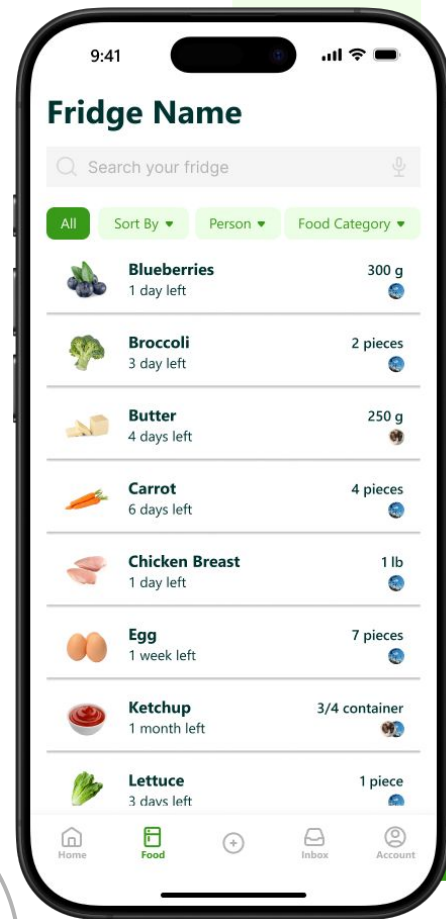


Anonymous Chimera

Kelsie Fung, Yuxi Zhang, Izumi Ando, Wendy Wan,
Anastasia Jivalcovschi, David Lee

November 27th, 2024
CSC318: The Design of Interactive Computational Media
TA: Ken Christofferson





**34% of consumers think about
food waste when shopping...**



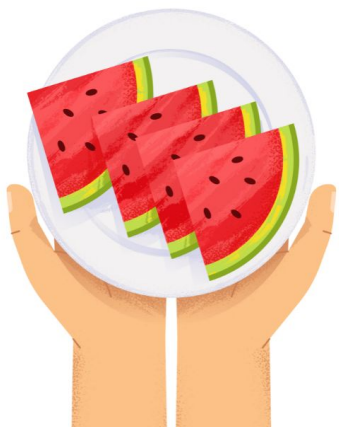
Source: Informa Markets, 2019



**...yet 50 million tonnes of food gets
wasted in Canada every year.**




**Of which 60% is avoidable
with better planning.**






01

Problem



**People need a tool
that helps them track what is in their fridge
because they don't want to waste food and
money.**



Primary



Students living alone or with others, working adults, parents

- has control over what they eat daily
- has primary control over their fridge organization

Secondary



Students living with family

- does not have complete control over what they eat daily but may interact with the fridge occasionally


Tertiary



Grocery stores, food suppliers and waste management systems

- affected by the system's success

Stakeholders



02

Process & Products

Studies



Formative Studies

→ understand and frame the root of the problem in an addressable manner



Talk Alouds

→ identify gaps in the designer (us) and the user's understanding of how the app is used to solve the problem



Expert Evaluations

→ identify glaring design issues in a systematic way



Usability Testing

→ evaluate the efficacy and efficiency of our prototype in providing a solution the original problem, as well as its user friendliness (satisfaction)

Formative Studies



Who We Recruited

Semi-Structured Interview:

- 5 primary stakeholders
- 1 secondary stakeholder

Questionnaire:

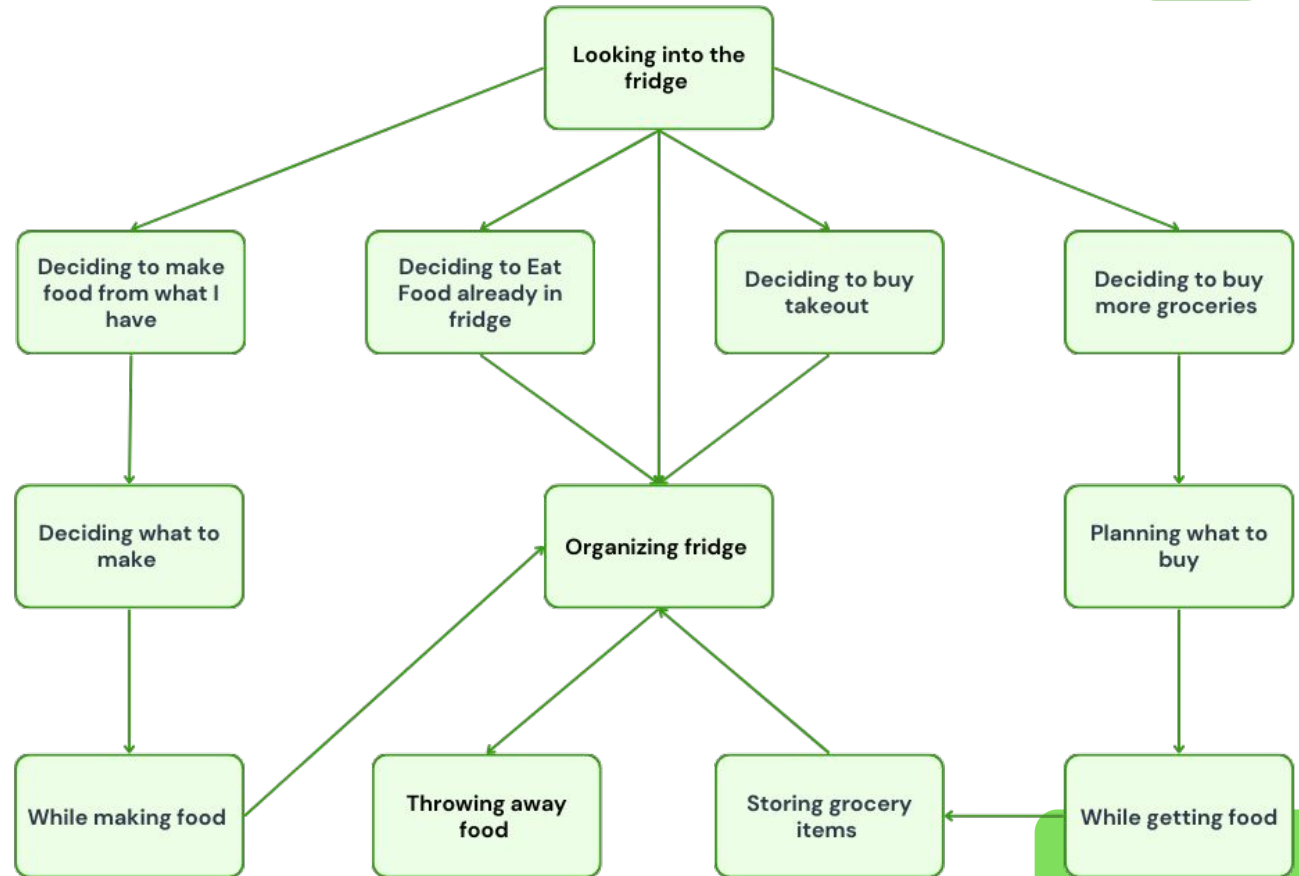
- 40 primary stakeholders
- 19 secondary stakeholders



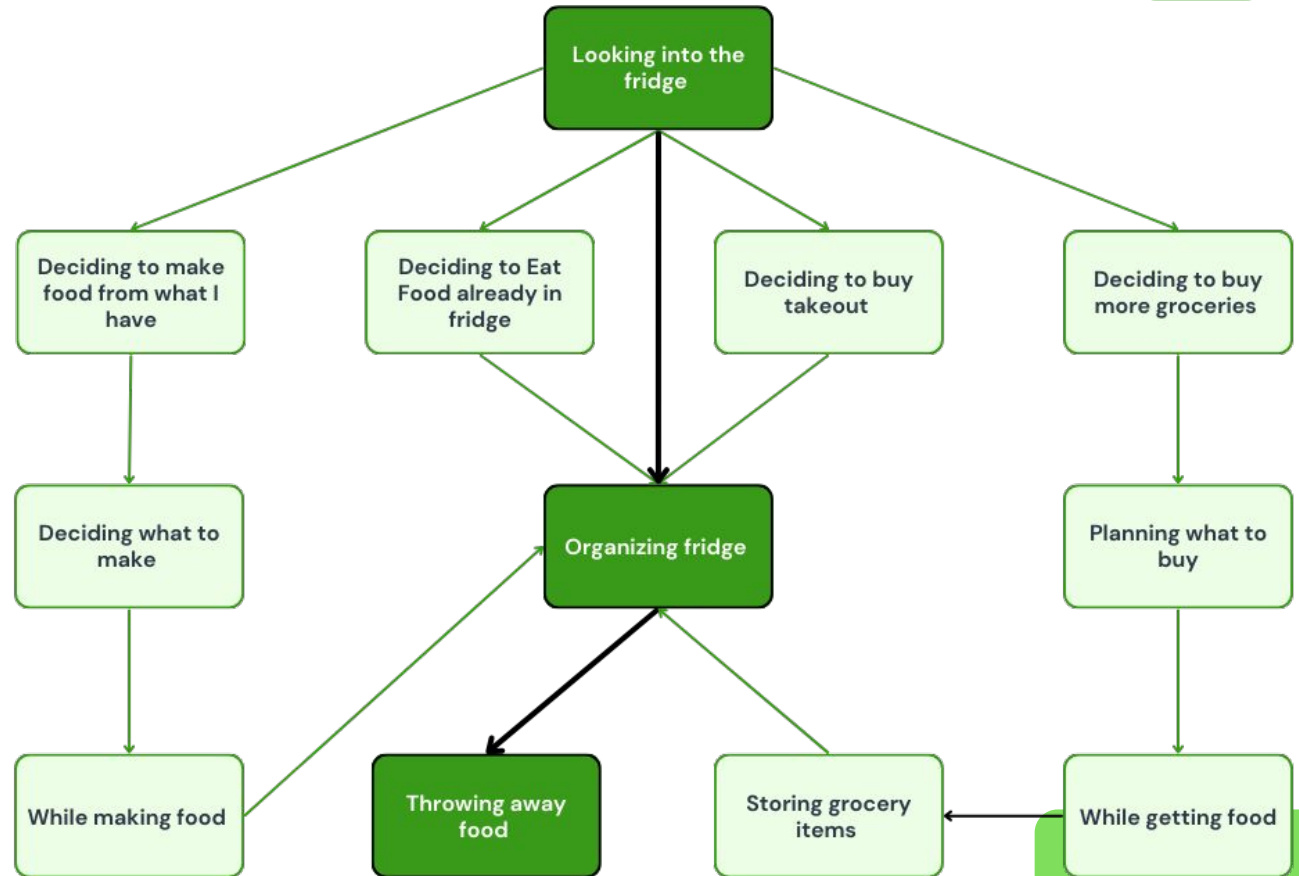
What We Learned

1. People feel **“frustrating”**, **“awful”** and **“terrible”** when they create food waste.
2. The main cause of food waste is users **forgetting what food they have** in their fridges, often due to disorganization.
3. **Running out of space** is the most frustrating fridge related issue for users.
4. **Produce and leftovers** are wasted the most.

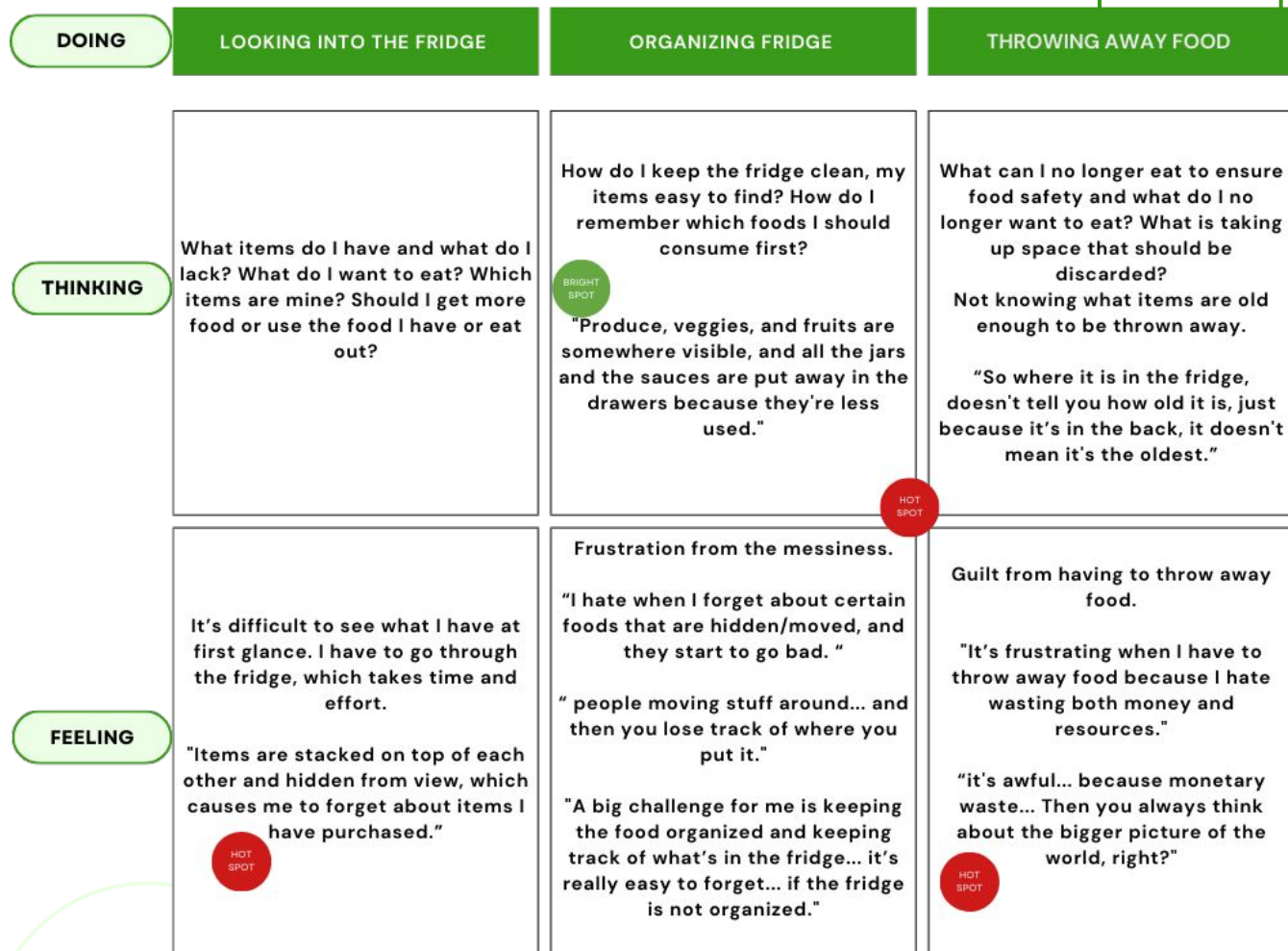
Experience Map



Experience Map



Experience Map



Job Stories



When shopping for groceries, I want to know what and how many items I need to buy so that I don't purchase anything unnecessary.



When food in the fridge are nearing their expiration dates, I want to receive a reminder, so I can consume or freeze it before they spoil.



When sharing a fridge with other people, I want to know what foods are being used up, so I don't run out of an item unexpectedly.



When meal prepping for the week, I want to easily know what ingredients are in abundance so I can plan out my meals without letting any ingredients go to waste.



When taking food out of the fridge, I want to easily know what food I have and where to find it, so that I can remember what food I still have to eat.

Job Stories



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Design Requirements

01

Track what users have
in their fridge

02

Track how much space
users have left in their
fridge

03

Remind users of which
foods are going to
expire/go bad soon

04

Suggest how to deal
with expired/expiring
food in their fridge

05

Assist users in
organizing food
placement in the fridge





Design Requirements

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in their fridge**

02

**Track how much space
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03


**Remind users of which
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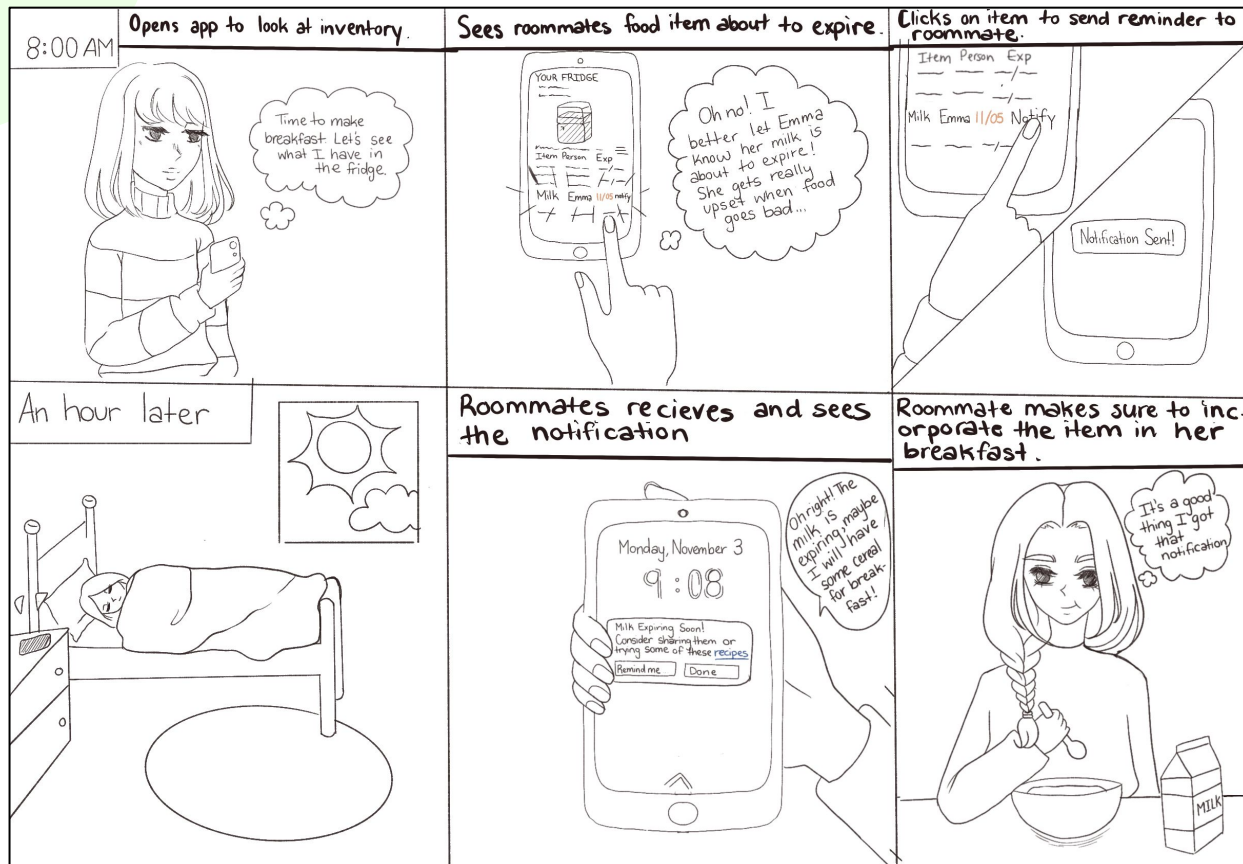
04

**Determine which food
belongs to each user**

05

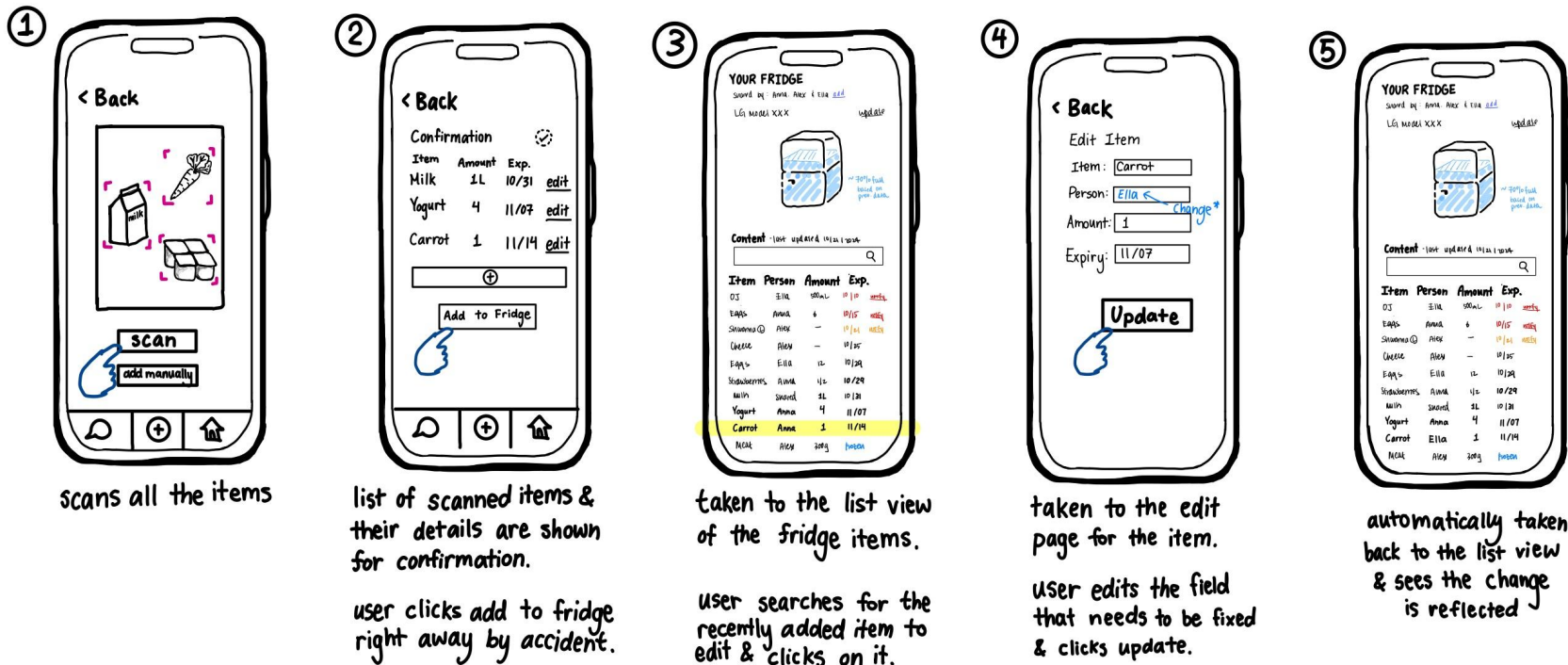
**Communicate with
other users about food
inquiries**



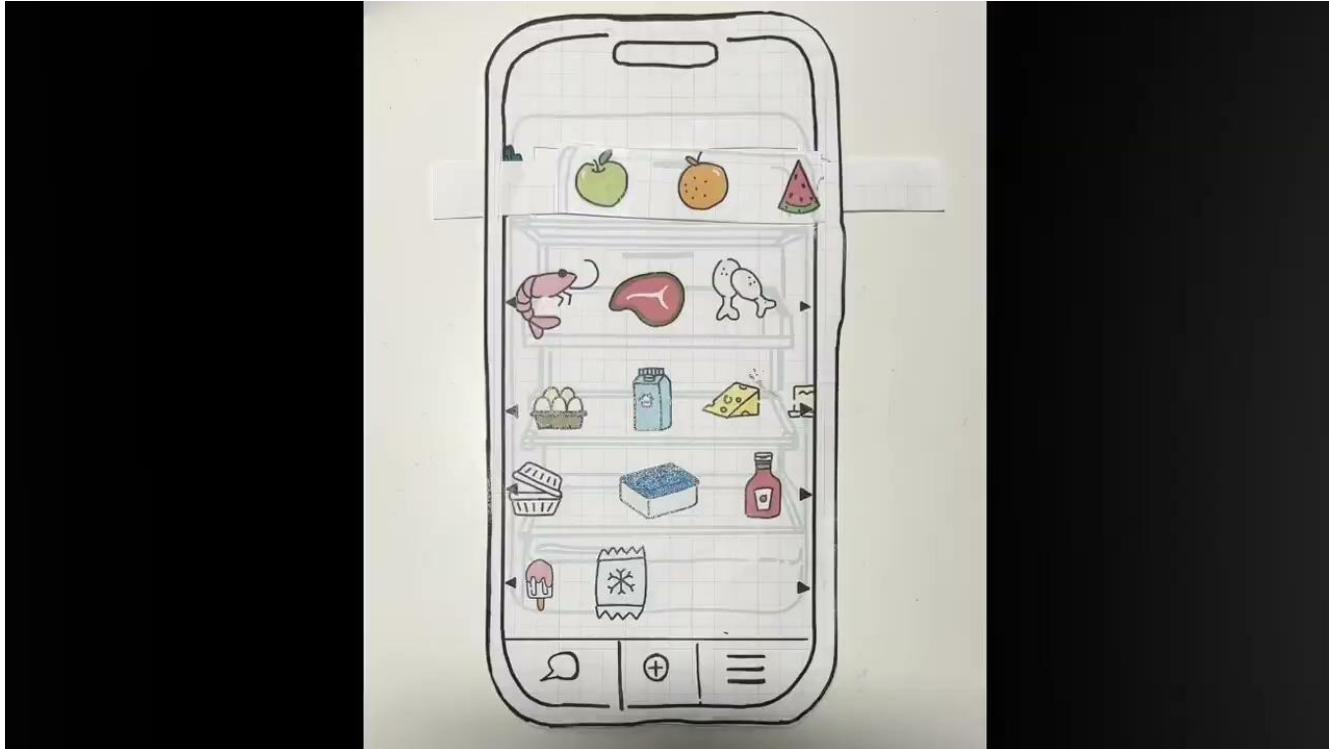


High-Level Storyboard

Low-Level Storyboard



Paper Prototype



Talk Alouds & Expert Evaluations



Who We Recruited

Talk Alouds

4 primary stakeholders

Expert Evaluations

6 experts consisting of University Students



What We Studied

How users approach the core tasks the low-fidelity prototype was designed to achieve.

How users perceived the different UI elements and whether they aligned with the developer's intention.




What We Learned

Consistency and Standards:
Interaction & Navigation Inconsistency

Visibility of System Status:
Lack of "Fridge Fullness" Feature Clarity

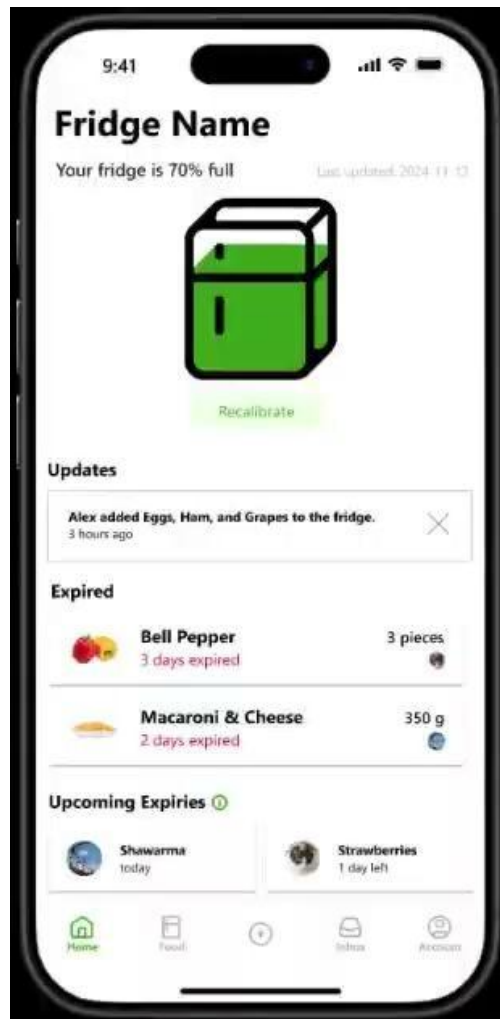
Recognition Rather than Recall:
Icon Inconsistency

Help and Documentation:
Better documentation and Feedback



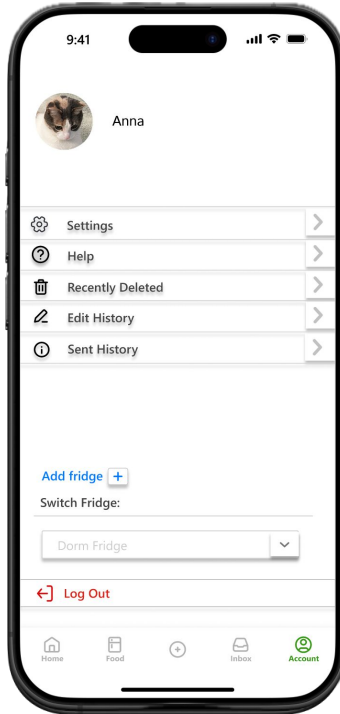
03

High Fidelity Prototype

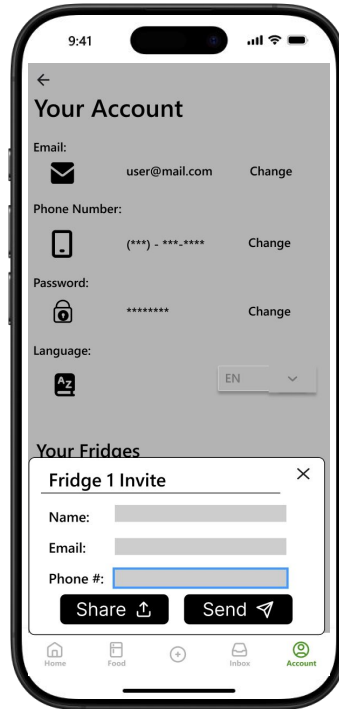


Additional Features

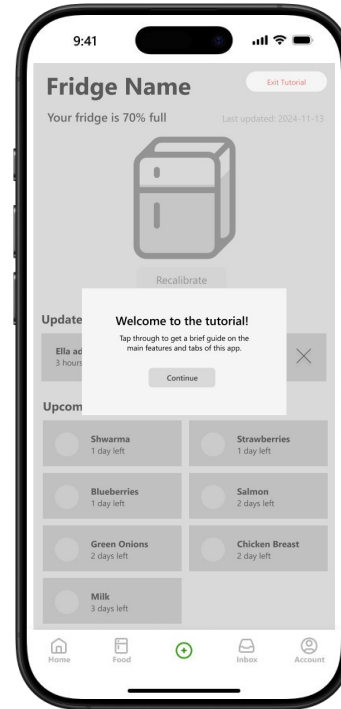
Profile Information



Invite People to the Fridge

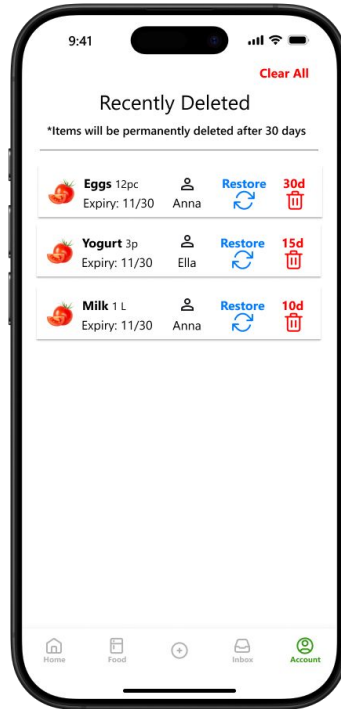


Welcoming Tutorial

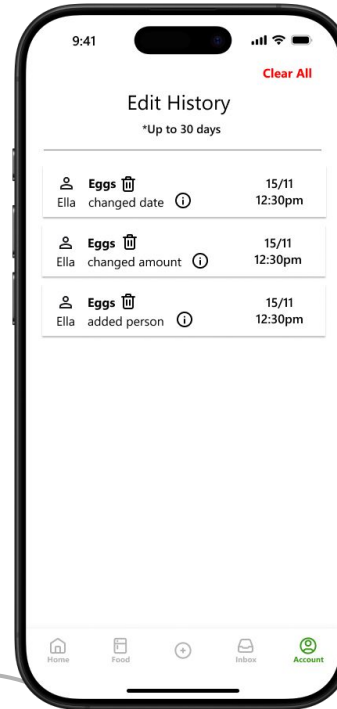


Additional Features

Recently Deleted



Edit History





Usability Testing



Who We Recruited:


10 Participants in Total
(2 being pilot testers)

- 5 Full-Time Students
- 4 Part-Time Workers
- 1 Full-Time Worker

Why:

Two pilot tests allowed us to identify initial errors to address.

Eight end target users allowed us to identify approx. 85% of usability issues for analysis.






Usability Testing

What We Learned:

1. Importance of Clarity in Text Descriptions
2. Inconsistencies Cause Confusion
3. Benefits of Flexibility In Different App Features
4. Error Prevention and Recovery is Necessary

* Many usability issues were impacted by limitations in the development of our high-fidelity prototype too.



Expectations Met

"[The] home page **tells you what has expired or is about to expire** because it's easily identifiable. The app just tells you instead of you having to find out or go looking for something yourself."

"Allows to **act beforehand**"

"Yes it did, as I now have **access to all the stuff that my roommate also bought** and we can share stuff and **reduce buying thing we don't need/already have.**"



Thank you!

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