

Diet & Exercise Multitool

1. Defining the problem

Mr. Wojtek is a personal trainer working at a nearby gym. He advises his clients on how they should exercise and what diet they should follow. He often sits down with his clients to discuss those issues. He does not only provide feedback but also wants to teach them how to live a healthy lifestyle. He wants his customers to be able to make their own schedule of exercises and diet at some point of their cooperation.

As Mr. Wojtek stated in the interview, he is planning diet and exercises precisely with pen and paper and that takes a lot of time and effort. He is annoyed by the fact that every time he needs to check nutritional values of products and meals, because of the variety of cuisine his customers prefer. He has also acquired some feedback from the customers stating that they have to create very long shopping lists. Moreover, customers ask when they will feel the effects of change in their lifestyle to which Mr. Wojtek can not always answer exactly, because he doesn't know every body characteristic of his client. Another problem is that Mr Wojtek's customers, when after some time they try to change the diet or create another, they make many mistakes despite his teachings. The above issues hold him back from fully developing his business model in which he is not only an excellent personal trainer, but also a teacher that teaches people about their health and nutrition.

2. Solution

To solve this issue I will write a database type application for Mr. Wojtek that will allow him and his clients to create diets for a period of time combined with exercise schedules. The application will also provide all the information needed to assess whether the diet and exercises plan on a given day and combined on the entire week are well structured. The application will try to predict weight loss/gain based on the information provided by the user.

3. Rationale

After consideration I decided that I would write a Java Application for Mr. Wojtek. Another option I have considered is writing a website, but that would require additional security and maintenance measures which I can not afford. Moreover Mr. Wojtek stated that he would prefer to work offline as there is a slow internet connection in the gym where he works and he has had a recent experience with his computer being hacked.

I choose Java and R as languages because of multiple reasons. To me this is the most familiar language, which additionally has multiple libraries that would help developing the application. It gives many possibilities of GUI development and Object Oriented Programming. OOP is for me especially important, because this programme will have many classes intersecting with one another. Unfortunately Java is not good with xml file processing. That is why I plan to write a

short script in R that will allow me to edit and write the data regarding nutritional values from xml file to txt file.

4. Success Criteria

- Possibility of inputting data about their body weight, height and age
- Possibility of creating, reading from file, saving and loading daily plan of nutrition and exercises
- Ability for the programme to analyse the daily plan and asses it giving hints on what to change
- Possibility of printing shopping list for a given day or a period
- Possibility of seeing the summary of the day of the week in total with nutritional values and calories.
- Possibility of seeing the predicted effects of the diet in x weeks in the form of a chart showing his predicted weight.

596 words