

Nutrition Assistant Application

LITERATURE SURVEY

Web-based interactive applications may combine the interactive and tailored nature of successful behavior change interventions with the wide reach needed to target the general population. There is a lack of insight in the requirements for successful interactive Web-based applications in prevention. The objective of this research is to evaluate the Healthy Weight Assistant (HWA) of the Netherlands Nutrition Centre and give recommendations for optimization of this application. This study consists of questionnaires (n=703, follow-up n=431), real-time usability-tests, log-file analysis and qualitative analysis. From the preliminary results we see that improvement with maximum effect and minimal change of the HWA can be found in motivation to keep using the application and motivation to change behavior. This can be achieved by sending automatic (tailored) reminders, restructuring the second stage in the application (motivation and goal setting) and by adding a tab 'my goals' to the application.[1].

The proposed food technology, which is mainly based on so-called magnetic induction, is enabled as an embedded solution. The holistic solution, namely ERINOKS, has an Internet-of-Things (IoT) background enabling distributed and connected food processes, adaptive power control according to the amount of food (by weight control) and a recommendation system for effective nutrition of individuals or group of people having special preferences. ERINOKS supports statistical methods like bootstrapping to analyze the parameters affecting the food processes and energy efficiency. Such a statistical analysis can be used to model the food consumption rates according to age, gender, origin, daily or seasonal factors and individual preferences or health status. ERINOKS utilizes a virtual assistant simulating food preparation steps or just for sharing information about ingredients for the use of cookers and consumers.[2].

Non-professional athletes usually rely on the information about training methods and nutrition recommendations provided online. However, the quality of online information sources is extremely variable. iAPERAS is an expert system using Bayes networks and designed for athletes. It represents a better alternative to online resources, because it is based on scientific research findings and evaluated by domain experts. [3].

One essential factor of a balanced diet to prevent morbidity and mortality, and promote a good nutritional status is the consumption of nutrient-dense foods with an appropriate macronutrients dispersal (carbohydrates, protein, fat) and the right amount of calories based on personal energy expenditure. While the field of dietetics and nutrition has been bombarded with food recommender systems over the years, little research has been performed on meal planner applications grounded on macronutrients compliance. Drawing from a parallel-iterative design methodology, this paper proposed the development of a web-based meal planner app called 'Plan-Cook-Eat' that can generate tailored diet plans according to individual's needs.[4].

There are numerous types of diets that aim to improve the quality of life, health and longevity of people. However, these diets typically involve a strictly planned regime, which can be hard to get used to or even to follow through at all, due to the sudden nature of the change. In this paper, the framework for an Intelligent Space application is proposed that helps its users to achieve a healthier diet in the long term by introducing small, gradual changes into their consumption habits. The application observes the daily nutrition intake of its users, applies data mining in order to learn their personal tastes, and educates them about the effects of their current diet on their health. Then it analyzes the knowledge base to find different food or drink items that align with the perceived preferences, while also add to the balance of the daily nutrition of the users considering their physical properties, activities, and health conditions (e.g. diabetes, celiac disease, food allergies, etc). Finally, the system uses the findings to make suggestions about adding items from the consumption list.[5].

Nowadays health concerns are effectively becoming ubiquitous. Most people have the need to effectively control their nutritional consumptions, mostly due to health issues. Personal computational devices may assist this control with a solution that allows an efficient management of each individual nutritional profile. In this work we propose a mobile service architecture that allows users to manage their nutritional information, using a profile-based system and build shopping lists based on the user's profiles. This application may contribute to the improvement of the lifestyle of the population through the recommendation of food and drinks that fit their profile of restrictions and/or nutritional options (for instance, due to hypertension or obesity, among others). The person's profile can be accessed and configured on a mobile device. [6].

Reference:

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3)Intelligent Athlete's personal Assistant

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6)Profile-based system for nutritional information management

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