GNG 5300 - Group #1

Names: Ahmad El Mokahal, Shiqi Cui, Fehmidabanu Saiyed, Vibhu Puri

Project Idea: AI-Powered Meal Planner - Create personal meal plans & recipes for the user based on their health goals, available ingredients, and dietary preferences.

Project Epics

Epic 1: User profile and personalization

- User Story 1: I want to be able to create an account to log in to my profile.
- User Story 2: I want to create a profile with my dietary preferences, so that I can get meal plans that fit me.
- User Story 3: I want to create my health goals (e.g. lose weight), so that I can stick to a meal plan that meets my needs.
- User Story 4: I want to input available groceries at home, so that I can get recipe recommendations that do not require me to do extra shopping.
- User Story 5: I want to give feedback on recipes (e.g. like or dislike), so that I can receive recipe recommendations in the future that I am more likely to like.
- User Story 6: I want to document my diets, so that I will get an analysis of my past diet plan and suggestions for a healthier meal plan.

Epic 2: Recipe Recommendation System

- Personalized Recipe Suggestion: As a health-conscious user, I want the system to suggest recipes based on my dietary preferences so that I can cook meals that align with my health goals without having to search manually.
- Ingredient-Based Recipe Recommendation: As a user with limited ingredients in my pantry I want the system to recommend recipes based on the ingredients I have available, so that I can avoid wasting food and make something practical without shopping for new ingredients.
- Dietary Restriction Handling: As a user with dietary restrictions (e.g., vegetarian, gluten-free, etc.), I want the system to recommend recipes that exclude restricted ingredients, so that I can enjoy safe and suitable meals without worrying about dietary conflicts.
- Nutritional Information Display : As a user tracking my daily nutritional intake, I want the system to display the nutritional information of each recipe, so that I can make informed decisions about the meals I prepare and adjust my diet accordingly.

Epic 3: Shopping List and Integration with Meal Plan

- User Story 1: The user should be able to see an automatically generated shopping list for their selected meal plan.
- User Story 2: The user should be able to adjust ingredient quantities in the shopping list so that they customize their purchases based on what they already have.
- User Story 3: The user should be able to view the nutritional information for each ingredient in the shopping list.
- User Story 4: The user should be able to categorize the items in the shopping list by grouping similar ingredients together.

Epic 4: Integration with Health and Fitness Apps

- User story 1: As a user, I want meal recommendations that match my specific fitness activities (e.g. pre- and post-workout meals) so I can fuel my body properly for energy and recovery based on the type and intensity of exercise I perform.
- User story 2: As a user, I want to receive updates when my fitness app data is successfully synced with the meal planner so I can be sure that my meal plan is always aligned with my exercise routine.
- User story 3: As a user, I want the meal planner to adjust my daily calorie intake based on calories burned during exercise. This will help me meet my health goals by ensuring I consume the appropriate amount of calories after workouts.
- User story 4: As a user, I want the meal planner to integrate with my fitness app's hydration tracker so that my daily water intake is monitored, and meal suggestions include hydration recommendations. This will ensure I stay properly hydrated based on my activity levels, health goals, and conditions like weather.
- User story 5: As a user, I want the meal planner to suggest meals based on my current mood, using data from my health app or manual input, so that I can enjoy meals that not only align with my health goals but also improve my emotional well-being, whether I need comfort food, energy-boosting meals, or mood-enhancing nutrients.
- User story 6: As a user, I want the meal planner to suggest recipes based on seasonal ingredients and local produce availability, ensuring my meals are fresh, environmentally friendly, and aligned with my health goals. This will allow me to enjoy seasonal flavors while also supporting sustainable eating habits.