Designing the EatWell app to improve the postsecondary experience around meals.

Overview

Young adults, many of whom are college and university students, have high irregularity in their routine which often leads to poor prioritization of healthy habits and unsustainable diets. From research to design and testing, I explored college students' experience around meals and diets and developed a digital tool to minimize obstacles to having healthy meals regularly.

Tools

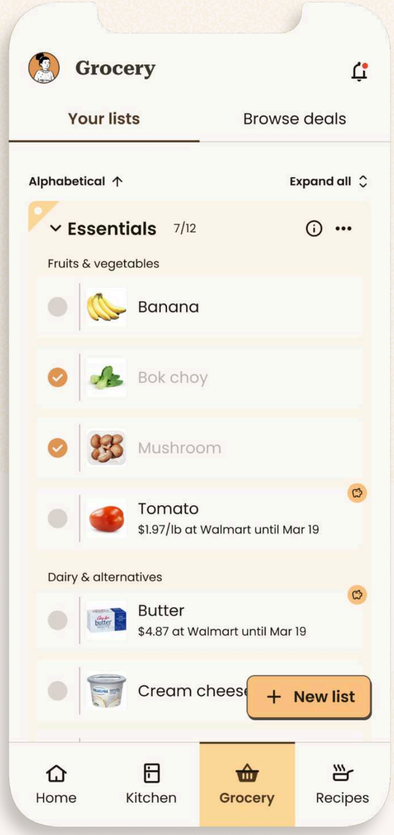
Figma

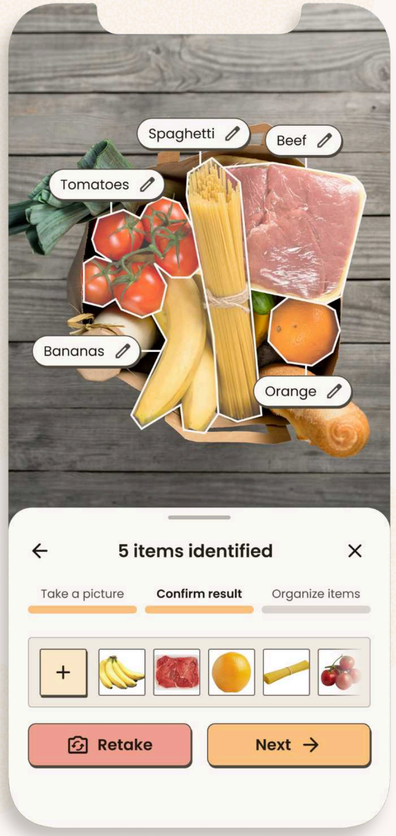
Duration

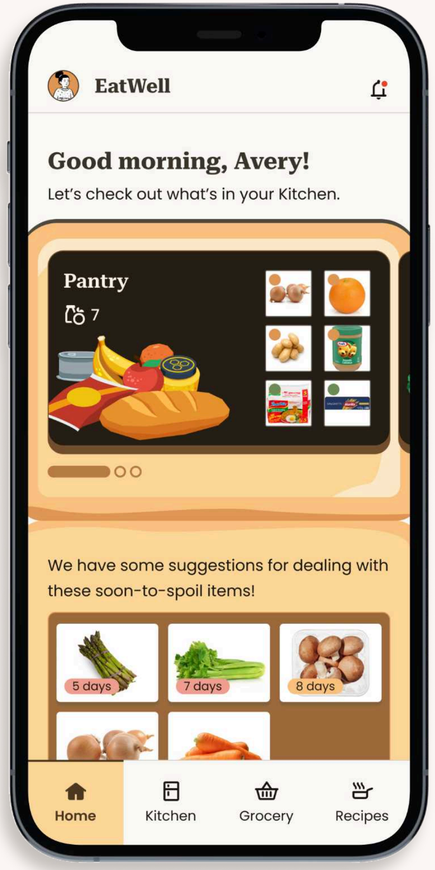
September 2024 – April 2025

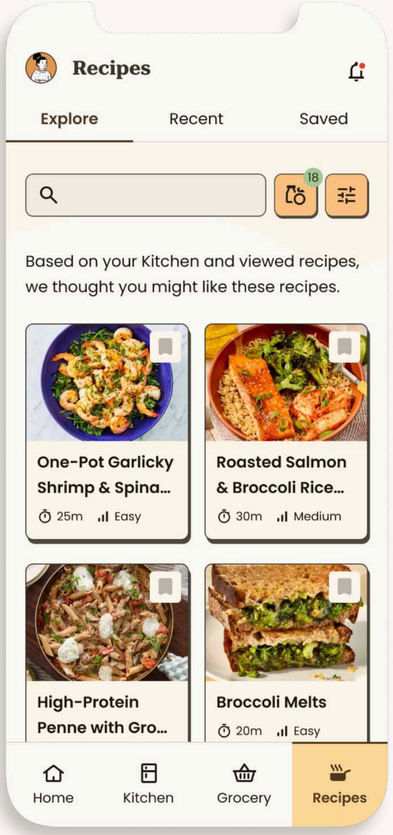
Meet EatWell: A grocery management tool to reduce stress in meal activities.

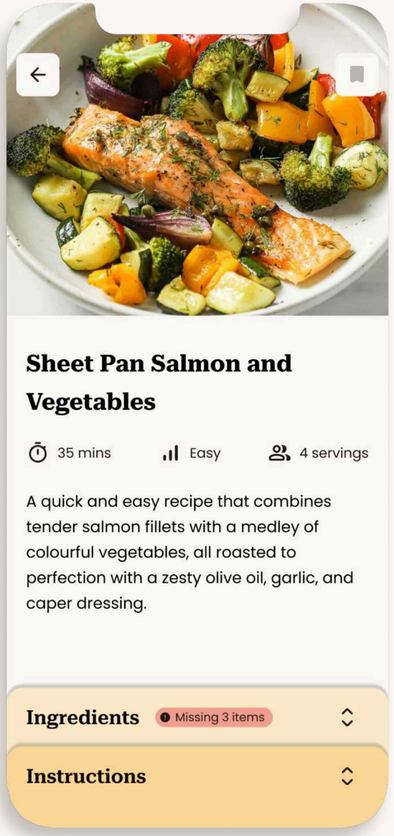
With busy schedules, it can be difficult for students to keep track of their groceries and turn their ingredients and leftovers into enjoyable meals. EatWell connects kitchen management, grocery planning, and cooking to reduce mental workload. Users easily add groceries to their digital kitchen space by typing, scanning the barcode on the packaging, or taking a picture of their groceries. EatWell keeps track of estimate spoilage and recommends recipes according to the users' dietary preference, cooking ability, and available resources.







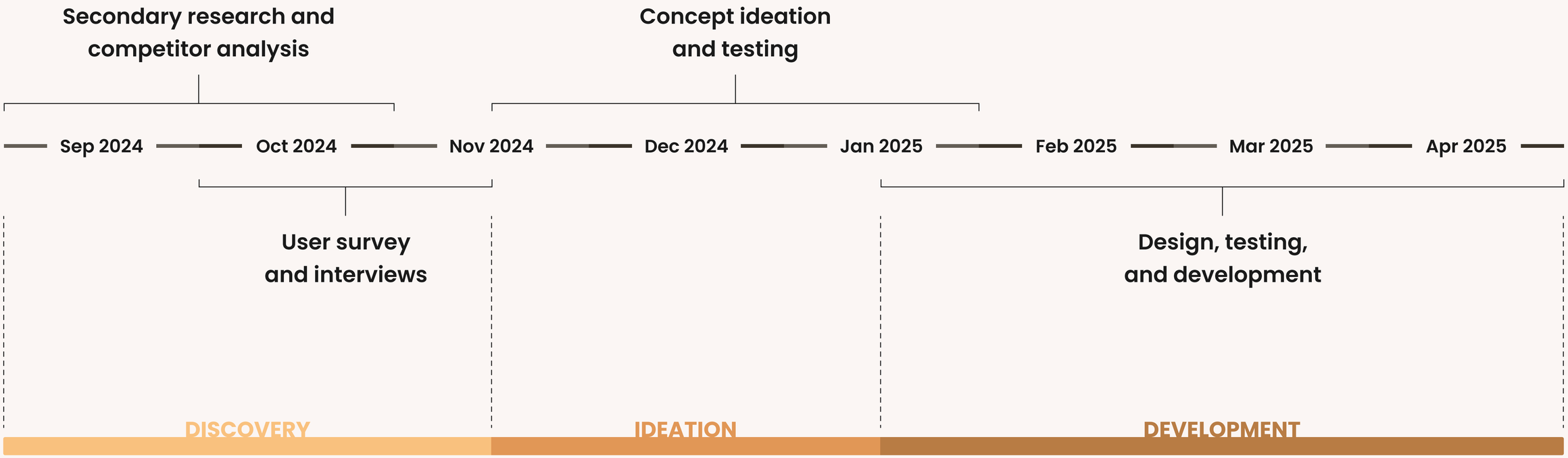




PROCESS

For my thesis project in the Interaction Design program, I explored postsecondary students' understanding of diet and nutrition and identified obstacles preventing them from eating healthily regularly through research, interviews, design, and testing.

The timeline of this project had to relatively align to the timeline of my Thesis courses (i.e. in-progress deadlines). The project also occurred alongside other coursework, so not all of these 8 months was allotted to working on this project.

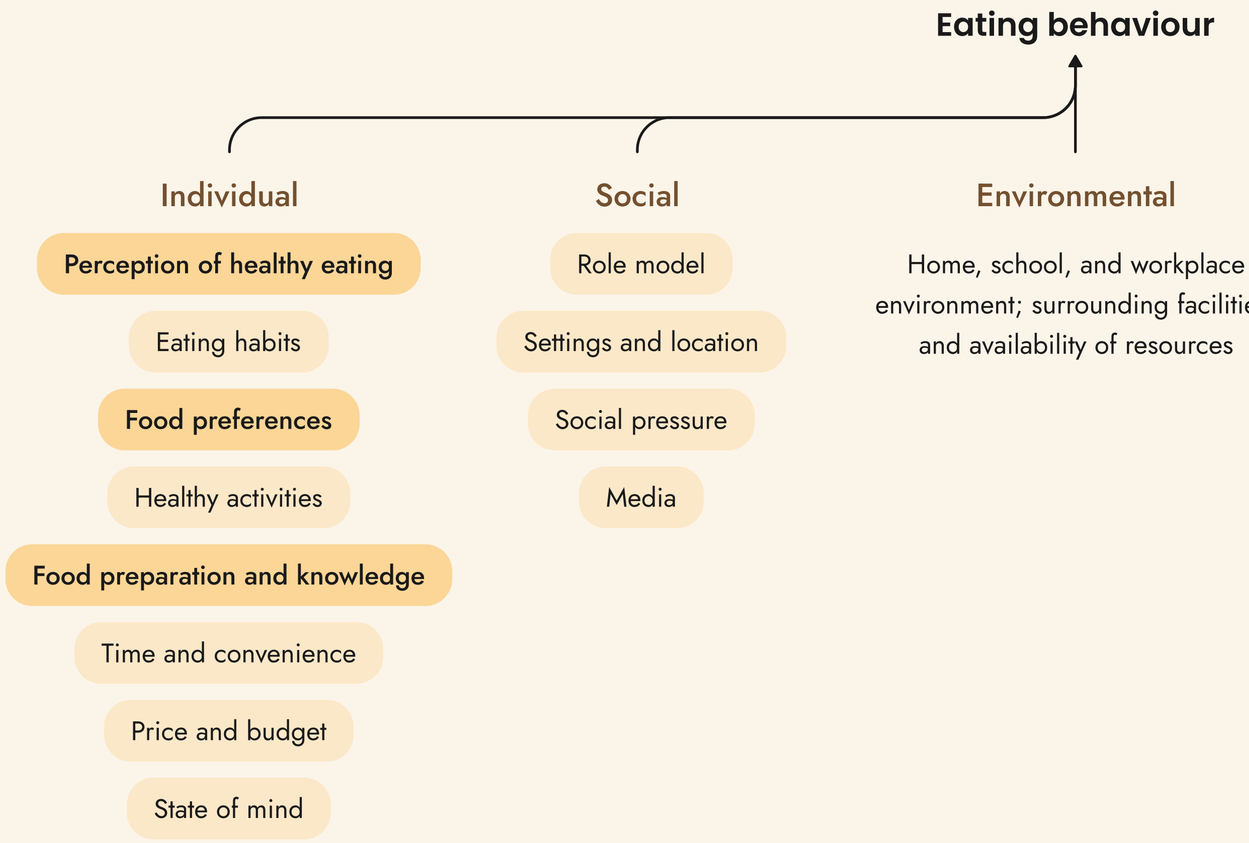


DISCOVERY

This project started off as an exploration into young adults' understanding of nutrition and how it affects their diets.

A 2018 study in the U.S. divided the factors that affect young adults' eating behaviours into 3 levels: individual (intrapersonal), social (interpersonal), and environmental.[1] **Initially, I wanted to focus on exploring the impact of the perception, knowledge, and preference factors on young adults' diets**.

From the start, I boxed myself into a topic that I myself don't fully understand and brought a personal assumption into the discovery process. As I learned more about the factors that influence someone's diet and the common pain points around diet, I soon realized that understanding nutrition isn't a major concern for college and university students.

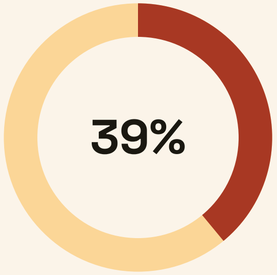


[1] "College Students and Eating Habits: A Study Using An Ecological Model for Healthy Behavior." www.ncbi.nlm.nih.gov/pmc/articles/PMC6315356/

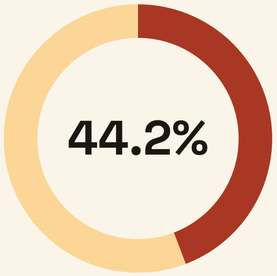
From scientific papers, articles, and online forums, I learned that lack of nutrition knowledge isn't why many postsecondary students eat unhealthily, but rather the lack of time and high stress level.

Young adults have higher rates of irregularity in their routine compared to other age groups, as they're in a transitional period where they're handling new environments, dynamics, and tasks. Many are moving away from home, commencing postsecondary education, and finding work. Increasing workload leads to delayed bedtime, shorter sleep duration, and irregular meal times – all of which decrease students' energy level.

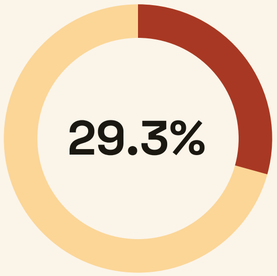
Under the stress of time and the high workload, many students tend to skip meals to make time or eat more unhealthily to deal with the stressful situations.



of students at 5 Canadian campuses were going without nutritious food when surveyed in 2016.[1]



of students rarely or never eat breakfast, 3.5% skip lunch, and 2.3% skip dinner.[2]



of students in the U.S. skip meals every day, 38.5% skip once a week, and 13.9% skip once per month.[3]

[1] "Nearly 40 per cent of Canadian post-secondary students experience 'food insecurity:' study." www.thestar.com/news/gta/nearly-40-per-cent-of-canadian-post-secondary-students-experience-food-insecurity-study/article_64c0cc3e-86ce-539a-a6f9-8326fd73effd.html

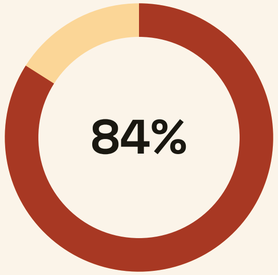
[2] "Nearly 1 in 3 College Students Say They Have to Skip Meals Every Day Due to Cost." www.intelligent.com/nearly-1-in-3-college-students-say-they-have-to-skip-meals-every-day-due-to-cost/

[3] "Correlates of meal skipping in young adults: a systematic review." pmc.ncbi.nlm.nih.gov/articles/PMC5133750/

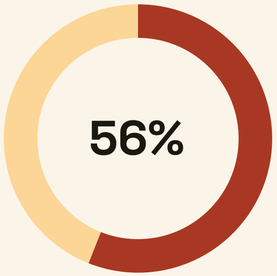
I conducted an online survey and interviewed 5 college students to understand their experiences. The findings confirmed that time and motivation are important influences to ones' diet, and lack of understanding of nutrition isn't a significant barrier.

Survey results identified **time, cost, stress, and availability of resources as the most common and impactful barriers to healthy eating**. The students whom I surveyed and talked to generally have a good grasp on nutrition and understand when they're making a bad decision for their health.

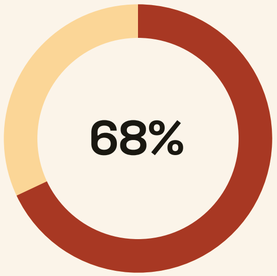
It's not that students don't know how to eat healthy, they don't know how to eat healthy regularly with the limited time and skills they have. **Making healthy and enjoyable meals require time and skills that many students don't have and efforts they're not motivated to make**, especially if they're moving out and living by themselves for the first time and/or working alongside school. The majority are too busy to pay attention to the nutritional value of what they're eating, while the few who actively monitor their diet are either working out or navigating serious health issues.



of survey respondents frequently consider the cost when buying food, drinks, and groceries.



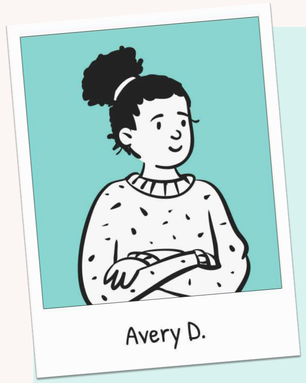
of survey respondents often factor in the time available, while the remaining occasionally consider it.



of survey respondents often go for the convenient option.

Facing these findings, I decided to pivot my focus from improving understanding of nutrition to making it easier to maintain healthy habits around meals and diets.

Regardless of experience cooking and/or living independently, many students struggle to maintain regular and healthy meals due to their busy schedules and easily perishable groceries.



First-year student living away from family.

Independent-living experience

★☆☆☆☆

Immediate familial support

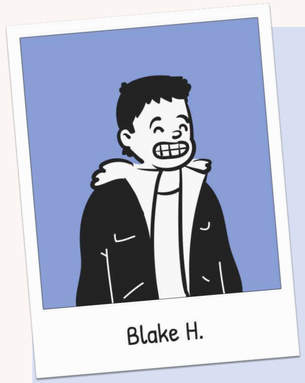
★★★☆☆

Goals and Motivation

- Avery wants to **buy her own groceries and prepare her own meals**.
- Avery wants to **improve her health** by being more active and paying attention to her diet.

Frustrations

- Avery's routine is affected by her **class schedule and staying up late to study**.
- The **cooking facilities** in the dorm are inconvenient due to its distance and the limited appliances.
- Avery tend to **forget to get groceries** or miss some items because she does her shopping irregularly.



Returning full-time student, commuting to campus.

Independent-living experience

★★☆☆☆

Immediate familial support

★★★★☆

Goals and Motivation

- Blake wants to **consistently eat on time**, skip meals and stress eat less often, and eat more healthy food.
- Blake wants to learn to **make healthy flavourful meals** that he'd be proud of.

Frustrations

- Blake is skipping meals due to his **busy schedule** and feeling less energetic.
- Blake relies on his parents' cooking and familiar food since he's **not confident in his cooking abilities**.
- Blake has tried to change his diet before but he **couldn't stay motivated**.

Graduating international student, working part-time.

Independent-living experience

★★★★☆

Immediate familial support

★☆☆☆☆

Goals and Motivation

- Carol enjoys cooking and wants to **find time to comfortably make something**.
- Carol wants to buy food less to **save money**, since takeouts and restaurant food cost more than groceries.

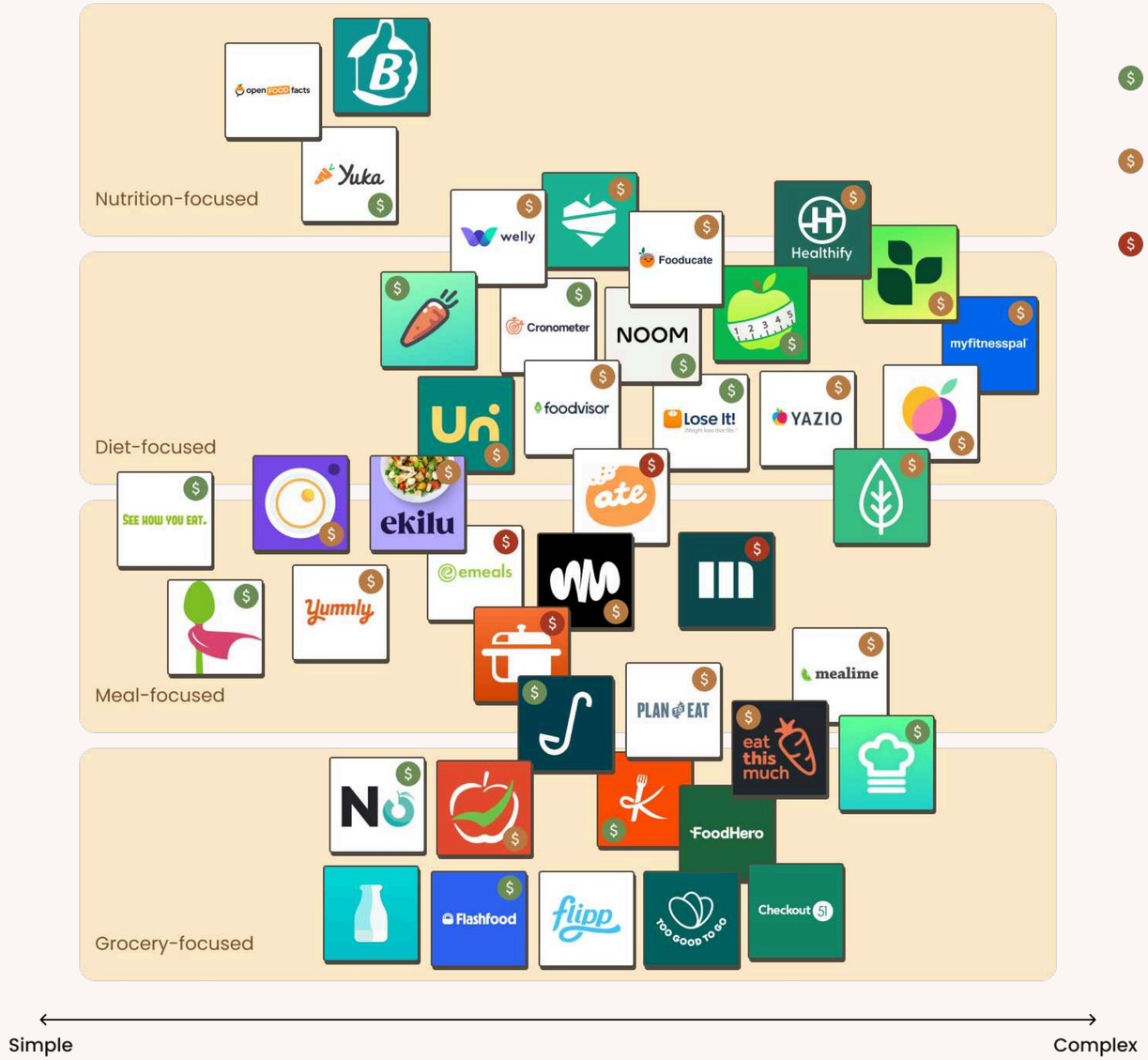
Frustrations

- Due to **time constraint and stress**, Carol has been skipping meals around deadlines and exams.
- The ingredients Carol needs are **difficult to find at an affordable price**.
- Carol struggles to **keep her groceries fresh** and find time to cook all of it.

Despite the variety of existing apps, their cost, complexity, and lack of visibility prevent users from finding ones that suit their situations.

Nutrition coaches and diet apps can be useful and beneficial, but the calorie tracker and streak system found in many of them may not fit into students' busy lifestyles and stressful schedules. Students who have tried these apps express **lack of motivation to continue with their diet plans and dissatisfaction with the tedious freemium meal logging features**. Simpler apps like Yuka, which is a barcode scanner that provides nutrition information, are more economical for students and less mentally taxing, but are lesser known.

More complex apps like MyFitnessPal or Healthify often put useful features behind a paywall, reinforcing the misconception that eating healthy is expensive.



College and university students between the ages of 18 to 30, who want to improve their diet and/or have an easier time completing meal activities

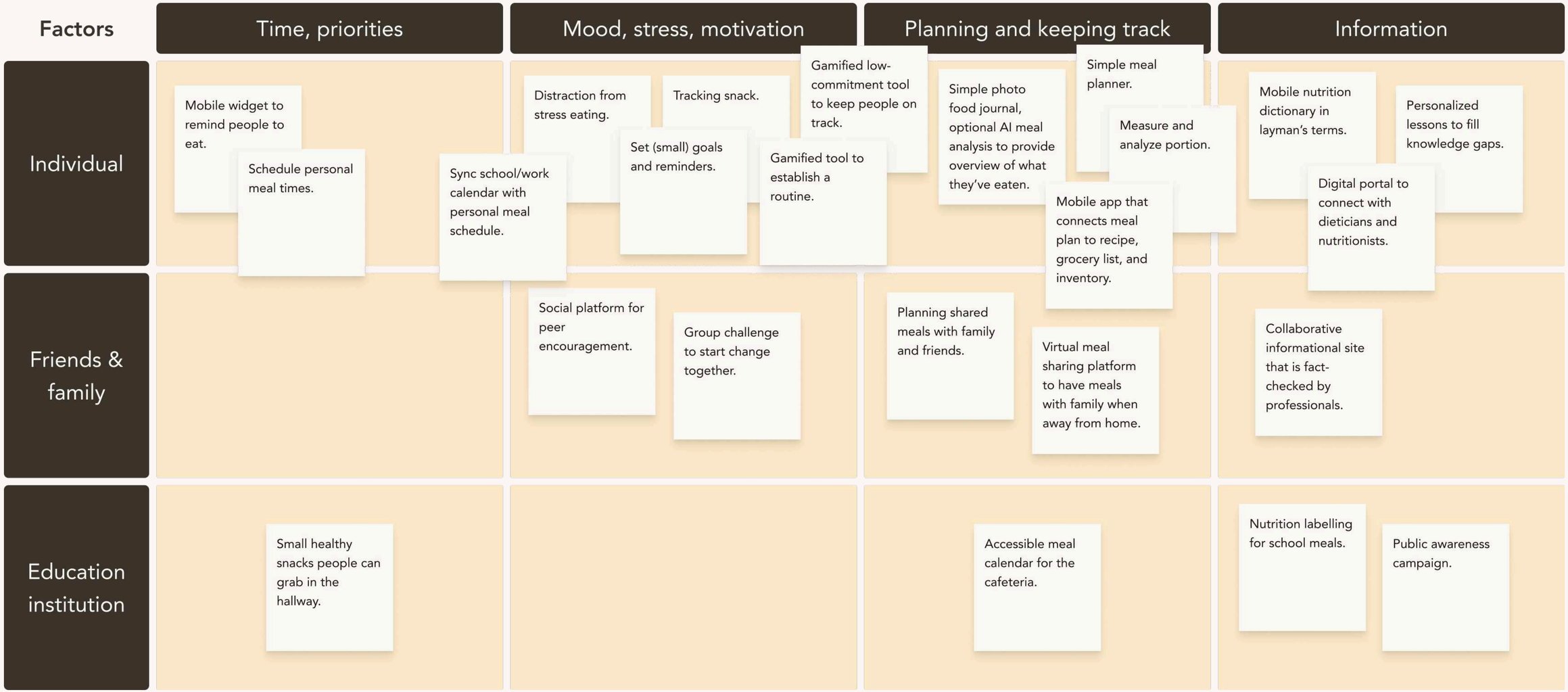
How might we help young adult postsecondary students make more informed meal decisions with consideration for their needs, preferences, and limitations?

Regularly make healthy meals, or buy healthy food

Consider the user's dietary preferences, available ingredients, budget, time and environmental constraints, etc., giving students flexibility and not making meal activities feel like a chore

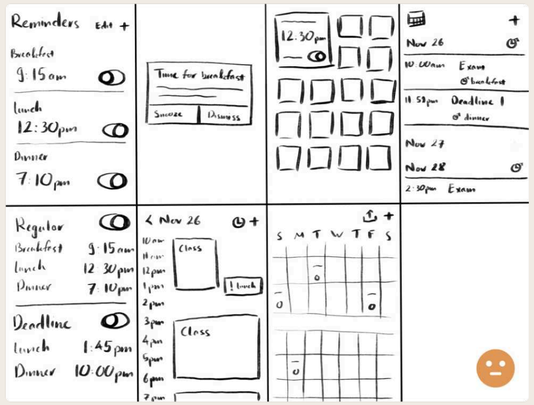
IDEATION

Using a concept-generating matrix, I ideated potential solutions based on factors that affect students' eating habits.

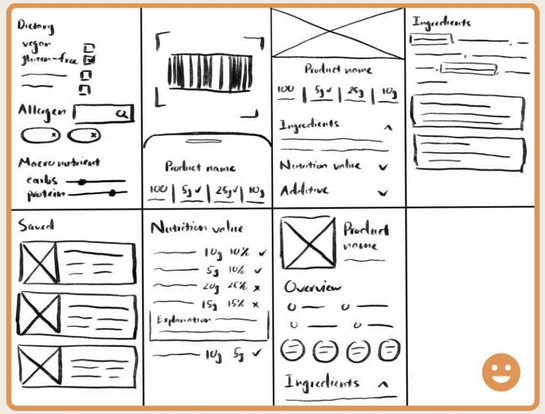


I selected concepts and combinations of features that would be more useful and beneficial to my target audience and conducted the first round of concept testing using low-fidelity sketches.

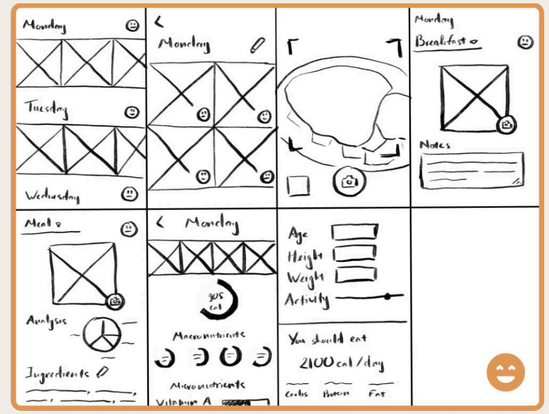
An accessible calendar showing meals that are planned to be served in the school cafeteria. Packaged food and containers can have printed nutrition labels on them.



A tool for people to set reminders for personal meal schedule. Potentially including an AI assistant that coordinates their preferred meal schedule with class/exam schedules.

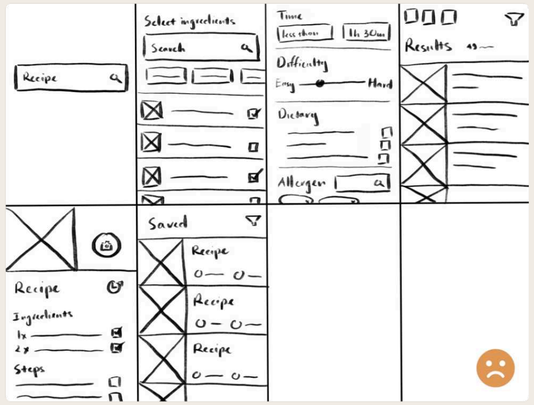


A barcode scanning app that shows how much a product matches up to user's dietary preferences and highlights the positives and negatives of the product.

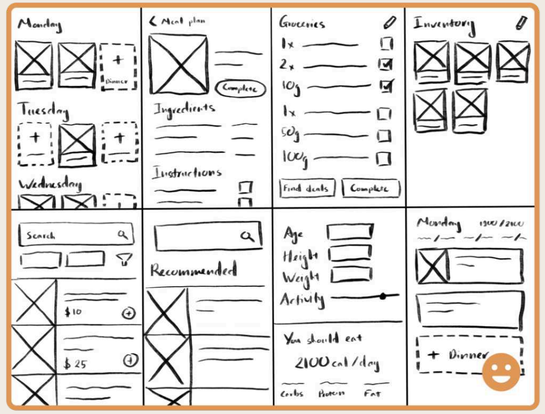


A mobile food journal that allows user to see how they've eaten the pass days and their energy level/mood. Shows AI analysis of the meal they've taken a photo of.

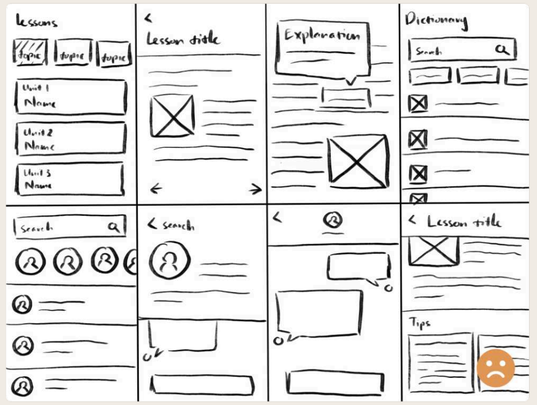
Participants' general feedback and attitude toward each concept is shown through the emojis. They were more enthusiastic toward more practical tools that they haven't encountered before.



A recipe finder based on the dish's name, the ingredients, the time needed, the difficulty level, and dietary preferences.

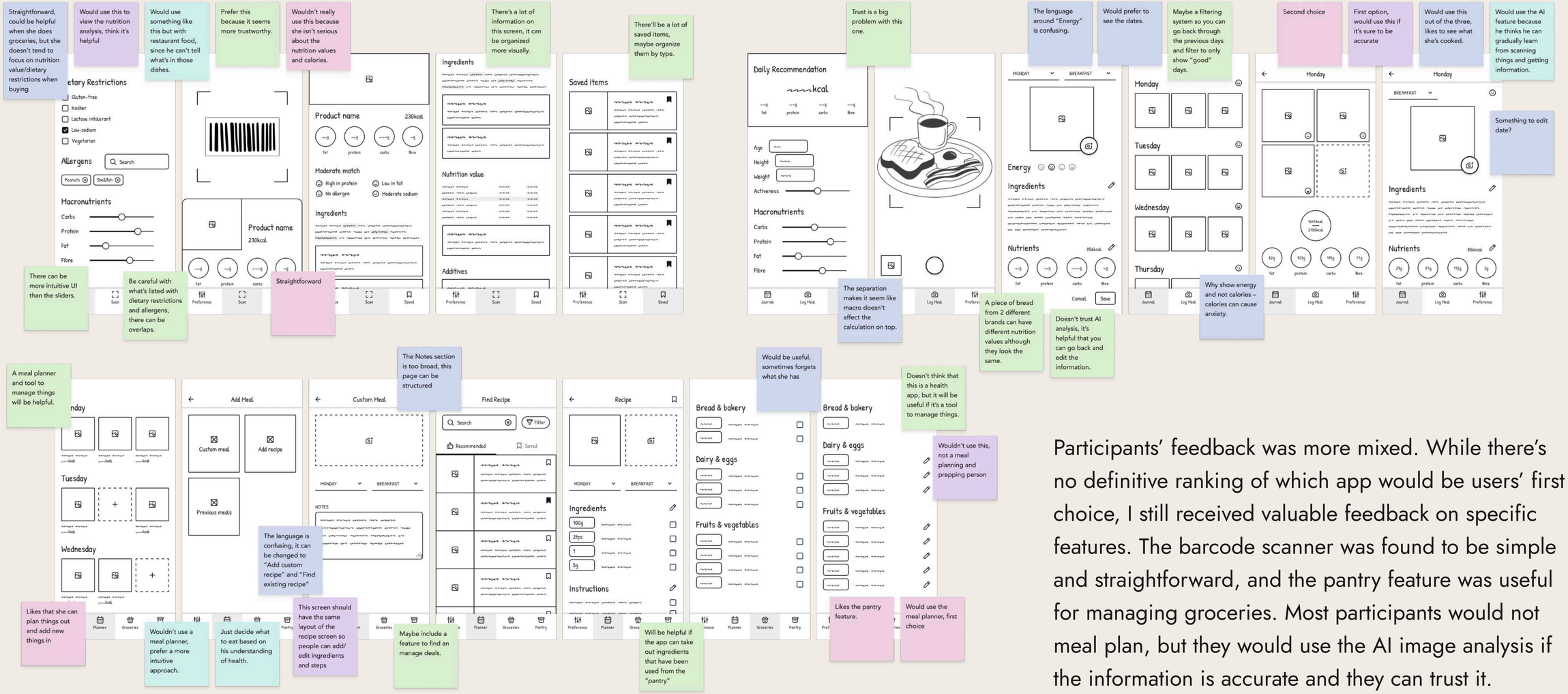


A meal planner that connects to a groceries list and inventory so user can keep track of what they need to buy and what they already have in their fridge and pantry.



A learning platform with modules on health, diet, nutrition, cooking, etc. Includes an integrated dictionary and communication portal with dieticians and nutritionists.

Taking the features that had favourable feedback, I made 3 low-fidelity concepts and conducted the second round of testing.



Participants' feedback was more mixed. While there's no definitive ranking of which app would be users' first choice, I still received valuable feedback on specific features. The barcode scanner was found to be simple and straightforward, and the pantry feature was useful for managing groceries. Most participants would not meal plan, but they would use the AI image analysis if the information is accurate and they can trust it.

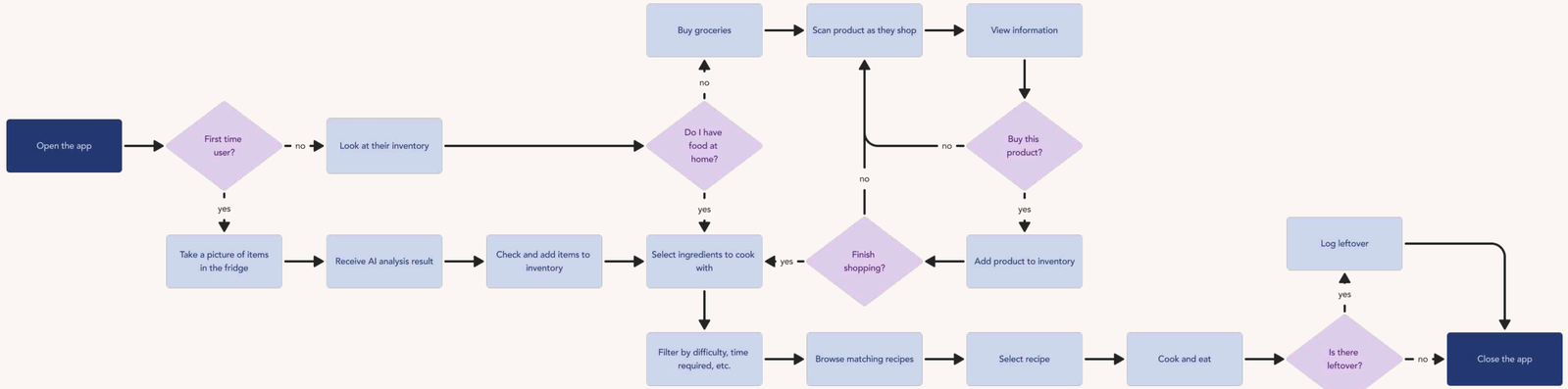
While test results point to a meal journal concept with AI analysis, I didn't feel confident in its effectiveness. I took the features that participants liked and circled back to another round of concept testing.

Participants gravitated more towards this first option in general.

Option 1

A mobile app that helps you keep track of groceries and suggests recipes based on your available ingredients, time, skill level, and dietary preferences.

- Tracking what food and groceries you have at home
- Adding groceries by scanning the barcode or taking a picture of it
- Finding recipes based on ingredients, time available, difficulty level, dietary prefences
- Step-by-step cooking instructions

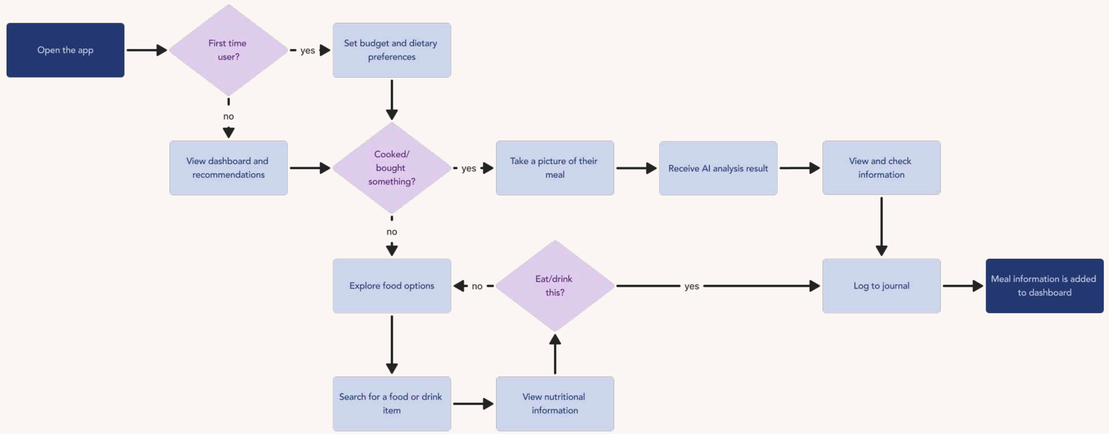


They also value the affordability this option would provide.

Option 2

A mobile app that helps you find healthy and affordable food options nearby and keeps track of what you've eaten.

- Finding nearby food options based on budget and dietary preferences
- Getting nutrition information on a food or beverage product
- Taking a picture of the meal to see the nutrition information
- Food journal with nutrition summary



PLANNING

Considering the time limit and user needs, I used an experience-based roadmap to prioritize the features and screens to be developed first.

This platform will first focus on increasing the convenience and affordability for users when buying and managing groceries. This will be accomplished primarily by allowing users to track their leftovers and groceries at home, and providing cooking suggestions based on their time, abilities, available ingredients and facilities, and dietary preferences.

Stage 1 (MVP)

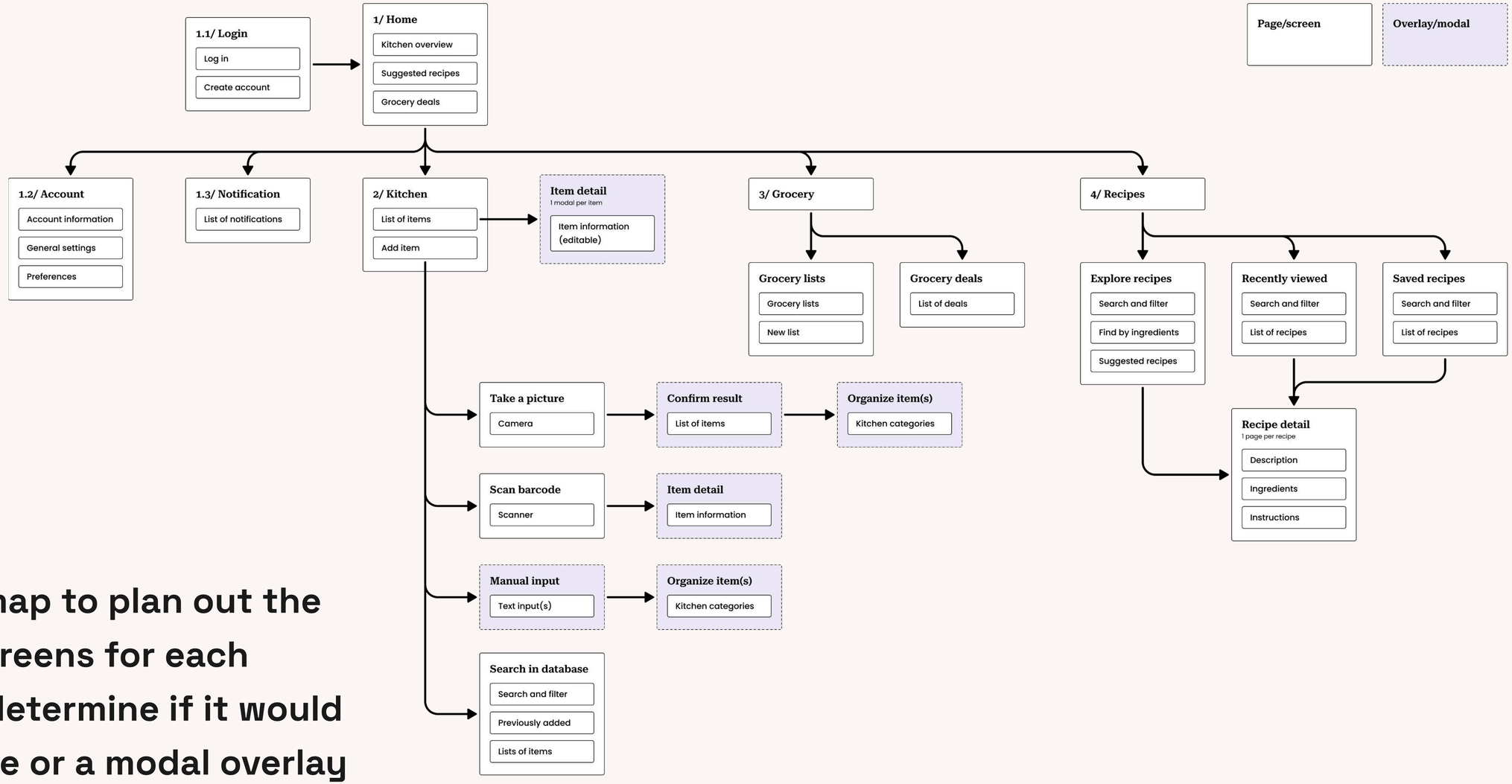
- Pantry manager to keep track of groceries and leftovers available at home
- Find affordable groceries or grocery deals nearby based on budget
- Recommend recipes based on available ingredients, time, difficulty, cooking equipment, etc.
- Filter results based on dietary preferences

Stage 2

- Engaging and informative cooking instructions
- Find affordable food and beverage (grocery and non-grocery) options nearby
- View explanations of nutrition information on food/beverage items before buying
- Connection to online grocery order
- Meal journal

Stage 3

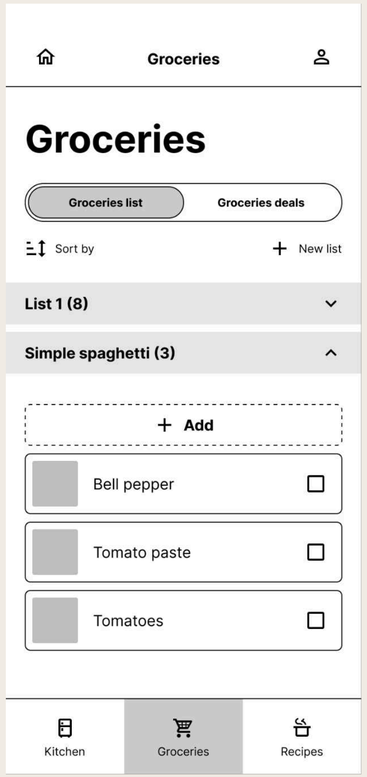
- Get nutrition analysis by taking pictures of meals
- Collaborative database of recipes from family and friends
- Connection to healthcare professionals (dieticians, nutritionists, etc.)
- Reward system for positive activities
- Meal/diet plan



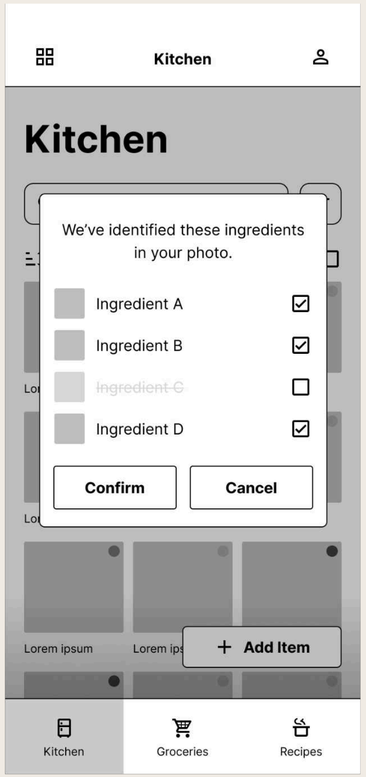
I used a sitemap to plan out the necessary screens for each feature and determine if it would be a new page or a modal overlay on top of the current page.

DESIGN & TESTING

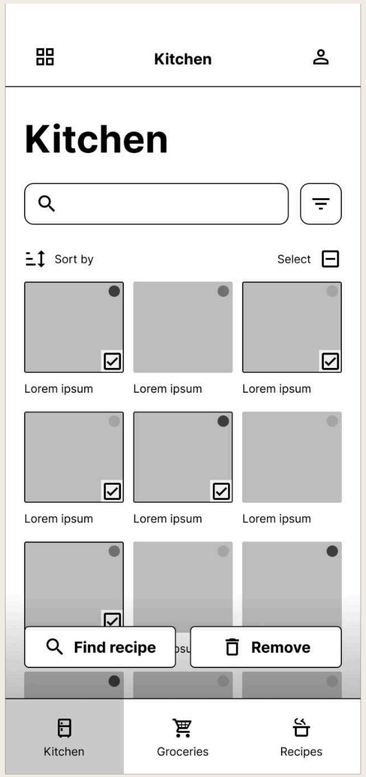
I designed low- to high-fidelity wireframes in Figma, focusing on the grocery, kitchen, and recipes screens and how they would connect to each other.



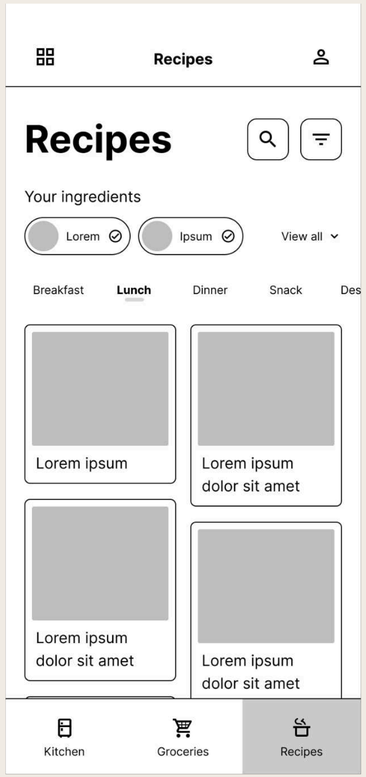
Plan grocery trip



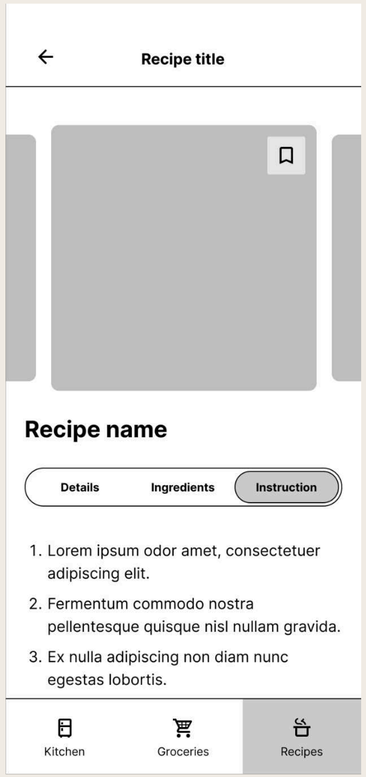
Add to digital kitchen



Select ingredients to cook with

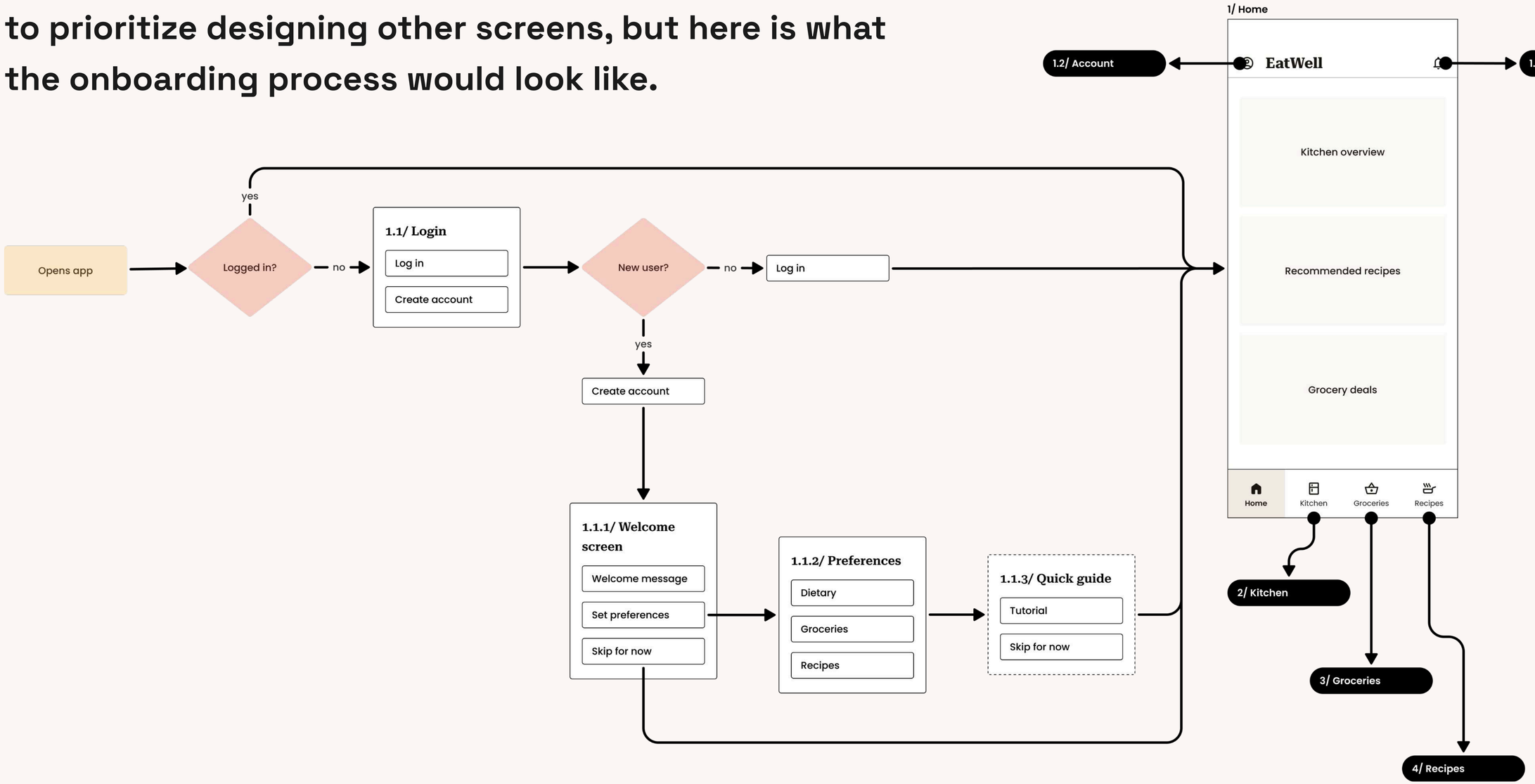


Find suitable recipes



Follow instructions and cook

Onboarding is important to allow the user to set dietary and cooking preferences. Due to time constraints, I had to prioritize designing other screens, but here is what the onboarding process would look like.

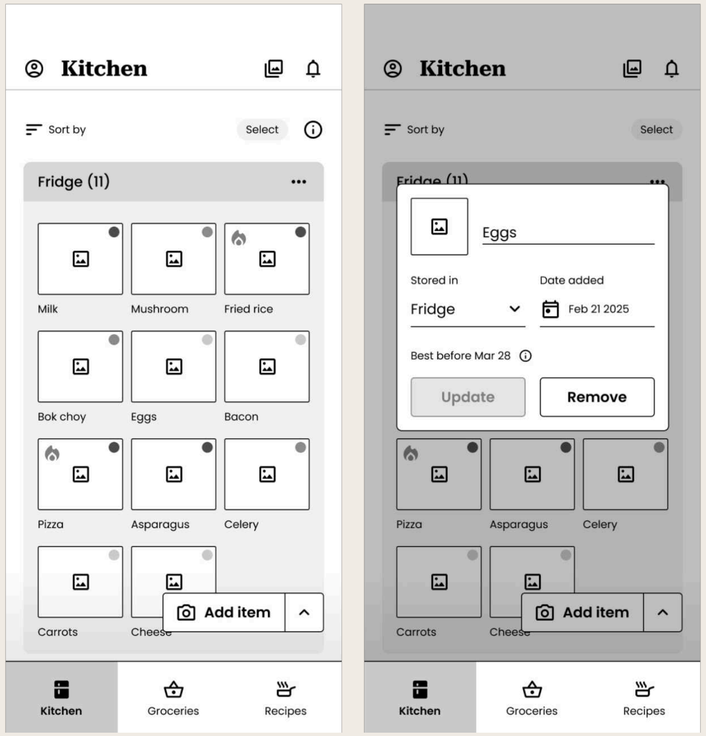


Within the Kitchen space, I went through multiple iterations to work out how to best organize the user's food and groceries.

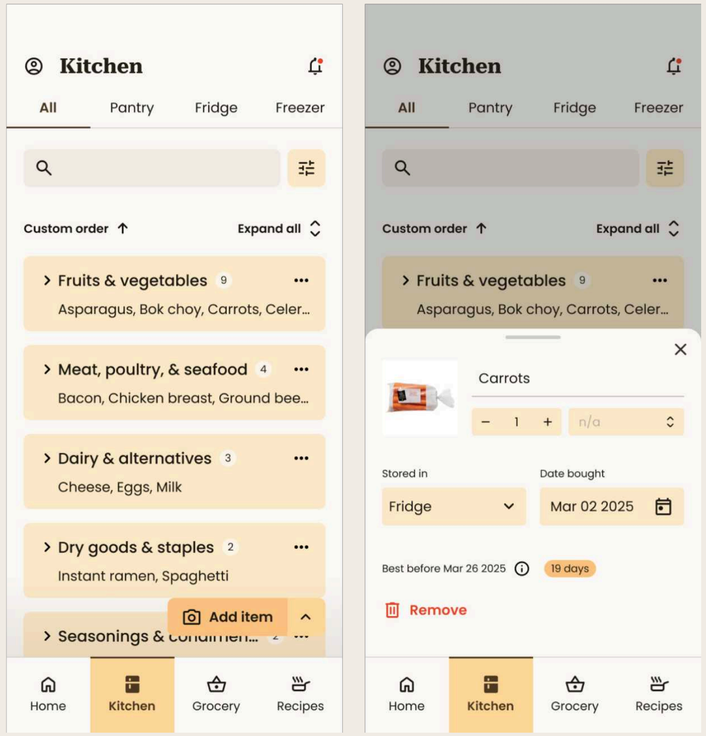
There are commonly two layers of organization when it comes to food and groceries: by space and by type. Since I pivoted in the middle of the research process, I didn't look into how people organize their kitchen until I was already in the development process. As I designed the screens and conducted user test, the organization system evolved to first allow people to organize by the real-life space their items would be in, then by the type of food.

LOW-FIDELITY

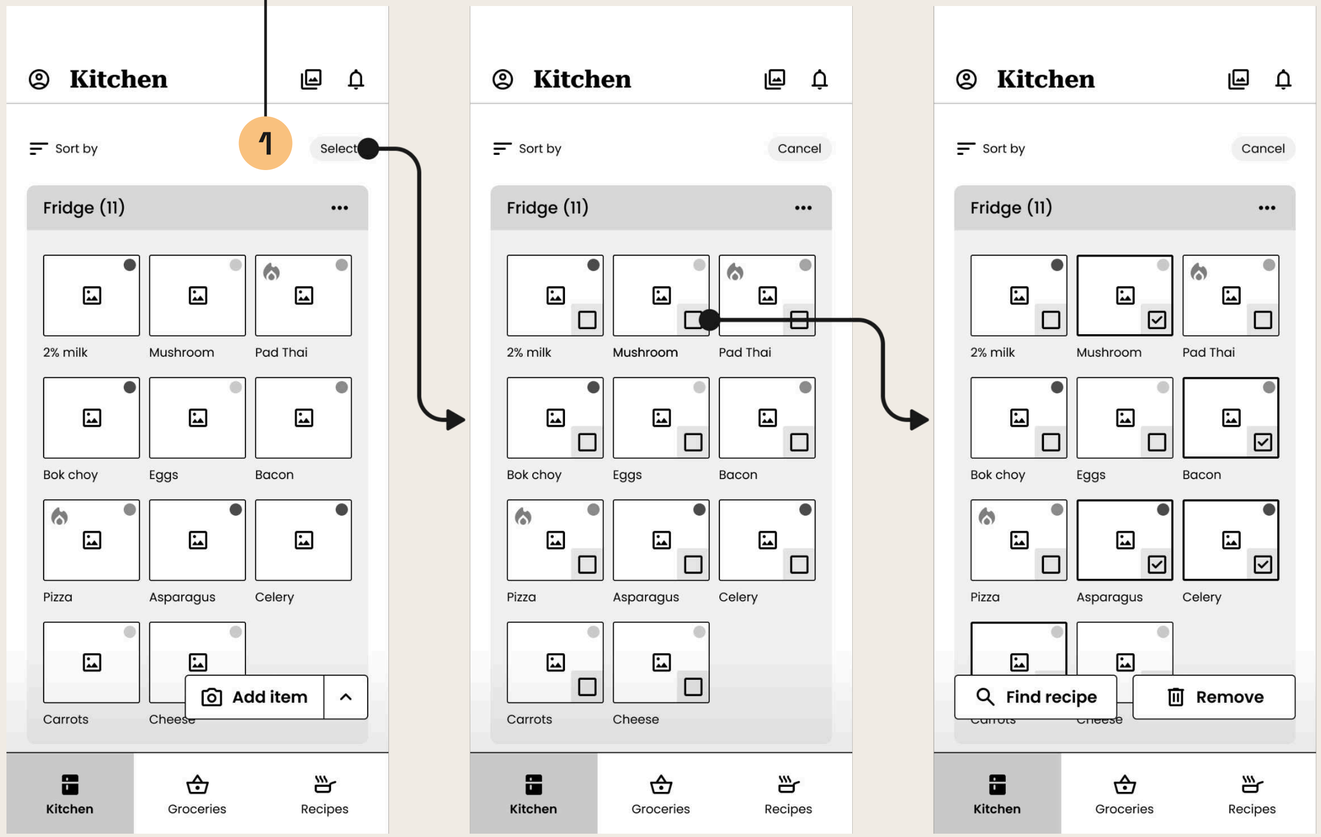
MID-FIDELITY



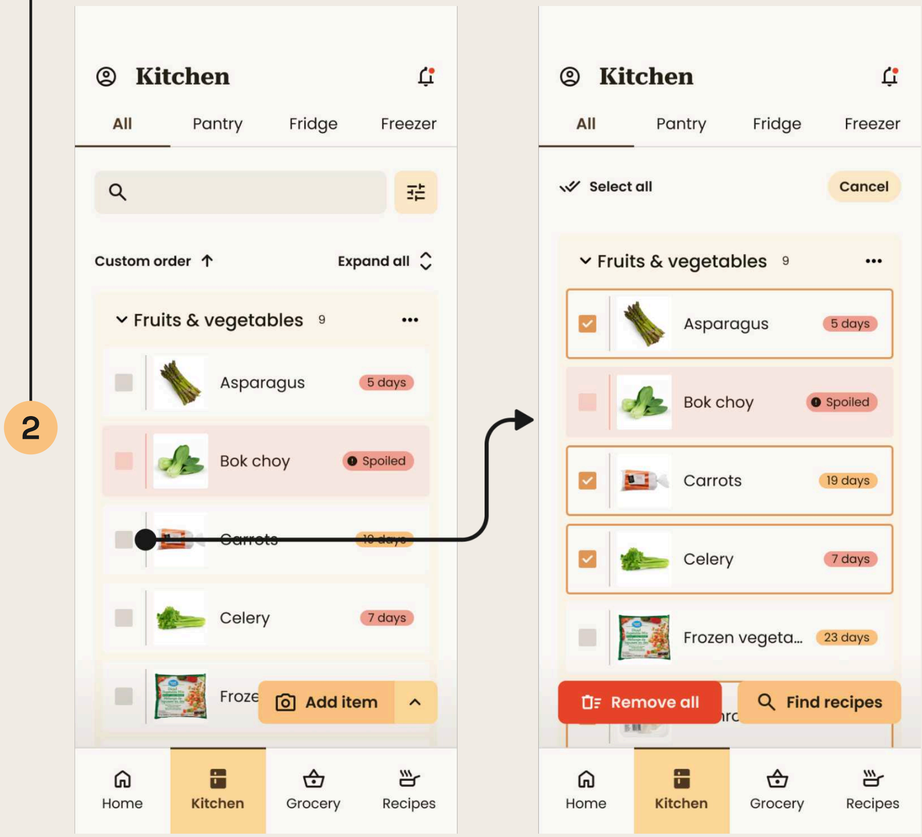
HIGH-FIDELITY



I wanted to allow user to bulk select ingredients in this space, then find recipes. This feature made it more difficult for me to lay out how items would be organized, and test users had a difficult time understanding what they would be doing in these screens.



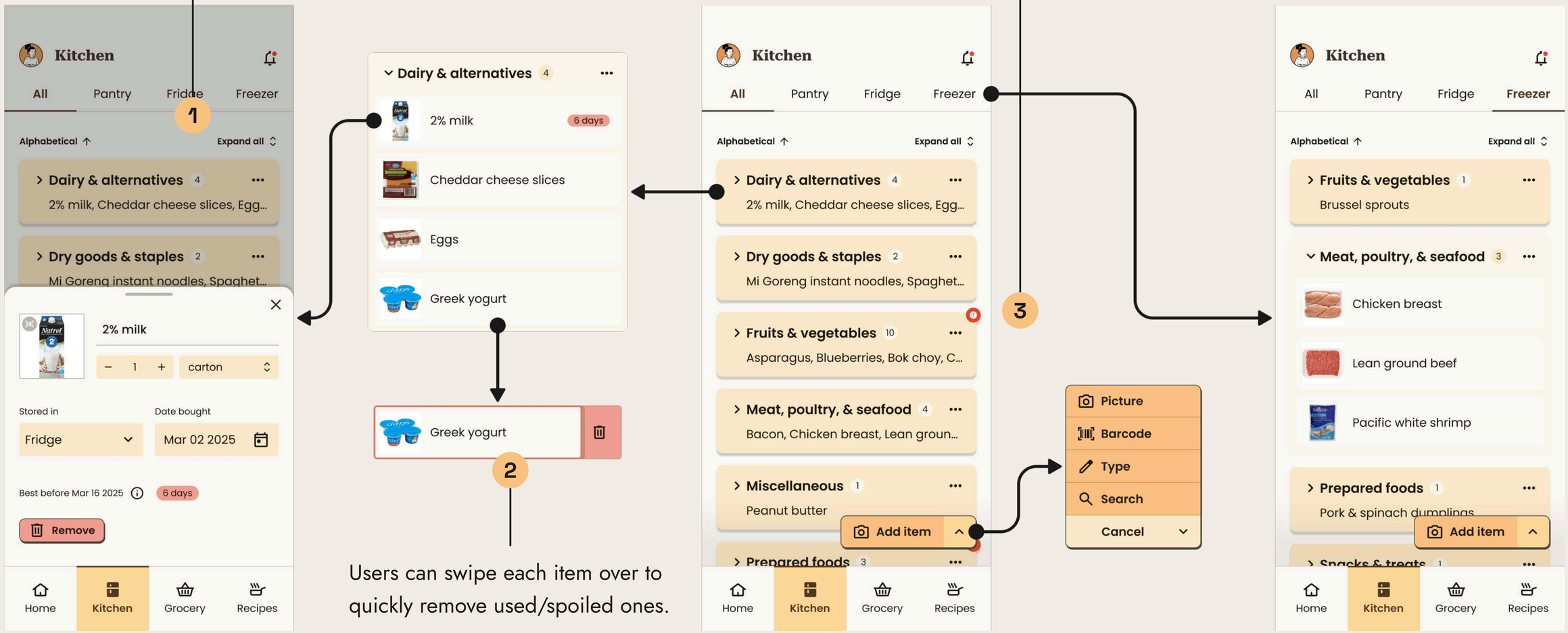
To try and resolve this issue, I placed the checkbox on each item. When the user select an item, they can remove it or find recipes using the selected item(s).



Ultimately, I decided to simplify this page and move the “Find by ingredients” feature entirely to the Recipes space. This feature relocation doesn’t negatively impact the user experience.

Carol can keep track of her groceries and reduce spoilage.

Categories that have spoiled items are called out to alert the user.

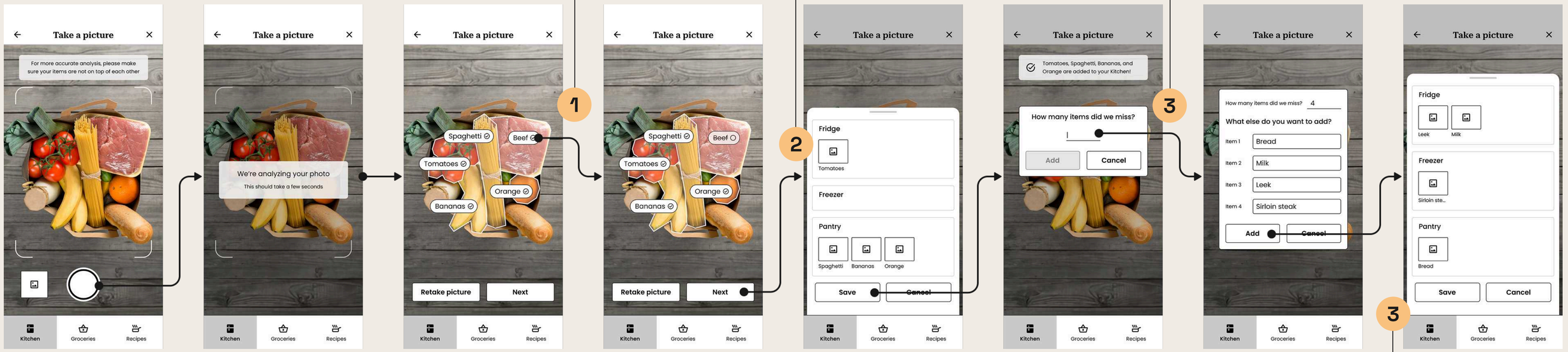


Allowing users to add to their Kitchen using image recognition would increase the convenience of this platform. I iterated the user flow and wireframes to refine the user experience.

The user should be able to correct AI's mistake instead of just unselecting it.

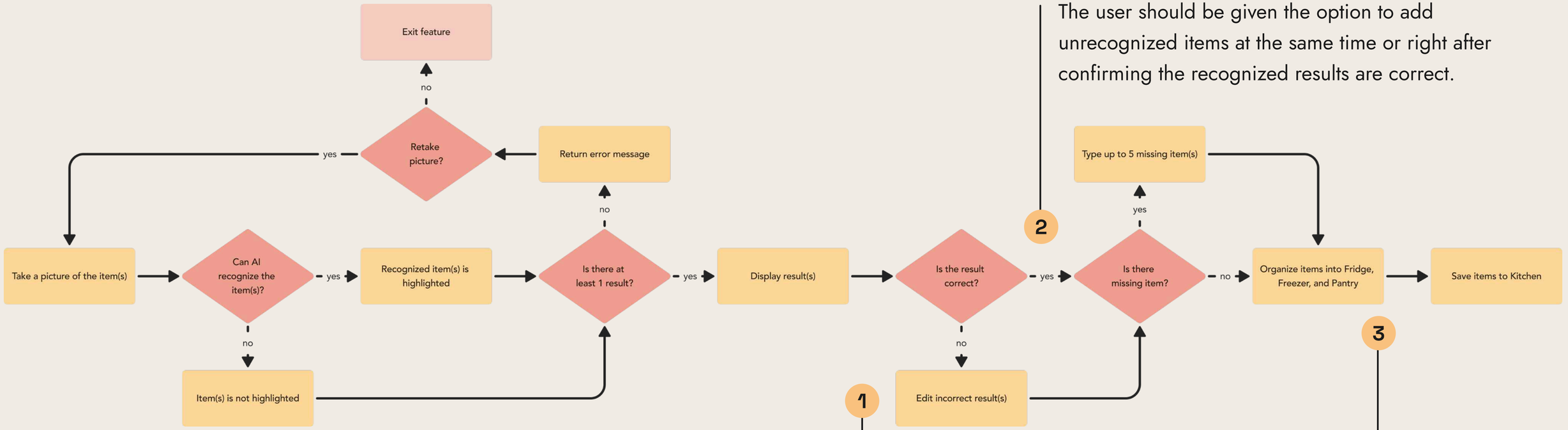
In this layout, users may not understand how to move items in-between spaces.

This is an additional step to an already long process.



This is a repeated process. It can be combined with the previous organization screen.

Taking user feedback and suggestions, I went back to the user flow and revised it.



The user will be able to edit incorrect results —no more unselecting incorrect items.

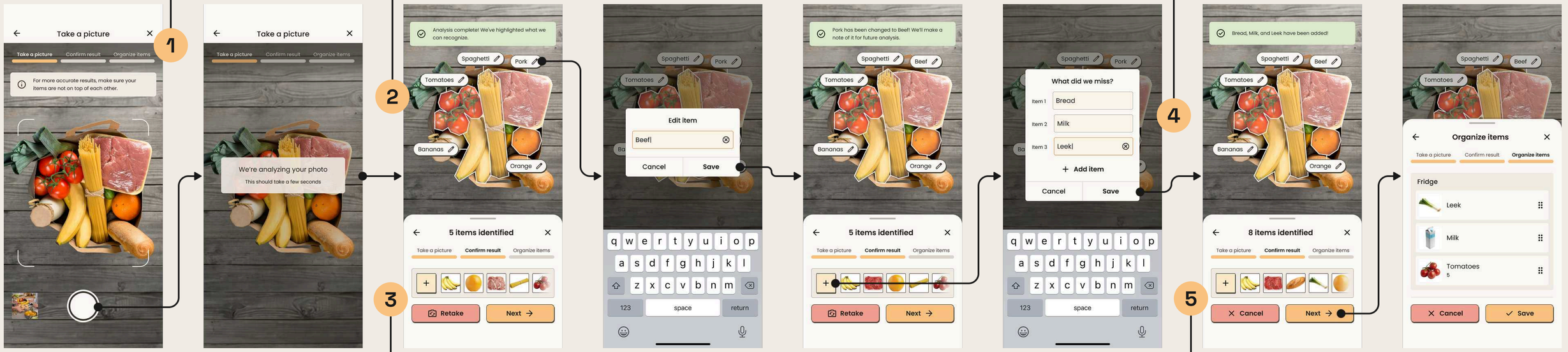
The user should be given the option to add unrecognized items at the same time or right after confirming the recognized results are correct.

Organization should only occur once at the end of the entire process.

I added a progress tracker to show the user what steps are coming up and what steps have been completed.

I moved the chips outside of the recognized items and changed this step to allow users to edit incorrect results.

The user would tap on “Add item” to add another text input.

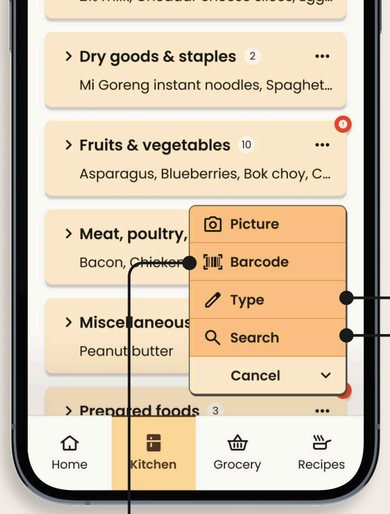


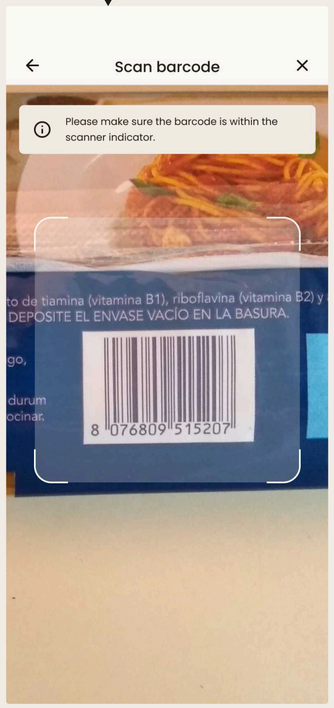
I redesigned the interface for the user to edit and add items directly on the result screen. I also received a suggestion to allow the user to outline each missed item, but I wanted to keep this simple for the time being.

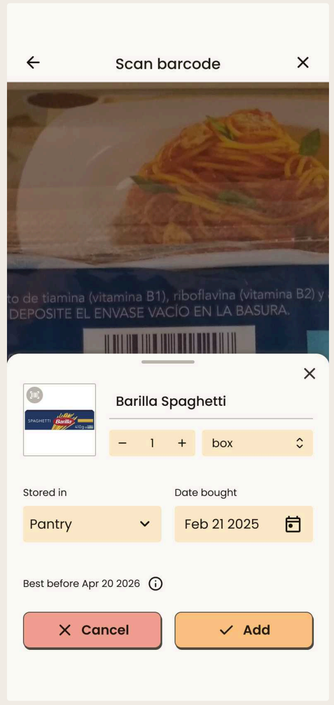
User-added items would be displayed in this bottom sheet.

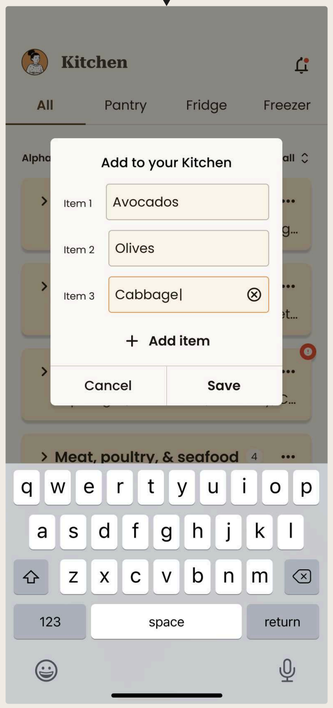
Carol saves time when adding her groceries onto the app to manage them.

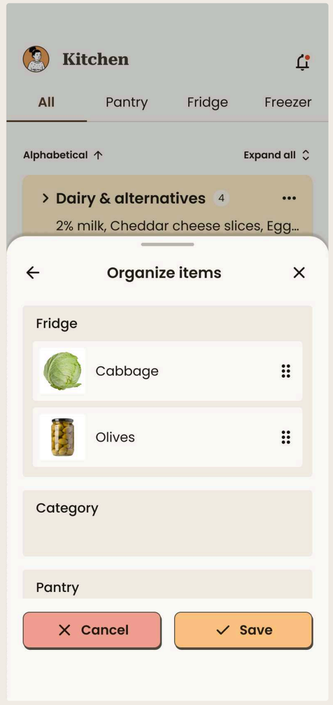
While taking a photograph of all their groceries may be more convenient, I included three alternative ways to add groceries to ensure users have different reliable ways to add items to their digital kitchen.

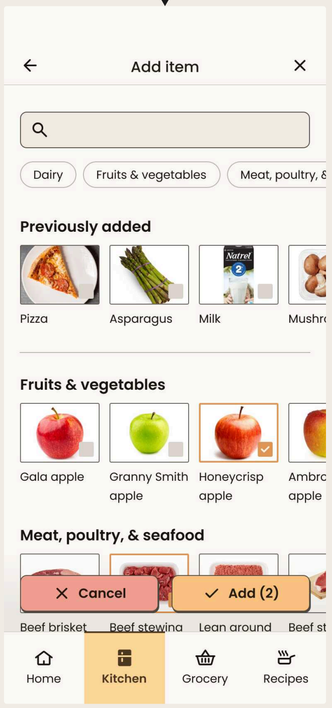


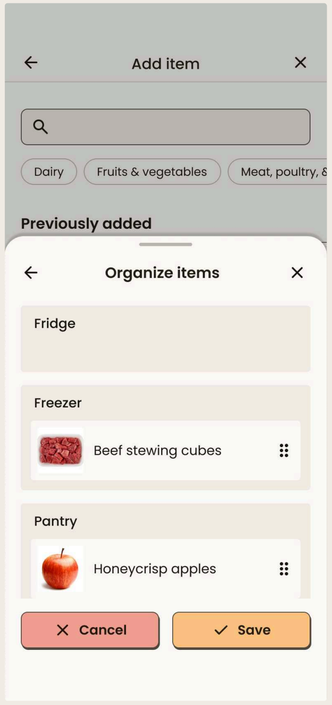












The Groceries page connects to the Kitchen to ensure users stay on top of their groceries.

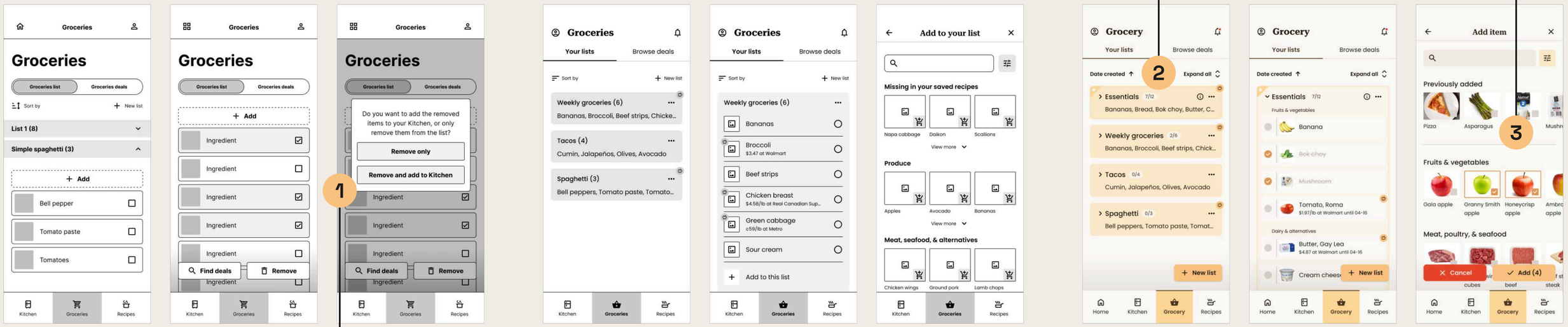
Users should be able to select and add multiple items at a time. This would also be consistent with adding items to the Kitchen from the app's database.

I added a counter to each list so users can quickly know how many items they've gotten. This would be especially useful for lists made for specific recipes

LOW-FIDELITY

MID-FIDELITY

HIGH-FIDELITY



This bulk remove feature was found to be confusing, so it was ultimately removed. Available deals are automatically displayed and checking off any item should automatically add it to the Kitchen.

As the high-fidelity design of this space was coming together, I made sure the UI was consistent with the design system and the Kitchen space.

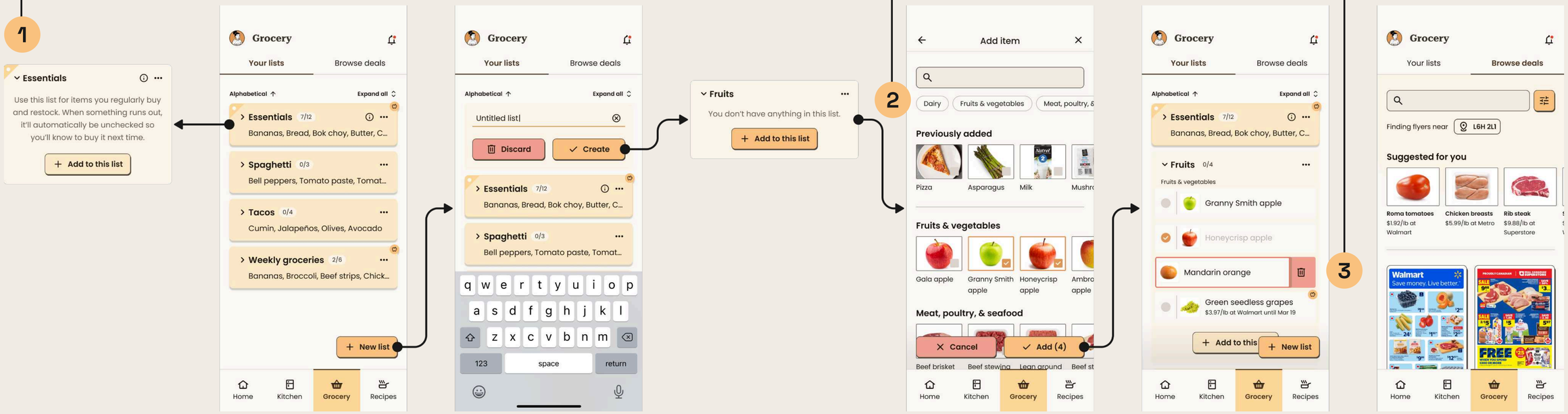
Carol finds grocery deals and saves money.

Avery stays on top of grocery shopping.

People tend to have grocery items they buy regularly, so I wanted to add a separate “Essentials” list for items the user often needs. Checked off items stay on the list, and they are automatically unchecked when the Kitchen runs out.

I added filter chips so users can find things more easily.

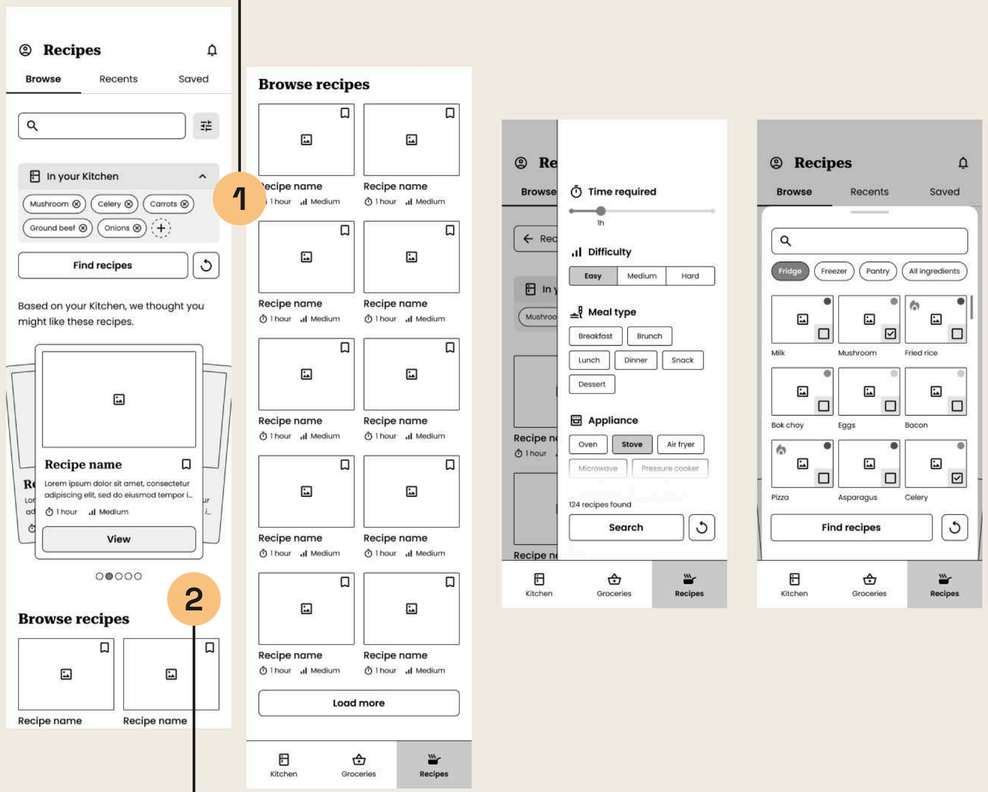
Consistent with list items in the Kitchen page, grocery items can be removed by swiping over them to reveal the delete button.

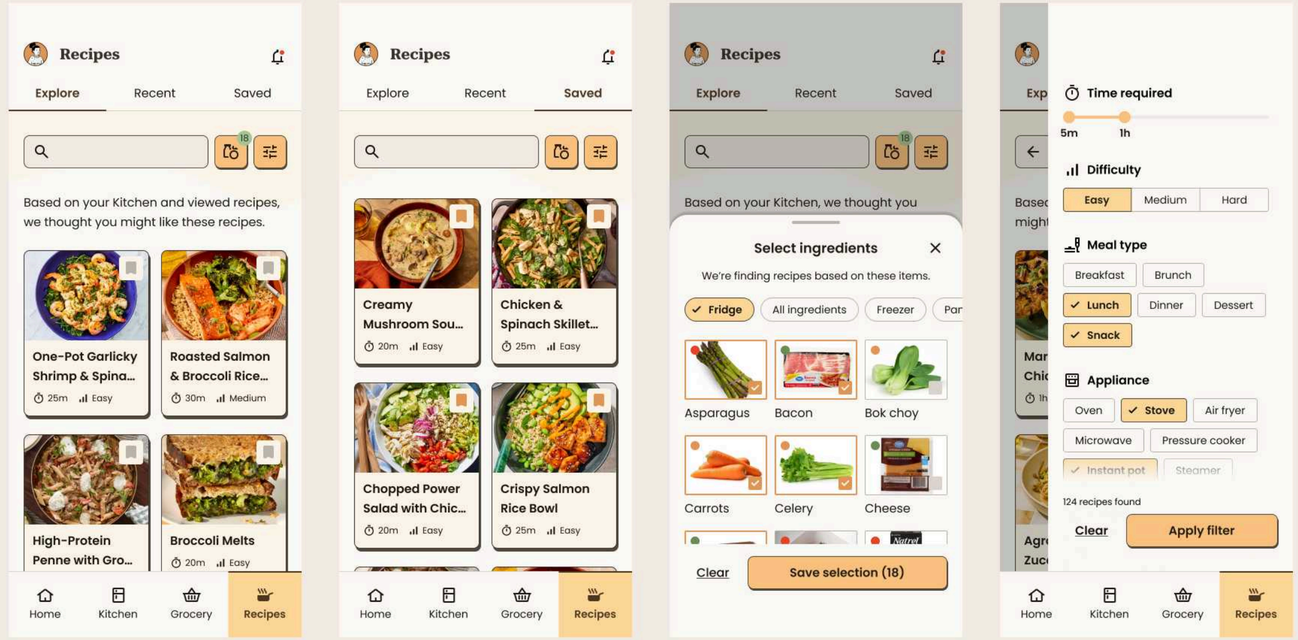


Users find recipes by ingredients available to them, time required, difficulty, appliances, etc.

Avery can find recipes that only require the appliances she can comfortable access.

I turned the accordion menu for ingredient selection into a filter. The button is more familiar and straightforward.





This carousel is more engaging but causes an unnecessary break in the flow of the page.

Blake easily finds beginner-level recipes that doesn't require a lot of time.

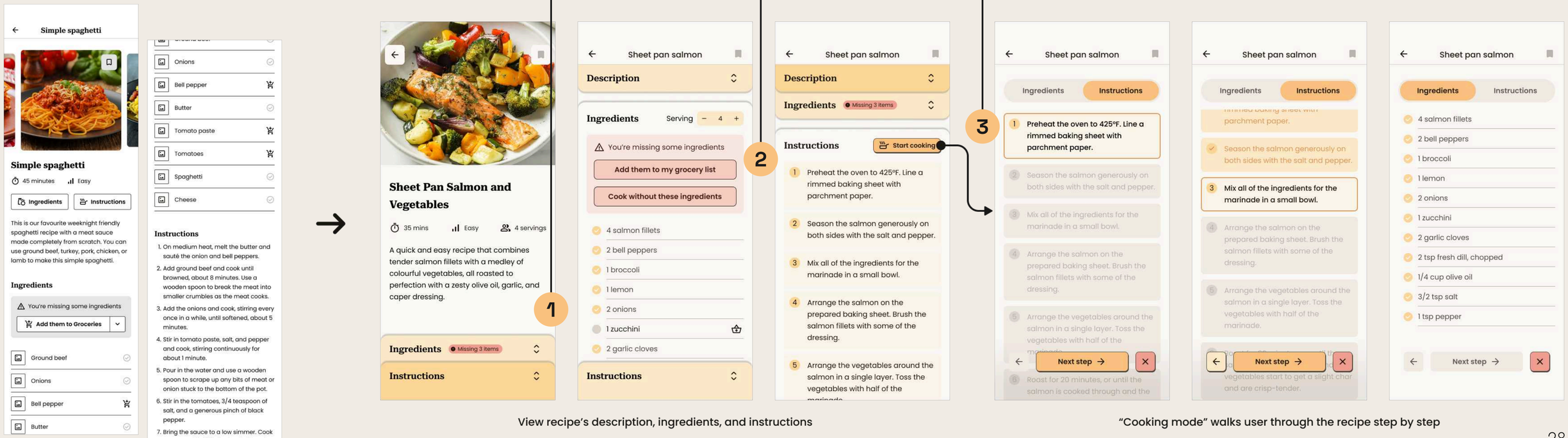
Each recipe page is broken down into more digestible and engaging sections.

Blake learns each new recipe at his own pace.

I broke the long scroll page into collapsible sections to allow users to quickly navigate to the desired section and aren't overwhelmed with information.

With each recipe, the app would compare the ingredient list with the user's inventory and highlight missing ingredients, prompting the user to add them to their grocery list for a future shopping trip or adjust the recipe to cook without them.

The "Cooking mode" would highlight each step one-by-one, allowing users to focus on one step at a time.

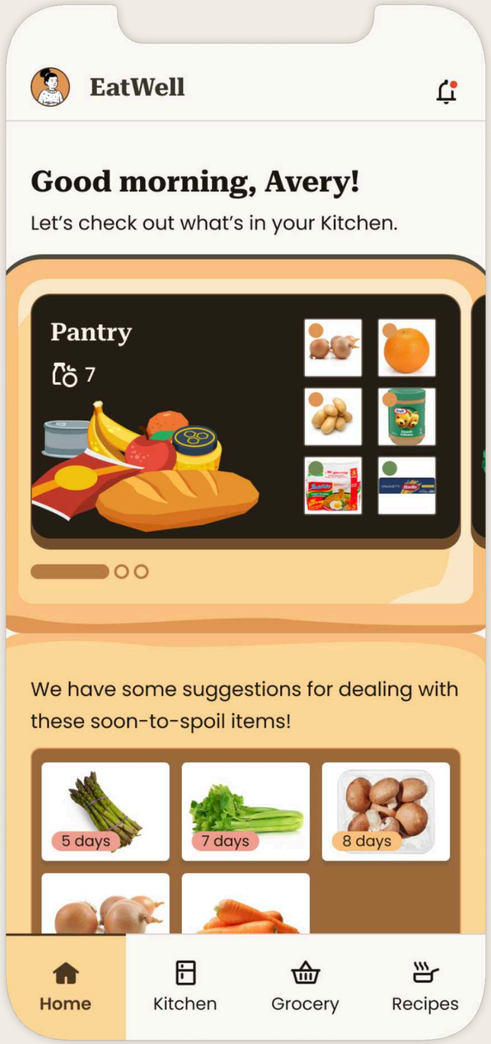


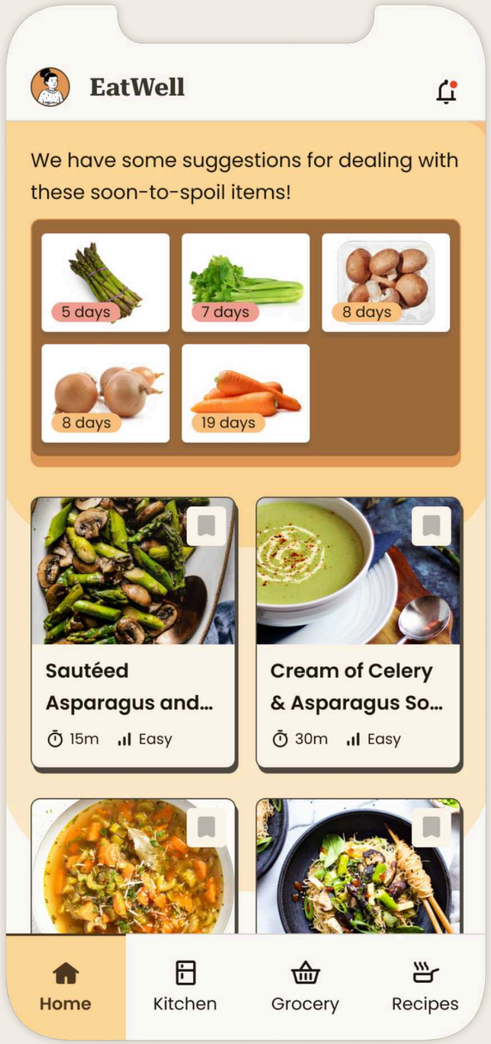
View recipe's description, ingredients, and instructions

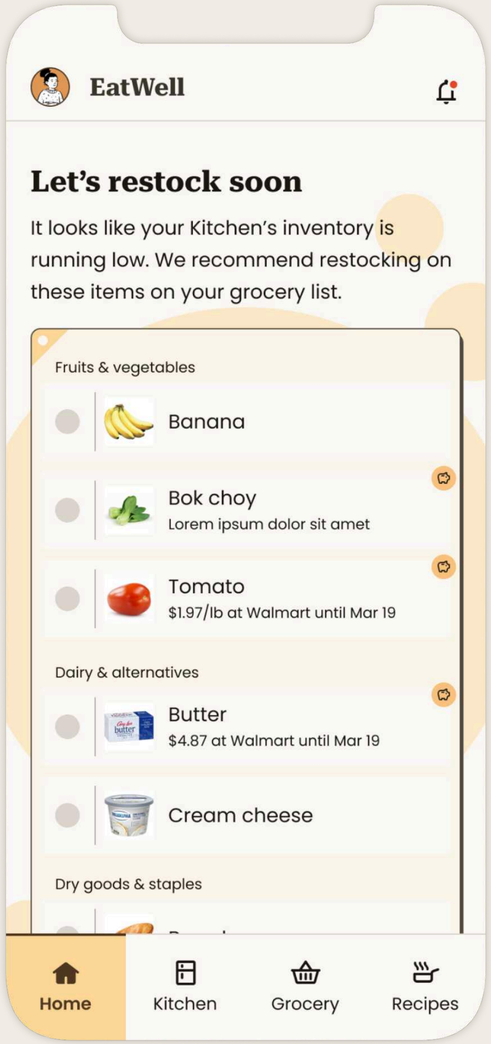
"Cooking mode" walks user through the recipe step by step

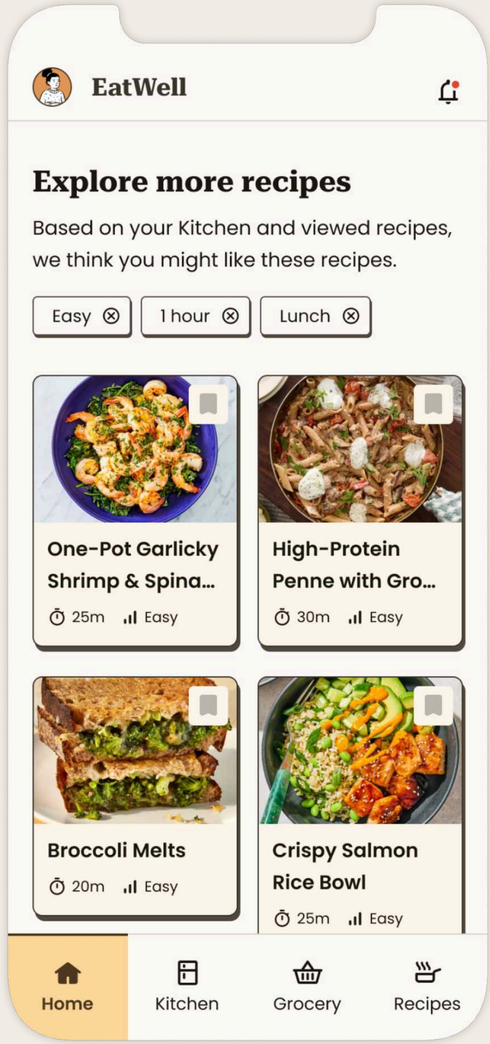
The Home page is designed to provide a summary of the user's groceries and actionable suggestions.

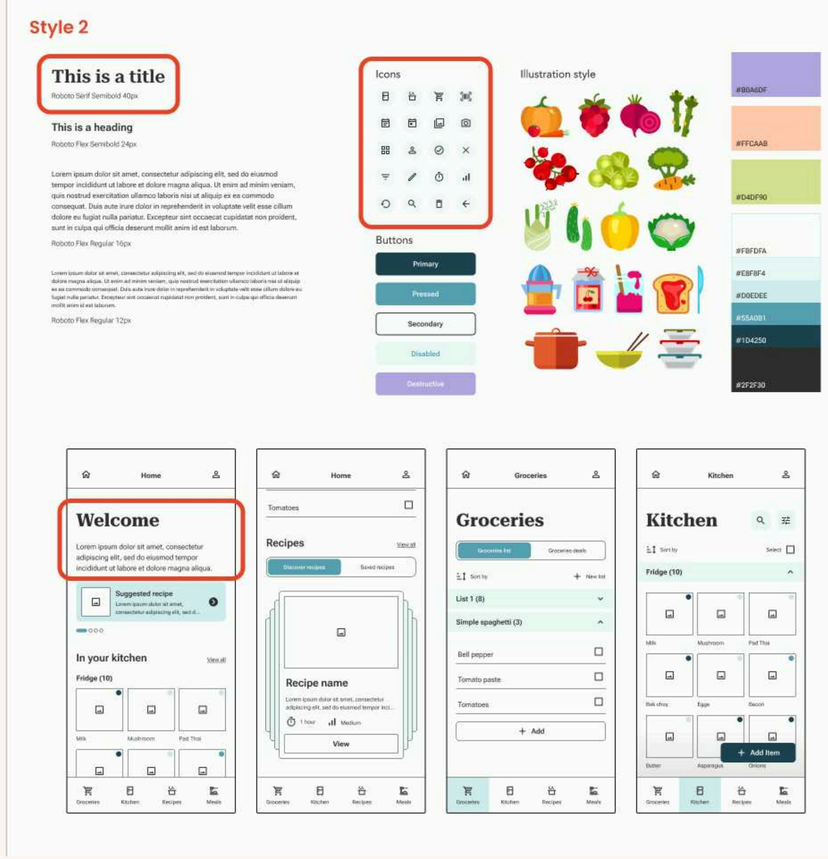
Carol gets immediate suggestion for what to do with her leftovers.

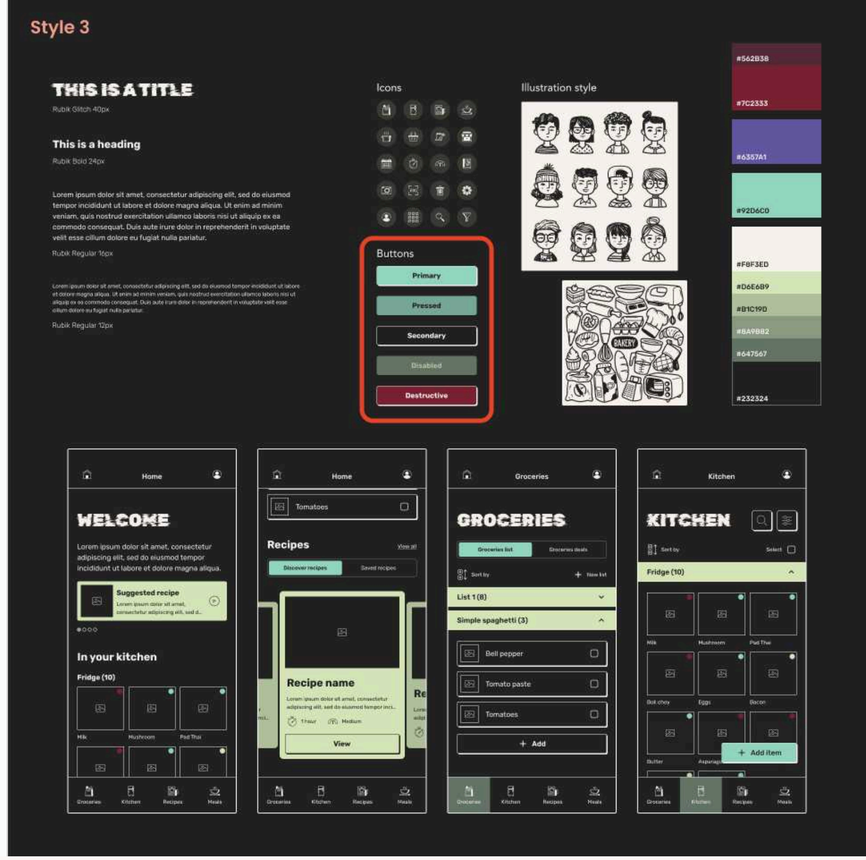












VISUAL DIRECTION

From research into branding visual marketing strategies and colour trends, I made three style tiles to inform potential visual directions and conduct visual preference testing.

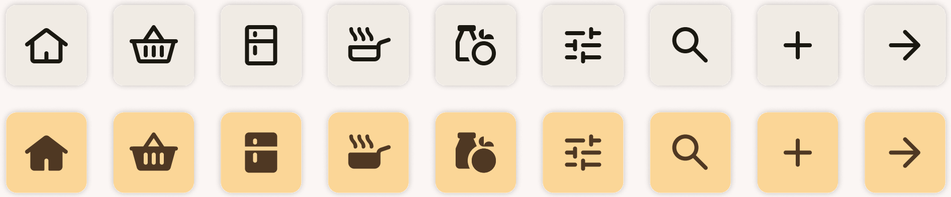
Test participants preferred the feeling they got from the first option. They found it organic, warm, and welcoming, and recommended leaning more into the warmer colours. While participants found the second option too sterile, they liked the sense of structure and font pairing. The last option was generally unappealing, but the neubrutalist aesthetic, without the harsh colour contrast, could be integrated to make the interface more interesting.

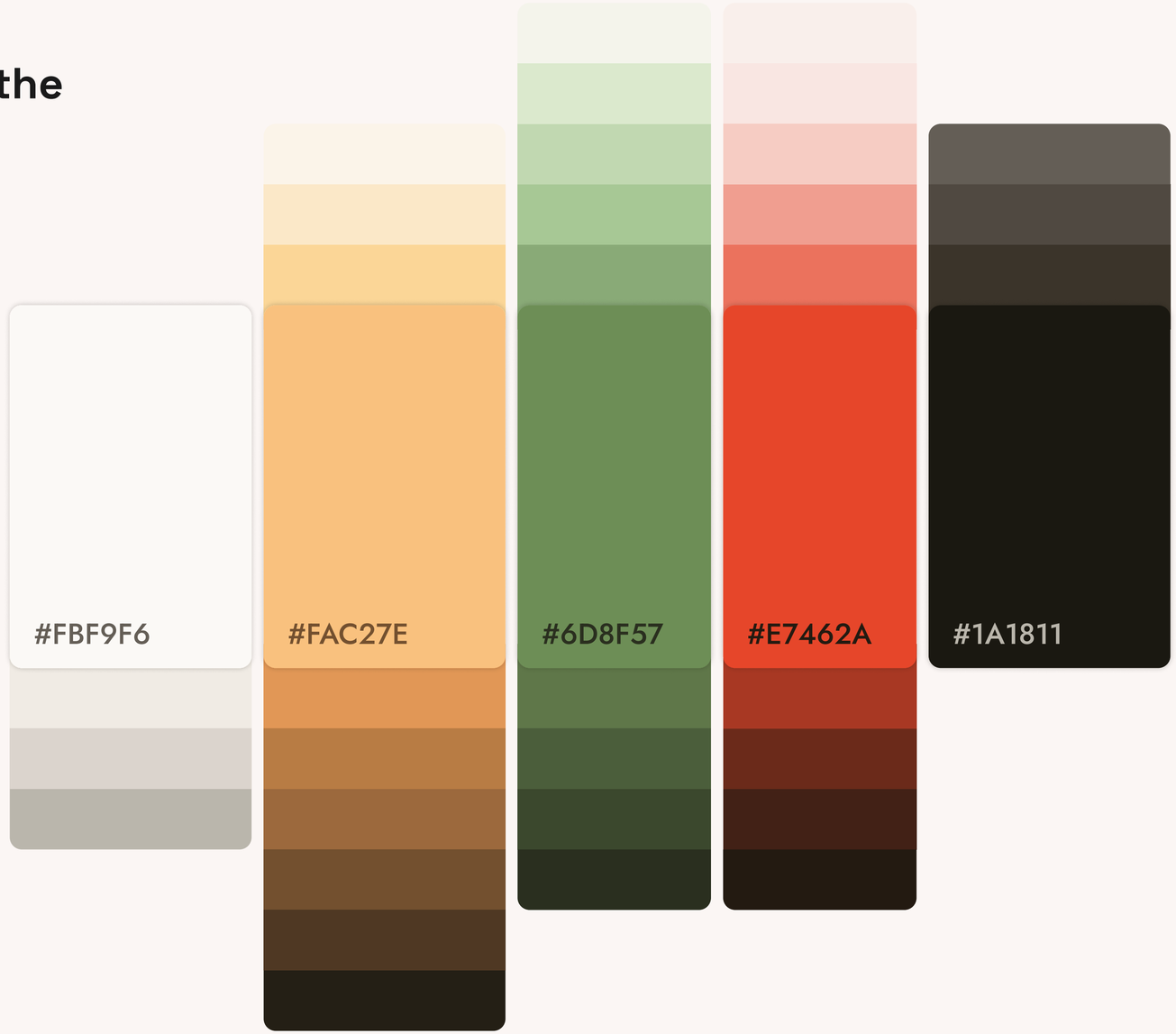
I combined elements from the style tiles to inform the visual direction, first laying out the foundational elements.

Typography

heading-md	Roboto Serif Bold | 24px
heading-sm	Roboto Serif Bold | 20px
body-lg	Poppins Medium | 18px
body-md	Poppins Regular | 16px
body-sm	Poppins Regular | 14px
body-xs	Poppins Regular | 12px

Icons





I built a component library to ensure consistency across screens and speed up the design process.

Buttons

Primary — Add item

Secondary — Add to list

Disabled — Save

Destructive — Cancel

Chips

Filter — Breakfast | Lunch | Dinner

Input — Japanese | Vietnamese

Editable — Spaghetti | Tomatoes

Recipe cards

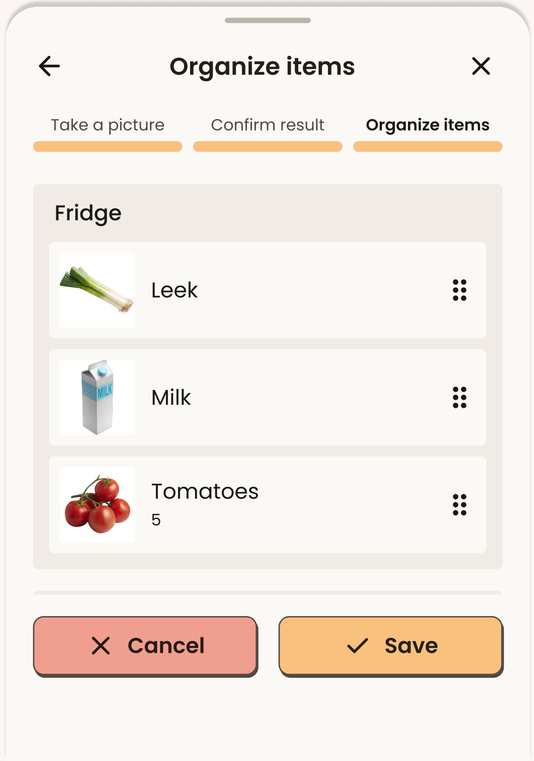
Chicken Tortellini Soup

40m · Medium

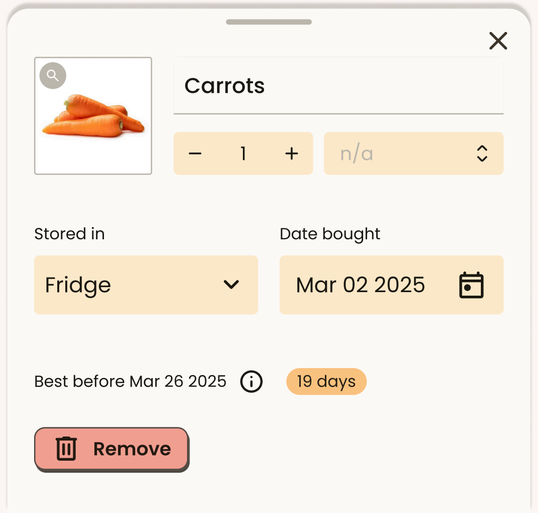
Sheet Pan Salmon and Ve...

35m · Easy

Bottom sheets

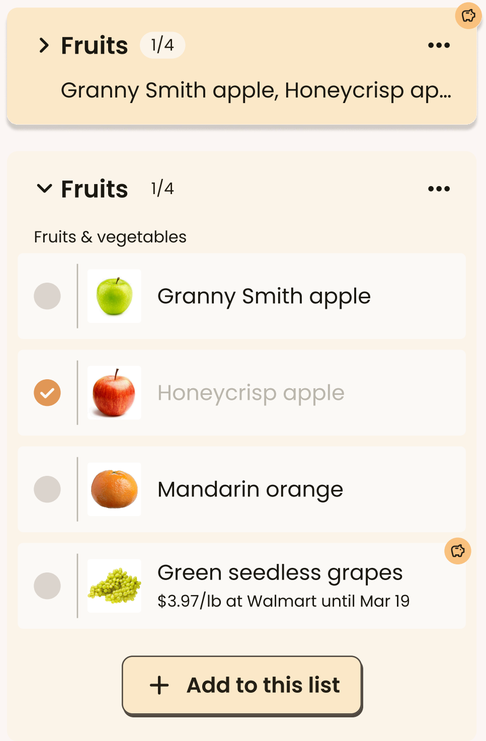


Search and filter

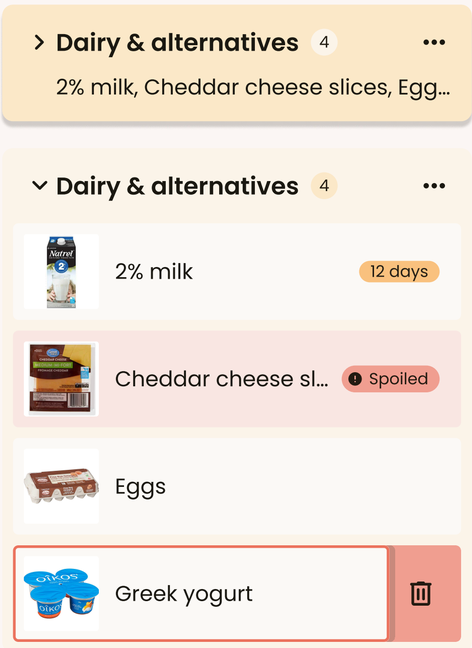


Accordion lists

Grocery list



Kitchen category



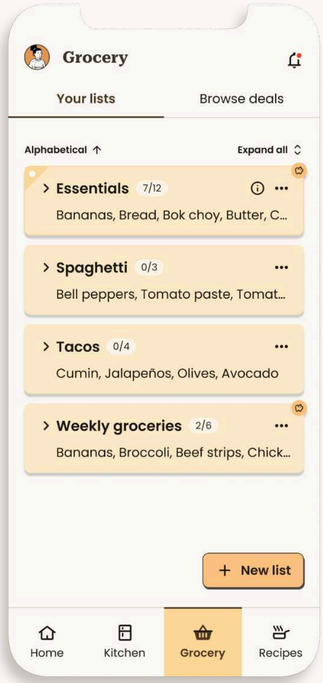
FINAL LOOK

EatWell brings three important meal activities—grocery planning, managing ingredients and leftovers, and cooking—into one platform, so that...

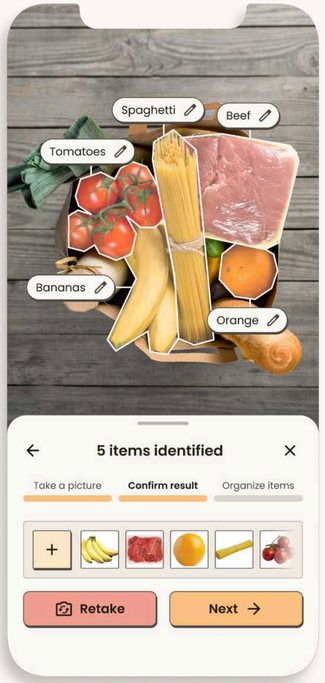
Avery gets used to buying groceries and cooking at her dorm.

Blake finds beginner-level recipes he can learn at his own pace.

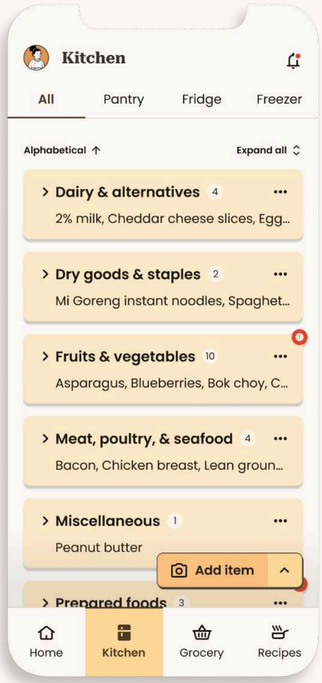
Carol saves on groceries and reduces food waste.



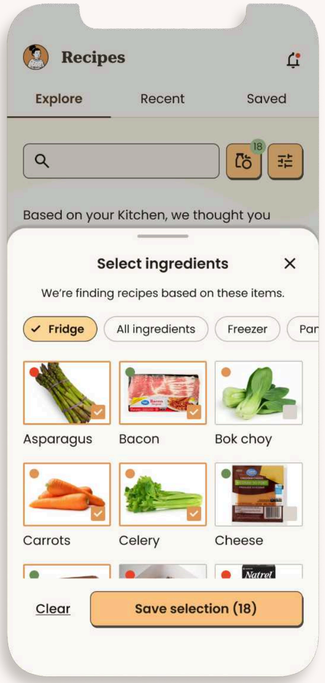
Plan grocery trip



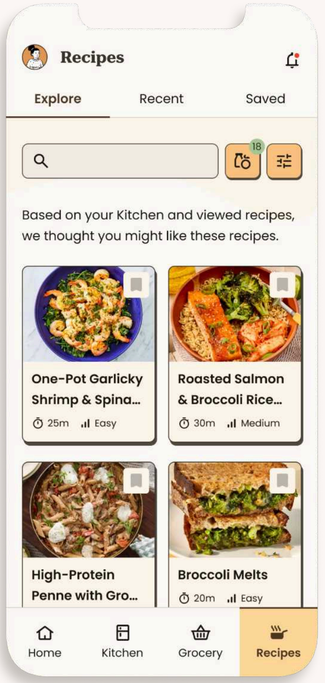
Add to digital kitchen



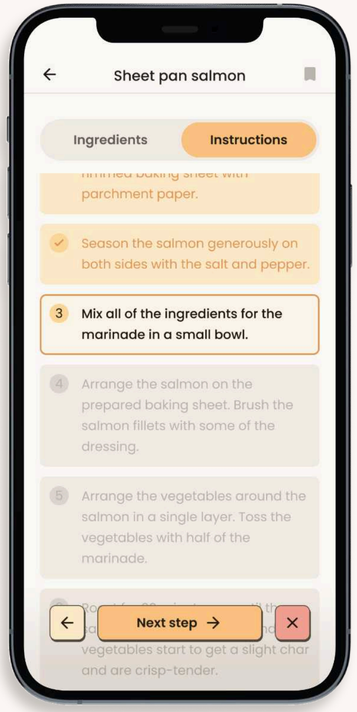
Manage food and groceries



Select ingredients to cook with



Find suitable recipes



Follow instructions and cook

TAKEAWAYS

The MVP is finished, but EatWell can be refined and improved further—especially in a more creative and engaging direction.

Further User Testing

User tests occurred quickly to accommodate for the time limit. I want to conduct a proper usability test to continue refining the app and improving it for users.

Brand Guidelines

EatWell needs a proper visual identity. Even if it's just a wordmark, I want EatWell to have a playful and welcoming logo, along with a defined brand guideline.

Increase Engagement

The original style tiles show playful characters and illustrations that weren't included in the final design due to time constraint. A companion character could make the experience more engaging and enjoyable.

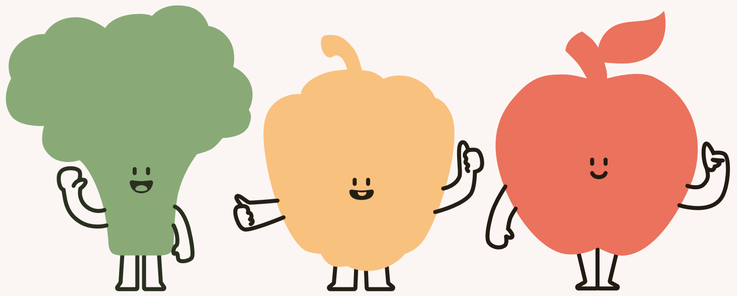
A More Robust Prototype

Figma is great for design but its prototyping capability is still limited. I tried out ProtoPie, which has a more robust prototyping capability, during the development stage, and I would love to built out a full prototype in ProtoPie.

Additional Features

I want to return to the experience-based roadmap and start working on the features for stage 2. The categorization of items by food groups (e.g. fruits and vegetables, dairy & alternatives, etc.) opens up possibilities to include general nutritional information.

Would you like to have one of these little ones as your cooking buddy?



I didn’t need a completely original idea; improving the current experience and pain points was enough.

EatWell isn’t a completely original or groundbreaking concept—it mixes and matches desirable features from already existing apps and improves upon tedious processes.

In the search for a completely original concept, I overlooked simpler improvements to the current user experience around apps for meals, groceries, and cooking. I could have stayed with the original goal of improving nutritional understanding and explored creative and innovative learning methods, or focused solely creating a great user experience for the grocery management aspect of EatWell.

Regardless, the entire process of developing EatWell was a valuable learning experience. It was the first time I was in charge of a large-ish design project end-to-end. As much as I wish for certain things to have been done differently, it was valuable to see where my strengths are and where I can improve.