







2023 Mobile Programming Team Project Proposal

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1

Reducing Food Waste

Many households often forget about the food ingredients they put in the refrigerator, leading to a significant amount of food spoilage. By tracking consumption dates and sending notifications about impending expirations, we anticipate that ingredient utilization can be increased.

2

Ensuring Health and Safety

By providing information about expiration dates and tracking food stock in the refrigerator, we can prevent the consumption of expired or spoiled ingredients. This enhances the convenience of recognizing the freshness and safety of ingredients.

3

Increasing Ingredient Utilization

For those who live alone or do not cook often, there's a tendency to underutilize ingredients at home, which eventually leads to food waste. By providing recipes that can be made with the ingredients in the refrigerator, we can increase ingredient utilization.

4

Providing Convenience

While there are apps that provide expiration date information, they lack voice recognition features and require users to manually enter the expiration dates or upload photos, which can be cumbersome. Our service can help manage ingredients conveniently through voice recognition.



Application Name

Fridge
Guardian



Goal

To help users efficiently manage their refrigerator by tracking the expiration dates of ingredients and suggesting recipes based on available ingredients



Basic Description

1. A notification service that sends alerts as the expiration date of the food ingredients approaches. Users can register the information of ingredients either by typing directly using the keyboard or through voice recognition
2. A recipe application that provides recipes which can be prepared with the ingredients registered by the user.
3. A recipe sharing community

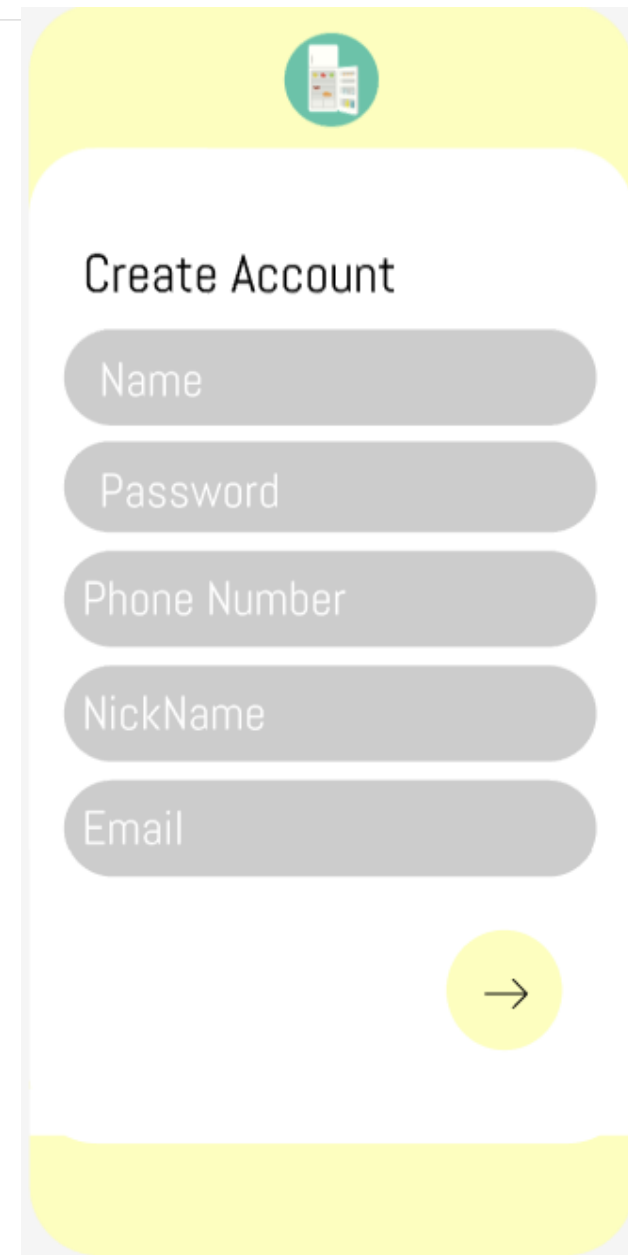
Target User

1. People who want to reduce food waste, utilize their ingredients,
2. People who want to explore new recipes, share their own recipes with a community.

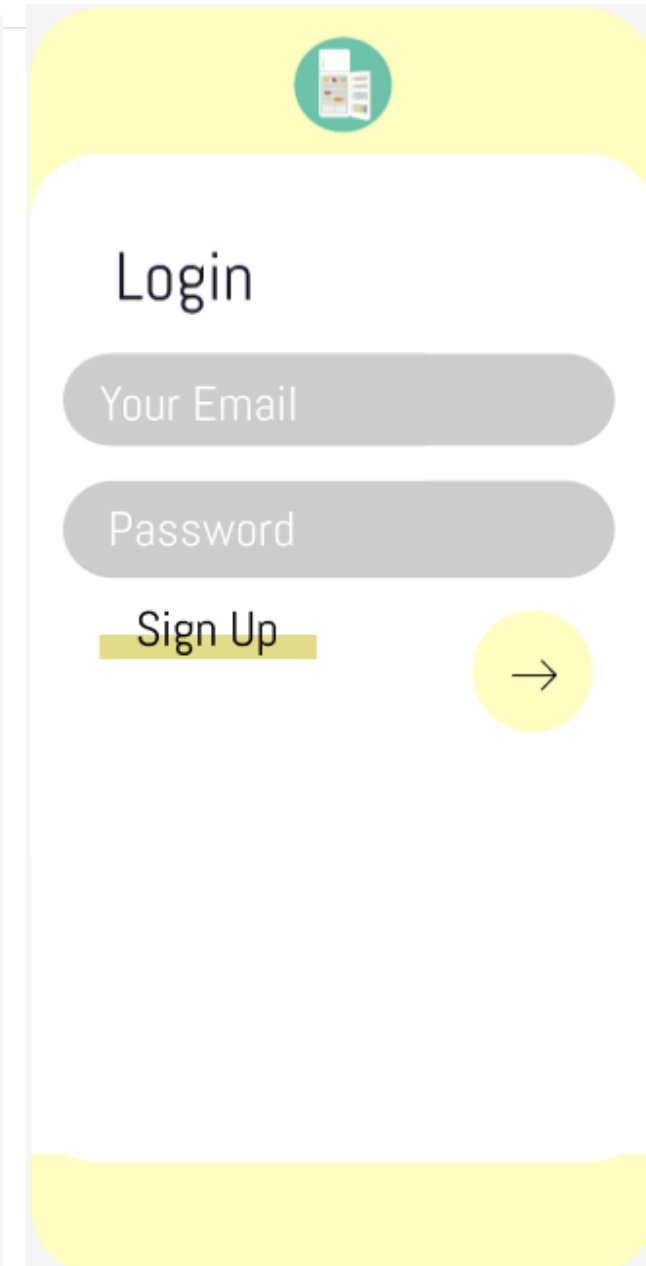


Create Account

- With Name, Password, Phone Number, NickName, Email, user can create account



UI Mockup for the 'Create Account' screen. The screen has a yellow header with a circular icon containing a document and a checklist. Below the header, the title 'Create Account' is displayed. There are five input fields stacked vertically: 'Name', 'Password', 'Phone Number', 'NickName', and 'Email'. At the bottom right, there is a yellow circular button with a right-pointing arrow.



UI Mockup for the 'Login' screen. The screen has a yellow header with a circular icon containing a document and a checklist. Below the header, the title 'Login' is displayed. There are two input fields stacked vertically: 'Your Email' and 'Password'. Below the 'Password' field, there is a yellow rectangular button labeled 'Sign Up' and a yellow circular button with a right-pointing arrow.

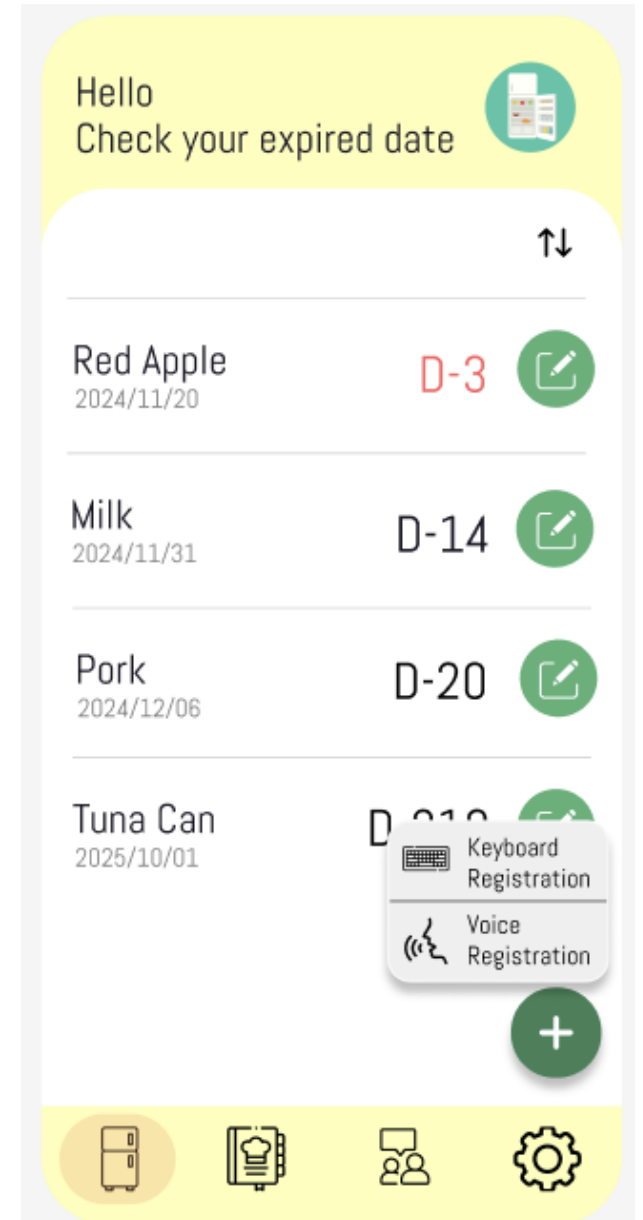


Date Notification

- User can know the expiration date of the register foods

Register Ingredients

- Keyboard Registration
- Voice Registration





Keyboard Registration

Please enter the ingredients you want to add in the form.

Category ▼ Please choose category

Name | Put ingredient name

Quantity ▼ 01

Expiration Date 01/01/01

+ ✓

FINISH

Icons: Refrigerator, Chef Hat, People, Gear

Voice Registration

Click the start button and tell us the ingredients you want to register, including the required factors

Required elements to include:

- Category
- Name
- Quantity
- Expiration Date

🗣️

START

STOP

FINISH

Icons: Refrigerator, Chef Hat, People, Gear



Click the start button and tell us the ingredients you want to register, including the required factors

Required elements to include:

- Category
- Name
- Quantity
- E

Transforming. Please wait for a moment.

START

STOP

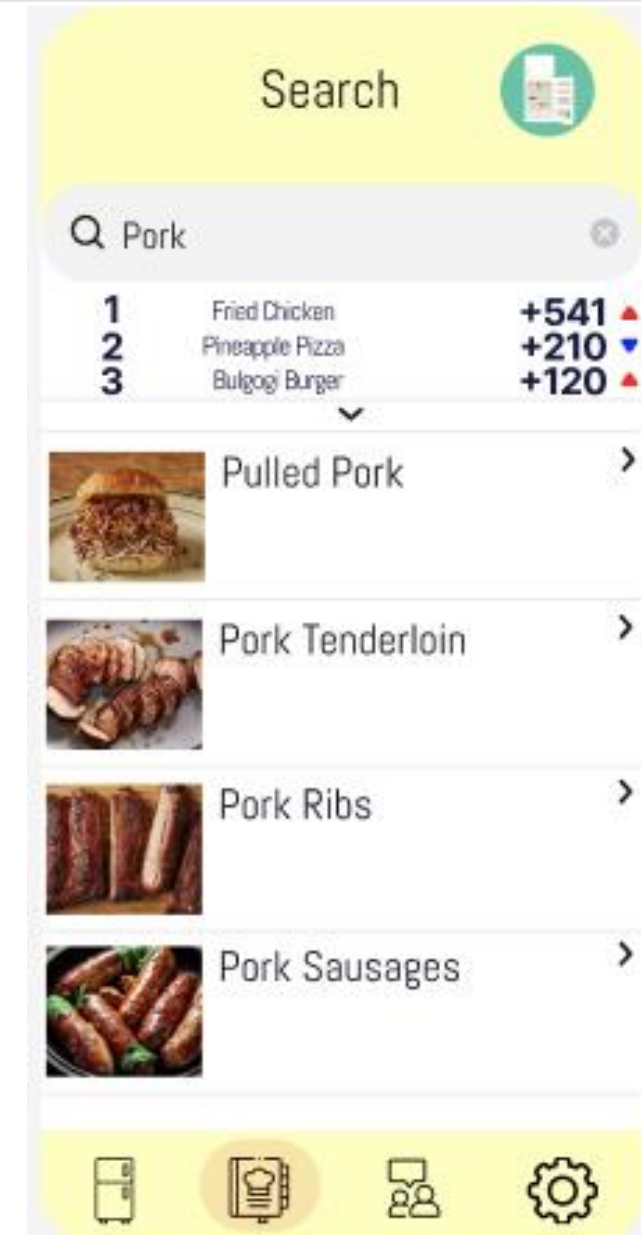
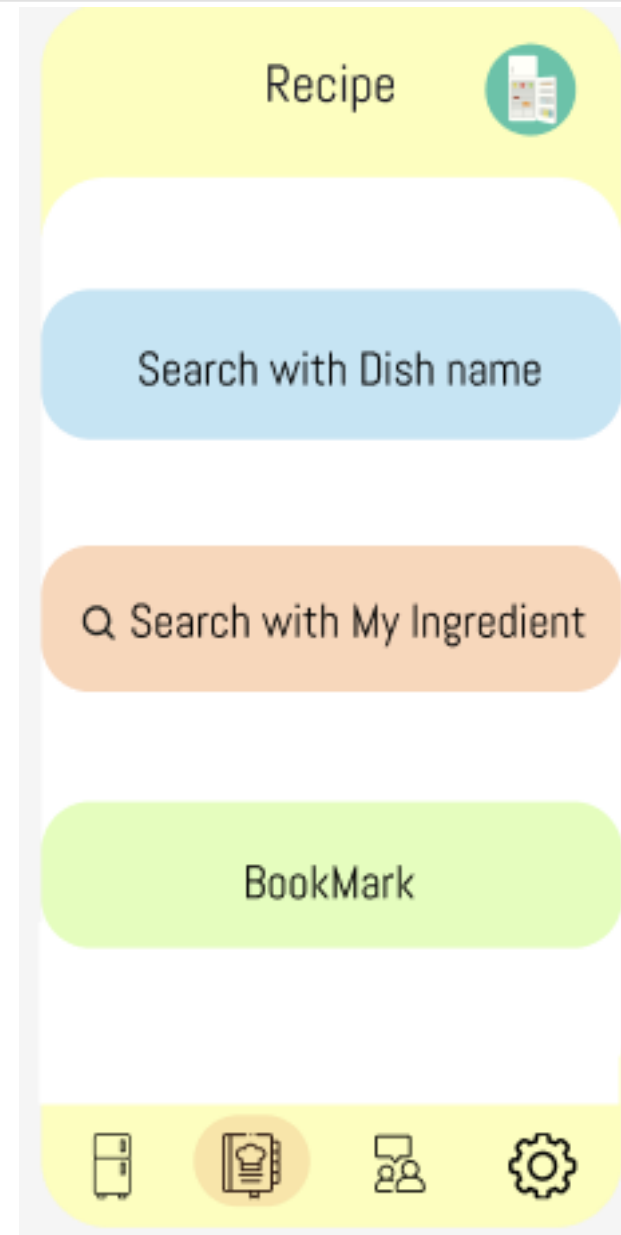
FINISH

Icons: Refrigerator, Chef Hat, People, Gear



Recipe Search with Dish name

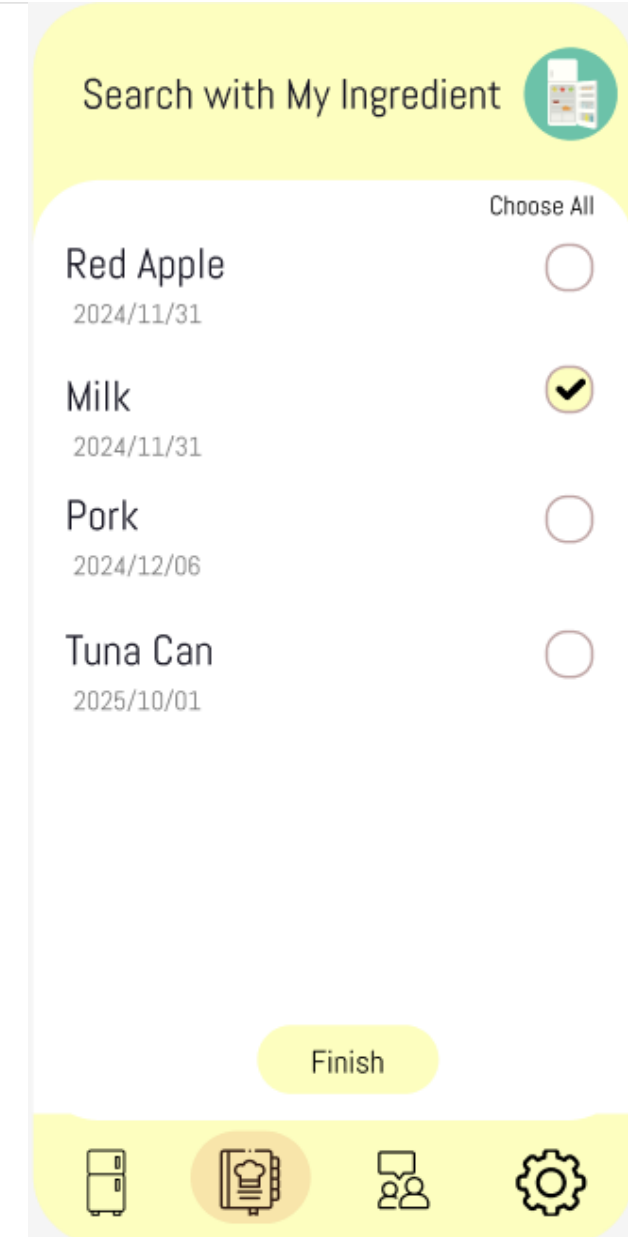
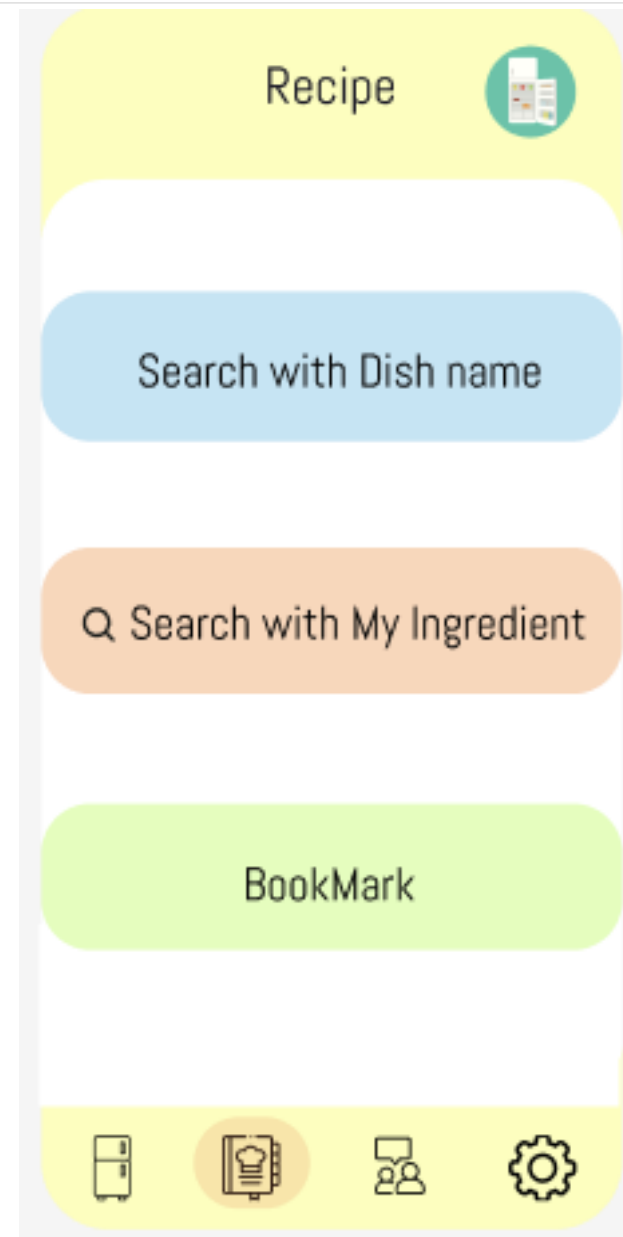
- User can search Recipe with Dish Name
- User can see which recipes have the most bookmarks(hot 10 Recipe)





Recipe search with ingredients

- User can search Recipe with customer's Ingredient
- When users select ingredients they have registered, the app suggests recipes that can be made with those selected ingredients.



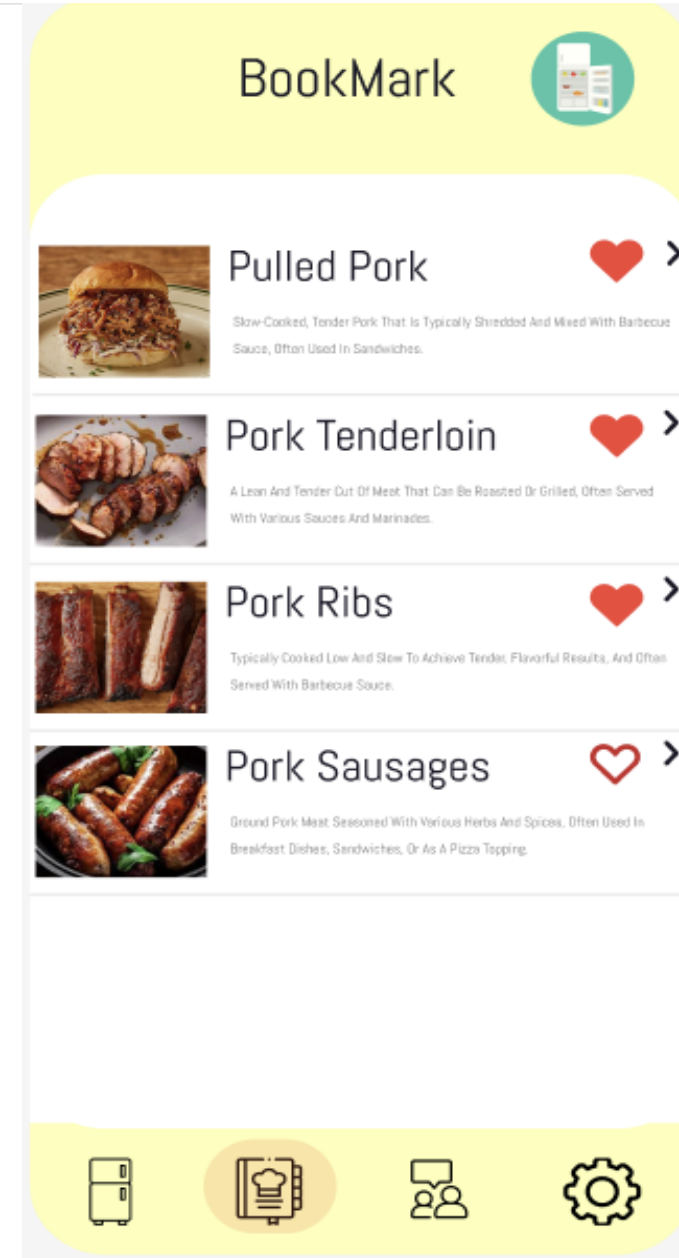


Detail Recipe

- Users can view information about the cooking process, ingredient introduction, and cooking time for a specific recipe.

BookMark

- Users can add recipes they want to bookmark by pressing the heart button.
- Bookmarked recipes can be viewed in the user's Bookmark page.



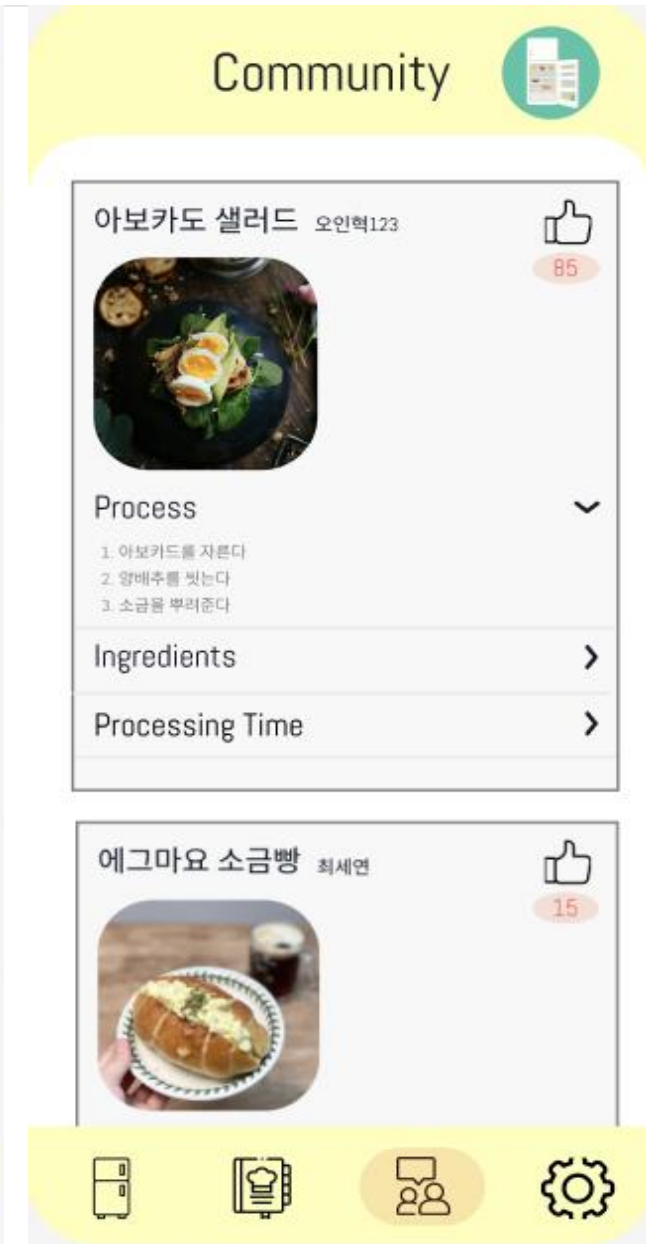


Community Main

- User can check related foods by clicking on the food category.
- User can check which recipes have been liked the most by people.

Community

- Users can view recipes posted by people in a designated form and upload their own recipes.






MyPage

- User can check and edit their information
- **User can withdraw from this service**

MyPage







Personal Information

| CATEGORY | ANSWER |
|-----------------|-------------------|
| NICKNAME | 오인혁123 |
| EMAIL | mdaebak@naver.com |
| PHONE NUMBER | 01082824848 |
| ALARM ON/OFF >> | Mic ON/OFF >> |

EDIT

Withdrawal

Log Out





User Authentication

- Firebase Authentication : <https://firebase.google.com/docs/auth>

Database

- Firebase Store : <https://firebase.google.com/products/firestore>

Storage

- Firebase Storage : <https://firebase.google.com/products/storage>

Notification Service

- Firebase Cloud Messaging (FCM) : <https://firebase.google.com/products/cloud-messaging>

Date Selection

- DatePicker Component

Design User Interface

- Material Design Components (MDC)
: <https://m2.material.io/develop/android/docs/getting-started>



Organize converted text into list

- OpenAI API SDK : <https://beta.openai.com/docs/api-reference/create-completion>

Voice recognition/Speech-to Text

- **Android's SpeechRecognizer class :**
<https://firebase.google.com/docs/auth>

Network Communication

- Volley : <https://developer.android.com/training/volley> RecyclerView

Ingredient List View

- RecyclerView : <https://developer.android.com/guide/topics/ui/layout/recyclerview>

Local Data Management

- Shared Preferences : <https://developer.android.com/training/data-storage/shared-preferences>

Expected Timeframe



| Work | | W9 (11 / 06) Proposal | W10 (11 / 13) | W11 (11 / 20) | W12 (11 / 27) Work-In Progress | W13 (12 / 04) | W14 (12 / 11) | W15 (12 / 18) Final |
|-----------------------------------|--|-------------------------------|--------------------|--------------------|---|--------------------|--------------------|-----------------------------|
| Development | Customer Registration and Verification | | | | | | | |
| | Log In / Out Process | | | | | | | |
| | Account Management | | | | | | | |
| | List Management | | | | | | | |
| | Notification | | | | | | | |
| | Ingredient Registration Management | | | | | | | |
| | Recipe Management | | | | | | | |
| | Community | | | | | | | |
| Writing a report and Beta testing | | | | | | | | |



AA

- Git Management,
- Main(Ingredients, Expiration, Registration) Development

BB

- UI Design, Database Design
- Recipe Activity(Search, Register, Bookmark) Development

CC

- Community Development
- Account(Login in/out, MyPage) Development

The image features a background of vertical wooden planks with a natural grain and knots. A solid yellow rectangular box is centered horizontally across the middle of the image.

Thank you