

# Climate Crisis



01

Background

02

Discover

03

Design

04

Test

background

## Overview

### User Group:

International Students

### Goals:

For international students who have just come to the UK, it is unrealistic to spend too much time on garbage sorting due to the language barrier and academic pressure. Therefore, in this project, I plan to find some methods to help them do garbage sorting more accurately, faster, and efficiently.



background

## Work Process

### Discover

research  
interviews  
data analysis

iteration

### ideate

pact analysis      structure  
personas            wireframes  
brainstorming      visual

iteration

### Prototype

low fidelity  
high fidelity  
user testing

discover

# Research

When I visited the area from High Street to Mayflower Park in Southampton and some other nearby areas.

I found that although most of the garbage cans had signs for sorting and recycling, it was difficult for users to distinguish them to the lack of striking



Vincent Place

Single classification  
Ambiguous mark  
No guidance



Vincents Walk

Ambiguous mark  
Incomplete guidance  
Difficult opening



Castle Way

Lack of classification  
Mixed garbage  
No guidance



High ST

Unclear classification  
Management confusion  
Difficult opening



Mayflower Park

lack of guidance  
Unclear limits

# discover Interview

After summarizing the existing problems of garbage classification, four typical international students were selected for display (4/24)



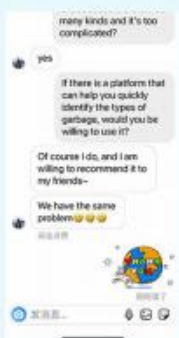
Interviewer  
**Yuqi Kong**

Do you know how to sort garbage?  
Have you done garbage sorting since you came to the UK?  
Do you willing to do garbage sorting?  
Do you know the benefits garbage sorting?  
Are you willing to publicize garbage classification?



**Kiko Wang**  
Students  
Tokyo  
2 years

Strictly follow classification rules



**Vera Chan**  
Students  
Bristol  
6 years

Often do garbage classification



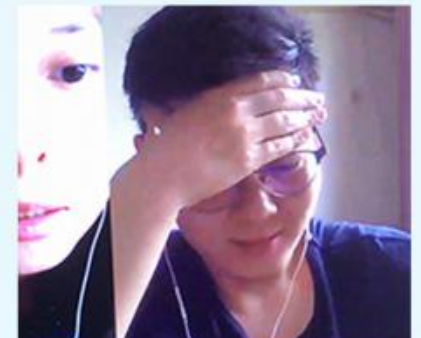
**Connie**  
Students  
Southampton  
3 months

Don't know how to do garbage sorting



**Kris Wu**  
Students  
Southampton  
4 months

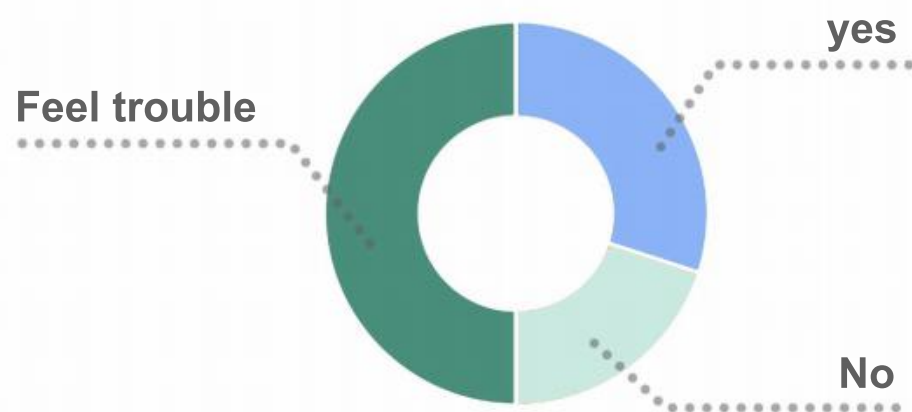
No time to do garbage sorting



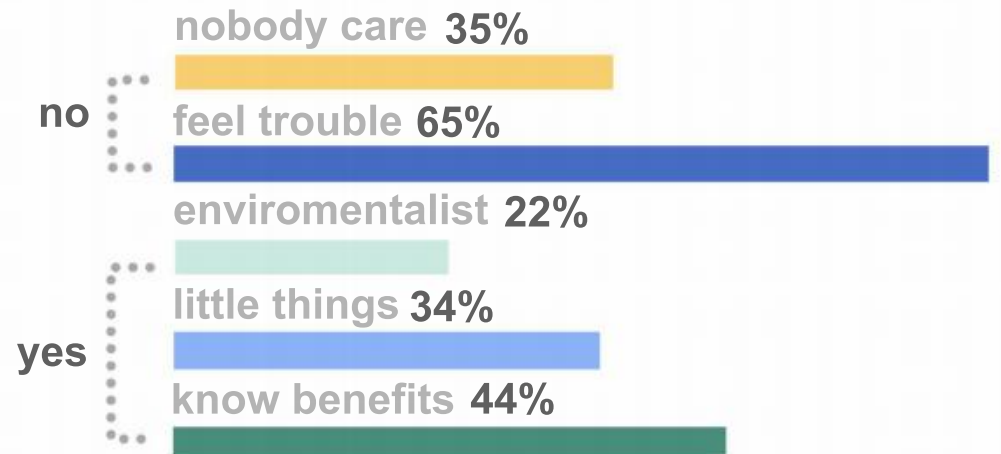
discover

## Data Analysis

Summarize and analyze the problem data found in the interview, and conduct a second research according to the typical data



Do you willing to do garbage sorting?



Are you willing to publicize garbage classification?

discover

## Secondary Research

Based on the findings of interviews and data analysis, secondary research is conducted to find creative solutions



There is research from the University of Southampton and shows that most Chinese students studying abroad are returning to China. It isn't easy to maintain the environmentally friendly behaviour cultivated in the UK.



Some authoritative institutions, such as the University of Cambridge, have found that effective incentives can motivate people to behave in environmentally friendly ways.

discover

## Secondary Research

3Rに関する課題と対応	
我が国は、時代によって変化してきた廃棄物に関する課題に対して、法制度の制定、改正等を行い、地方自治体、民間事業者、住民等と協力して適正な廃棄物処理と資源の有効活用を推進し、循環型社会を着実に構築してきました。本冊子では、近代化以降、現在に至るまで、我が国が直面してきた廃棄物に関する課題と、それら課題に対してどのように取り組み、解決してきたのかを、①公衆衛生、②公害対策・環境保全、③循環型社会の構築と、各時期の重点項目に分けて説明していきます。	
年代	主な課題
戦後～1950年代	<ul style="list-style-type: none"> <li>環境衛生対策としての廃棄物処理</li> <li>衛生的で、快適な生活環境の保持</li> </ul>
1960年代～1970年代	<ul style="list-style-type: none"> <li>高度成長に伴う産業廃棄物の増大と「公害」の顕在化</li> <li>環境保全対策としての廃棄物処理</li> </ul>
1980年代	<ul style="list-style-type: none"> <li>廃棄物処理施設整備の推進</li> <li>廃棄物処理に伴う環境保全</li> </ul>
1990年代	<ul style="list-style-type: none"> <li>廃棄物の排出抑制、再生利用</li> <li>資源リサイクル制度の構築</li> <li>有害物質（ダイオキシン類含む）対策</li> <li>廃棄物の種類・性状の多様化に応じた適正処理の仕組みの導入</li> </ul>
2000年～	<ul style="list-style-type: none"> <li>循環型社会形成を目指す3Rの推進</li> <li>産業廃棄物処理対策の強化</li> <li>不法投棄対策の強化</li> </ul>

As can be seen from the garbage classification law issued by Japan, effective supervision can also help international students to establish the habit of garbage classification

discover

## Stage summary

According to the problems and optimization methods found in the second study, the general design direction is summarized



Avoid overly complex information



Quickly and accurately garbage sorting guidance



Establish an effective regulatory mechanism



Help users maintain garbage sorting habits



design

# PACT Analysis

According to the phased summary, the user psychology is further analyzed from the four modules of "people", "activity", "context" and "technology", and the analysis of pain points and gain is added

## People

### Physical:

International Students  
internet users

### Cognitive characteristics:

English ability is not good enough  
Not familiar with the living environment  
It is troublesome to classify garbage  
Don't know how to do garbage sorting  
Think the garbage classification is not necessary

### Requirements:

Easy to read anytime; Clear category; Have some hints: The label is marked: get incentives

## Activity

### Goals:

Can easily carry out garbage classification  
Correctly identify the type of garbage  
Use anytime, anywhere  
Operational guidance  
Some supervision measures

### Tasks:

Able to sort or put garbage easily and accurately, and will not stain oneself  
If students put or sort garbage by mistake, they will get a warning

## Context

### Physical environment:

student dormitory; university; on the road;  
drink store; street food store;  
Municipal Waste  
Recycling site (square; street; community; park...)

### Psychological environment:

Think that garbage sorting is a compulsory act  
Not my business!  
I can do garbage sorting or not  
I am willing to do it but I don't know how to do it  
I want to do it but I'm afraid of trouble

## Technology

### Medium:

daily goods; Public welfare publicity;  
The network media (computer, mobile phone...);  
Group communication

### Communication forms:

Visual effect; premonition; sound;  
immediate feedback; encourage; discipline

### Platform:

online; offline

## Pains

waste time  
trouble  
types  
dirty

language  
bored  
sites  
rules

## Gains

environmentally friendly  
good habits  
maintain the habits  
reduce waste

design

# Personas

After analyzing the psychological activities and pain points of international students in garbage disposal, I created Personas in order to better establish the design goal



## Demographic

AMY  
24  
student  
Southampton

## Demographic

DL.WANG  
21  
student  
Southampton

## Demographic

U.WANG  
21  
student  
Tokyo/  
Southampton

## Scenarios

*I am a graduate student from China. I live in the same apartment with my good friend and share the same kitchen with other three classmates. The garbage in the kitchen is mixed together, often gives off a bad smell, I feel anxious, but I do not know how to do the garbage classification.*

## Goals

- Learn garbage sorting
- Keep the environment clean

## Motivation

Less time

Simple operation

propaganda

## Scenarios

*I have been in the UK for three years. I am about to end my undergraduate studies and return to my country. I learned some knowledge of garbage classification here, and I hope I can keep it after returning to my country.*

## Goals

- Maintain environmentally friendly habits
- Disseminate environmental protection knowledge

## Motivation

Less time

Simple operation

propaganda

## Scenarios

*I studied in Japan for two years before coming to the UK to study. Although the UK has implemented a garbage sorting policy, many students in the UK do not follow the government's guidance to sort garbage compared to Japan's strict policy and supervision.*

## Goals

- Find better ways
- Promote environmental protection knowledge

## Motivation

Less time

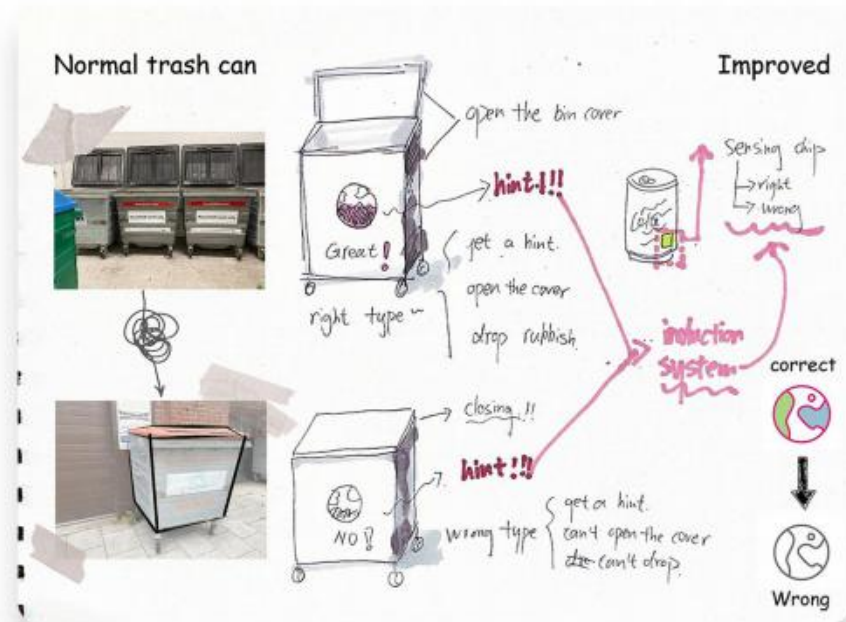
Simple operation

propaganda

design

# Brainstorming

After user research, three preliminary ideas are put forward according to the needs and pain points of users, which are respectively for trash cans, businesses and international students.



“

01

The trash can can be transformed into a smart trash can with instant feedback, which can automatically identify garbage types and open and close the lid

”

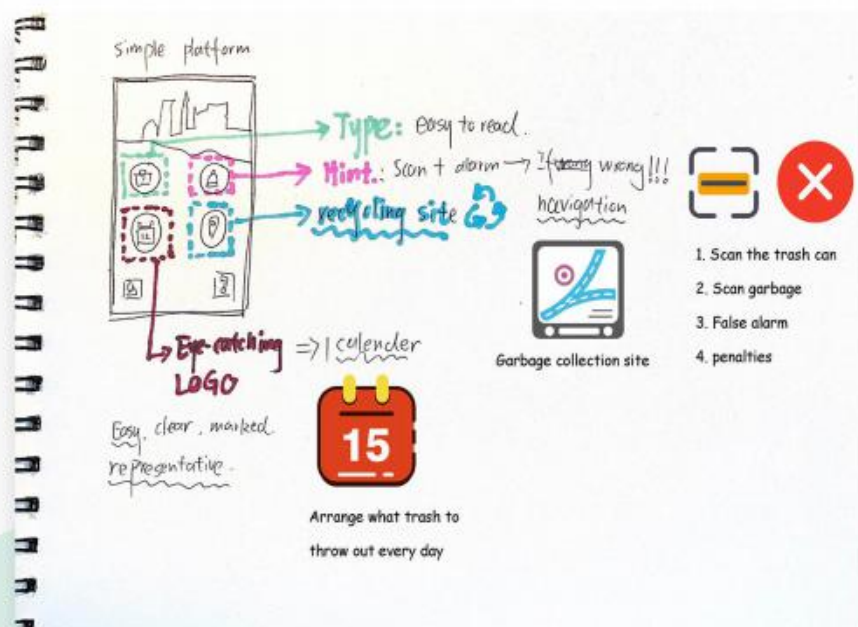


“

02

A label with automatic identification function, businesses can apply it to the product, the functional trash can can directly sense and recognize the label

”



“

03

It's an app that allows users to use its scanning function to identify types of junk. It also has navigation to help users find garbage collection points

”



design

# Final Scheme

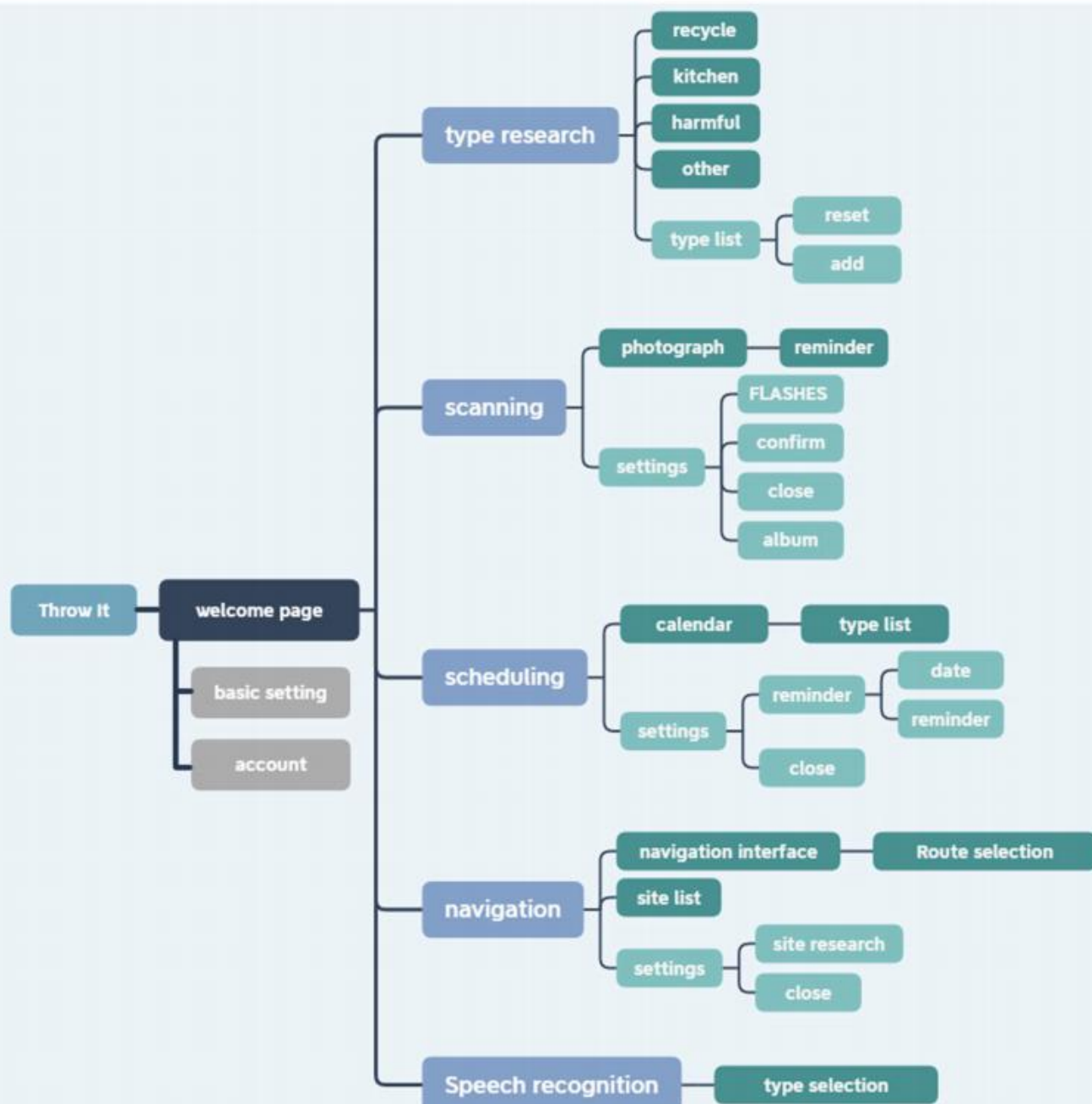
After thinking about the market economy, I dropped Idea 2. In fact, due to economic factors, it is difficult to have an effective way to motivate businesses to add smart labels to product packaging. So I decided to combine Idea 1 with Idea 3. I plan to design an app to help international students classify garbage.



design

# Structure

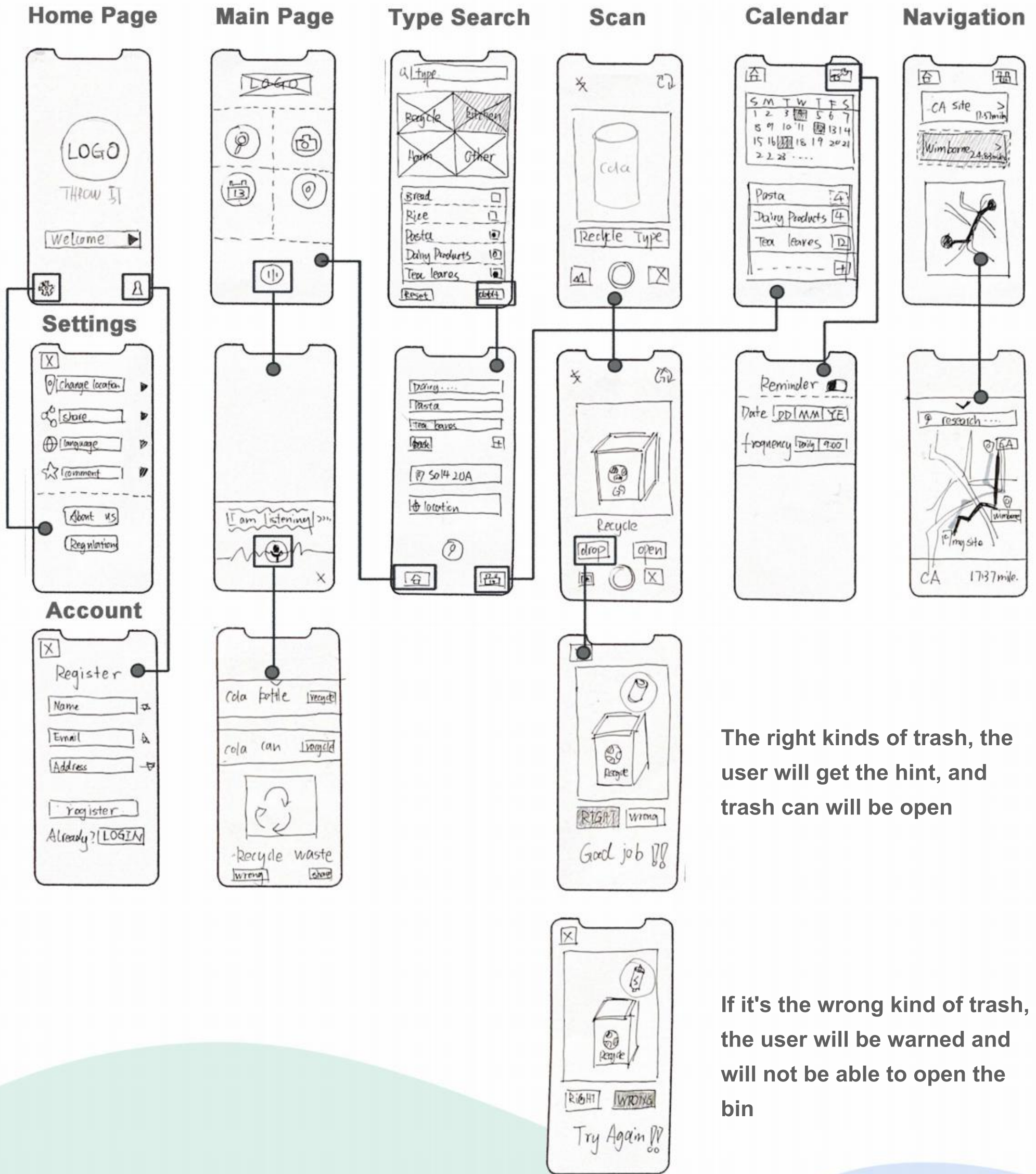
In order to increase convenience, it is suitable for one-handed operation. The functions of APP are summarized into five main functions. They are: category search, intelligent scanning, scheduling, navigation system and voice recognition.



design

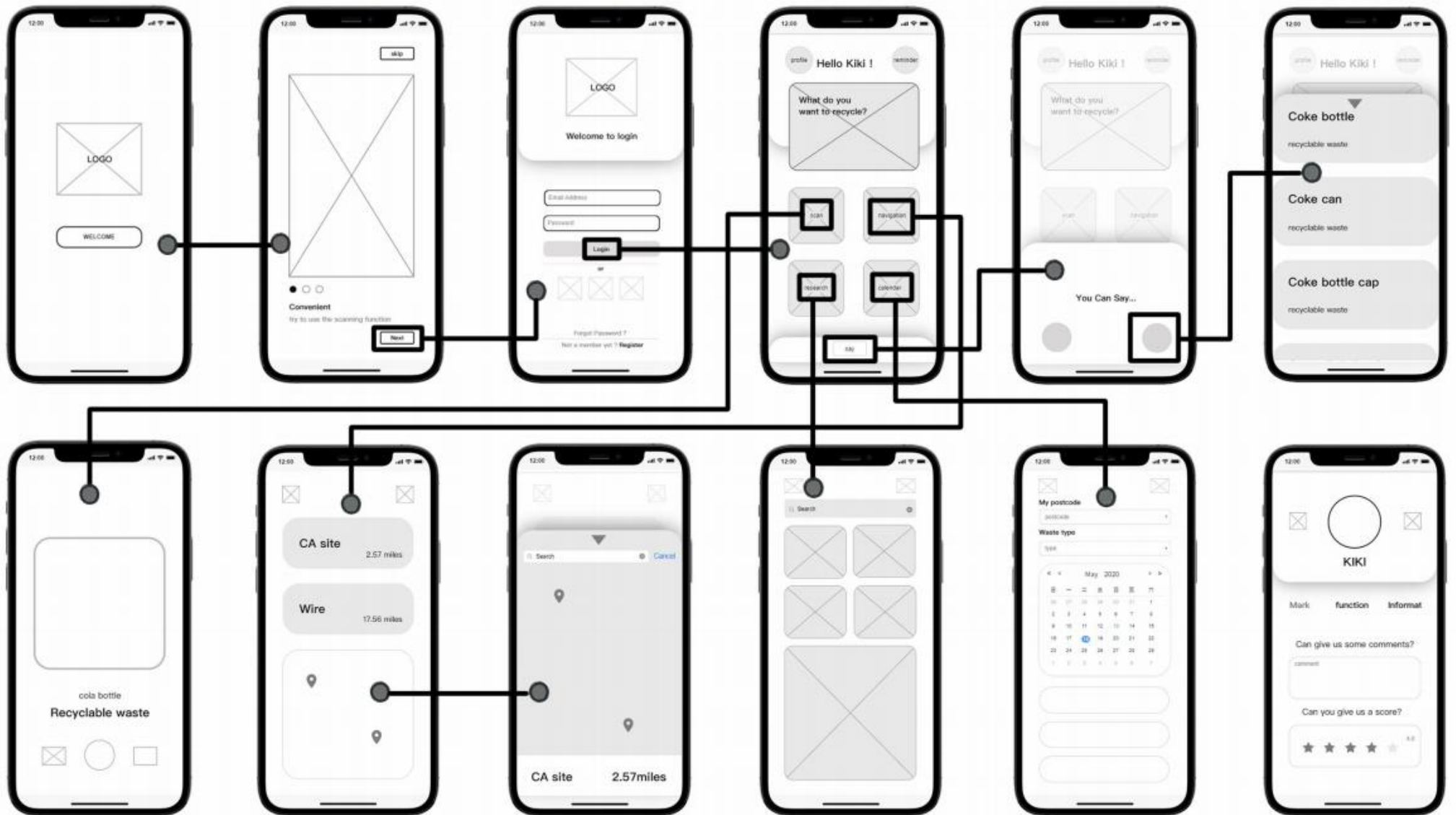
# Low-Fi Wireframe

Draw a low-Fi Wireframe based on the structure for testing and iteration



design

# Low-Fi Wireframe

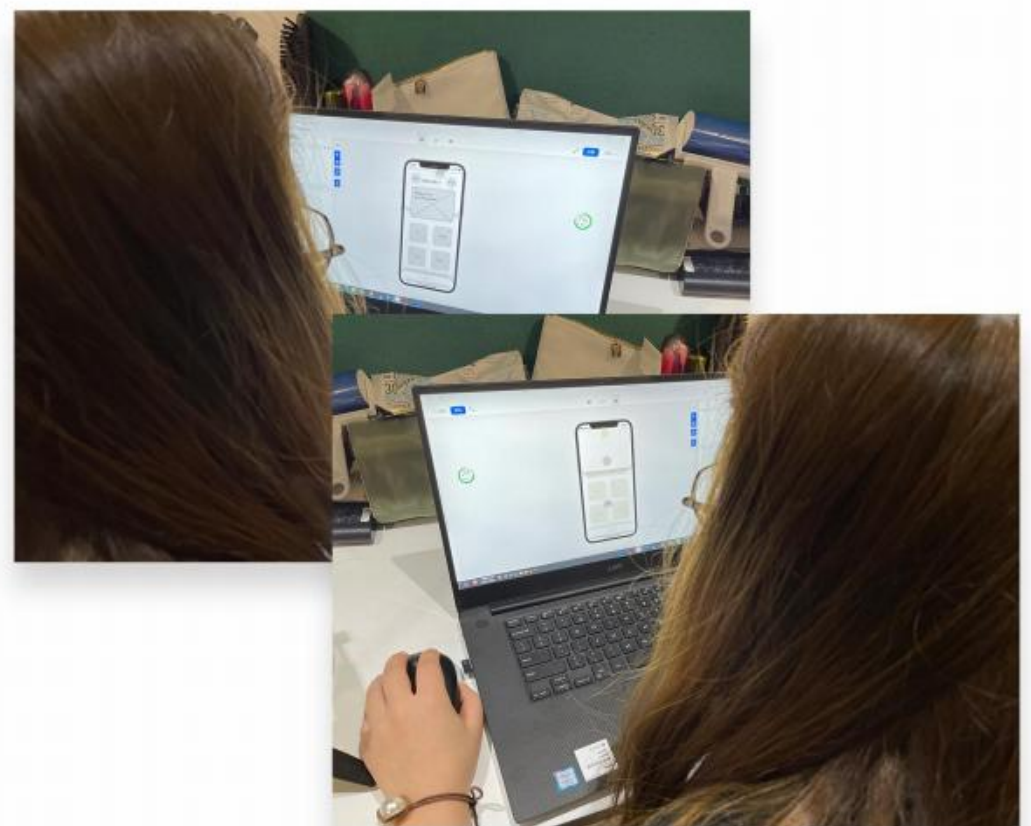


test

# Low-Fi Test

User testing of the low-fidelity wireframes resulted in the following feedback:

1. Calendar functions are not clear enough
2. The function of reminders is not clearly demonstrated
3. The function of personal information interface is not clear enough



# Visual

## font style

Arial Bold Regular

Arial Bold

ABCDEFGHIJKLM  
NOPQRSTUVWXYZ

abcdefghijklmnopqrst  
uvwxyz

1234567890

ABCDEFGHIJKLM  
NOPQRSTUVWXYZ

abcdefghijklmnopqrs  
tuvwxyz

1234567890

## icon design



## illustrations design



# Visual

Four elements of "trash can", "international student", "recyclable logo" and "earth" are used to form the logo design of the APP, and the APP is named Throw It

## logo design



## color selection



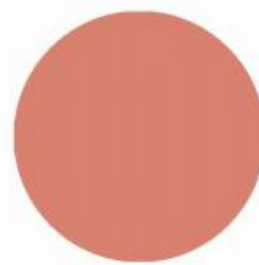
# 89ab29



# f0be31



# 8cb0cd



# da8271



# 394c80

Choose the four representative colors of garbage classification to complete the design of the pattern. And, dark blue is extracted from the representative color as the main color of the APP interface

# Function introduction

## Weclome

The welcome screen shows the three highlights of the APP, which are convenient, fast and accurate.

And it provides users with two functions of quick entry and account registration



## Home

The home interface includes the four main functions of the app: scanning, navigation, search and calendar. In addition, it also has two auxiliary functions: user information display and voice recognition



scanning

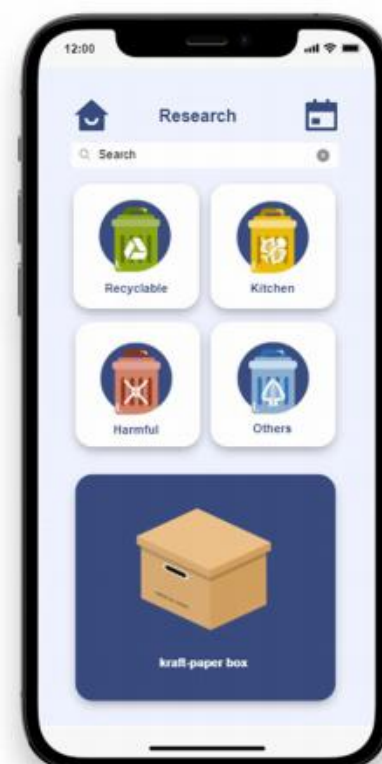
calendar



navigation

## Main

The user can automatically identify the garbage types through **scanning**, find the garbage collection point through **navigation**, know the detailed classification knowledge through **research**, and establish the schedule and the reminder through **calendar**



Research

## Other Pages

Three welcome screens  
as well as a personal  
information screen  
and a voice recognition  
screen

