The Bananaboat Cookbook

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Abstract

This document provides a comprehensive overview of the Custom Recipe Manager web application. It details the features, functionality, and technical implementation of the project, including the database schema, user features, and API integration. This report serves as a guide to the application's usability and design.

1 Introduction

The Bananaboat Cookbook is our recipe manager app. It is designed to help organize and share cooking recipes with other users. This was made using py4web, Vue.js, and integrates TheMealDB API. It also utilizes SQL databases to store all the user, ingredient, and recipe information.

2 Application Setup and Installation

Users should run our web app the same as other py4web-based web apps in the class. First, enter the Group 8 project repository (ucsc2025-cse183/project-8). Once there, within the terminal, enter `py4web run apps`. Then, go to recipe_manager to access the app.

3 User Features and Functionality

This section details the core features available to users of the Recipe Manager, including account creation, adding ingredients, and creating recipes.

3.1 User Accounts

Once users have an account set up, they can simply log in by entering their username and password. Otherwise, users can sign up by including a unique username, email, and password, as well as their first and last name.

3.2 Ingredient Management

The application provides a shared database of ingredients that all users can access. All added ingredients may also be viewed in the "All Ingredients" tab.

3.2.1 Searching for Ingredients

Users can search for ingredients by name. To do this, enter a string of letters or word(s) in the search bar located above the grid of ingredients and hit the 'Search' button. To make a new search, users may hit the 'Clear' button and enter an entirely new input, or enter a new input and hit the 'Search' button again.

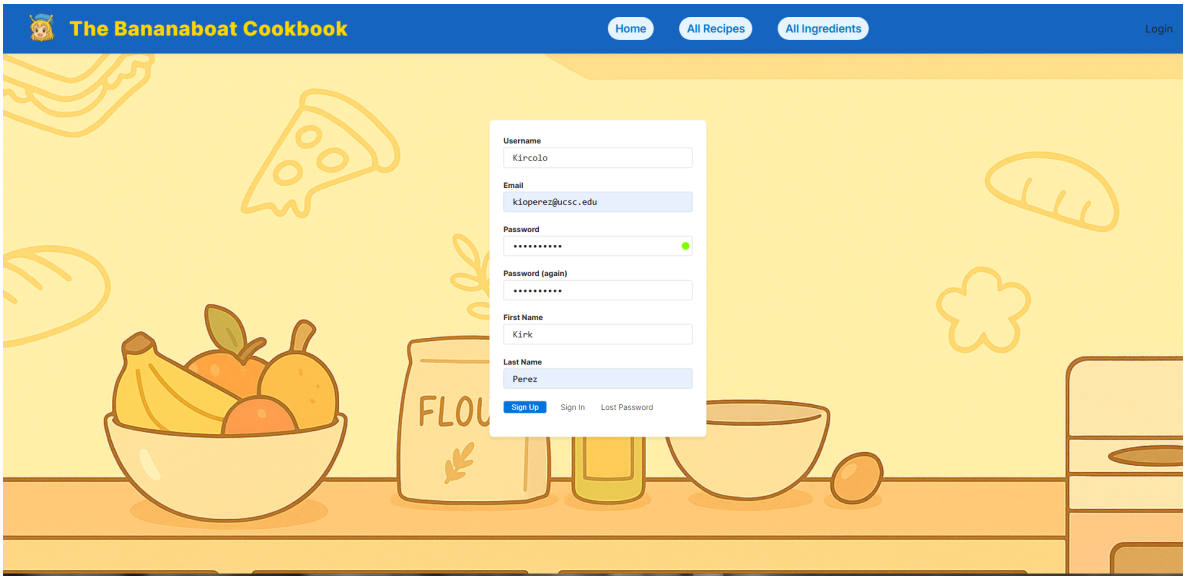

Figure 1: Screenshot of the login.

3.2.2 Adding New Ingredients

Users can contribute to the shared ingredient library by adding new ingredients. These ingredients are then available for all users to use in their recipes, and cannot be edited once created. Users can add a new ingredient by going into the "Add New Ingredient" box and specifying the Name, Unit, Calories Per Unit, and providing a simple description for the ingredient. Only an ingredient 'Name' is required to successfully add a new ingredient.

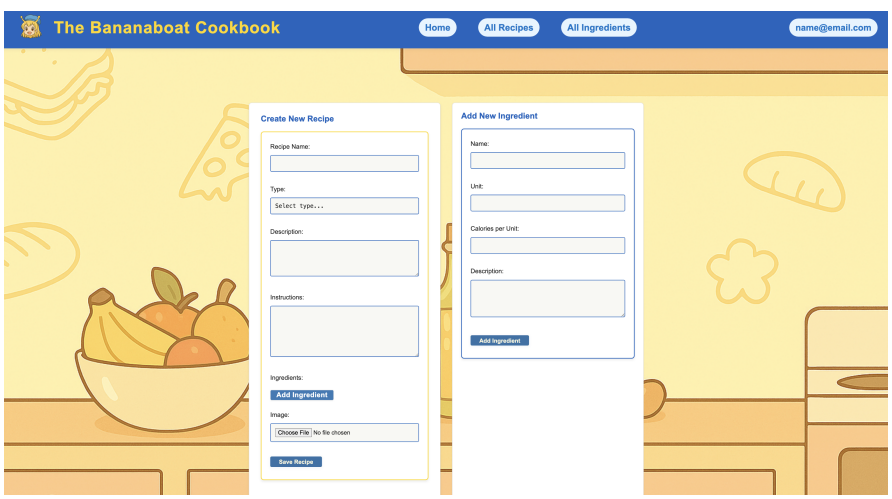

Figure 2: The form for adding a new recipe or ingredient.

3.3 Recipe Management

All recipes in the application are public and can be viewed by anyone. To view recipes, users should click the "All Recipes" button in the app's navigation bar.

3.3.1 Searching and Browse Recipes

The application allows for searching recipes by name and type. Users can do this by going into the "All Recipes" tab at the top, which will then show a search bar as well as the option for type of recipe.

The two other options next to it will be to confirm the search or clear.

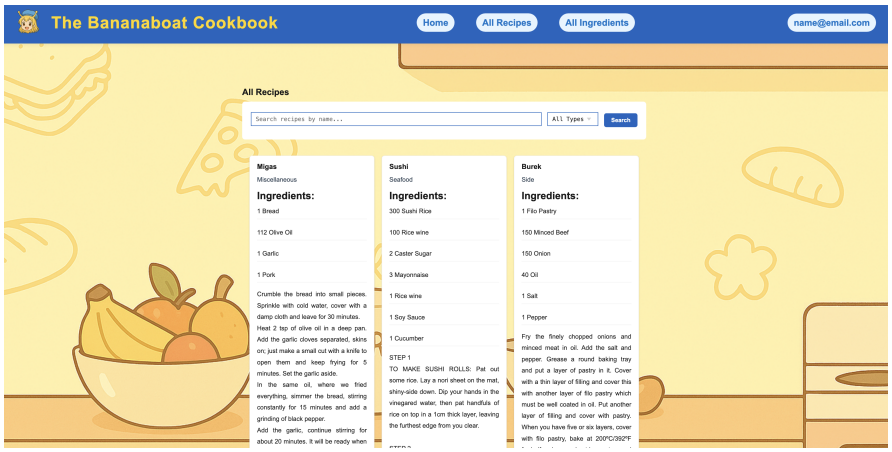

Figure 3: The public recipe browse and searching interface.

3.3.2 Creating a New Recipe

Users can create their own recipes. To do so, enter a name, type, ingredients, and a description for the recipe; only a "Recipe Name" and a "Type" are required. Once the necessary fields have been filled, hitting the "Save Recipe" button will trigger a pop-up window that confirms a recipe has been saved successfully.

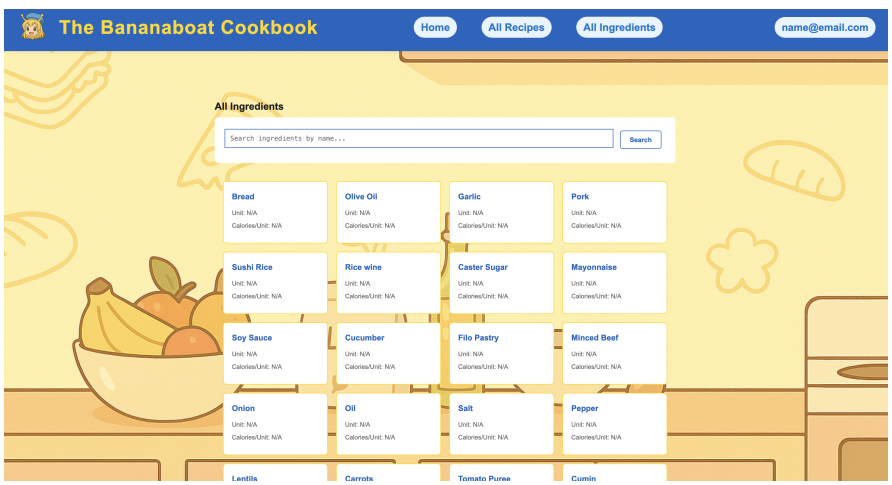

Figure 4: The public ingredient browse and searching interface.

3.3.3 Editing a Recipe

Users can only edit the recipes they have authored. To do so, click on the "Edit" button and update the information as desired. Once the desired recipe has been edited, clicking the "Save Recipe" button will display the pop-up window to confirm that the edited recipe was successfully saved.

4 Technical Implementation

This section covers the technical details of the project.

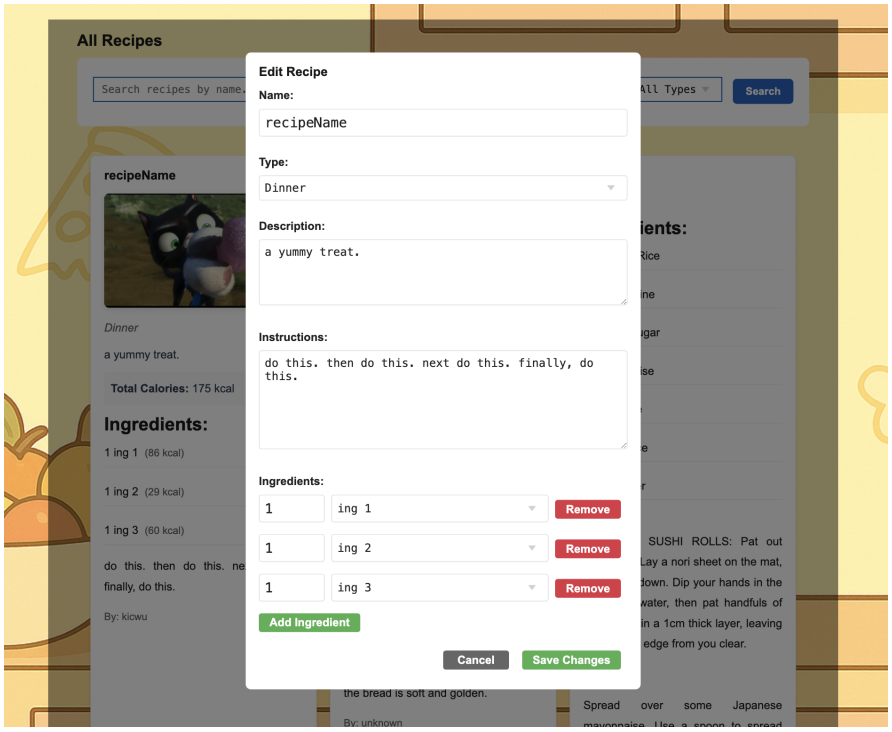

Figure 5: The recipe editing view, available only to the author.

4.1 Database Schema

The application is a database-driven application with support for user accounts, ingredients, and recipes. The schema consists of three main tables.

- **Ingredients Table:** Stores ingredient data with fields for name, unit, calories_per_unit, and description.
- **Recipes Table:** Stores recipe data with fields for name, type, description, image, author, instruction_steps, and servings.
- **Linking Table:** Connects recipes and ingredients, with fields for recipe_id, ingredient_id, and quantity_per_serving.

4.2 Automated Calorie Calculation

The application automatically computes the total calories for each recipe. If ingredients do not have their calories disclosed (which appears as 'N/A'), recipes that use those ingredients will not display calorie information.

4.3 External API Integration

4.3.1 TheMealDB Data Import

The recipe database was initially populated by importing data from TheMealDB API.

4.3.2 Public Recipe Search API

The application provides a public, JSON-based API for searching recipes.

5 Extra Credit Features

- A public search API for ingredients. `GET /api/ingredients?name=x`.

6 Conclusion

To summarize, we've created a web-based recipe manager that allows users to create, browse, and share recipes. This application includes an initial sign-in/sign-up process, leading into the main site, which includes boxes for users to add a new ingredient or create a new recipe. This data is then stored in two tabs at the very top of the site, where users can see everything listed altogether. Additionally, there is also a home screen to lead you back to the original screen. Lastly, there is also an option on the top right of the screen for users to edit their personal information.