**Smartphone application to create a healthy diet**

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Abstract

One of the concerns that modern people feel about living is health. The number of people exposed to various adult diseases, including obesity and high blood pressure, has been steadily increasing in recent years. To solve adult diseases, diet as well as exercise must be combined. However, information about diet is difficult for the general public to collect and apply.

The idea relates to diet management game applications designed to promote and manage health. Users become interested through games and learn what nutrients are lacking in a diet organized by the user's

Background & Purpose

Modern society has increased intellectual activity and developed various means of transportation. As a result, the physical activity of modern people has decreased compared to the past. In addition, various adult diseases that did not occur in the past have emerged as social problems due to changes in eating habits. There is a growing interest in keeping healthy, but voluntary diets have problems with lack of information and interest.

To solve the problems mentioned above, we planned an application with game elements. Game is appropriate as a source of interest.

Concept & Idea

Our application considers the physical condition of the user. Information about body condition can be entered in 'Settings'. Also, our application helps prevent and solve various adult diseases. For example, as a precaution against high blood pressure, it is advised to avoid foods high in sodium and to eat foods containing potassium together.

Because of the nature of our application, it is very important to select an interesting factor. So we used a game called "Food World Cup." This allows users to get advice on alternative foods based on their favorite foods.

Through the game, the selected foods are sent to the data store to form a single daily diet table. In addition, the user is alerted if they eat more than the recommended amount by organizing the total amount of nutrients taken during the day, and if they eat less than the recommended amount, alternative food is advised considering the selection of alternative foods.

Design & Functions

As for the algorithm for selecting alternative food, we use the Food and Nutrition Information API provided by the "Ministry of Food and Drug Safety." Using this data, the total nutritional information for the combined diet is quantified based on the nutritional information contained in the food. The quantified data will be compensated for the recommended amount of nutrition according to the user's physical condition and weighted against important nutrients according to the mode chosen by the user. Modes are divided to prevent various adult diseases.

The design of our application is designed as an environment where we can see as much visual material as possible, such as pictures. This is because I thought it was important to look at the photo data because it was planned as a "food World Cup" game.

Attached is an example of design for our application. The image on the left shows the game progress screen. The image on the right shows the configured diet daily and weekly.

 

Problems & Future work

The problems our application has are as follows. First, is it made with the design preferred by people in their 30s, the main customer base? Second, the nutritional information data we used was based on the recommended amount once, so we can't calculate how much food the user eats. Finally, we cannot introduce medically beneficial drugs for certain adult diseases.

Due to these problems, our applications need to develop more sophisticated logic about nutritional information of food, and a more user-friendly application environment should be developed.