MyFoodie
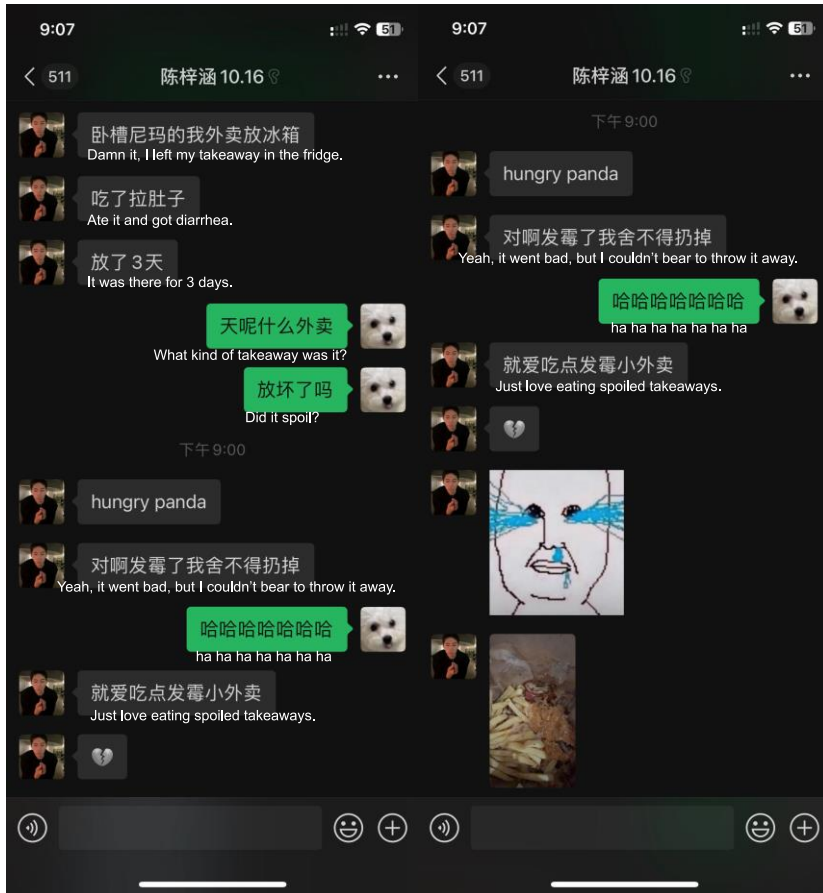
**A smart app for
food storage boxes
to reduce spoilage and waste.**

Ge Linling 35902329

Pain Point Finding

Several friends have shared their experiences of falling ill after consuming spoiled food due to improper storage. These incidents made me start reflecting on the root causes of such problems. Issues like poor storage practices, lack of freshness management, and the reluctance to discard spoiled food are some of the key factors contributing to these situations."

I often face issues with bread turning moldy. Even when sealed, it develops green mold after 3-4 days. Once, I accidentally ate moldy bread and had to induce vomiting to avoid poisoning.

By analyzing the storage of my dormitory refrigerator, I found that the food was not placed neatly, the space utilization rate was low, and the food storage was not sealed. It is also found that many international students have the habit of using food storage boxes. This gives me a direction for the subsequent choice of device. I think food storage box is a direction that can be studied.

User Research (*Secondary*)

Food insecurity

The prevalence and/or odds ratios of food insecurity in international students from quantitative studies and quotations from the study employing mixed methods are listed in Table 4 [15,16,[51], [52], [53], [54], [55], [56],58,[60], [61], [62]]. Of seven studies that presented the prevalence of food insecurity in both international and domestic students, six [16,51,52,56,60,61] reported higher percentages of food insecurity among international students, with an Australian survey [58] reporting mixed findings. The Australian study found international students experienced a higher percentage of food insecurity without hunger when using the multi-item assessment tool, but a lower prevalence in food insecurity using the single-item instrument. International students were two to three times more likely to be food insecure than their counterparts in the studies demonstrating significant differences [16,51,61]. Furthermore, international students were more likely to use food banks, but the low awareness of available resources and stigma of using food assistance were generally found in college students whether international or domestic [53,60].

experience improvement in their cooking skills over time [11,28]. Nevertheless, those with limited skills often chose to eat outside home or have convenience foods [11,23,29,33]. Insufficient access to cooking facilities was another barrier to food preparation, such as lack of a kitchen with privacy and limited fridge spaces [28,29,33]. In terms of nutritional and cooking knowledge, most students did not receive any systematic education previously but some were exposed to educational programs on campus in the host country (e.g., during orientation) [23,31,47]. According to the existing literature, these students had some simple knowledge of healthy eating but not always precise [11,[38], [43], [47]].

Screenshot 1. Food access, dietary acculturation, and food insecurity among international tertiary education students: A scoping review.

Screenshot 2. Food spoilage encountered by international students in the UK (Little Red Book)

International students often develop mixed eating habits when adapting to a new food environment, but are prone to **improper food preservation** or **consumption** due to cultural differences and lack of understanding of food characteristics, according to a scoped review study.
- **Improper storage:** Poor understanding of refrigeration requirements or food labels, leading to spoilage of ingredients.
- **Date misinterpretation:** Confusion between "Best Before" and "Use By" may result in discarding food that is still edible or eating expired food by mistake.

Lin Ziwen's Good Bus — 8

800g

I never finish eating bread when I go abroad…

I really don't know how to descri be the strawberries in the Englis… — English Region Planting Dia… — 5

I heard that Liuzi dares to eat anyt hing — nalor — 2907

How come everything in the UK go es bad so quickly? — Bababo meme king — 5

European spores are excellent mol d culture dishes — gaxifannie — 28

Keep it in the refrigerator and it wil l be preserved forever — Xiwei — 25

5.2. Types of food wasted and influence of kitchen facilities

Analysis of the results of the interviews highlights that 38% of students stated that they cook too much food; 32% did not use the food in time; 18% purchased too much food and 12% were influenced by duration dates. When asked what types of food were thrown away 58% of students stated they wasted vegetables. This was for three main reasons: 17% of students stated they buy too many varieties of vegetables on a weekly basis; 25% of students cook too much quantity; and 58% of the students do not use the vegetables up in time before they deteriorated e.g. through mould growth. Fruit was the second most wasted food product for 28% of students for two main reasons: 28% of students stated they buy too much on a weekly basis and 72% of students do not use the fruit in time. Milk was the third product stated to be wasted most often by 20% of respondents followed by pasta and potatoes both identified by 12% of respondents. In this primary research, none of the students stated bread was a source of waste and the pattern of food waste in terms of the type of food was different to the other student studies in the literature where fruit, vegetables and bread were the top three sources of food waste as food wasted once a week (Caswell, 2008, Brown et al., 2014, Mondéjar-Jiménez et al., 2016 see Table 4).
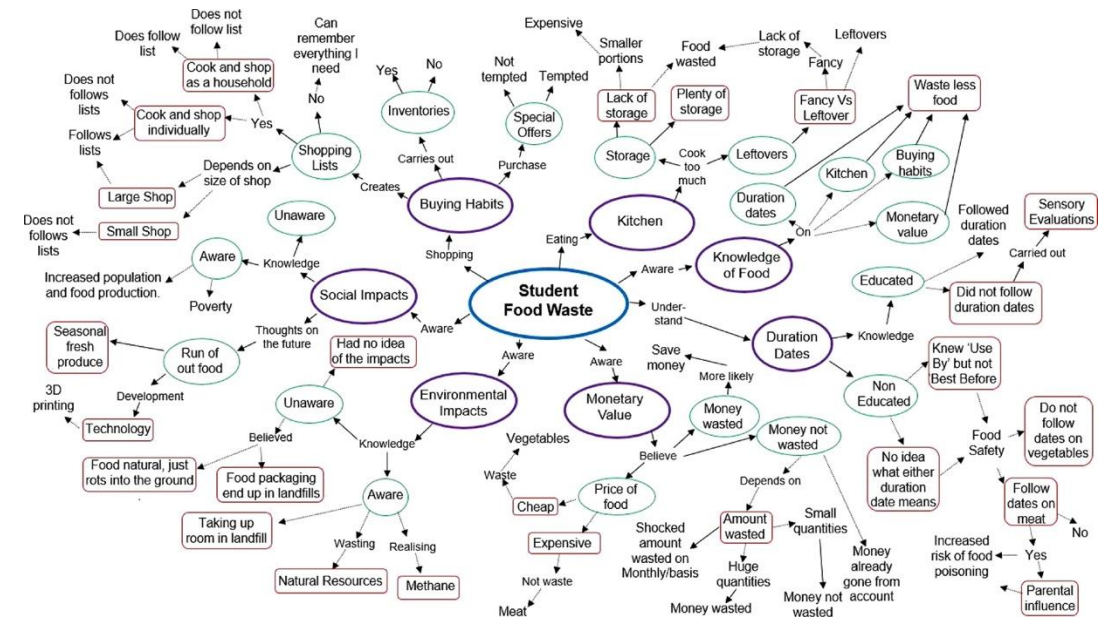
Screenshot 3. What are the factors that an opportunity sample of UK students insinuate as being associated with their wastage of food in the home setting?

User Research (*Primary*)

77.19% of users have studied in the UK for less than one year, showing that most target users are new international students unfamiliar with local eating and storage practices.

Approximately 52.64% of users report being frequently or almost always busy, highlighting time management as a significant challenge.

40.35% of users waste food monthly due to spoilage, highlighting common storage issues. While 59.65% rely on refrigerators, most people store food they can't finish in a food storer or ziploc bag.

56.14% of users prioritize reducing food waste, and 50.88% value expiration reminders as the most useful feature.

53% of users reported illness from consuming spoiled food, highlighting significant health risks from improper storage.

45.61% of users are willing to use a mobile app to control the food storage box, with 43.86% open to specific features. 80.7% prefer a simple and intuitive design.

QR code of the survey I conducted

A survey exploring smart food storage box needs and food storage habits collected 57 responses, providing the insights shown above.

User Persona 1

Cindy Li
International Student (Master's)

Background
From China, living in a shared dormitory in the UK for 6 months. Relies on meal prepping due to her busy schedule.

Motivations
Wants to maintain a healthy diet while managing her time effectively.
Avoids wasting food due to financial constraints and environmental awareness.

Needs
Reminders for food expiration, better fridge organization, and tools to prevent spoilage.

Pain Points
Frequent food waste, limited kitchen space, and forgetting stored food.

User Persona 2

Marco Rossi
International Student (MBA)

Background
From Italy, studying in the UK for 1 year, living in a shared apartment. Balances studies and a part-time job.

Motivations
Prefers home-cooked meals to save money and maintain a connection to his cultural cuisine.
Values convenience and efficiency in managing his daily life.

Needs
Efficient storage solutions, food tracking tools, and waste prevention support.

Pain Points
Often forgets stored food, leading to spoilage and duplicate purchases. Shared kitchen space adds to storage difficulties.

Process Ideas & Sketches

Sketchnotes, App's ideas explosion, device: food storer

Source of inspiration:
My design was inspired by a common pain point in the daily life of international students - improper storage of food and spoilage caused by forgetting the storage time. Due to the busy study, work or social activities, many international students often neglect the management of food shelf life, which leads to food waste and unnecessary economic expenses. In order to solve this problem, I envision designing a smart food storage box that can be linked with a mobile APP to help users better manage food storage through technological means.

Core functions:
• **Automatic food type recognition:** Through built-in sensors or recognition technology, it is possible to automatically detect stored food categories, such as snacks, cooked foods or fruits and vegetables.
• **Expiration date reminder:** According to the food category and storage time, the smart storage box will record and send the user the expiration date reminder to avoid food spoilage due to forgetting.
• **Remote monitoring function:** Users can check the status of food in the storage box in real time through the mobile APP, no matter where they are, they can know the freshness of food.

Design objectives:
Through this smart storage box, the food management process of international students is simplified, so that they can easily control the food stored and improve the quality of life. The linkage between the APP and the storage box not only improves the convenience of management, but also effectively reduces food waste caused by forgetting, while helping users gradually develop healthy and efficient storage and consumption habits.

Design background:
International students live a fast life and often face the problem of storing expired food, especially if meals need to be prepared in advance or stored for several days. This smart storage box is designed to solve this problem and provide users with a friendly and intimate solution. It not only improves the efficiency of storage management, but also delivers an intelligent experience of technology-enabled life to users.

Emotion and Tone:
The tone of the product is designed to be friendly and relaxed, emphasizing humanized care, so that users can feel comfortable and happy when using. The combination of smart storage box and APP not only helps users optimize storage habits, but also delivers the concept of environmental protection and conservation, making the product not only a tool, but also a intimate life partner.
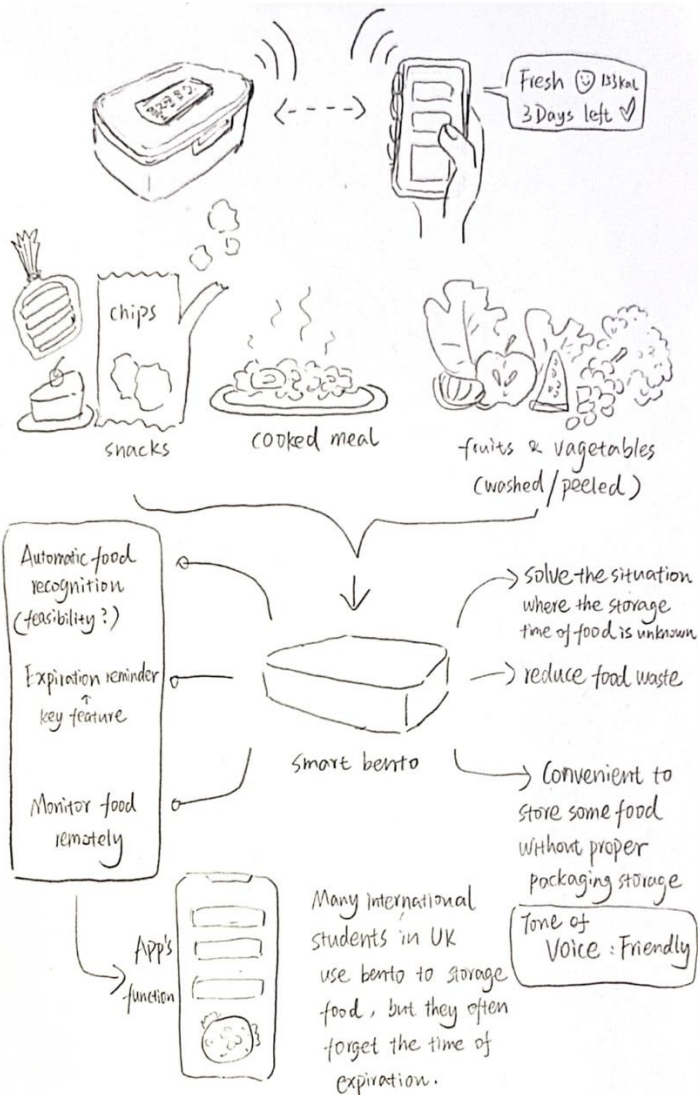
Thoughts on App Name & Style
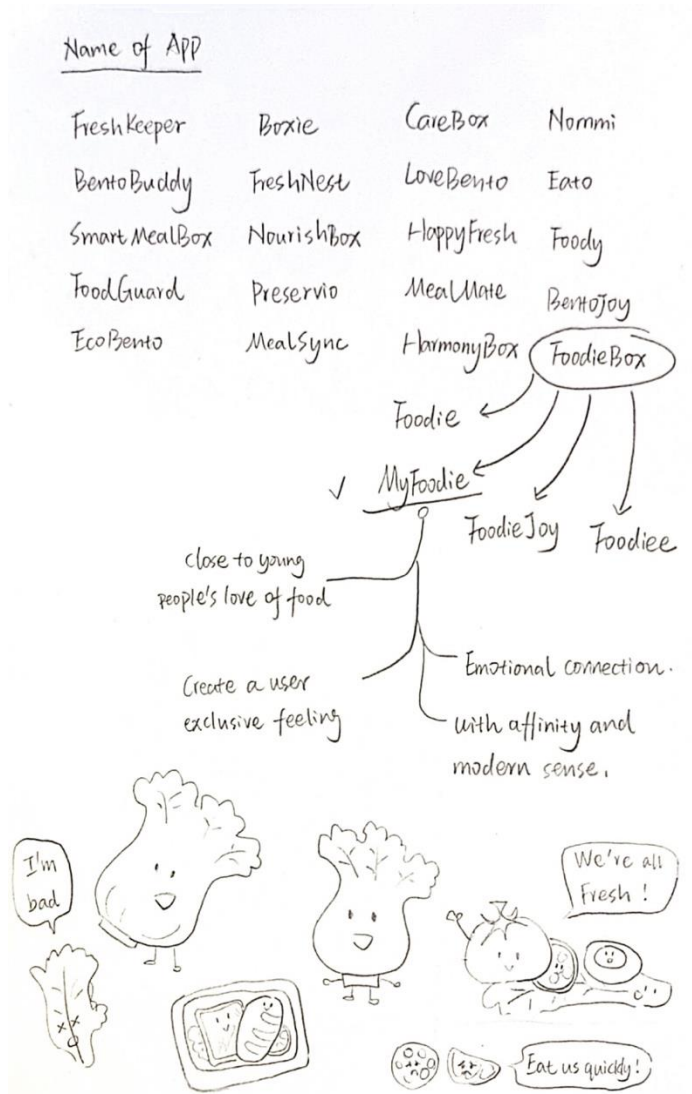
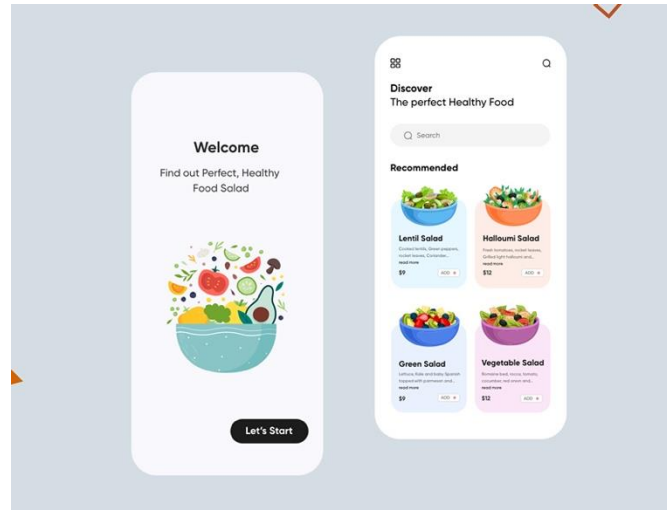*Sketchnotes, App's name discussion & Visual expression*

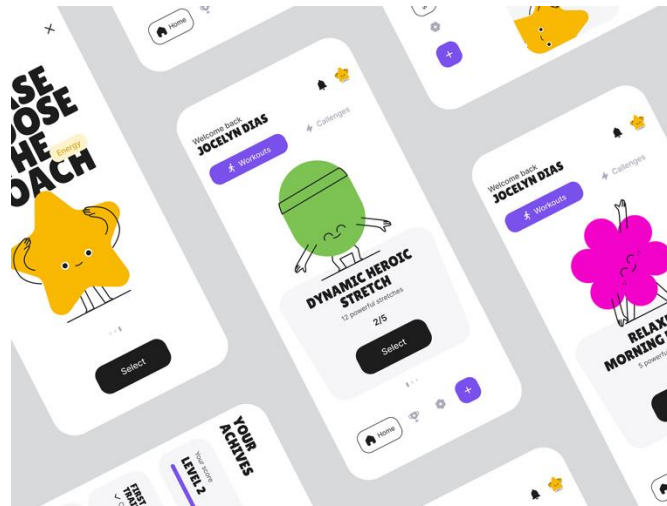*Fig 1. Inspirational research, Healthy Food Salad Mobile App-UX/UI Design*

Fig 2. Inspirational research, Little movers

App Naming Evolution:
- **Initial Brainstorm:** Started with names like "FreshKeeper," "SmartMealBox," "FoodGuard," and "EcoBento," emphasizing functionality and food management relevance.
- **Refinement Stage:** Shortlisted names like "MyFoodie," "FoodieJoy," and "FoodieBox" for their emotional resonance and appeal to younger audiences.
- **Final Choice - "MyFoodie":** Reflects a personal connection to food, appealing to the younger generation's love for customization and emotional engagement, while being clear, memorable, and user-friendly.

Key Considerations:
- **Clarity:** Instantly conveys the app's purpose.
- **Modern Appeal:** Aligns with young people's "foodie" culture.
- **Emotional Connection:** Builds a sense of belonging and exclusivity.

Visual Inspiration and Style:
- **Fig 1 - Healthy Food Salad Mobile App:**
  Clean, vibrant aesthetics with soft pastel colors and minimalist design. Inspiration: Use clean lines and vibrant colors for clarity and modern appeal.
- **Fig 2 - Little Movers:**
  Playful, character-driven illustrations create personality and engagement. Inspiration: Add animated food characters to enhance approachability and entertainment.
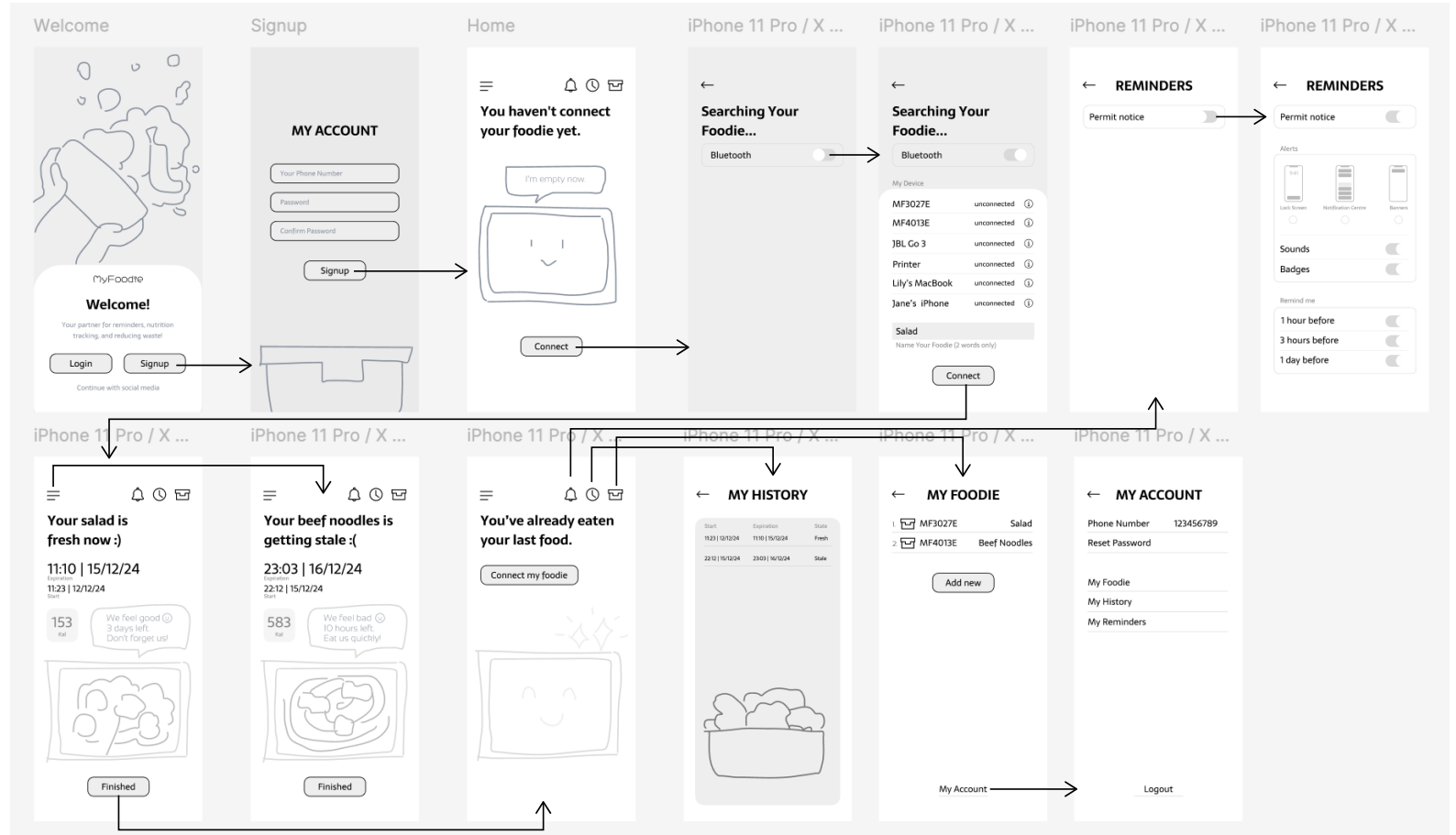
Visual Style Notes:
- **Illustrations:** Playful food characters add charm and relatability.
- **Tone of Voice:** Fun and modern, emphasizing freshness and joy.
- **Typography & Colors:** Rounded fonts with vibrant, soft color palettes (greens, yellows, oranges) to represent freshness and warmth.
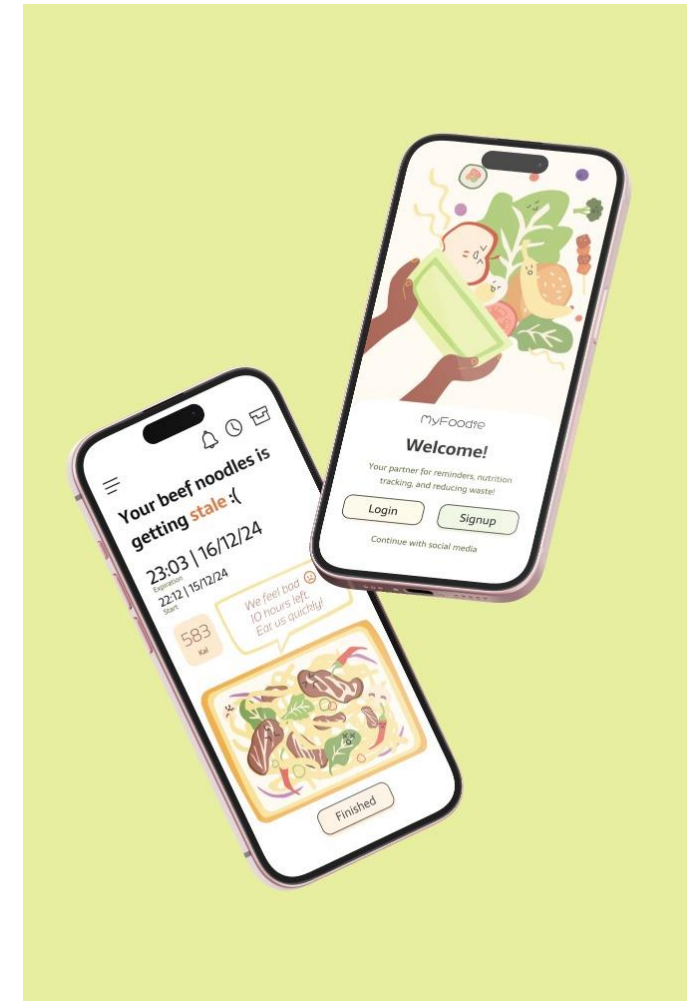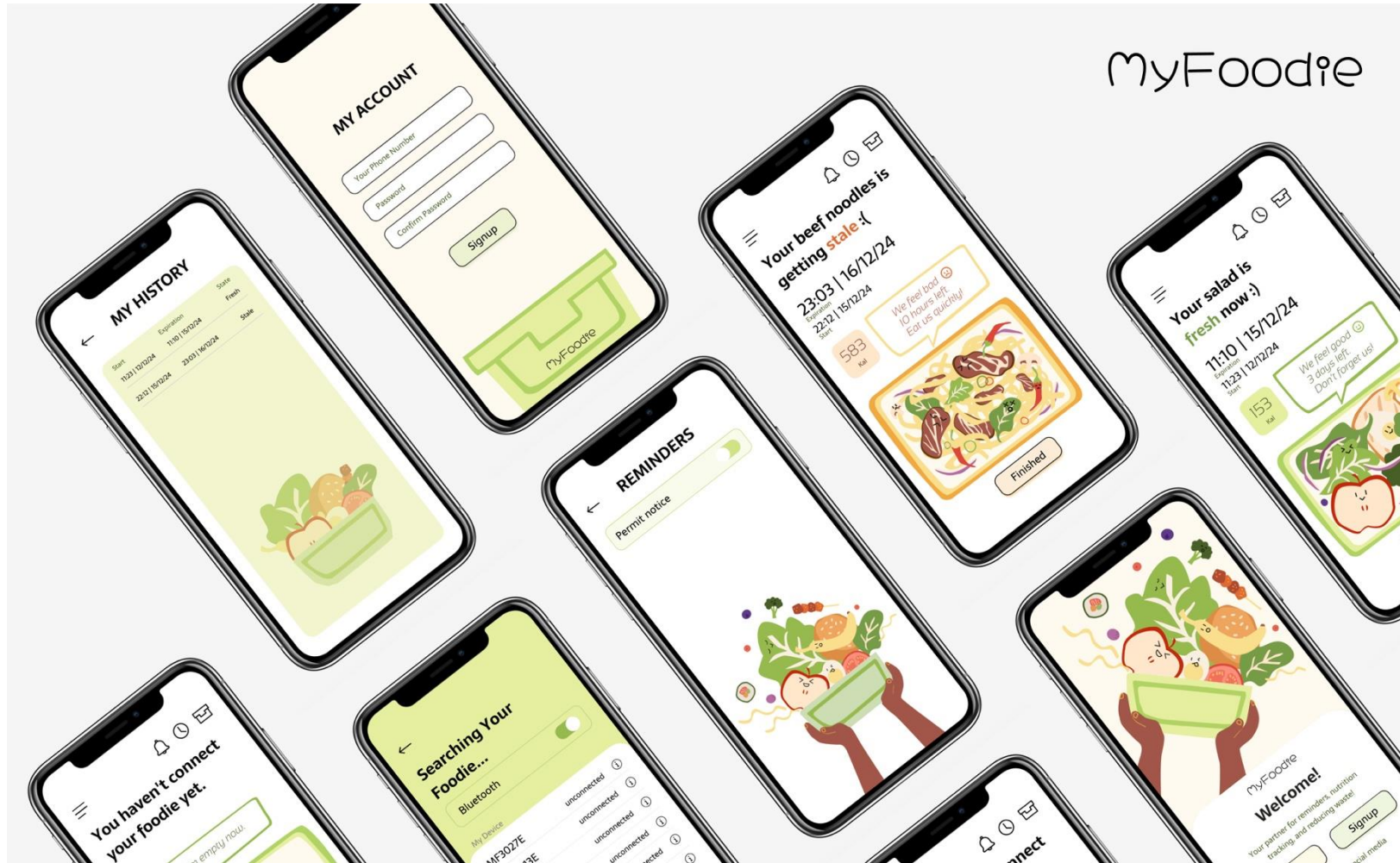
Wireframes
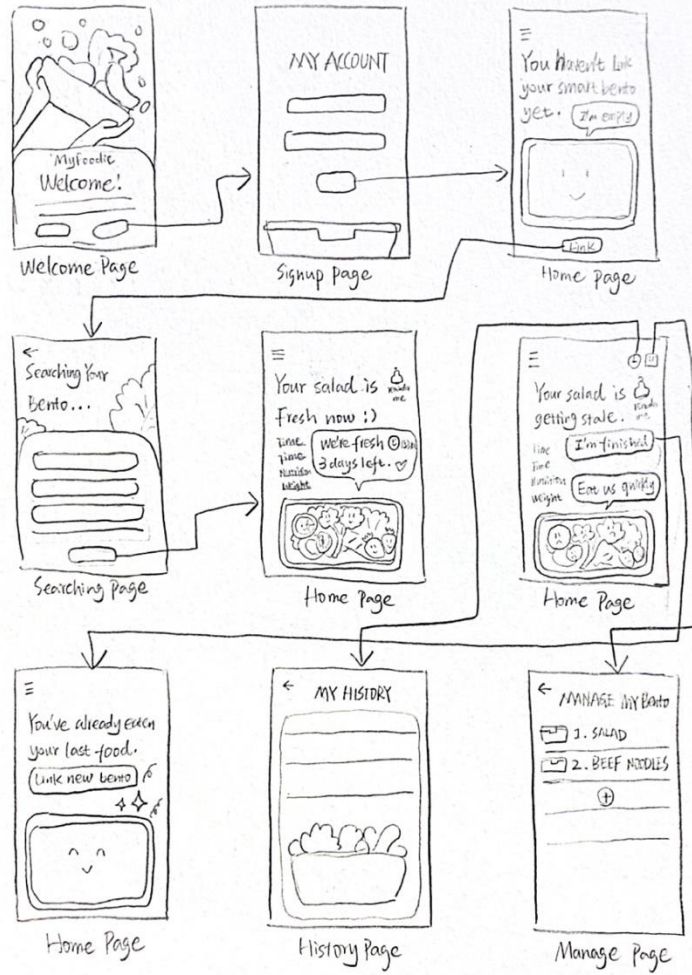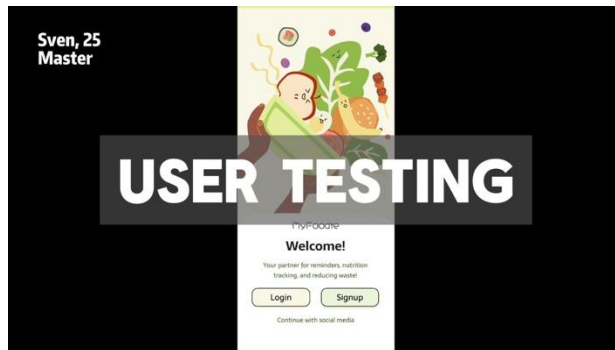

Thumbnails

Lo-fi wireframes
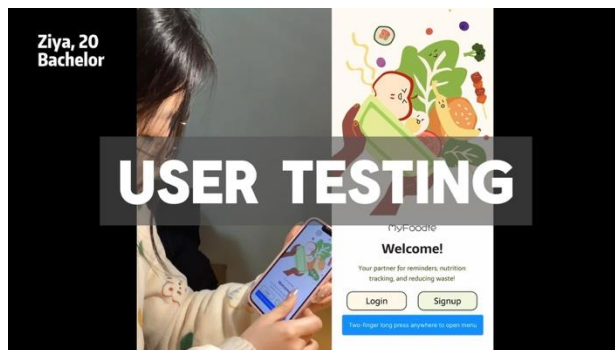
Pixel-perfect Mockups
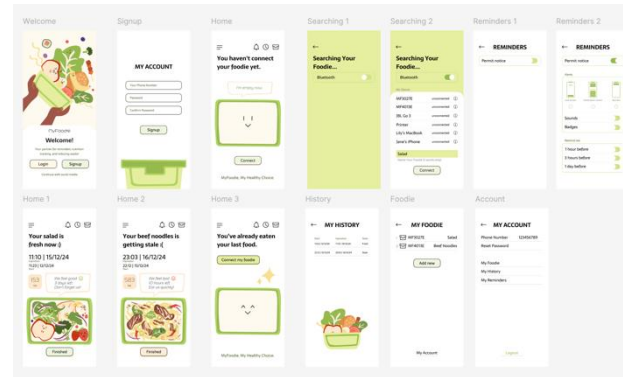
User Testing

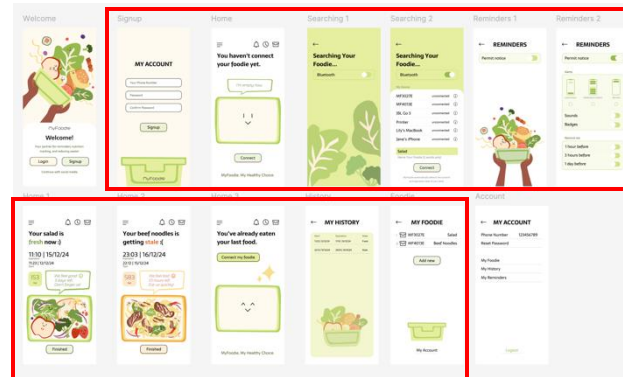*Video, User Testing 1, Yori*

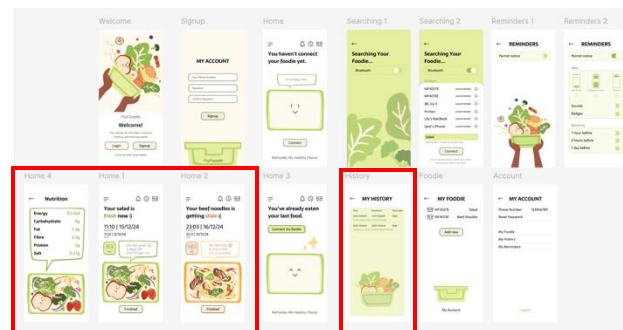*Video, User Testing 2, Sven*

Video, User Testing 3, Ziya

Version 1

Version 2 Iteration after user testing, change background colour & detail colour & add illustration elements

Version 3 Iteration after user testing, add state face in device list & nutrition page & finish time+name of food in history page

User Testing Overview: A total of 10 users participated in the testing. Feedback sources included:
- 3 video recordings.
- Verbal feedback from the remaining users.

Overall Experience: Users generally expressed a positive attitude, describing the app as "**smooth to use**", with an "**intuitive design**" and "**not confusing**".

Tone: Feedback highlighted "**cute**", "**convenient**", and "**neat interface**", with a relaxed and pleasant tone, indicating high overall satisfaction.

Walkthrough of App
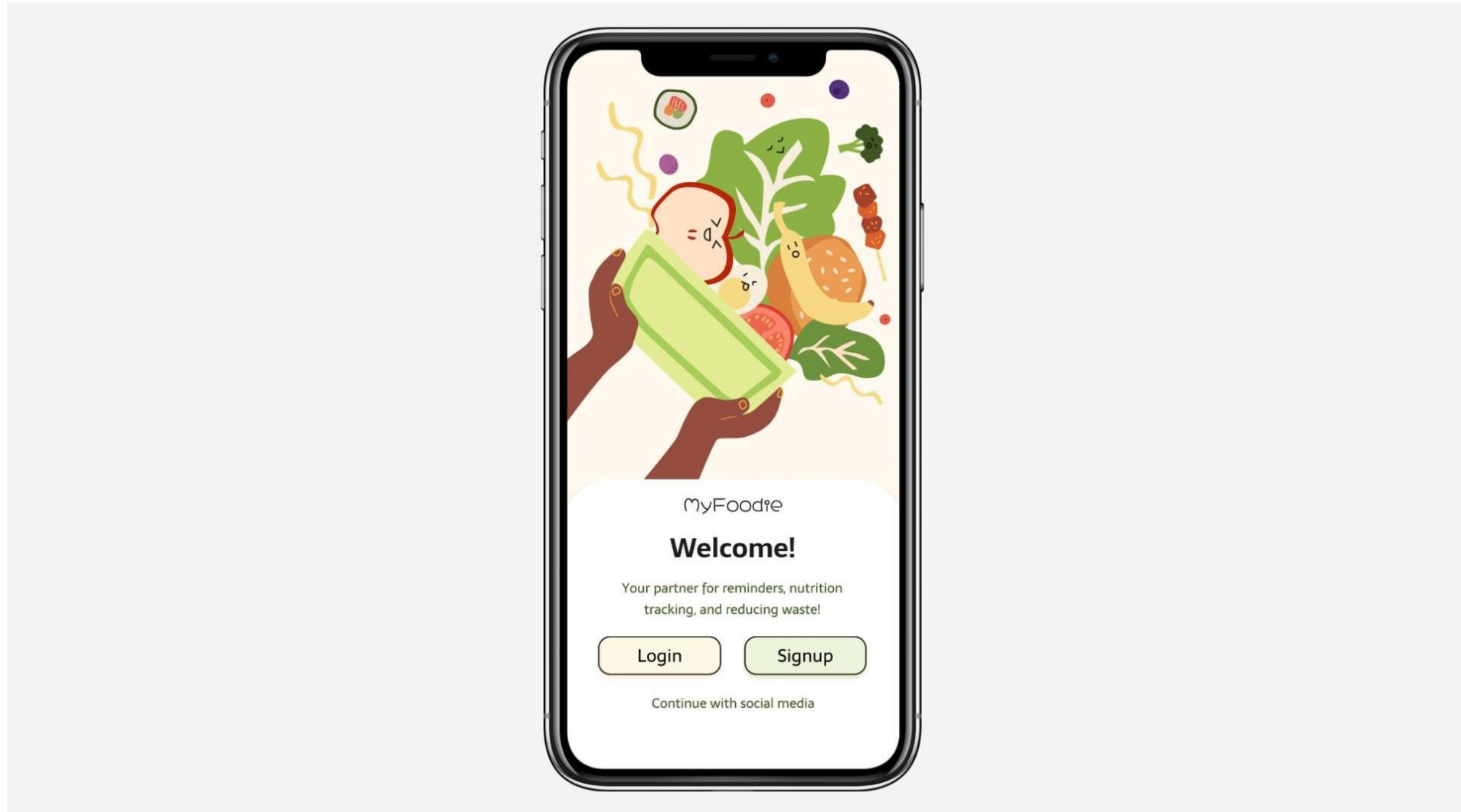
Video

List of Images

Screenshot 1. Available at: https://www.sciencedirect.com/science/article/pii/S089990072030383X?via%3Dihub (Accessed 25/12/25).
Screenshot 2. Available at:
https://www.xiaohongshu.com/search_result?keyword=%25E8%258B%25B1%25E5%259B%25BD%25E7%2595%2599%25E5%25AD%25A6%25E7%2594%259F%25E5%258F%2591%25E9%259C%2589%25E9%25A3%259F%25E7%2589%25A9&source=web_search_result_notes (Accessed 25/12/25).
Screenshot 3. Available at: https://www.sciencedirect.com/science/article/pii/S0921344917303816#sec0015 (Accessed 25/12/25).
Fig 1. Available at: https://dribbble.com/shots/14636573-Healthy-Food-Salad-Mobile-App-UX-UI-Design/attachments/6330950?mode=media (Accessed 25/12/25).
Fig 2. Available at: https://dribbble.com/shots/24412534-Little-movers (Accessed 25/12/25).

Bibliography

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Clark, J. and Manning, L. (2018). What are the factors that an opportunity sample of UK students insinuate as being associated with their wastage of food in the home setting? Resources, Conservation and Recycling, 130, pp.20–30. doi:https://doi.org/10.1016/j.resconrec.2017.11.005. [Accessed 25/12/25].