University of British Columbia, Vancouver
Department of Computer Science

CPSC 304 Project Cover Page

Milestone #: 3

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Group Number: 107

Name	Student Number	CS Alias (Userid)	Preferred E-mail Address
Keisuke Yamamoto	39088984	g1d4h	ykei2356@gmail.com
Yuto Kikuta	32572265	v4k9h	jordan2002222@gmail.com
Seokhee Hong	91166660	t9z3e	tjrgml1207@naver.com

By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

Brief Summary of Project

The database will provide functionality to store, retrieve, and manage various recipe-related data. Users can look up histories for recipes that have been searched using AI and saved to the database, filter recipes by cuisine, category, or dietary restriction, and receive suggestions that meet their health and allergen requirements.

Tasks

Week-by-Week Schedule

Week 1: Project Setup and Planning

Goals:

- Set up the project structure using Next.js for both frontend and backend.
- Plan the database schema and API design, including GPT API integration.

Keisuke (Frontend):

- Set up the Next.js app router for the frontend.
- Create initial pages and routing setup (Home, Recipe List, Recipe Detail).

Yuto & Soki (Backend):

- Set up Next.js API routes for backend logic and GPT API integration.
- Design the database schema (tables for Recipes, Ingredients, Users, etc.) in PostgreSQL.
- Collaborate with Keisuke on defining API contracts (including GPT-powered features).

Week 2: Core Structure Implementation

Goals:

- Implement core structures for the frontend and backend.
- Begin integrating GPT API into backend logic for dynamic recipe creation.

Keisuke (Frontend):

- Implement layout components (header, footer, sidebar).
- Set up state management (React Context) to manage recipe data.
- Create static pages for recipe browsing using mock data.

Yuto & Soki (Backend):

- Implement Next.js API routes for basic functionality and connect to the GPT API:
    - **Yuto:** Focus on **User** and **Recipe** routes (CRUD operations).
    - **Soki:** Focus on **Ingredient** and **Allergen** routes (CRUD operations).
- Begin integration of the GPT API for generating recipe suggestions based on user input.
- Set up the PostgreSQL database and establish connections to the backend.

Week 3: Backend Features and GPT API Integration

Goals:

- Complete backend API routes and connect them to the frontend and database.
- Finalize integration of the GPT API.

Keisuke (Frontend):

- Implement forms for adding and editing recipes and ingredients.
- Fetch data from the backend API routes and display it on the frontend.
- Start integrating dynamic data from the backend into the pages, including GPT-powered responses.

Yuto & Soki (Backend):

- Continue API development:
    - **Yuto:** Implement routes for **RecipeSteps** and **NutritionFacts**.
    - **Soki:** Implement routes for **Category**, **Cuisine**, and **DietaryRestriction**.
- Finalize integration of the GPT API to enhance features (e.g., generating recipe suggestions, answering recipe-related queries).
- Test GPT API responses and integrate them into relevant API routes.
- Ensure proper API integration with PostgreSQL for data retrieval and storage.

Week 4: Frontend Features and Backend Finalization

Goals:

- Complete the implementation of all features on both frontend and backend.
- Perform internal testing, especially of the GPT API integration.

Keisuke (Frontend):

- Finalize UI components and integrate GPT-powered suggestions (e.g., display dynamically generated recipe suggestions).
- Implement search and filtering features, with GPT providing smart suggestions or insights.
- Ensure full integration of API routes, GPT responses, and error handling.

Yuto & Soki (Backend):

- Finalize API development:
    - **Yuto:** Ensure all routes for **User** and **Recipe** are fully functional and integrate GPT responses.
    - **Soki:** Ensure all routes for **Ingredients** and other entities are bug-free.
- Test GPT API integration extensively, ensuring response accuracy and performance.
- Optimize both API and database interactions.

Week 5: Testing, Debugging, and Deployment

Goals:

- Conduct end-to-end testing, fix any remaining issues, and deploy the application.

Keisuke (Frontend):

- Perform UI testing and verify GPT-powered suggestions and interactions.
- Fix any remaining frontend bugs and optimize the app for production.
- Prepare the frontend for deployment.

Yuto & Soki (Backend):

- Perform comprehensive testing of API routes, including GPT API and PostgreSQL integration.
- Fix any remaining backend bugs and ensure smooth deployment of the backend and GPT integration.
- Prepare the backend for deployment, including GPT API configuration.

Deployment and Final Testing:

- Deploy the application using a platform like Vercel, connected to the PostgreSQL database.
- Conduct final testing to ensure smooth operation of all features.
- Ensure that the application meets all health, allergen, and dietary requirement functionalities.