FoodSentry

A smart fridge control app designed for international students in the UK

PROJECT DESIGNER:Hao Zhang

BACKGROUNG RESERCH

Top **10** Countries of Origin for
International Students in the UK

STUDY IN
THE UK

USA 19,220
NIGERIA 21,305
SPAIN 12,290
FRANCE 14,090
ROMANIA 12,860
ITALY 14,605
PAKISTAN 12,975
CHINA 143,820
INDIA 84,555
HONG KONG 16,655

This image is licenced under Creative Commons Attribution-Share Alike 4.0 International License - www.creativecommons.org/licences/by-sa/4.0

Source: Higher Education Statistics Agency
Created by: Studying-in-UK.org

According to the Higher Education Statistics Agency (HESA), around 680,000 international students are studying in the UK in the 2022-2023 academic year, making up 22% of the student population.

Among them, a higher proportion of students are Asian, including students from countries such as China and India, where diets involve more fermented foods.

Share accommodation: About 70% of international students in the UK share accommodation (Knight Frank Student Property Report, 2022).

Sharing refrigerator issues: Based on multiple community surveys and forums (e.g. Reddit, The Student Room), here are the common issues:

Food is taken by mistake: the incidence is between 40% and 60%.

Forgetting food in the fridge leads to waste: About 65 percent of students say they have wasted food because they forgot food.

USER RESERCH

- PACT ANALYSIS

People

Age: 18-30 years old, mainly college students and postgraduates.

Cultural background: Multi-cultural background, accustomed to different countries' food style.

Economy: Low to medium budget, but high demand for cost performance and functionality.

Contexts

When using the refrigerator with roommates, it is easy to take it by mistake and store it in confusion.Clear authority and communication functions are needed to maintain a harmonious relationship.Different cultures have different preferences for refrigerator use and food storage:Some cultures are accustomed to storing fermented foods .

Activities

Record the type, location and shelf life of the ingredients in the refrigerator.

Receive alerts of expired ingredients or excessive bacteria, and take cleaning action.

Label ingredients to avoid taking them by mistake.

Roommates share ingredients or exchange information with each other.

Technologies

Food tracking: Allows users to add, classify and label ingredients.Bacterial monitoring: Real-time display of bacterial concentration and prompt clean-up.Fermentation Management: Provide multiple fermentation modes, monitor progress and send completion notifications.Share management: Set the ingredients to belong to, support roommates to share information.

PERSONA

Lin Li

Age: 22 years old

Gender: Female

Nationality: China

Occupation: Postgraduate (Biomedical science)

Living environment: Shared apartment with two classmates, shared refrigerator

Lifestyle: Like to cook, pay attention to healthy eating

Background: As an international student, Li used to buy fresh ingredients and try her hand at cooking her hometown dishes, but her busy studies often made her neglect to clean out the ingredients in the refrigerator.

Often find that the ingredients are expired or spoiled, and feel wasted and not environmentally friendly.

Her roommate occasionally took her ingredients by mistake, leading to minor conflicts, and she wanted a clear marking system to avoid such problems.

Aditya

Age: 25 years old

Gender: Male

Nationality: India

Occupation: MBA student, part-time coffee shop waiter

Living environment: Living alone in student dormitory, only refrigerator

Lifestyle: I like to try to make fermented food from my hometown

Background: Aditya loves to cook, especially the fermented foods of her hometown (such as yoghurt and sauerkraut).

He often felt that ordinary refrigerators could not meet the storage and preparation needs of fermented foods, such as temperature and humidity could not be accurately controlled.

He hopes to achieve precise fermentation environment control through the App, while simplifying the production process.

DESIGN SKETCH
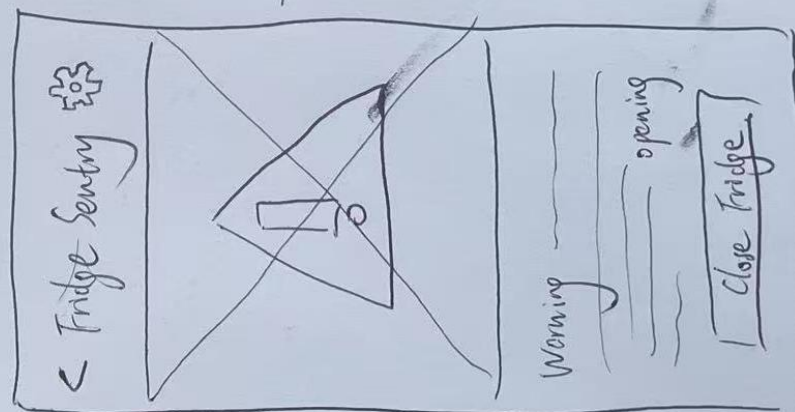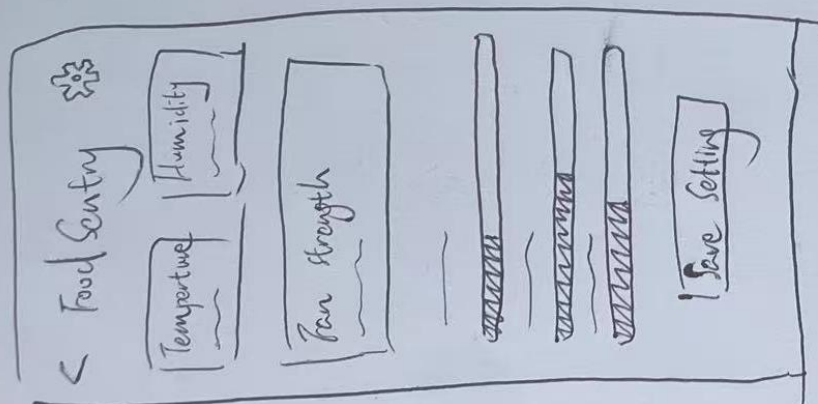
DESIGN IDEATION

Ideation of colour scheme

#1A80E5   #F7FAFC

Blue often symbolizes technology, trust and reliability, and is perfect for emphasizing the smart features and data reliability of refrigerators.

Use as the main visual color throughout the interface.

Used in navigation bars, buttons, and highlighted areas to attract user attention and guide actions.

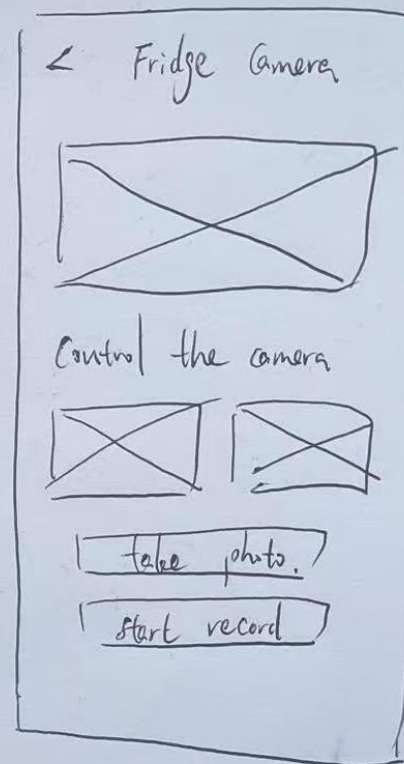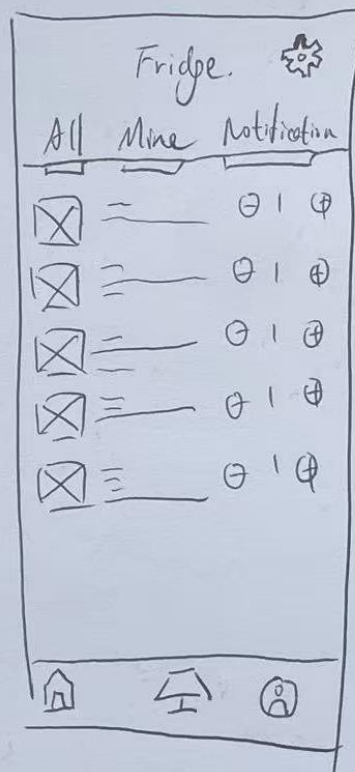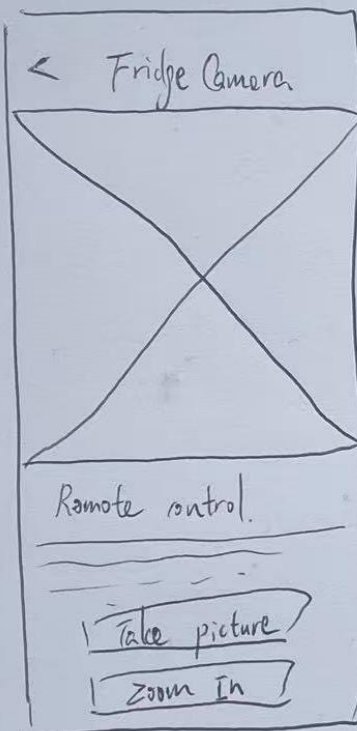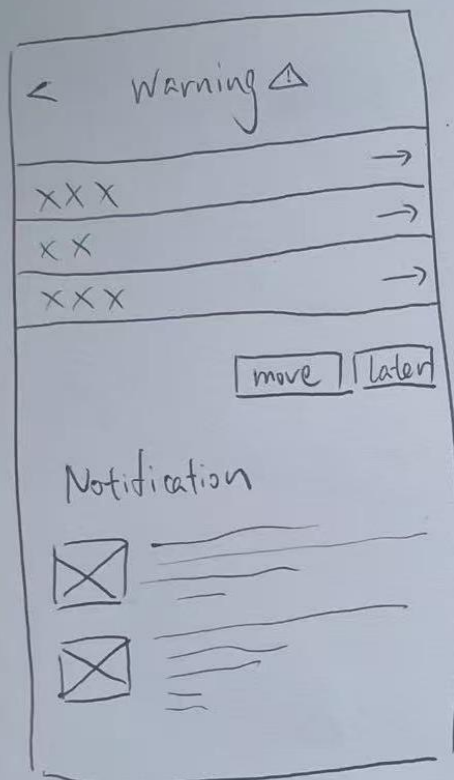Light gray white represents fresh, simple, light, can create a modern and comfortable interface atmosphere.

Used as a background color to ensure the interface is clear and easy to read.

Secondary content module, highlighting the main color area.

Support white space in design to enhance visual hierarchy and simplicity.

Pain point analysis

Students don't have time to manually record the shelf life of each ingredient.
The refrigerator sharing between roommates is not standardized, which is easy to take by mistake or confusion.
Lack of intuitive understanding of the hygiene conditions (such as bacteria concentration) inside the refrigerator.

Lack of classification and sealing habits, common sharing caused by mistaking, waste or contradiction.
Not good at remembering the state of the ingredients in the refrigerator, resulting in expired or spoiled ingredients.
Ordinary refrigerators cannot be adjusted to the right temperature and humidity environment.
Making fermented foods requires frequent monitoring and is time consuming.

Low-fidelity UI design
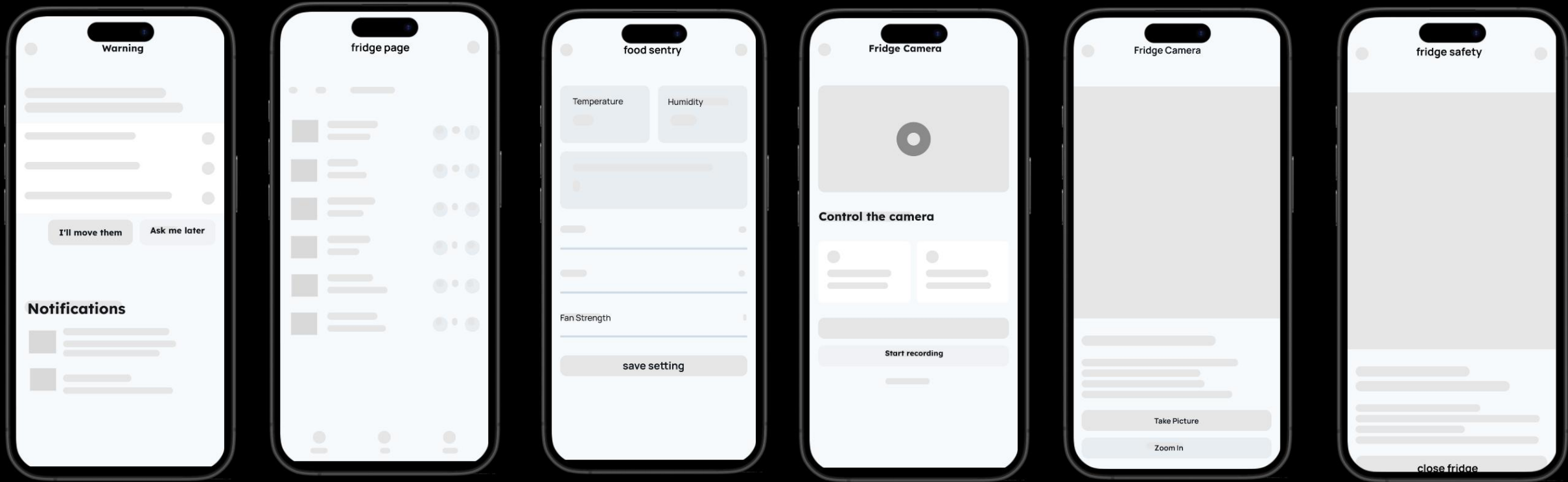
User requirements:
Keep abreast of the status of the ingredients in the refrigerator (expiration reminder, bacteria monitoring).
Simplify refrigerator management, reduce waste and improve harmony among roommates.
Support the storage and preparation of fermented foods to meet emotional and cultural needs.

App Wireframe

Page Flow Display

START PAGE

HOME PAGE

FRIDGE PAGE

SETTING PAGE

FoodSentry

Log in to your account

Keep track of what's in the fridge, and reduce food waste.

Email address

Continue with Apple

Continue with Google

Continue with Facebook

Continue another way

By continuing, you agree to the Terms of Use. Read our Privacy Policy.

Home

Safety

⊙ Door left open

Camera

📷 Open Camera

Control

Freeze
Off

Temperature   Current Temperature
37 F

Fermented Food

Kimchi   Nutritional Value
Age: 3 weeks

Progress   30%

70% humidity

Home   Fridge   Account

Fridge Safety

We've detected a safety hazard in your fridge

Your fridge has been left open for too long, which can spoil your food or cause a fire hazard. Please make sure to close it.
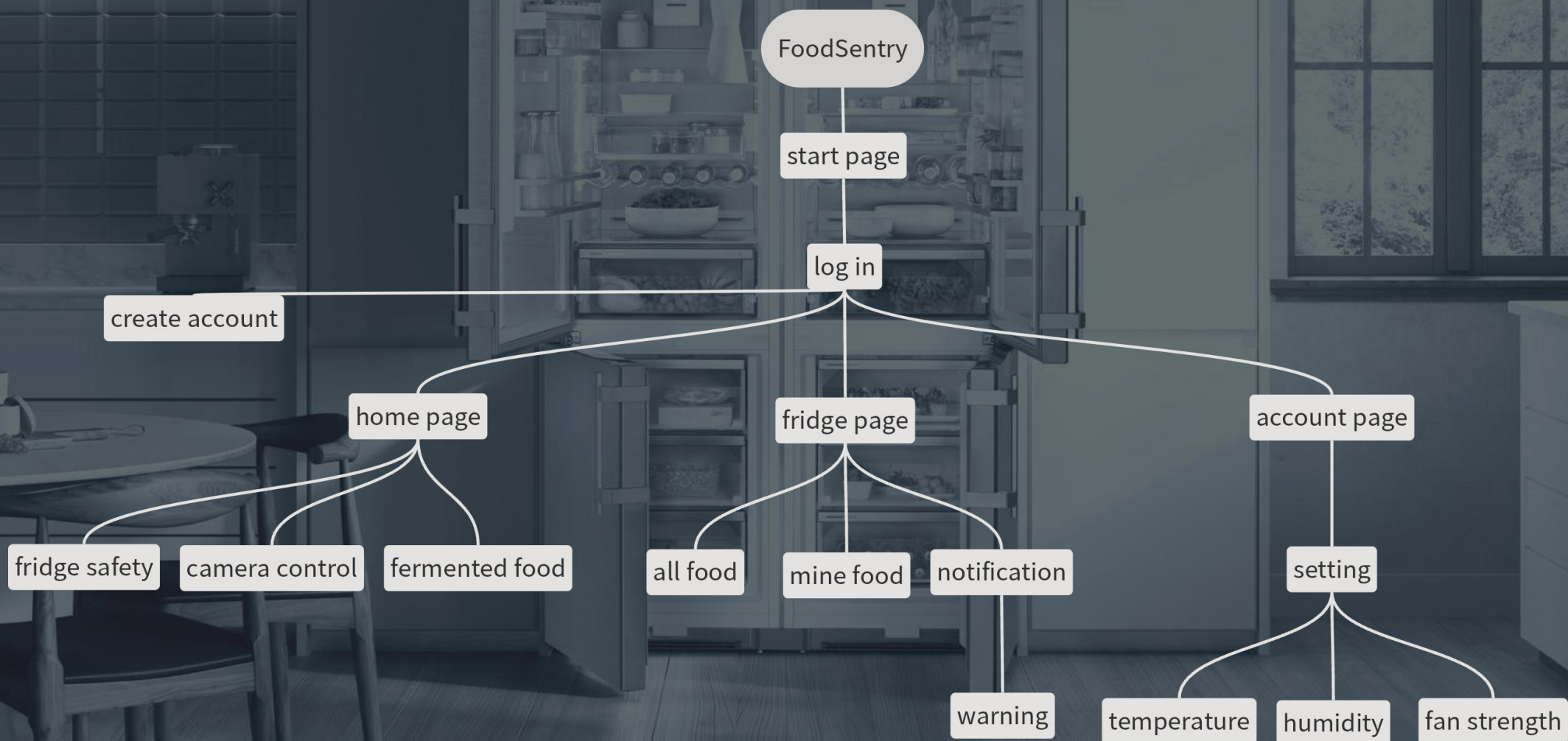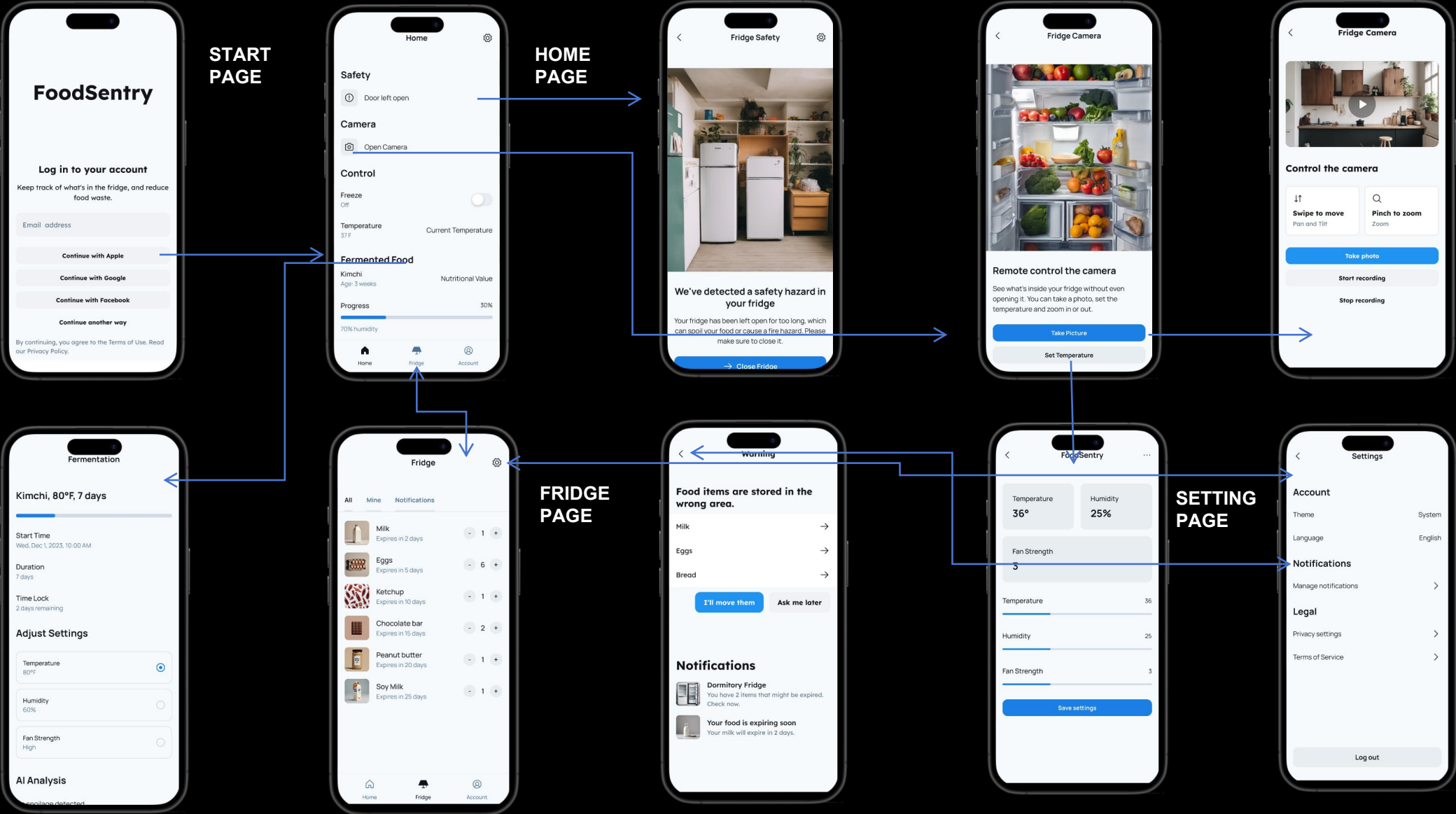
→ Close Fridge

Fridge Camera

Remote control the camera

See what's inside your fridge without even opening it. You can take a photo, set the temperature and zoom in or out.

Take Picture

Set Temperature

Fridge Camera

Control the camera

⇅ Swipe to move
Pan and Tilt

🔍 Pinch to zoom
Zoom

Take photo

Start recording

Stop recording

Fermentation

Kimchi, 80°F, 7 days

Start Time
Wed, Dec 1, 2023, 10:00 AM

Duration
7 days

Time Lock
2 days remaining

Adjust Settings

Temperature   ◉
80°F

Humidity   ○
60%

Fan Strength   ○
High

AI Analysis

Spoilage detected

Fridge

All   Mine   Notifications

Milk   - 1 +
Expires in 2 days

Eggs   - 6 +
Expires in 5 days

Ketchup   - 1 +
Expires in 10 days

Chocolate bar   - 2 +
Expires in 15 days

Peanut butter   - 1 +
Expires in 20 days

Soy Milk   - 1 +
Expires in 25 days

Home   Fridge   Account

Warning

Food items are stored in the wrong area.

Milk   →
Eggs   →
Bread   →

I'll move them   Ask me later

Notifications

Dormitory Fridge
You have 2 items that might be expired. Check now.

Your food is expiring soon
Your milk will expire in 2 days.

FoodSentry

Temperature   Humidity
36°   25%

Fan Strength
3

Temperature   36
━━━━━━━━━━

Humidity   25
━━━━━━━━

Fan Strength   3
━━━━━━━━━

Save settings

Settings

Account

Theme   System
Language   English

Notifications

Manage notifications   >

Legal

Privacy settings   >
Terms of Service   >

Log out

App TEST VIDEO

VIDEO: https://youtu.be/vp6BOiov4E0

THANK YOU FOR WATCHING