Healthy Diet Project

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With more healthcare related news, knowledge and information widely spread across various media, more and more people realized the importance of eating healthy. A lot of people around us choose diet to well manage the health fitness. This project is a pilot to develop a tool helping people manage their weight with diet menu in a simple way. We use python as the key development language to implement the design.

1. Installation

Firstly, please ensuring that the environment is available. Downloading the file: app.py, and storing the Allergy.csv, Nutritions.csv, Weight Change.csv, Users.csv into the New File called data. Secondly, please find the place of storing the app.py; Thirdly, inputting the (streamlit run app.py) into the available environment prompt(like as Anaconda Prompt). The program will start to run in the localhost.

2. Overview of Program Process

- Users Inputting

Any new users can input their personal information on the left side bar, including: Name, Gender, Weight, Height, Allergy and Date.

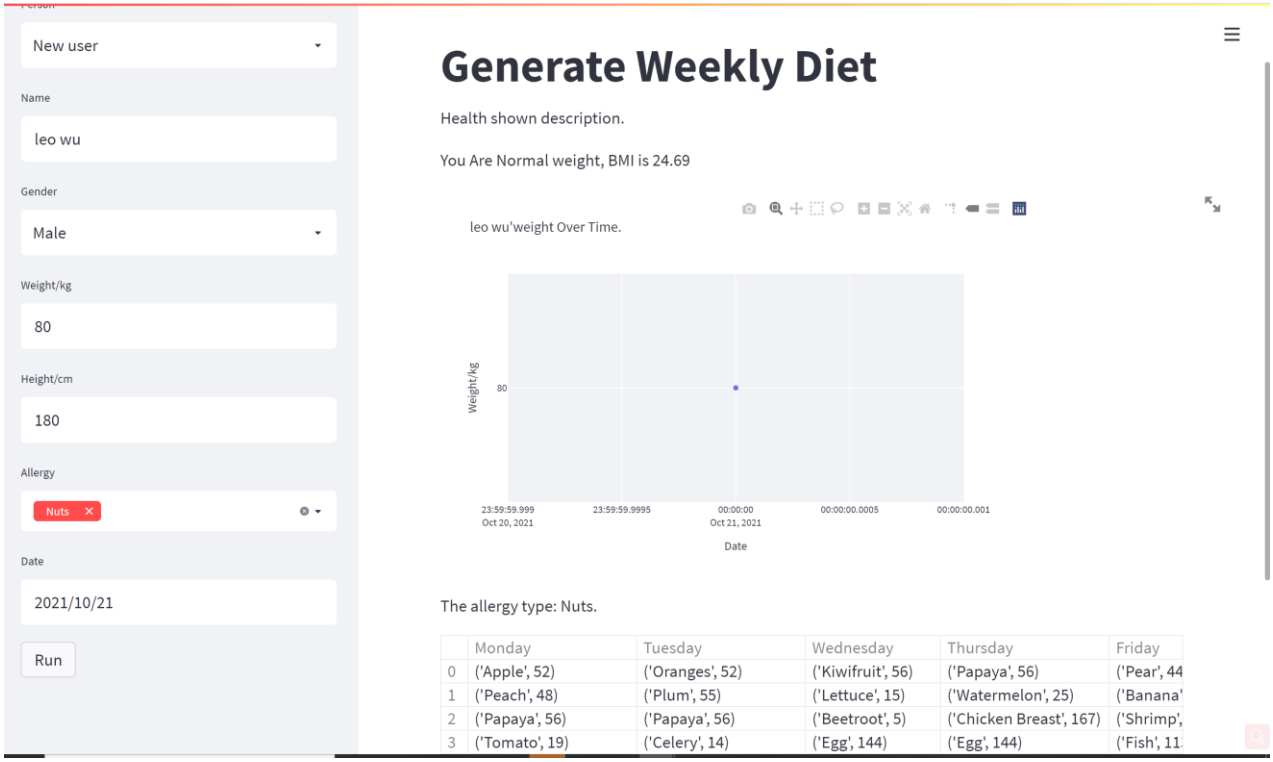
- Weight Recording plot and Specific Food Diet Plan

The program will analyze users' healthy condition from the BMI, and showing their Healthy condition and BMI value; the weight change over the time will be shown as the plot. The allergy will be taken off from the diet plan and showing the weekly food schedule as final.

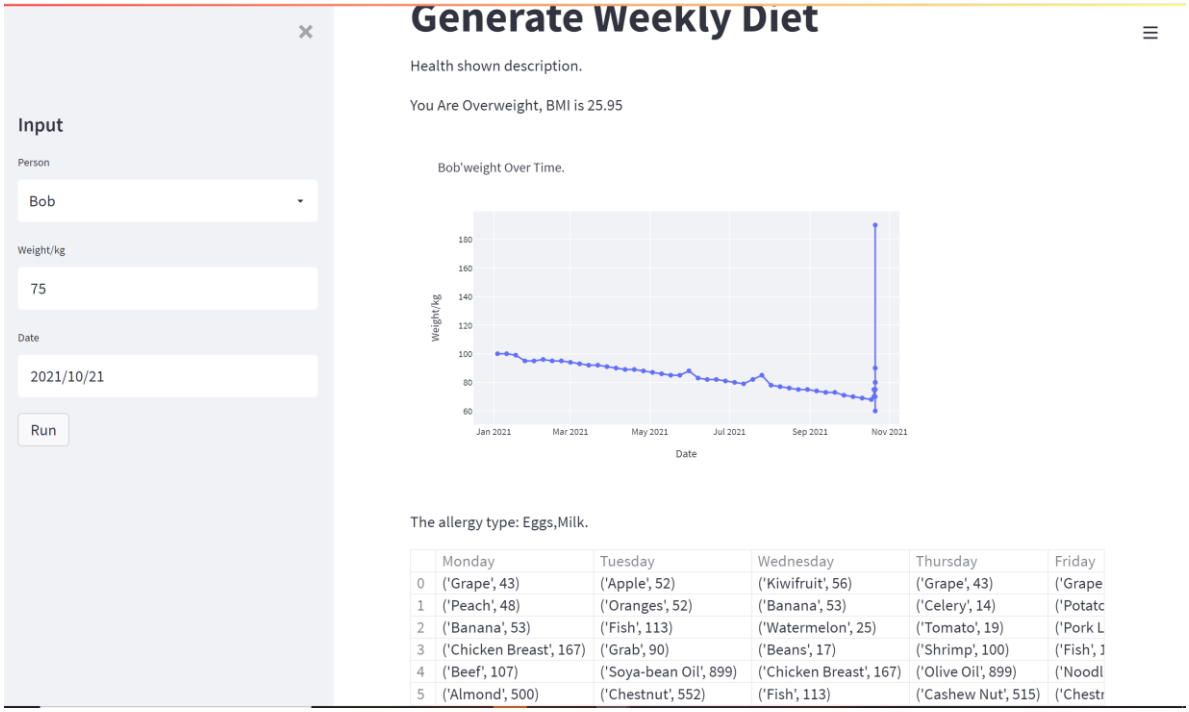
- Users information Writing

In this program, I use the Excel to store the user's information and weight changes. If the user has been inputted the information before, the information has been recorded and he/ she just records the weight per week the plot will showing the changes and showing the current healthy condition.

Example of New Use View:



Example of Existed Use View:



3. The Process of Development

In this program, I mainly use the libraries, including streamlit, to visualise the overall code. Pandas is easier to extract the relevant data from these CSV files and index and apply these data. Plotly. express is to plot the final weight change trends and needs less lines showing the result. Datetime and random also are used in the part of my programme.

Firstly, I used the two classes: Person and Diet generator. These classes are separately in the personal information collected to get the BMI value and plot the weight changes. The Diet Generator part is to check whether or not the user could have any allergy and generate the daily diet and weekly diet. In this part, I import the random that can randomly generate the daily and weekly diet without some allergy types. After that, I used Pandas to read these existing files,

which is much easier and straightforward. We use the knowledge of Pandas to make the data frame written into the User.csv for recording the user's information. Using streamlit part, I set up one sidebar. In this part, the users can easily input their information more visually. In this program me, I hope to use more simple and direct methods to make my code more clearly.

4. Further Work

All users who enter information can compare with the average weight of other users who also use the app. Because we already have a CSV database. We can use the comprehensive information as an average in a dot plot for users to compare.

Additionally, in the future, since users can enter unique user names in the current software and can enter no duplicate user names, unique user id numbers will be a good choice. Generating unique ID numbers can improve this. The initial thought steps are:

```
def generate_id():
    """generate id"""
    gid_values = []
    for num in range(100000,10000000):
        gid_values.append(num)
        index0 = random.randint(0,len(gid_values)-1)
        index1 = len(gid_values) - 1
        tmp_value = gid_values[index0]
        gid_values[index0] = gid_values[index1]
        gid_values[index1] = tmp_value
    return gid_values.pop()
```

This code is just a preliminary idea and we hope it can be verified in the future.