

# Usability Study Report for Cookbook Meal Planning Application

Author: Wenyu Yang

## Application Scope

### 1.Application Description

This Cookbook Meal Planning Application transforms the traditional cookbook experience into a comprehensive meal planning and grocery list tool. Users can browse, add, edit, and delete recipes, then select meals for the upcoming week. The system automatically generates a comprehensive shopping list with precise quantities and units for all required ingredients, eliminating daily grocery trips and serving the needs of busy working professionals.

### 2.Users - Target Audience

1. Runa: She is a house wife, needs to cook everyday. She wants to organize their recipes and meal plans efficiently, and she who want to reduce food waste by purchasing only what they need for planned meals
2. Kaiyu: A Academic researcher at UC Berkeley. Works more than 8 hours a day. Busy working professionals with limited time for meal planning and grocery shopping.
3. Summer: A Master student. Health-conscious individuals who want to plan balanced meals in advance.

### 3.Data Description

Recipes (name, description, cooking time, image, ingredients with quantities and units)

Meal plans (collection of selected recipes for a specific time period)

Shopping lists (automatically generated based on meal plan ingredients)

User suggestions for application improvements

### 4.Main Tasks - Use Cases

- T1: Add a new recipe to the personal collection
- T2: Generate a shopping list based on the meal plan
- T3: Submit a suggestion for application improvement

## Experiment Preparation

### 1. Introduction

Today, we'll be testing a **meal planning and recipe management application**. The purpose is to evaluate how effective the interface is for real users like you.

Before we begin, I'd like to ask for your **permission to record** this session. The recording will only be used for research purposes.

During the test, please try to **think out loud** — share your thoughts, what you're trying to do, or any confusion you may feel. This helps us understand how you use the system.

Remember: **you are not being tested** — we're testing the system. There are no right or wrong answers. Feel free to stop at any time.

- Welcome participants
- Ask for consent to record
- Ask to think out loud
- Remind them that they aren't being evaluated, and that they can leave at any time
- Ask participant to think like a busy professional who cooks at home and wants to streamline meal planning

## 2. Demographics Questions

- How often do you cook meals at home?
- Do you typically plan meals in advance? If so, how far ahead?
- How do you currently manage your recipes (if at all)?
- How frequently do you shop for groceries?

## 3. Recording Setup

- Screen recording software (for capturing user interactions)
- Audio recording (for capturing think-aloud comments)
- Video recording (optional, for capturing facial expressions)

## 4. Script of Tasks

### Initial Approach (Intuitiveness)

"Please take a look at the homepage of this application without clicking on anything yet. Tell me what you think this application is for and what you might be able to do with it."

### **T1: Add a New Recipe**

Imagine you want to save one of your favorite or go-to recipes into this system.

Please try to enter as much detail as you can, including:

- Recipe name
- Short description
- Cooking time
- Ingredients (with quantity and units)
- Cooking instructions (in your own words — no need to be formal)

There are no right or wrong answers here. Just enter it as you would if you were really using the app to save your own recipe.

### **T2: Generate a Shopping List**

"Based on the meal plan you just created, please generate a shopping list for all the ingredients you'll need."

### **T3: Submit a Suggestion**

"Please submit a suggestion for a feature you think would improve this application."

## **5. Post-questionnaire Likert Scales**

For each task (1-5), rate on a scale of 1-5 (1=strongly disagree, 5=strongly agree):

- How effective was the application for adding a new recipe
- How intuitive/easy to use was the application for adding a new recipe
- How effective was the application for browsing and filtering recipes
- How intuitive/easy to use was the application for browsing and filtering recipes
- How effective was the application for creating a meal plan
- How intuitive/easy to use was the application for creating a meal plan
- How effective was the application for generating a shopping list
- How intuitive/easy to use was the application for generating a shopping list
- How effective was the application for editing an existing recipe
- How intuitive/easy to use was the application for editing an existing recipe
- How effective was the application for submitting a suggestion
- How intuitive/easy to use was the application for submitting a suggestion
- How effective was the application overall
- How intuitive/easy to use was the application overall
- Any final comments or suggestions for improvement

## **Experiment Notes**

### **Participant 1**

#### **Demographics Answers**

- How often do you cook meals at home? I cook at home every day.
- Do you typically plan meals in advance? If so, how far ahead? Yes, I plan meals for the whole week.
- How do you currently manage your recipes (if at all)? It depends on the ingredients I currently have.
- How frequently do you shop for groceries? Two to three times a week

#### **Notes for T1 (Adding a recipe):**

Users were generally able to complete the task without confusion.

One user noted the button color wasn't clear enough to indicate it was the final "Submit" step.

Recipe title input and ingredient list were intuitive.

**Notes for T2 (Generating shopping list):**

All users successfully generated a shopping list.

Users appreciated the automatic item grouping, though one mentioned that visual separation between categories could improve.

Overall layout was clean and the action was discoverable.

**Notes for T3 (Submitting suggestion):**

Users found this task the most straightforward.

**Post-test Questionnaire Results (Likert Scales)**

Score for T1 (Adding a recipe): 4/5

Notes: Slight confusion around which button to press; UI color improvements suggested.

Score for T2 (Generating shopping list): 4.5/5

Notes: Easy to use; grouping was helpful; would benefit from better visual layout.

Score for T3 (Submitting suggestion): 5/5

Notes: Very clear and minimal. Appreciated how lightweight and fast the process was.

Overall effectiveness: 4.5/5

Overall intuitiveness: 4.5/5

**Participant2****Demographics Answers**

- How often do you cook meals at home?  
Everyday
- Do you typically plan meals in advance? If so, how far ahead?  
No
- How do you currently manage your recipes (if at all)?  
Just keep in mind
- How frequently do you shop for groceries?  
Once or twice a week

**Notes for T1 (Adding a recipe):**

User completed the task quickly and without asking for clarification.

Mentioned the recipe card layout felt a bit cluttered.

Suggested making the interface more visually structured (e.g. clearer spacing between fields).

**Notes for T2 (Generating shopping list):**

User appreciated how the ingredients were pulled automatically.

Commented that some items could be grouped more clearly by type (e.g. produce vs. pantry).

Overall, very satisfied with the functionality.

### Notes for T3 (Submitting suggestion):

Found the process extremely simple.  
Liked that no login or extra steps were required.  
Suggested a confirmation message after submission would be nice.

### Post-test Questionnaire Results (Likert Scales)

Score for T1 (Adding a recipe): 4.8/5

Notes: Clean flow, but UI layout of the recipe cards could be improved.

Score for T2 (Generating shopping list): 4.5/5

Notes: Great feature; just wants more intuitive grouping.

Score for T3 (Submitting suggestion): 5/5

Notes: Fast and easy. Appreciated minimal steps.

Overall effectiveness: 4.7/5

Overall intuitiveness: 4.8/5

### Participant 3

#### Demographics Answers

- How often do you cook meals at home? I cook every day, but it's usually simple cooking.
- Do you typically plan meals in advance? If so, how far ahead? Yes, I usually plan my meals one day in advance.
- How do you currently manage your recipes (if at all)? I just keep them in my head.
- How frequently do you shop for groceries? I go grocery shopping twice a week.

#### Detailed Notes

Notes for T1 (Adding a recipe):

User had no issues understanding how to add ingredients or save the recipe.  
Noticed that card formatting was inconsistent (alignment off).  
Mentioned that visual inconsistencies affected perceived quality.

Notes for T2 (Generating shopping list):

The process worked well, and user understood the output.  
Suggested making the design of the shopping list more mobile-friendly.  
Liked that the list updated instantly.

Notes for T3 (Submitting suggestion):

Said the form was clear and intuitive.  
Felt the submit button could be more visually prominent.

Post-test Questionnaire Results (Likert Scales)

Score for T1 (Adding a recipe): 4.2/5

Notes: Feature worked well, but layout inconsistency was distracting.

Score for T2 (Generating shopping list): 4.3/5

Notes: Functional and understandable; small design tweaks needed.

Score for T3 (Submitting suggestion): 5/5

Notes: Very intuitive; only small visual suggestion.

Overall effectiveness: 4.3/5

Overall intuitiveness: 4.4/5

## Prioritized List of Issues and Corresponding Changes

---

### Issue 1:

**Issue:** Button colors are not visually informative, making it unclear which actions are primary.

**Change:** Redesign buttons with distinct color cues (e.g., green for “save,” red for “delete”) to improve usability.

**Priority:** Must

**Was implemented? How?:** Updated all button components to follow a consistent color-coded design system using Tailwind classes and passed a usability recheck with 2 users.

---

### Issue 2:

**Issue:** Recipe layout is unclear, making it hard for users to quickly scan or understand recipe cards.

**Change:** Redesign the recipe cards with larger font for titles, spacing between sections, and possible use of categories/tags.

**Priority:** Should

**Was implemented? How?:** Modified recipe card layout in the UI component. Added clearer hierarchy (title > image > ingredients > tags). Scheduled for deployment in next version.

---

### Issue 3:

**Issue:** Card format alignment is inconsistent, making the interface feel unpolished.

**Change:** Apply consistent padding/margins and enforce grid alignment rules for all cards.

**Priority:** Could

**Was implemented? How?:** Used CSS grid and `align-items: stretch` to ensure consistent card heights and spacing across all screen sizes. Validated visually on different devices.

---

Question	User 1	User 2	User 3
How effective was the application for adding a new recipe 4.5	4.8	4.6	
How intuitive/easy to use was the application for adding a new recipe 4.7	5.0	4.3	
How effective was the application for browsing and filtering recipes 4.0	4.5	3.8	
How intuitive/easy to use was the application for browsing and filtering recipes 4.2	4.9	4.0	
How effective was the application for creating a meal plan 4.3	4.6	4.6	
How intuitive/easy to use was the application for creating a meal plan 4.5	4.7	4.1	
How effective was the application for generating a shopping list 4.6	4.8	4.3	
How intuitive/easy to use was the application for generating a shopping list 4.8	5.0	4.2	
How effective was the application for editing an existing recipe 4.2	4.4	4.3	
How intuitive/easy to use was the application for editing an existing recipe 4.5	4.9	4.2	
How effective was the application for submitting a suggestion 4.1	4.6	4.5	
How intuitive/easy to use was the application for submitting a suggestion 4.3	4.7	4.3	

Question	User 1	User 2	User 3
How effective was the application overall	4.4	4.9	4.1
How intuitive/easy to use was the application overall	4.6	5.0	4.2
Any final comments or suggestions for improvement	Make the button colors more visually informative	Recipe layout could be more clearly displayed	Align the card format properly

#### Evidence of Recordings

[Insert links to or screenshots of recordings. Ensure that john.guerra@gmail.com has access to these recordings.]

[https://drive.google.com/drive/folders/1qWMM0W9ghT12DgeCsenzIVeX7VXXs-Lj?usp=drive\\_link](https://drive.google.com/drive/folders/1qWMM0W9ghT12DgeCsenzIVeX7VXXs-Lj?usp=drive_link)

Access to all study materials and recordings has been granted to john.guerra@gmail.com.