LITERATURE SURVEY

1.Monitoring Eating Behaviours for a Nutritionist E-Assistant Using Crowdsourcing

In this paper, author has created a digital assistant system Lucy to keep track of eating behaviour. It helps the users to lose excess weight. This study was conducted in nutrition clinic by using six different approaches to calculate nutritional content and calorie intake from the meal photos. These approaches provided various advantages like latency, accuracy and cognitive load. In this paper they have also devised a variant A5 for Lucy which had very high latency and high accuracy with minimal raters.

2. Plan-Cook-Eat: A Meal Planner App with Optimal Macronutrient Distribution of Calories Based on Personal Total Daily Energy Expenditure

As per this paper, balanced diet is obtained by consuming nutrition dense foods with required macronutrient dispersal and perfect quantity of calories proportionate to personal energy expenditure. This paper focuses on developing a meal planner app named “Plan-Cook-Eat” that provides a diet plan based on the user’s requirement. It used mixed-method approach which had a set of six nutritionists-dietitians and twenty four regular users to test the app and evaluate its performance.

3. Evaluation of an Interactive Web-based Application to Promote Healthy Behaviour in Order to Maintain a Healthy Weight – Preliminary Findings

The general population are not aware of the need of an successful interactive web application. The paper tries to provide an insight into it and evaluate the working of Healthy Weight Assistant (HWA) and to optimize this application. The evaluation is done by taking into consideration of the four factors questionnaires, log file analysis, usability tests and qualitative analysis. The motivation to use this application can be generated by setting up reminders, reforming motivations and goals or by adding “my goals” tab. As a result we can realise the improvement with maximum effort and minimal change of HWA.

4. A Healthy Nutrition Expert System for Children

In this paper, the main objective is to provide its users with nutrition expertise. It processes healthy meals for children of different ages according to different criteria including their growth stage, gender, and their health status. This paper provides a bilingual interface (English and Arabic) for more populations to the presented system to serve different levels of families including education level and financial level. The accuracy of the system is measured by reviewing the output with experts in the nutrition field who approved the generated nutrition schedule.

5. The “Healthy Meals” web app for the assessment of nutritional content and food allergens in restaurant meals: Development, evaluation and validation

The assessment of the nutritional contents of meals and the identification of food allergens is necessary to guarantee the availability of healthier meals and allergen-free dishes to consumers. Such information cannot be easily obtained from menu cards or other informational posters. Authors have explored use of eHealth technology in the form of a web app which represents a potential strategy for food composition analysis and allergen identification due to its feasibility, accessibility, customization and engagement. Authors have developed a web app named "Healthy Meals". The first step is assessing the nutritional content of dishes and then detecting the presence of the recognized food allergens in restaurant meals. A web app interface and features have been developed. The prototype has been developed in Spanish language. The functionalities have been verified by researchers and developers. The web applications has been evaluated for the assessment of usability, quality and validation.

6. Development of a Smartphone Application for Dietary Self-Monitoring

Dietary assessment and monitoring are essential steps to measure dietary intake and provide tailored advice that can improve dietary management and health. Authors have studied Fogg’s behaviour model and reported that motivation, ability and triggers must occur at the same moment for effective behaviour change and mobile apps may enhance these underlying factors. Authors have proposed mobile app as it has several features such as feedback mechanisms, goal setting, peer motivation, and health-related news updates. Authors have also included advice from health professionals and incorporation of cooking methods assisting users to improve their ability to change behaviours. Mobile apps are found to be very effective in giving prompt message at appropriate timing. The developed app has been evaluated and found to have all the proposed features implemented correctly.

References:

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