DietPatcher

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1   Introduction

Generally, people are not really aware about what they are/should be/should not be eating. Recently, however, many have started seeking information about food and diets; to this end, the Internet is a great and mostly used resource, thus many websites already exist which provide nutritional information to the users at various levels of personalization: some have a passive, dictionary-like approach based on lists or tables, while others show more individualized results based on user input.

Nonetheless the most personalized websites tell the users what nutrients they are/are not assuming and in which percentage, but not where to get the missing ones, so the problem is diagnosed but not solved.

2   Solution

Our web-application will offer a personalized solution to this issue. The user will be able to track his/her own diet and will receive suggestions on how to improve it based on his/her own profile information, food habits and tags.

3   Features

∗∗∗ Legend ∗∗∗

- Nutrient: nutritional component in foods; this category includes all macronutrients (proteins, carbohydrates and fats), micronutrients (vitamins, minerals and organic acids) and fibers.
- Food: any substance made of nutrients that can be consumed by the user for nutritional purposes (e.g. any fruit, vegetable or meat without additional condiments); this category also includes drinks, common composite foods (e.g. pasta, tomato sauce, French fries) and foods that are not usually consumed alone (e.g. flour, oil).
- Dish: combination of foods that the user consumes together; this definition is intended to facilitate the user during the creation of a meal plan.
- Meal: combination of foods and/or dishes that the user plans to eat during the selected day.

· Meal plan: set of meals the user plans to eat on the selected day.

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The user will have a username and a password to access his/her own account.
Every account will have a profile page and a meal plan page.
In the profile page the user will be able to:

- insert personal information: name, age, gender, height, weight, waist size.

- have tags to identify in a user category, like "Vegetarian", "Vegan", "Paleo" or "Frutarian".

- visualize his/her BMI (Body Mass Index) and BAI (Body Adiposity Index), that the application will calculate based on the personal information.

In the meal plan page the user will be able to:

- Navigate through the calendar to select the meal plan of a certain day.

- Select from the DB the foods he/she has eaten or plans to eat.

- Create dishes (aggregates of foods) by choosing the ingredients from the DB and inserting the name of the dish.

- Add dishes to the meal plan.

- Check how nutritious a daily plan is by looking at the percentage of covered nutrients. These percentages will be shown in a graphical way.

- See a real-time modification of the percentages based on the foods added to the meal plan as soon as the user adds them.

- See recommendations on what foods or dishes could provide the missing nutrients and add them to the meal plan.

4   Technologies

- Java 8
- Apache Tomcat
- Java Servlets
- JSP
- CSS3
- Javascript, jQuery
- HTML
- PostgreSQL

5 Time estimation

Weeks division:
1st week: 23 Mar / 29 Mar ·2nd week: 30 Mar / 5 Apr ·3rd week: 6 Apr / 12 Apr ·4th week: 13 Apr / 19 Apr ·5th week: 20 Apr / 26 Apr ·6th week: 27 Apr / 3 May ·7th week: 4 May / 10 May ·8th week: 11 May / 17 May ·9th week: 18 May / 24 May ·10th week: 25 May / 31 May.

	Weeks									
	1	2	3	4	5	6	7	8	9	10
Software Proposal	▭									
Gather data sets	▭									
Project creation	▭									
Logo creation	▭									
Login + Registration pages creation		▭								
Database structure			▭							
Population of DB with food data sets			▭							
Profile page creation				▭						
Calendar GUI and management					▭					
Recommender GUI						▭				
Recommender Algorithm						▭				
Nutrients GUI							▭			
Documentation								▭		