Tidbit
A calories counting application

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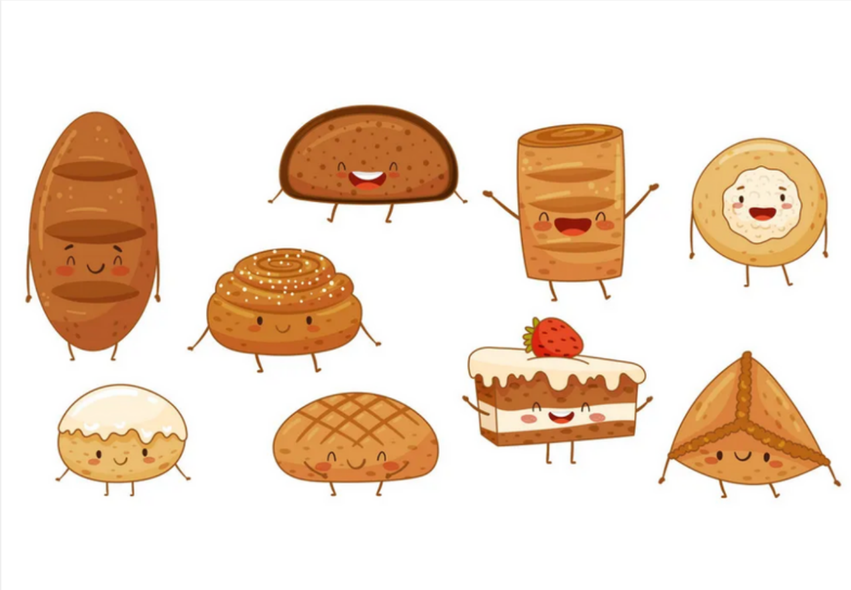
Badraa BatUlzii

Tidbit

"a small piece of tasty food"



Contents

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Usability Problem

Keeping track of food and calorie consumption might be **beneficial** for **supporting weight reduction.**

Usability Problem

To **calculate the amount of calorie intake**,
people often have to roughly predict the following:

the amount of each ingredient

ingredients that the food includes

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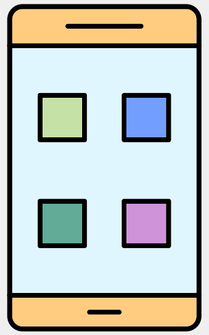
Usability Problem

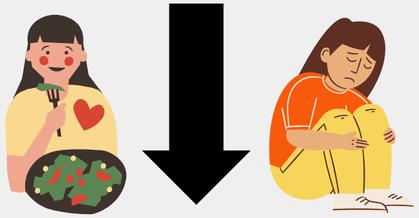


common feature of the current applications

users have to **manually** input
the amount of food intake

Usability Problem

Problem



users **manually** inputting information

higher chance
of **inaccuracy**

requires significant
effort and **dedication**

People often find themselves **giving up**
on calories counting applications.

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Existing Solutions

A traditional way of keeping track of calorie intake

Journaling

Users have to measure the portions of everything they eat and **log it in a journal**

There are big downsides to this method as it is **a lot of work** and it's **hard to see everything** in a journal.

Existing Solutions

Calory

home page displays a bar **chart** with the percentage of calories consumed and remaining calories for the day

Calory

Existing Solutions

- includes **reminders** to log your calories
- **food database** linked to the basic USDA food database

- tracks daily calories only; **premium upgrade required** to track macros
- USDA **database may be tricky** to use
- syncs with **Apple Health only**

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Existing Solutions

- barcode scanner
- accurate nutrition data
- intermittent fasting timer
- diet-specific support

} no need for guesswork

disadvantage of the app is there is not as much information on fitness

Existing Solutions

LogMeal API: AI Food Image Recognition

Pros

Existing Solutions

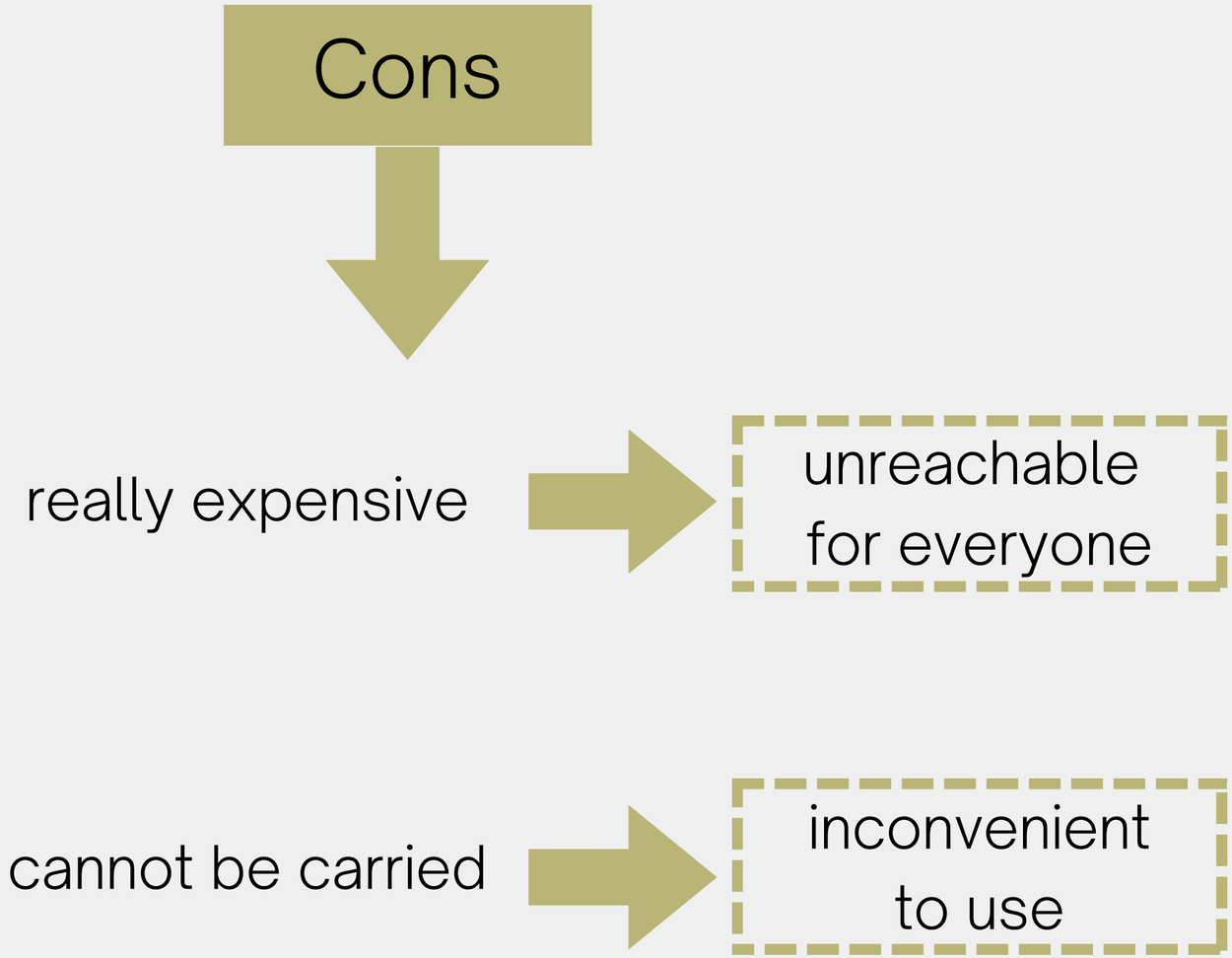
LogMeal API: AI Food Image Recognition

Cons

- Physical **kiosk** which consists of a scale, a camera and an user interface.

LogMeal API: AI Food Image Recognition

Existing Solutions



Proposed Solution

the main usability **problem** with the existing applications → **manually** entering the information about the meal and the calories of each food

Therefore

we intend to build an application that will **detect the meal from an instantaneously captured picture** and then **estimate the calories of each item** on there.

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Proposed Solution

- The app will **analyze ingredients** and **calorie** information from the food image.
- The users might **edit** the quantities at their will.

anytime

anywhere

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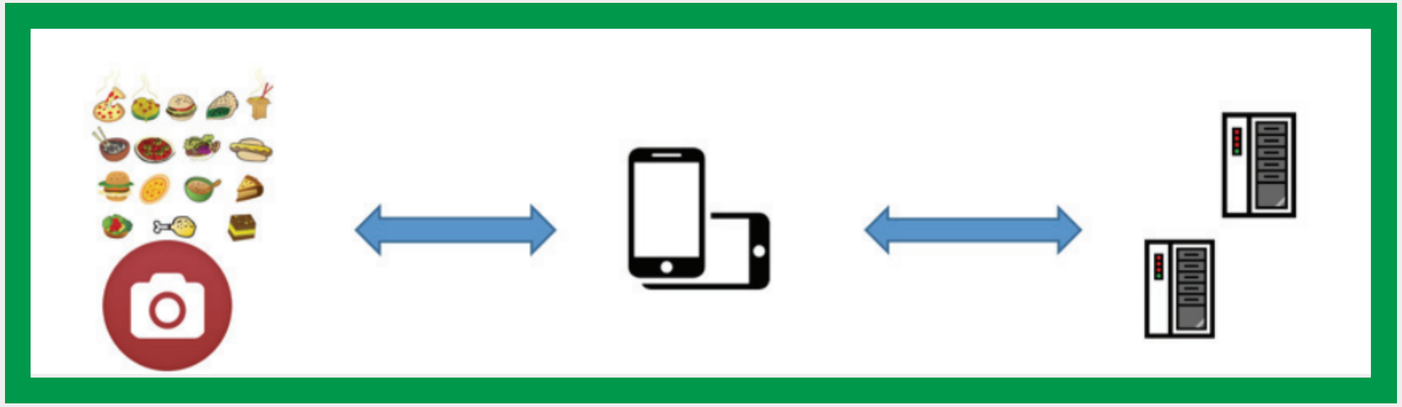
Proposed Solution



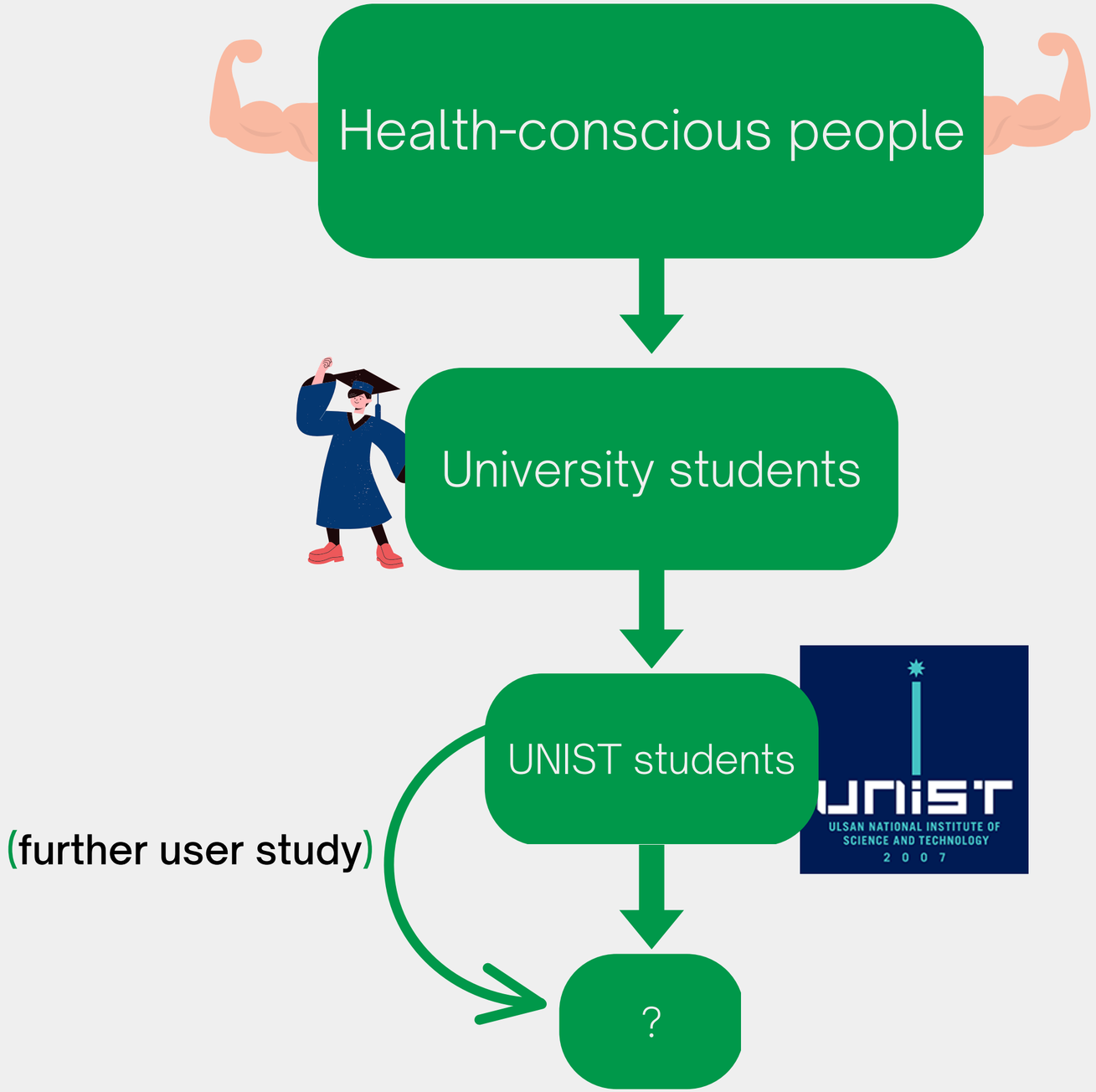
Foods

Take image by phone

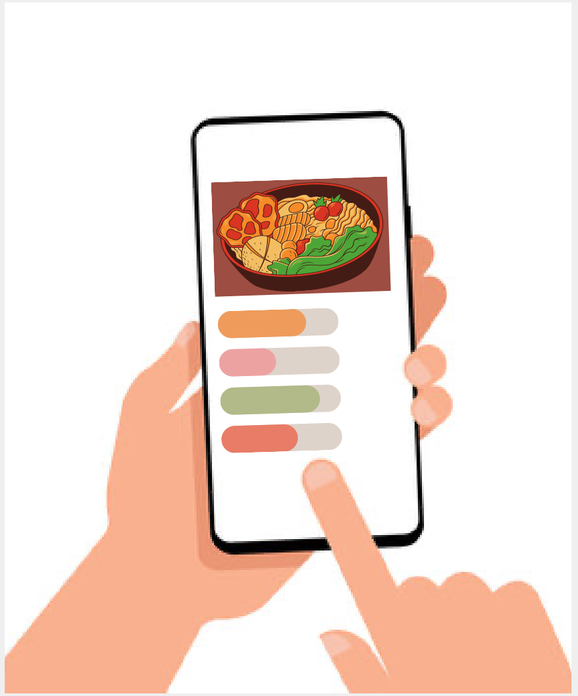
Process the image with pre-trained AI model

Liu, et al., A New Deep Learning-based Food Recognition System for Dietary Assessment on An Edge Computing Service Infrastructure, IEEE Transactions on Service Computing 2018

Target User


Health-conscious people
University students
UNIST students
(further user study)
?
unist
ULSAN NATIONAL INSTITUTE OF SCIENCE AND TECHNOLOGY
2007

Usage Scenario




Convenient store

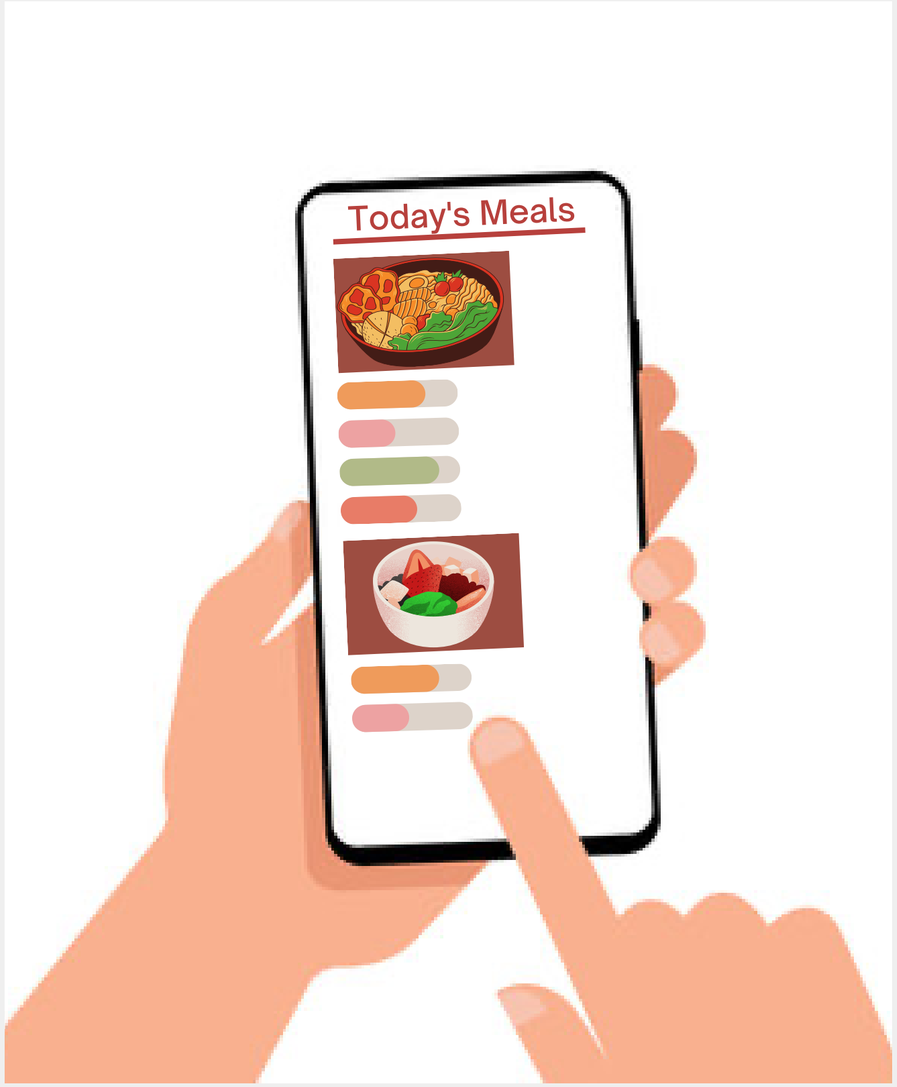

Cafeteria

Snack


Delivery food

Usage Scenario

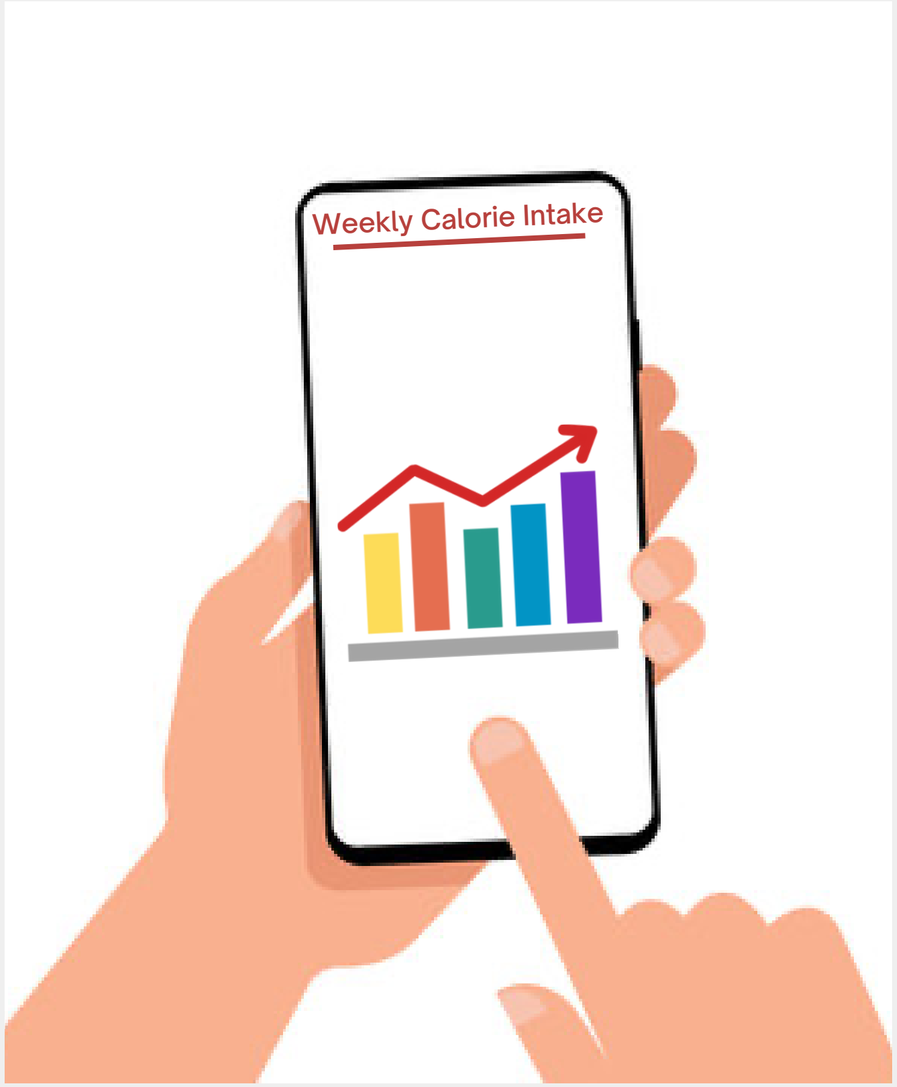
Features



View what you ate in a day

Usage Scenario

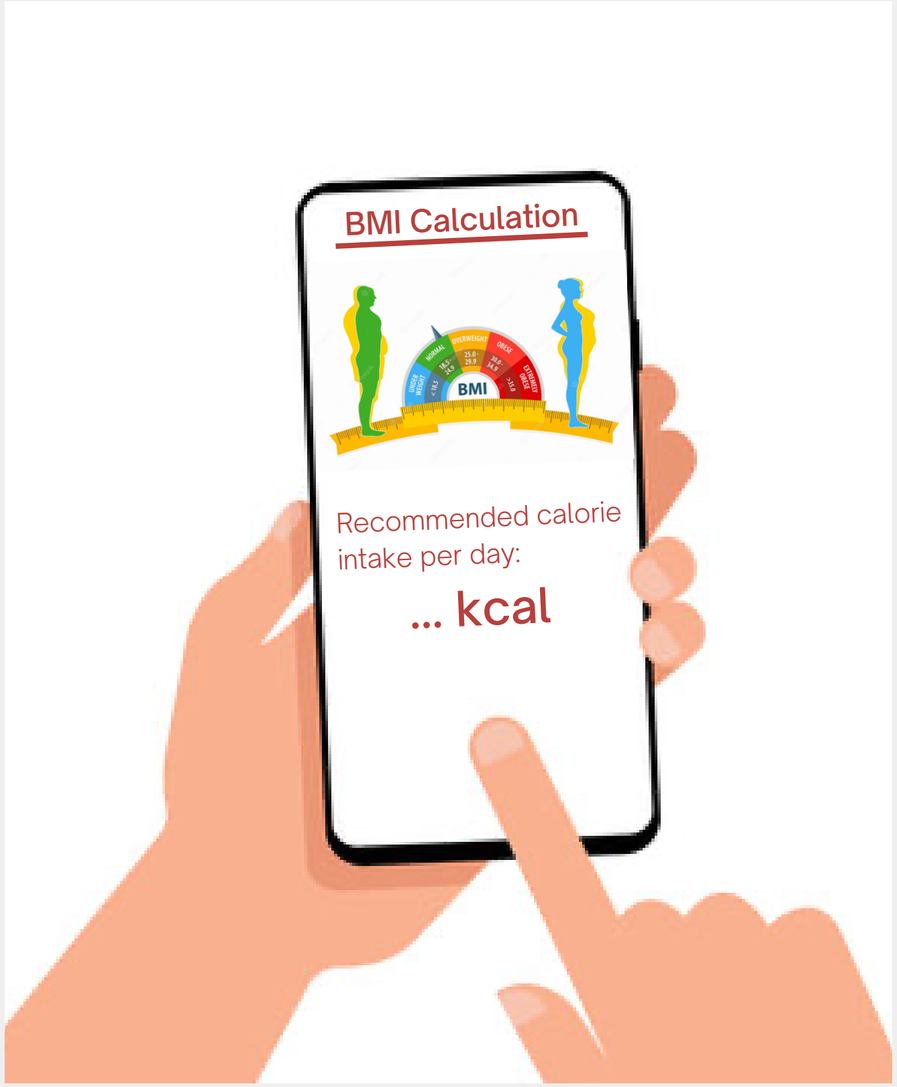
Features



View your weekly calorie intake

Usage Scenario

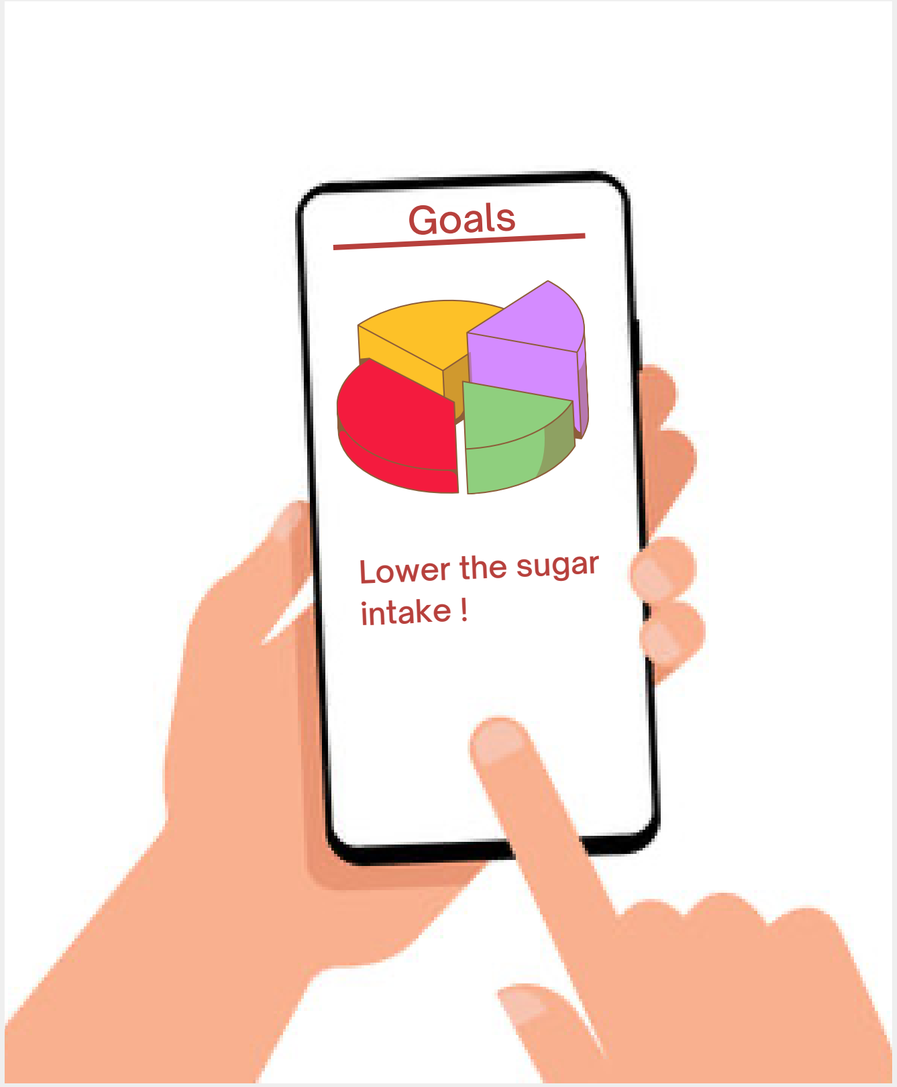
Features



Have regular BMI calculation

Usage Scenario

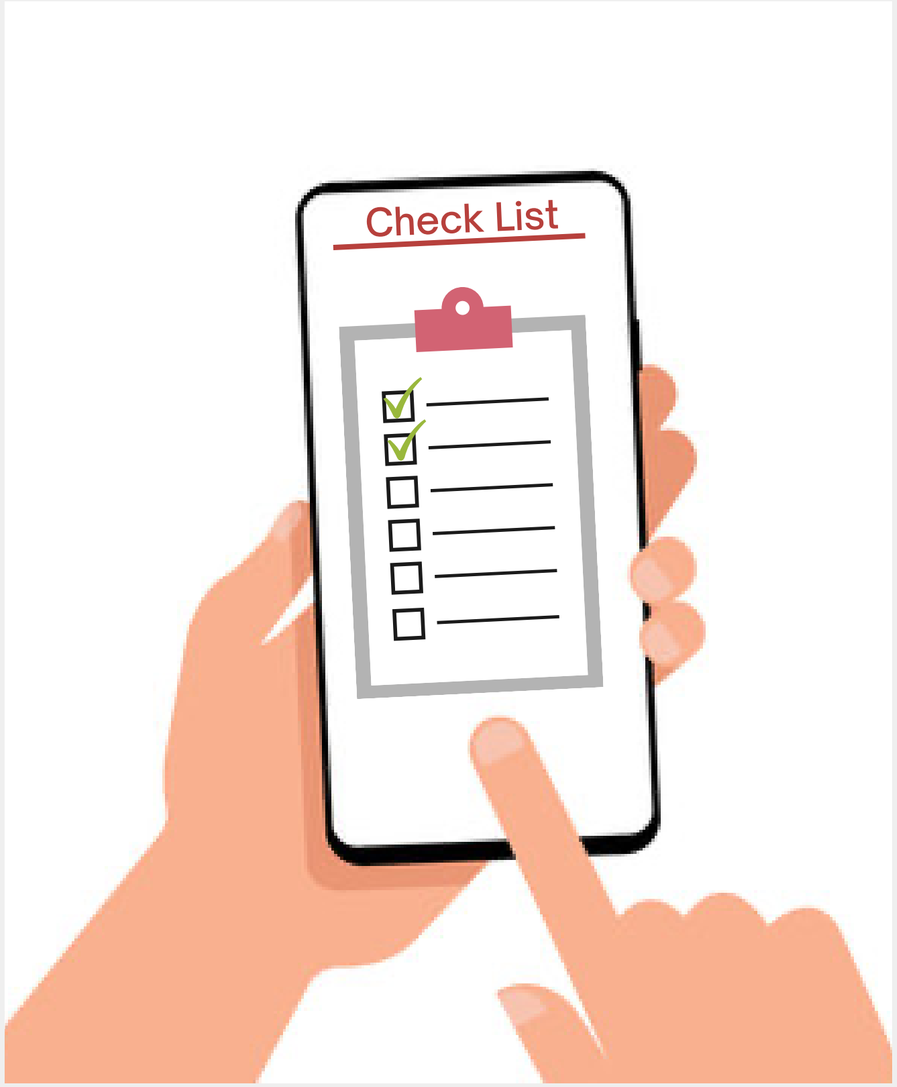
Features



Get recommended goals depending on your food intake

Usage Scenario

Features



Have your own health check list

Prototyping Plan

01 Low-fidelity:

Tools:

- Low fidelity: Scissors, paper, cardboard, pencil, colored pen, marker, Figma, Photoshop, Adobe Illustrator

Duration:

- **Design:** Week 5 ~ 6
- **User study:** Week 6~7
- **Iteration:** Week 7 ~ 9
- **Figma design:** Week 10 ~ 11
- **User study:** Week 11

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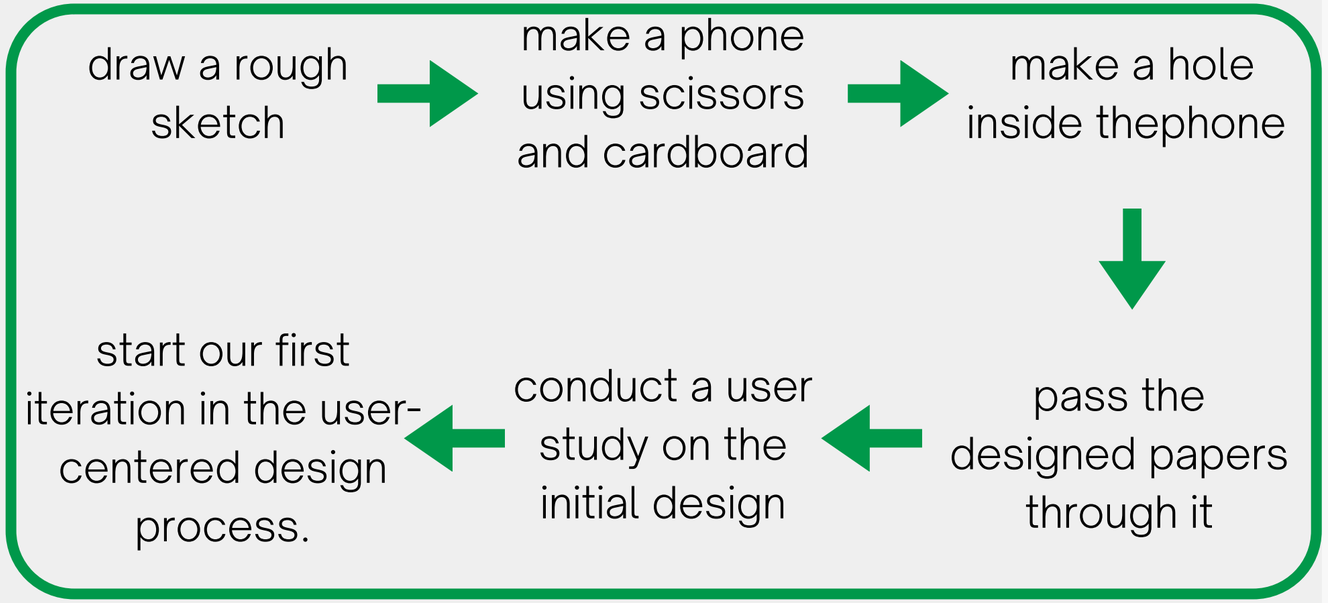
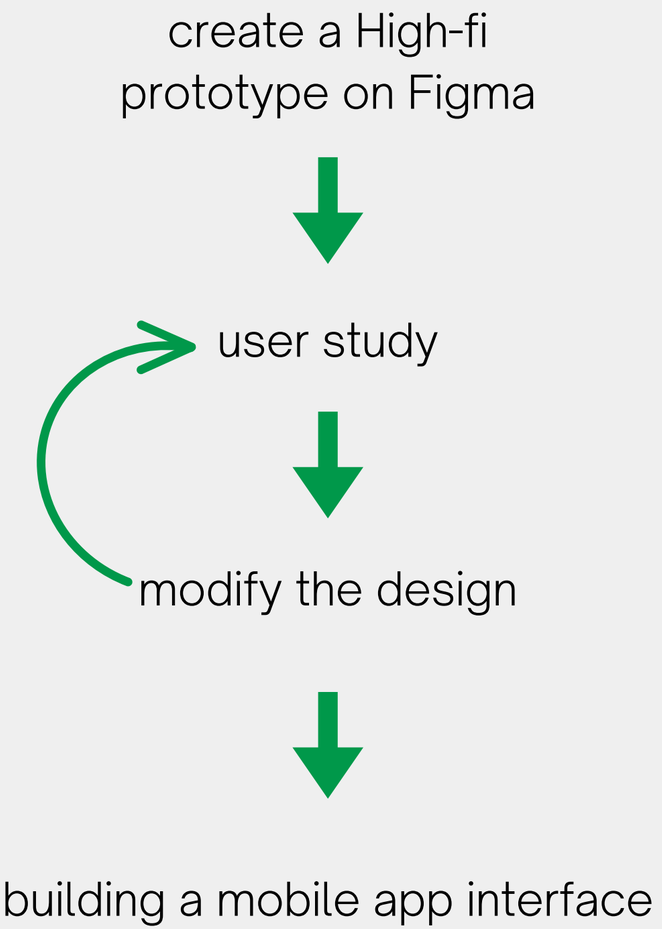
Prototyping Plan

01 Low-fidelity:



Prototyping Plan

02 Computer Low-fidelity:



Prototyping Plan

03 High-fidelity:

Front end:
- **Flutter**

REST API and the AI model:
- **Django framework**
- **PyTorch**

Duration:

- **Iteration**: Week 12
- **Front end & Backend development:** Week 12~14
- **User study:** Week 14
- **Finalize the product:** Week 15

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Thank You