

## Be Well - A Health Survey

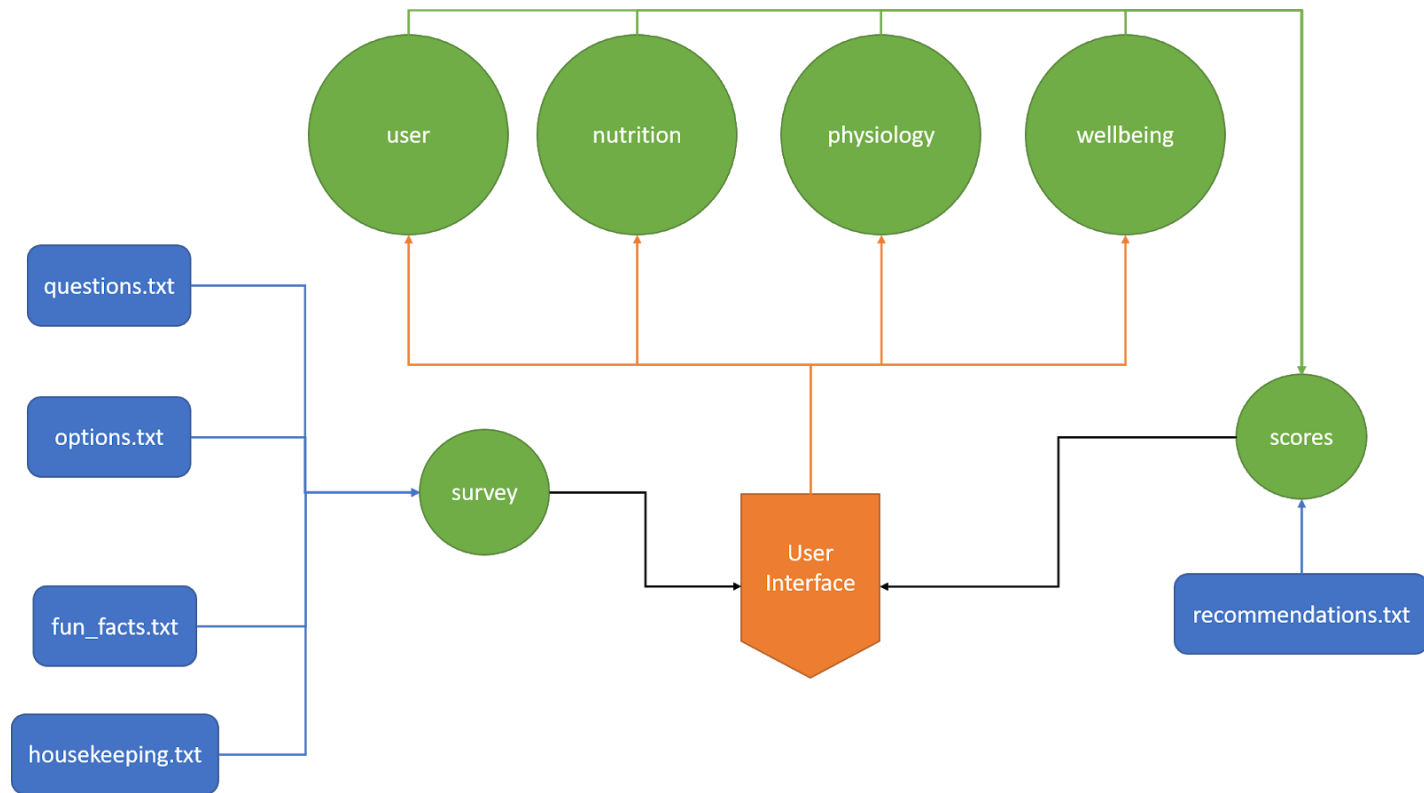
### Description:

The user will be presented with a number of questions in the form of a survey. Options for the answers will be provided for each question. Based on the answers the user gives, scores will be calculated for the physical and mental health of the user. Based on these scores, the user will receive an output detailing their behaviors that improve or hurt their physical or mental health and the recommendations on what they could be doing to improve their health and wellbeing.

**Background:** This survey will be based on research into the recommended amount of calorie intake for a person, amount of physical exercise, sleep duration and other recommendations available generally on the internet.

### Structure:

- A flow chart visualization of the program is shown below.
- A class **survey** shall be responsible for guiding the user through the survey by providing instructions, questions, options and fun facts to the user interface. It shall receive the text based data from different txt files as shown.
- The answers given by the user will be provided to the 4 main data handling classes. These 4 classes shall process the data further to calculate important health related attributes. These classes are **user**, **nutrition**, **physiology** and **wellbeing**.
- The health related attributes calculated by the 4 classes shall be provided to a **scores** class. The scores class shall process the data from all these classes together and calculate scores for the user's physical and mental health. It shall use these scores to provide recommendations to the user using data from a txt file.



## Classes:

Some further details on classes and possible attributes and methods are presented below.

1. **user** - class to store user specific information like height, weight, sex etc. this class will also calculate information like resting calorie count, required sleep duration, hydration requirements etc. based on the user information.
  - a. Attributes
    - i. name
    - ii. age
    - iii. sex
    - iv. height
    - v. weight
    - vi. build
    - vii. resting\_cal\_count
  - b. Methods
    - i. `__init__`
    - ii. `add_info`
    - iii. `update_info`

- iv. `calculate_resting_cal_count`
- 2. **nutrition** - class to store nutrition information of the user such as breakfast, lunch, dinner. This class will also calculate calorie intake of the user and track nutrients in the users meals.
  - a. Attributes
    - i. `breakfast`
    - ii. `lunch`
    - iii. `dinner`
    - iv. `calorie_info`
    - v. `nutrients_info`
  - b. Methods
    - i. `__init__`
    - ii. `count_calories`
    - iii. `track_nutrients`
- 3. **physiology** - class to store physiological information such as duration and intensity of exercise, sleep duration, hydration amount etc. This class will calculate the calories burnt, sleep deficit, hydration deficit etc.
  - a. Attributes
    - i. `exercise`
    - ii. `sleep`
    - iii. `hydration`
    - iv. `stretching`
  - b. Methods
    - i. `__init__`
    - ii. `count_calories`
    - iii. `count_sleep_deficit`
    - iv. `count_hydration`
- 4. **wellbeing** - class to store time spent on activities that affect wellbeing such as work, rest, community time, self fulfilling hobbies etc. This class will calculate if recommended amounts of time are dedicated to each of these.
  - a. Attributes
    - i. `rest`
    - ii. `work`
    - iii. `community`
    - iv. `self_fulfilment`
- 5. **scores** - class to receive health related information from the 4 above classes. This class will analyze the data provided by the 4 classes and calculate physical and mental health scores for the user. The class will use the scores to provide recommendations to the user to improve their health. The recommendations shall be stored in a text file accessible to the scores class.
  - a. Attributes
    - i. `physical_health_score`
    - ii. `mental_health_score`
    - iii. `recommendations`

- b. Methods
  - i. `__init__`
  - ii. `cal_phy_health`
  - iii. `cal_ment_health`
  - iv. `provide_recommendation`
- 6. **survey** - class to guide the user through the survey. This class will provide instructions to the user, ask questions, offer options as answers and provide fun facts about health to the user. It will access all the text information from different text files.
  - a. Attributes
    - i. `questions`
    - ii. `options`
    - iii. `fun_facts`
  - b. Methods
    - i. `ask_question`
    - ii. `provide_options`
    - iii. `recevie_answers`
    - iv. `provide_fun_fact`
    - v. `introduction`