dark Mode, or System Default.
3. Language Preference – Options: English, Spanish, French, etc.
4. Notification Preferences – Options: Enable/disable push notifications and set reminders.

Technical Requirement: Requires persistent user profile storage and configuration management.

Justification for Proposal

This project was selected because it provides a meaningful and realistic challenge that combines multiple technical skills. It is complex enough for a semester-long project, involving database management, CRUD operations, UI/UX design, synchronization between features, and persistent user settings. The scope is appropriate for a 6–8 week timeline, with multiple integrated features requiring collaboration across the team.

The app addresses a real-world need for organization and health-focused cooking. By including advanced functionality such as pantry tracking and nutritional insights, the project goes beyond a simple recipe manager and demonstrates how software can improve everyday life. It also fulfills technical requirements by integrating database operations, persistent storage, user customization, and dynamic data visualization.