FIRST BITE – DESIGN DOCUMENT

*The design document for our **First Bite** which outlines the high-level organization of the system, and its design architecture.*

CMPT 276: HW2

GROUP 07

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Table of Contents

REVISION CHART

Version	Primary Author(s)	Description of Version	Date Completed
Draft	Winston	Initial draft created for distribution and review comments	June 17th 2018
Preliminary	Han	Second draft incorporating initial review comments, distributed for final review	June 18th 2018
Final	Everyone	First complete draft, which is placed under change control	June 20th 2018
Revision 1	Jeff Han	Revised draft, revised according to the change control process and maintained under change control	June 18th 2018
Revision 2	Leon Winston	Revised draft, revised according to the change control process and maintained under change control	June 22nd 2018
Revision 3	Kelvin Leon	Revised draft, revised according to after completion of first iteration. Changed deliverables and its deadlines.	Jul 3rd 2018
Revision 4	Jeff Leon	Revised draft, revised according to after completion of second iteration. Changed deliverables and its deadlines.	Jul 17th 2018

1. GUIDELINES

1.1 Overview

Development will be done using the Xcode version 9.4 which is the latest stable release as of May 29, 2018. Swift is the primary programming language.

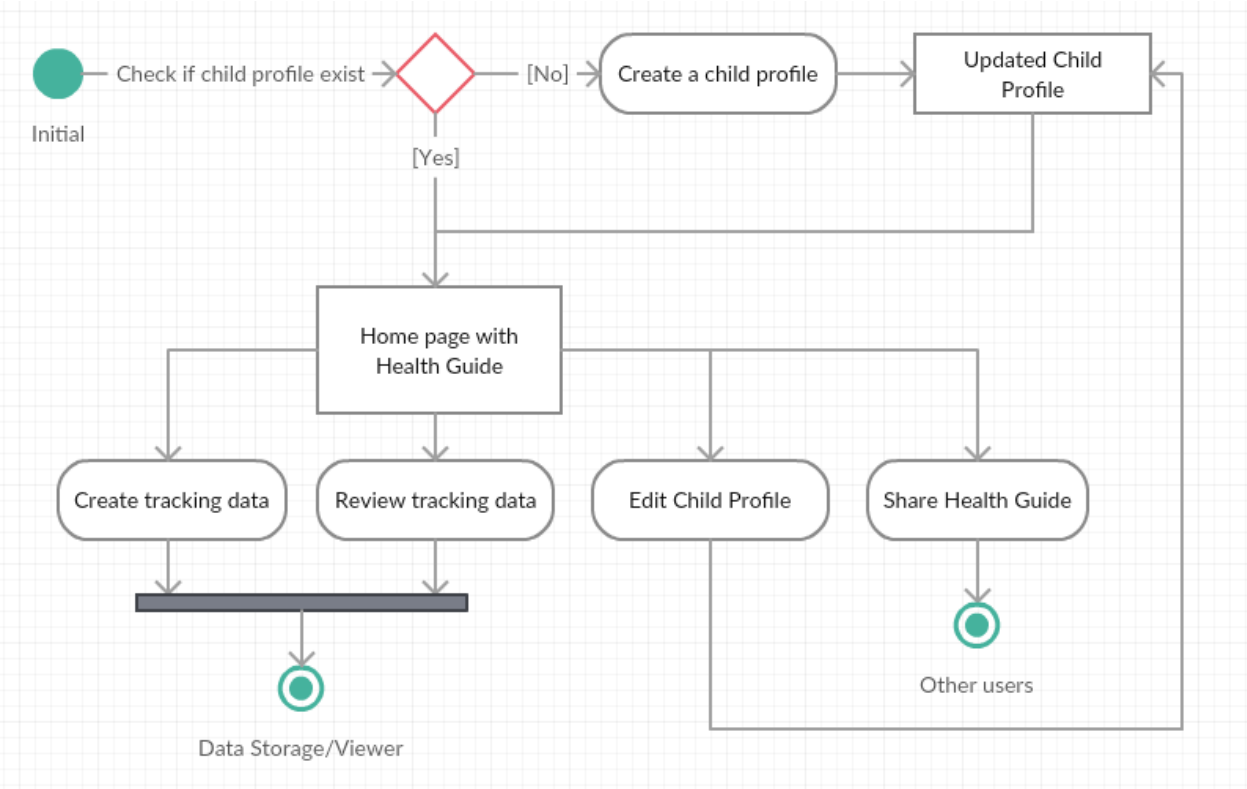
The project members will be using VMWare to run virtual mac OS on their window systems. The virtual operating system we use is MacOS 10.13 High Sierra. The project will also utilize the mac computer in the CSIL Labs at SFU Burnaby.

The project will be version controlled by the depository created on GitHub and revisions will be made and shared there. Furthermore, other resources such as schedule, project planning, other depositories will be located on the team's website.

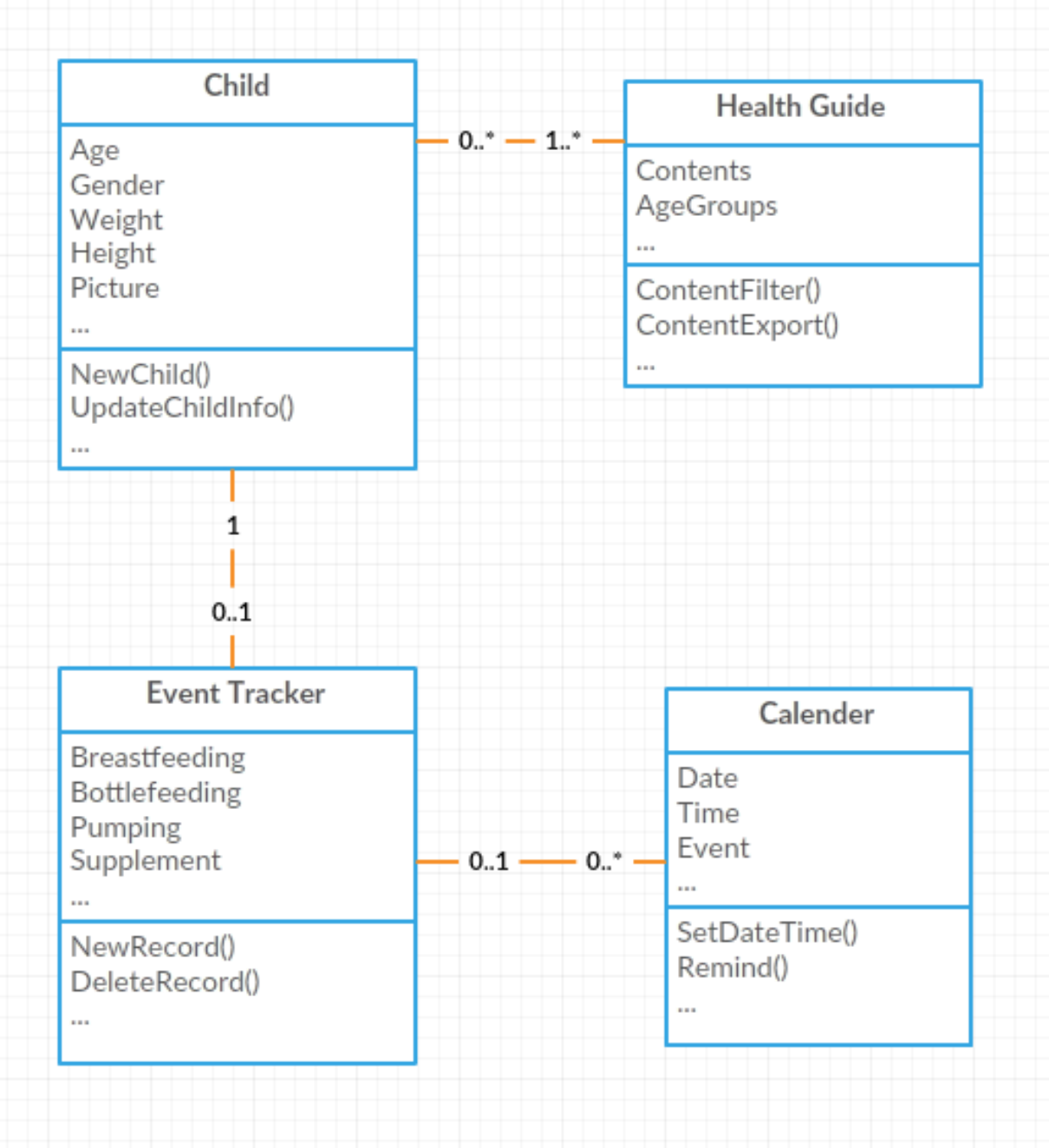
As for ethical or legal issues, there was not many that could be relevant to the course and project material. However, there may be legal issues regarding the resources and data the application provides. It is important to accurately represent official and scientific data in the application and not to spread misinformation. To prevent this, the group members will be working closely with licensed dieticians and be using approved and official documents only.

2. SYSTEM DIAGRAMS

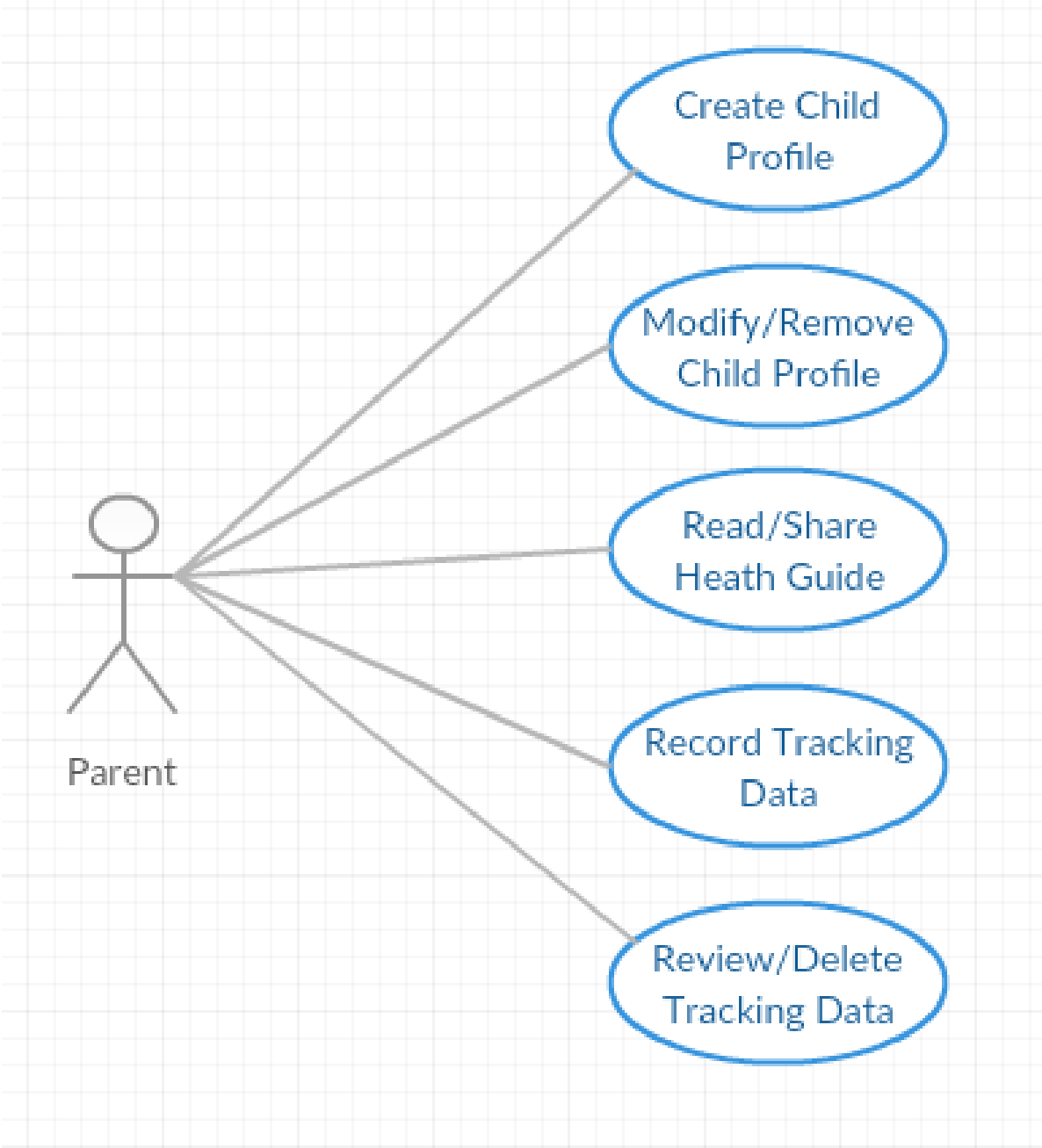
2.1 Activity Diagram



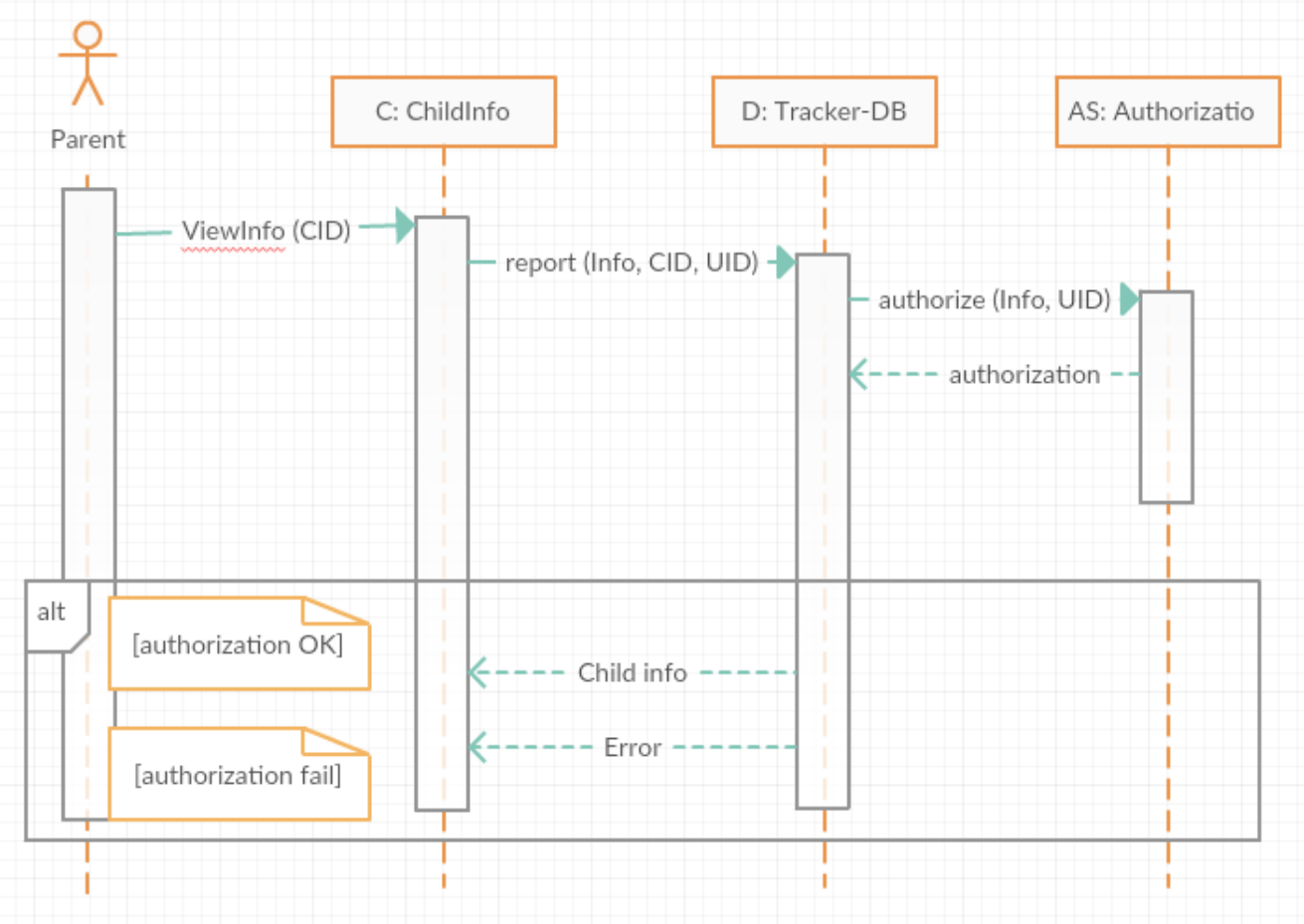
2.2 Class Diagram



2.3 User Cases Diagram



2.4 Sequence Diagram



3. DATA REQUIREMENTS

3.1 Overview

Our major features in First Bite will take numerous inputs in order to output a variety of information that will be useful for parents (*It is assumed that all information is regarding the infant).*

For ease of visibility, the exact inputs and outputs are **bolded.**

3.2 Food Diary (Logging)

3.2.1 Inputs

i. **Food and liquid consumption:** Our application will take a **name**, a **quantity** in grams or mL for food and liquid consumption, the **physical traits of the item** (liquid/solid/etc), its **generic food category**, and the **time and date of consumption**.

ii. **Breastfeeding Timer:** In order to estimate a breastfeeding quantity, the application will require the **duration of breastfeeding** in seconds.

iii. **Baby Formula Calculator**: A **baby weight** in kilograms/pounds and **age** in months will be needed to estimate a baby's estimated consumption of baby formula.

iv. **Satisfaction and Reactions**: A **Satisfaction Scale** that ranges from like, natural, dislike. a**llergy reactions** in the form of a editable note pad

3.2.2 Outputs

i. **Food and liquid consumption:** The application will then provide **diet information/suggestions** from the *Toddler's First Steps* PDF (Ministry of Health) and other suggestions Vancouver Coastal Health. A food diary history in the form of a **timeline** will also be produced.

ii. **Breastfeeding Timer**: An estimated amount of breastmilk consumed in mL will be given to the user after it is timed. It will also be inputted into the **Food Diary**.

iii. **Baby Formula Calculator**: An estimated consumption of **baby formula quantity** over a day in grams or mL will be estimated and given to the user after inputs are given.

v. **Satisfaction and Reactions**: Data stored in logs that can be referenced later, statistics will be generated in the overview feature from a weekly summary on the child's diet.

3.3 Profile

3.3.1 Inputs

i. **Profile:** The user is required to input a **name** and an **age** and in months in order for the application to work. Optionally, **heights** in m/ft, **weights** in kg/lbs, and the **sex** of the child can be inputted to complete the profile.

ii. **Records Page**: The user can optionally input **records** that they want, such as simple medical histories and vaccination shots.

iii. **BMI Calculator**: A baby **weight** in pounds/ounces, **age**, **gender,** and **height** will be needed to estimate the BMI of the infant.

3.3.2 Outputs

i. **Profile:** The user will be provided with **general statistics and summaries** including the baby's growth and weight over time. A **profile page** will also be immediately available after a name and age is given. **Achievements** will also be created (such as first solid food, happy birthday, etc.)

ii. **Records Page**: A **records page** will be generated based off the information the user has inputted.

iii. **BMI Calculator**: A **BMI** on the BMI scale will be produced for the baby after the inputs are given.

3.4 Dietary Guideline

3.4.1 Inputs

i. **Quick view**: The application will optionally require an **age** in months.

ii. **Bookmark:** The application will take the **chapter** and **page number** upon user request for a bookmark.

3.4.2 Outputs

i. **Quick view**: The application will produce a relevant **information in the user inputted age category**.

ii. **Bookmark:** The application will provide a quick access of **saved bookmark(s)**.

3.5 Utilities and Overview

3.5.1 Inputs

iii. **Trends and Statistics**: The application will require all the information inputted from the **Food Diary** (*1. a. i.*), as well as information from the profile feature.

iv. **Checklist**: The user can optionally submit **tasks**, which will require a **title** and optionally, **notes** on the task, **photos** from iOS Camera in .JPG format, and a **deadline time**.

3.5.2 Outputs

iii. **Trends and Statistics**: The application will **pie, bar, and t-charts**. It will also output common trends found in the Food Diary, such as a food satisfaction module, food group representation module, and weekly summaries

iv. **Checklist**: Upon the addition of tasks, the application will add these tasks onto the **schedule tasks view**. It will also provide the user with **push notifications** from the Apple Push Notification Service.

3.6 Data Backup and Syncing

3.6.1 Inputs

i. Backup: The application will require all the information inputted from the **Food Diary** (*1. a. i.*) and the **Profile** (*2. a. i.*).

ii. Exporting Data: The **Analytical Trends and Statistics** (*4. a. i.*) will be compiled with the information inputted and will be able to be exported on request. In order to save the data, an optional **network connection** in the form of Wi-Fi, cellular data, or AirDrop will be needed. An optional **email address** will also be required for emailing the data.

3.6.2 Outputs

i. Backup: The application will store the **inputted data** (*5. a. i.)* onto the user's device in the form of a **flat file**. The user will be further prompted to upload their **Application Data** onto iCloud in order to receive data from a new/restored/different device, following the iOS Data Storage Guidelines.

ii. Exporting Data: Upon request, the user will be given a **summary** of all the data in the form of a .CSV.

4. FEATURE PRIORITY

4.1 Version 1 – First Iteration (Working Protoype)

Food Diary

1. UI for Food Diary
2. Ability to record and input food and liquid consumption in data log
3. Edit and delete specific logs/entries
4. Timer function for breastfeeding

Healthy Eating Guide

5. UI for categories and topics
6. UI for bookmarked pages
7. Input data from pdf

4.2 Version 2 – Second Iteration

Food Diary

1. Scrollable table view, logs sorted by most recent
2. Expandable logs that retrieves data from servers
3. Baby formula calculator
4. Satisfaction scale
5. Allergies, and reaction note taking in data log

Healthy Eating Guide

6. Displays dynamically from database
7. Expansion to healthy eating guide
8. Bookmarking page framework

Profile

9. Profile set up page
10. Profile feature display and UI
11. Storing and retrieving data in server
12. Upload display picture from phone

Data Base Server

13. Integrated into app, stores and retrieves
14. Stores log data, and health guide info
15. Stores user profile info, bookmarked pages, statistics/ overview

General

16. UI updated

4.3 Version 3 – Final Iteration (Gold Version)

Profile

1. BMI calculator
2. Editing profile components (name, photo)
3. Take photos using the iOS camera
4. Medical records/ notes
5. Achievements

Healthy Eating Guide

6. Relevant articles
7. Sidebar and expandable keywords in reading

Utilities and Overview

8. Checklist and Reminders
9. Food group representation pie chart
10. Food satisfaction module
11. Average eating recommendation
12. Weekly overview/ summary

General

15. UI cleaning