MyDiet
MANAGEMENT
PROGRAM

Presented by Pie-Pie-Python Team (Yan Qin, Qianyi Wu)
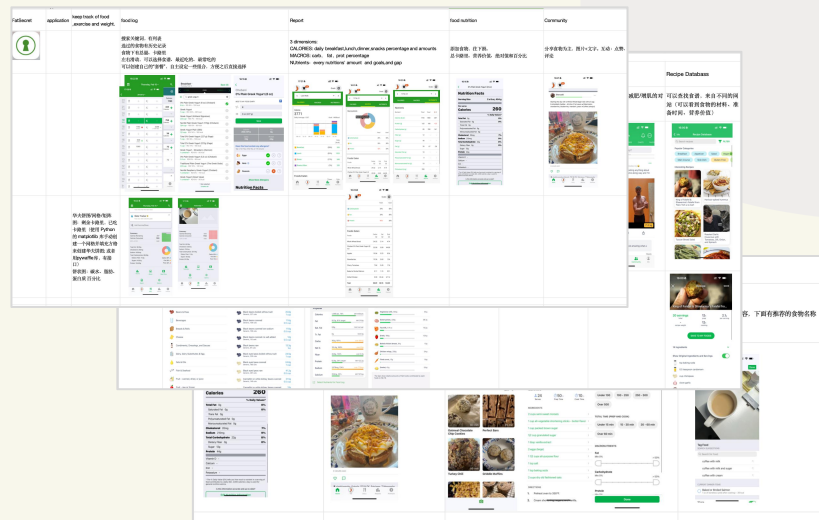
Background

Raise Question
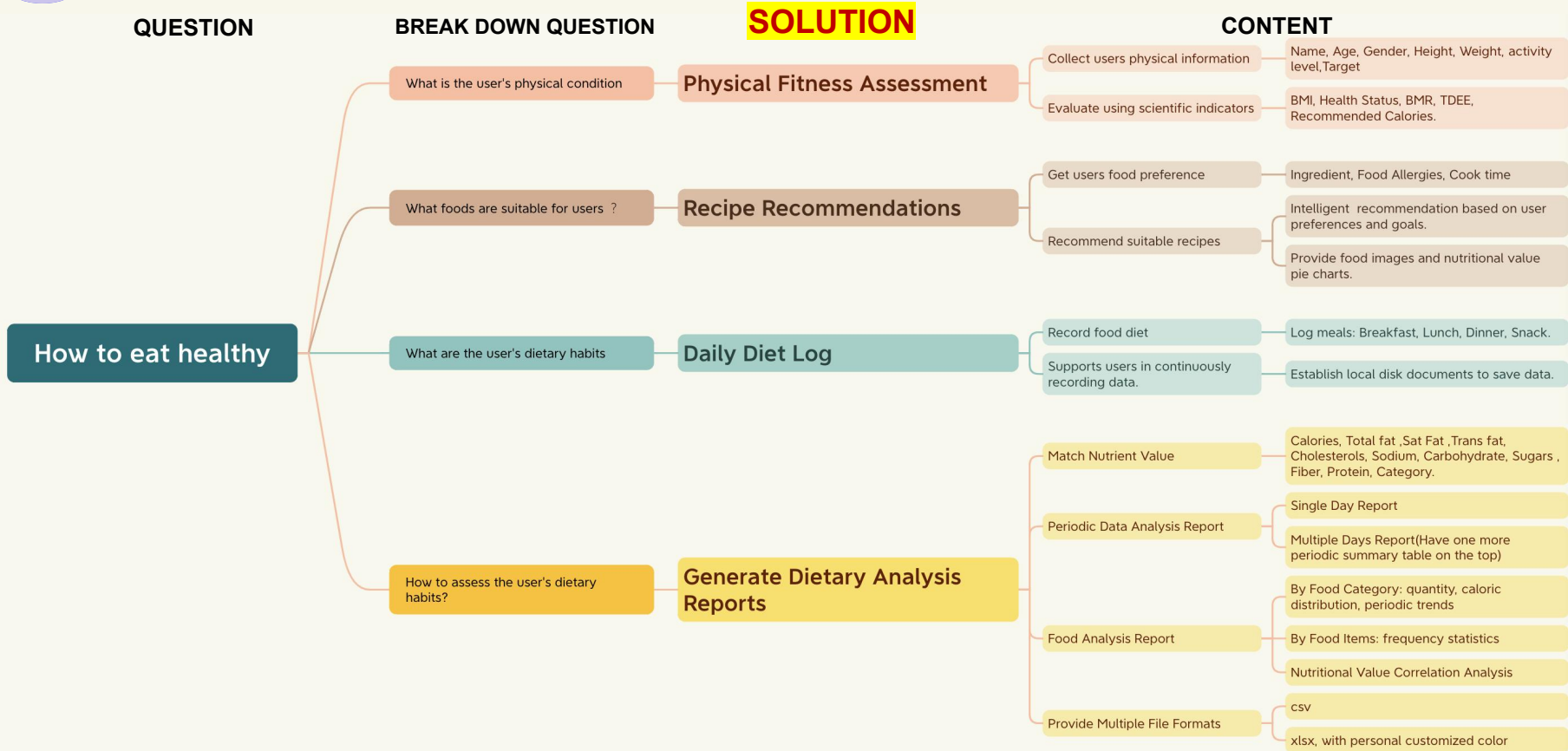

Competitive Product Research

Core Funtions

QUESTION	BREAK DOWN QUESTION	SOLUTION	CONTENT

How to eat healthy

What is the user's physical condition
→ **Physical Fitness Assessment**
- Collect users physical information → Name, Age, Gender, Height, Weight, activity level, Target
- Evaluate using scientific indicators → BMI, Health Status, BMR, TDEE, Recommended Calories.

What foods are suitable for users ?
→ **Recipe Recommendations**
- Get users food preference → Ingredient, Food Allergies, Cook time
- Recommend suitable recipes → Intelligent recommendation based on user preferences and goals.
- → Provide food images and nutritional value pie charts.

What are the user's dietary habits
→ **Daily Diet Log**
- Record food diet → Log meals: Breakfast, Lunch, Dinner, Snack.
- Supports users in continuously recording data. → Establish local disk documents to save data.

How to assess the user's dietary habits?
→ **Generate Dietary Analysis Reports**
- Match Nutrient Value → Calories, Total fat ,Sat Fat ,Trans fat, Cholesterols, Sodium, Carbohydrate, Sugars , Fiber, Protein, Category.
- Periodic Data Analysis Report → Single Day Report
- → Multiple Days Report(Have one more periodic summary table on the top)
- Food Analysis Report → By Food Category: quantity, caloric distribution, periodic trends
- → By Food Items: frequency statistics
- → Nutritional Value Correlation Analysis
- Provide Multiple File Formats → csv
- → xlsx, with personal customized color

1. Physical Fitness Assessment

Input physical information

```
Welcome to our health system. Please enter your information:
---------------------------------
- User Name: Bob
---------------------------------
- Age:  45
```

Generate users physical reports

```
Welcome to our health system. Please enter your information:
---------------------------------
- User Name: Bob
---------------------------------
- Age: 45
---------------------------------
- Gender(Male/Female): Male
---------------------------------
- Height(in meters): 1.83
---------------------------------
- Weight(in kg): 102

    Sedentary: Little to no exercise. Spend most of the day seated.
    Lightly Active: Light exercise for 30 minutes per day, 3-5 times a week.
    Moderately Active: Moderate exercise for 1 hour per day, 3-5 times a wee
    Very Active: Intense exercise for 1 hour per day, 5-7 times a week.
    Extra Active: Intense exercise for at least 2 hours every day.

    - Choose your activity level:
    Sedentary
---------------------------------
Target(lose weight/maintain weight/muscle building): lose weight
---------------------------------
- BMI: 30.46
- Health Status: Obesity
- BMR: 1943.75
- TDEE: 2332.5
---------------------------------
- Recommended Calories:  1866.0
```

Nutrient Distribution

Carb: 52.3%
Protein: 34.8%
Fat: 12.9%

TDEE vs Recommended Calories Report

TDEE 2332.5
Recommended Calories 1866.0

Nutrient Intake

Protein 139.95
Fat 51.83
Carb 209.93
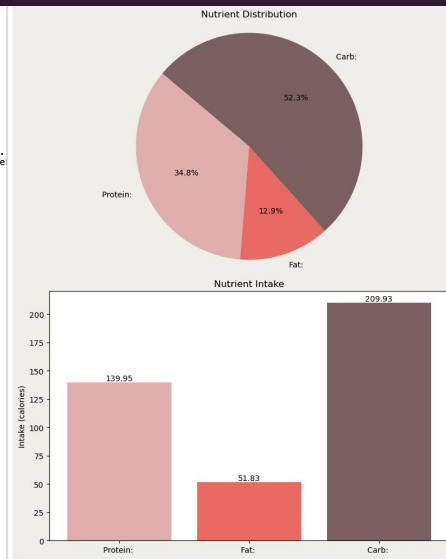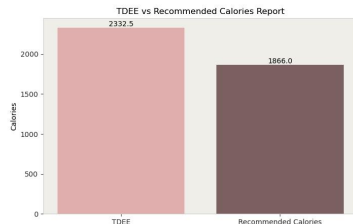
- **Collect Users Physical Information**

   Information includes : Name, Age, Gender, Height, Weight, Activity level, Target

- **Evaluate Using Scientific Indicators**

   Use the information to calculate scientific physical index: BMI, Health Status, BMR, TDEE, Recommended nutrient (Calories, Carb, Protein and Fat).

- **Generate Physical fitness Report**

   In addition to physical health indicators, report use Bar charts and Pie charts for clear and immediate user understanding.

Functionality 1
Assess physical fitness

More cases illustrations in this video
➡
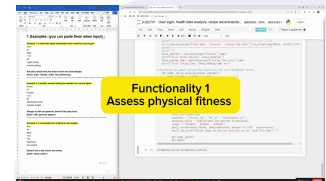
2. Recipe Recommendations

Input Physical Information

```
In [*]: recommended_recipe(recommended_calories)

        Please tell us what ingredients you don't want to eat (separate with ','):
        onion, celery
```

- **Input The Food Preference**

• Users can entry **multiple foods**

- **Generate Recipe Recommendation**

• The recommendations of recipe based on **physical fitness index** and **food preference**

• **Food pictures** can gain users' goodwill.

• **Pie chart** data increase the credibility of recommendations.

Recommendation recipes for Emma

```
Please tell us what ingredients you don't want to eat (separate with ','): milk, peanuts, pepper

According to your preference, the recommended recipes are as follows:
_____
Dish Name                        Calories  Cooking Time (min)
Potato and Cheese Lentil Casserole 1416     65
              Beef Stew            745      180
    Dijon Garlic Brussels Sprouts  145      40
_____

Total Intake Calories: 2306
Total Cooking Time: 285 min
```
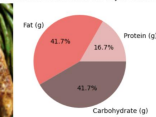
Recipe Image and Nutrient Distribution for 'Potato and Cheese Lentil Casserole'
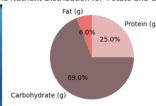
Recipe Image and Nutrient Distribution for 'Beef Stew'
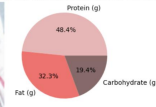
Recipe Image and Nutrient Distribution for 'Dijon Garlic Brussels Sprouts'

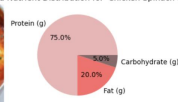### Recommendation recipes for Jack

```
Please tell us what ingredients you don't want to eat (separate with ','):

According to your preference, the recommended recipes are as follows:
_____
Dish Name                        Calories  Cooking Time (min)
Chicken Spinach Mozzarella 1549   30
     Chocolate Orange Cake  873   70
           Fried Okra       138   20
_____

Total Intake Calories: 2560
Total Cooking Time: 120 min
```
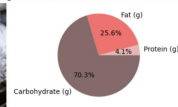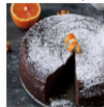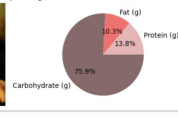
Recipe Image and Nutrient Distribution for 'Chicken Spinach Mozzarella'

Recipe Image and Nutrient Distribution for 'Chocolate Orange Cake'

Recipe Image and Nutrient Distribution for 'Fried Okra'


Recommendation recipes for Bob

```
Please tell us what ingredients you don't want to eat (separate with ','): onion, celery

According to your preference, the recommended recipes are as follows:
_____
Dish Name                        Calories  Cooking Time (min)
Chicken Spinach Mozzarella 1549   30
      Salad cum Pasta 335   60
_____

Total Intake Calories: 1884
Total Cooking Time: 90 min
```
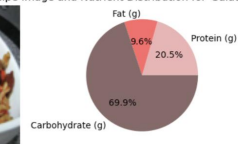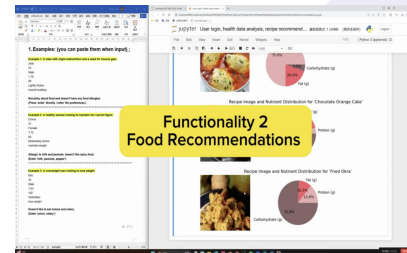
Recipe Image and Nutrient Distribution for 'Chicken Spinach Mozzarella'
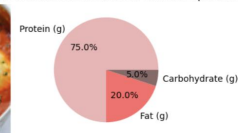
Recipe Image and Nutrient Distribution for 'Salad cum Pasta'

More cases illustrations in this video

Functionality 2
Food Recommendations

3. Daily diet Log

Log food of each meals

- **Record food diet**
  - input date, meals, food name
  - Meals: Breakfast, Lunch, Dinner, Snack.

- **Supports continuously Log Meals**
  - Establish local disk documents to save data.

First day log

	A	B	C	D
1	User_Name	Date	Meal	Food_items
2	John Doe	2024/4/8	Breakfast	American Cheese
3	John Doe	2024/4/8	Breakfast	Banana Peppers
4	John Doe	2024/4/8	Lunch	Black Forest Ham
5	John Doe	2024/4/8	Dinner	Cheese Lava Burger
6	John Doe	2024/4/8	Dinner	chinese_fried_rice
7	John Doe	2024/4/8	Snack	Puddings
8				
9				
10				

Second day log

	A	B	C	D
1	User_Name	Date	Meal	Food_items
2	John Doe	2024/4/8	Breakfast	American Cheese
3	John Doe	2024/4/8	Breakfast	Banana Peppers
4	John Doe	2024/4/8	Lunch	Black Forest Ham
5	John Doe	2024/4/8	Dinner	Cheese Lava Burger
6	John Doe	2024/4/8	Dinner	chinese_fried_rice
7	John Doe	2024/4/8	Snack	Puddings
8	Peter	2024/4/9	Breakfast	blueberry yogurt
9	Peter	2024/4/9	Lunch	Grilled Cheese
10	Peter	2024/4/9	Lunch	Pizza Sub
11	Peter	2024/4/9	Dinner	Mc chicken Burger
12	Peter	2024/4/9	Dinner	Oven Roasted Chicken
13	Peter	2024/4/9	Snack	cake

Third day log

	A	B	C	D
1	User_Name	Date	Meal	Food_items
2	John Doe	2024/4/8	Breakfast	American Cheese
3	John Doe	2024/4/8	Breakfast	Banana Peppers
4	John Doe	2024/4/8	Dinner	Cheese Lava Burger
5	John Doe	2024/4/8	Dinner	chinese_fried_rice
6	John Doe	2024/4/8	Snack	Puddings
7	Peter	2024/4/9	Breakfast	blueberry yogurt
8	Peter	2024/4/9	Lunch	Grilled Cheese
9	Peter	2024/4/9	Lunch	Pizza Sub
10	Peter	2024/4/9	Dinner	Mc chicken Burger
11	Peter	2024/4/9	Dinner	Oven Roasted Chicken
12	Peter	2024/4/9	Snack	cake
13	wilson	2024/4/10	Breakfast	Egg & Cheese
14	wilson	2024/4/10	Breakfast	English Breakfast
15	wilson	2024/4/10	Lunch	Double ShackBurger
16	wilson	2024/4/10	Lunch	Double Vanilla Cup
17	wilson	2024/4/10	Dinner	Regular Fries
18	wilson	2024/4/10	Dinner	Tomato juice
19	wilson	2024/4/10	Snack	Cappuccino

More cases illustrations in this video ➡

Functionality 3
Record Daily Food

Functionality 4
Generate Dietary Analysis Report
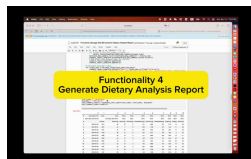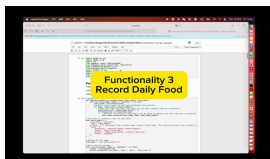
4. Dietary Analysis Reports

Periodic Analysis Report

- **Single Day Report** (basic version)
  - User name, start date, end date
  - Total nutritional value of each meal
  - Each nutritional value of each food
  - Total nutritional value of a day
  - Recommended calorie completion rate

- **Multiple days Report** (upgrade version)
  - Firstly display a periodic summary table on the top.
  - Then print every single day.

- **Multiple File Formats**
  - CSV file
  - XLSX file (Users can choose color template)

- **Match Nutrient Value**

Start Date: 2024-03-25	Calories	Total fat (	Sat Fat (g	Trans fat	Cholesterol	Sodium (n	Carbohyd	Sugars (g)	Fiber(g)	Protein (g)
2024-03-25	1263	43	14	0	129	2134	172	24	24	49
2024-03-26	1864	79	18	1	152	1874	191	33	28	82
2024-03-27	1120	25	10	0	164	2860	170	20	14	50
Total	5638	214	71	3	779	10250	634	95	76	270

Date:2024-03-25	Calories	Total fat (	Sat Fat (g	Trans fat	Cholesterol	Sodium (n	Carbohyd	Sugars (g)	Fiber(g)	Protein (g)
Breakfast	281	11	6	0	53	743	29	2	0	16
-Sausage Mc Muffin w	281	11	6	0	53	743	29	2	0	16
Lunch	798	30	6	0	76	1384	104	3	7	27
-chinese_fried_rice	348	5	1	0	36	774	66	1	2	8
-Tuna	450	25	5	0	40	610	38	2	5	19
Dinner	80	2	2	0	0	2	14	0	15	4
-Vegetable	80	2	2	0	0	2	14	0	15	4
Snack	104	0	0	0	0	5	25	19	2	2
-blueberries	57	0	0	0	0	1	14	10	2	1
-orange	47	0	0	0	0	4	11	9	0	1
Total	1263	43	14	0	129	2134	172	24	24	49
% of my target	70%	6%	No Target	No Target	43%	92%	21%	No Target	96%	13%

Date:2024-03-26	Calories	Total fat (	Sat Fat (g	Trans fat	Cholesterol	Sodium (n	Carbohyd	Sugars (g)	Fiber(g)	Protein (g)
Breakfast	212	3	1	0	10	125	34	0	14	14
-Low Fat Milk	110	3	1	0	10	125	14	0	14	10
-whole-wheat-bread	102	1	0	0	0	20	0	0	4	
Lunch	1390	73	16	1	133	1626	111	23	4	55
-Pancakes	250	9	0	0	10	8	28	0	7	7
-sour pork	540	27	5	0	48	608	47	21	2	18
-Tuna Fresh Melt	600	37	11	1	75	1010	36	2	3	30
Dinner	0	0	0	0	0	0	0	0	0	0
Snack	262	3	1	0	9	123	46	10	2	13
-strawberry yogurt	160	2	1	0	9	123	26	10	1	9
-whole-wheat-bread	102	1	0	0	0	0	20	0	0	4
Total	1864	79	18	1	152	1874	191	33	28	82
% Of my target	103%	12%	No Target	No Target	50%	81%	23%	No Target	112%	22%

Date:2024-03-27	Calories	Total fat (	Sat Fat (g	Trans fat	Cholesterol	Sodium (n	Carbohyd	Sugars (g)	Fiber(g)	Protein (g)
Breakfast	220	9	4	0	25	255	27	5	8	10
-Bacon	70	6	2	0	15	250	1	0	0	5
-Oatmeal	150	3	2	0	10	5	3	5	7	5
Lunch	282	12	5	0	130	642	23	3	0	16
-tacco	282	12	5	0	130	642	23	3	0	16
Dinner	356	1	0	0	0	1840	74	2	4	11
-Japanese noodles	356	1	0	0	0	1840	74	2	4	11
Snack	262	3	1	0	9	123	46	10	2	13
-mango yogurt	160	2	1	0	9	123	26	10	2	9
-whole-wheat-bread	102	1	0	0	0	0	20	0	0	4
Total	1120	25	10	0	164	2860	170	20	14	50
% Of my target	62%	3%	No Target	No Target	54%	124%	20%	No Target	56%	13%

Date:2024-03-25	Calories	Total fat (g	Sat Fat (g	Trans fat (g	Cholesterol (mg	Sodium	Carbohydr	Sugars (g)	Fiber(g)	Protein (g)
Breakfast	281	11	6	0	53	743	29	2	0	16
-Sausage M	281	11	6	0	53	743	29	2	0	16
Lunch	798	30	6	0	76	1384	104	3	7	27
-chinese_fr	348	5	1	0	36	774	66	1	2	8
-Tuna	450	25	5	0	40	610	38	2	5	19
Dinner	80	2	2	0	0	2	14	0	15	4
-Vegetable	80	2	2	0	0	2	14	0	15	4
Snack	104	0	0	0	0	5	25	19	2	2
-blueberrie	57	0	0	0	0	1	14	10	2	1
-orange	47	0	0	0	0	4	11	9	0	1
Total	1263	43	14	0	129	2134	172	24	24	49
% Of my ta	70%	6%	No Target	No Target	43%	92%	21%	No Target	96%	13%

Example 1: Single day csv file

Example 2: Multiple days xlsx file

4. Dietary Analysis Report (Food Analysis Report)

Bar Chart

• Show number of food items in each category

WordClouding

• Visualize the foods that appear most frequently

Bar Chart

• Visualize the daily calorie, protein, and fat intake for each food group

Sunbrust Chart

• Display the portion of each food category

Correlation Heatmap
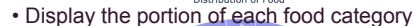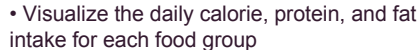
• Display the correlationship between nutrients
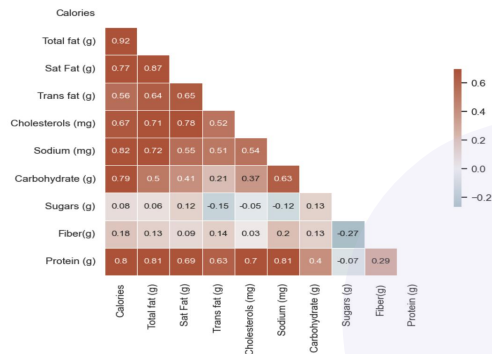
Highlights

Graphical Data Reports

- Offering data analysis with 7 chart types for clear insights

Personalized Services

- Personalized services based on dietary preferences and goals
- customizable report styles

Diverse User Experience

- From data input to report download, offering versatile choices for a convenient user experience

Future Work

Establish fully functional website

- Build the front-end pages, set API

Optimize the algorithmic models

- Expand database
- add multi-dimensional monitoring indicators such as exercise, weight tracking, sleep, etc.,
- continuously train the models with user feedback data

Develop a social feature for diet

- Upload recipes, share recipes, content sharing, and interactions such as likes

THANKS

Presented by Pie-Pie-Python Team

Division of work:

Yan Qin: Function 3 & Function 4

Qianyi Wu: Function 1 & Function 2