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Analysis and Design for Food Planning Mobile Application

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Abstract

This study builds the system that allow users to plan their food consumption via their mobile phones.The system help user to manage and tracking history of their food consumption, choosing food that suitable for their health, and help user to select their favorite restaurant. Methodology is used in this research are analysis method, design method, and literature study. The result is a food planning mobile application based on iOS platform that help user to manage and track their food consumption, to calculate & choose balanced food that suitable for their body.

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Keywords: food planning mobile applications, manage, tracking, choosing, iOS.

1. Introduction

Many people have difficulty in managing their daily diet that related to the amount and balance of nutrients obtained for their body. Some of which must be considered in planning the diet are[2]:

- To determine The Body Mass Index, the calculation of the amount of fat in the body that can later be used to determine the number of calories in a day.
- To calculate the Body Mass Index (BMI) of a person should see weight and height of the person concerned and is calculated using the formula Body Mass Index[14].

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- To determine of the number of calories per day based on the age and activity / daily work performed by the person. For people who have a particular disease, in general there are no restrictions in total to certain foods, but restrictions on the amount of the particular food.
- To determine the person's diet is based on a balanced calorie intake, first of all we need to know the number of calories the person concerned to perform the calculation of AMB (Basal Metabolic figure) and than determine the distribution of the diet in a day (breakfast, morning snack, lunch, afternoon snack, and dinner) by looking at the number of calories in each food.
- In order to achieve balanced nutrition, a person should consume rice (carbohydrates), side dishes (animal protein), vegetable (vegetable protein) and fruit (vitamins and minerals).
  In dietary adjustments it is necessary to conduct a cycle menu / change of menu. The ideal time span to turn the menu is 11 days.

This System offer some feature such as:

a. User Profile: feature to enter the data from the user that will be used to provide food recommendations to the user.
b. Food recommendation: Provide recommendations to the user about the foods that can be incorporated into the diet plan.
c. Food Planner: Contains a list of foods that have been selected by the user of the feature food recommendation.
d. Location Map: allows user to know the location of a particular food in the area around the user is through the folder location.
e. Food History: User can look back on the past data about what has been consumed, which are arranged in a date format, and a time to eat.
f. Settings: In this feature the user can perform profile settings and blacklists of food.
g. Notification: In this feature, user can view a list of notifications that triggered by other stakeholders action.

2. Methodology

The scope of this study includes the analysis and design of food planning mobile applications based on the iPhone platform[10].

2.1. Analysis

a. Conducting a survey to determine public response about the application to be made and analyze the results.
b. Conducting interviews with a nutritionist and a restaurant to obtain accurate information.
c. Analyzing excess IOS-based devices for implementing this system.
d. Comparing with existing similar applications.
e. Identify the components necessary for the implementation and design needs.

2.2. *Design Diagram*

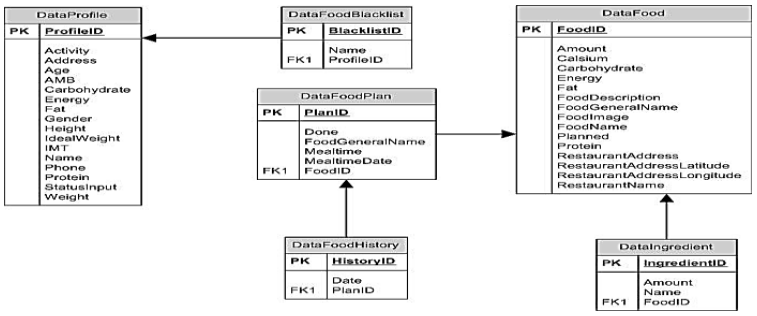

Figure 1. ERD Design for Front End

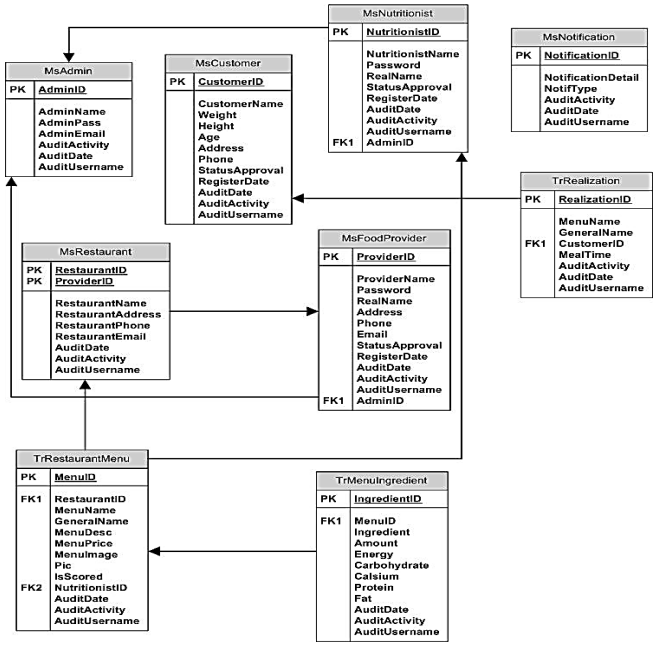

Figure 2. ERD Design for Back End

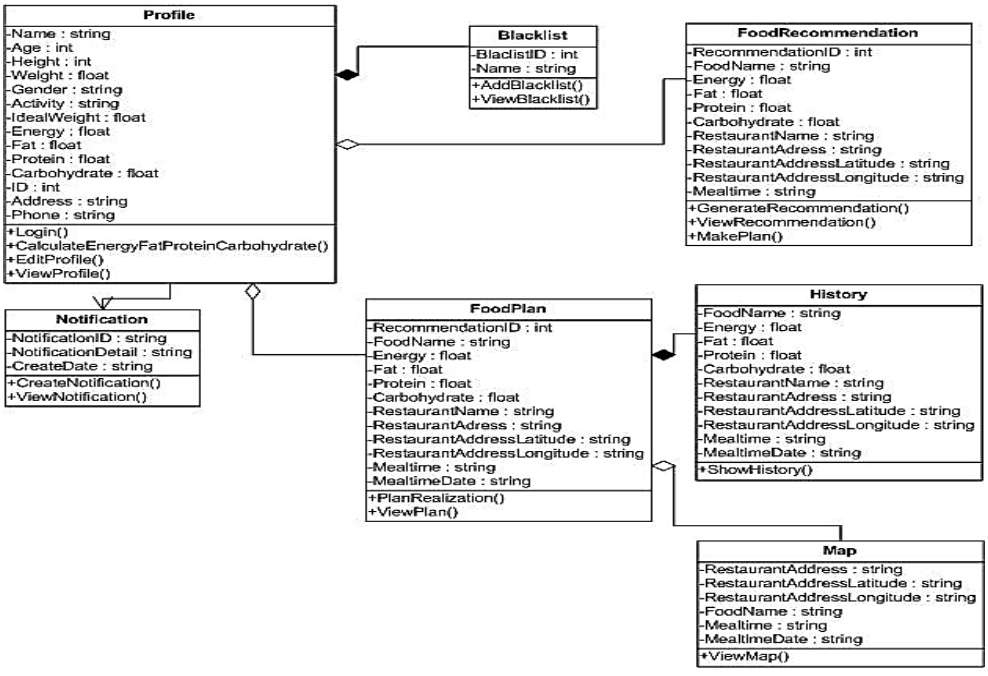

Figure 3. Class Diagram Design for Front End

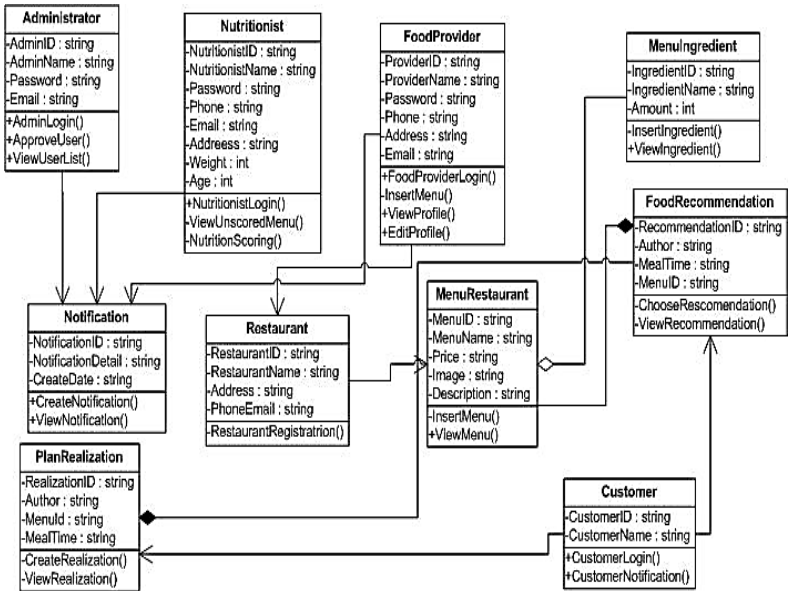

Figure 4. Class Diagram Design for Back End

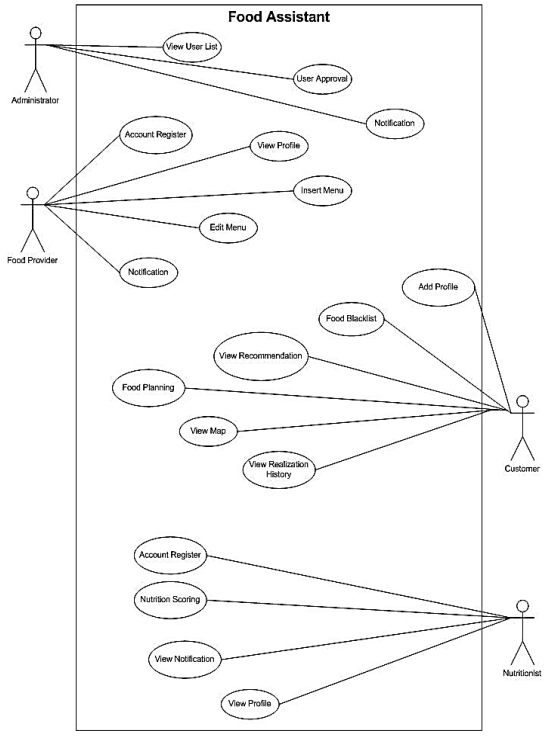

Figure 5. Use Case Diagram Design System

3. Implementation

The implemented this system into two parts, the front end system and back end system. Front end runs on devices with IOS platform and back end systems runs on the web[13]. Front end is intended for IOS users who want to set their diet and the back end is intended for administrators, restaurants, and a nutritionist. The restaurant will insert their menu data. While nutrition experts will assess the food menu has been submitted. Administrator in charge of organizing the user approval for restaurant and nutritionists who have registered on this system[17] All foods that have been assessed will appear to the system front end so that user can see the IOS recommendations menus to suit his or her profile.

Here are some screen shots of the system front end and back end :

Figure 6. Food Recommendation Menu for iOS user

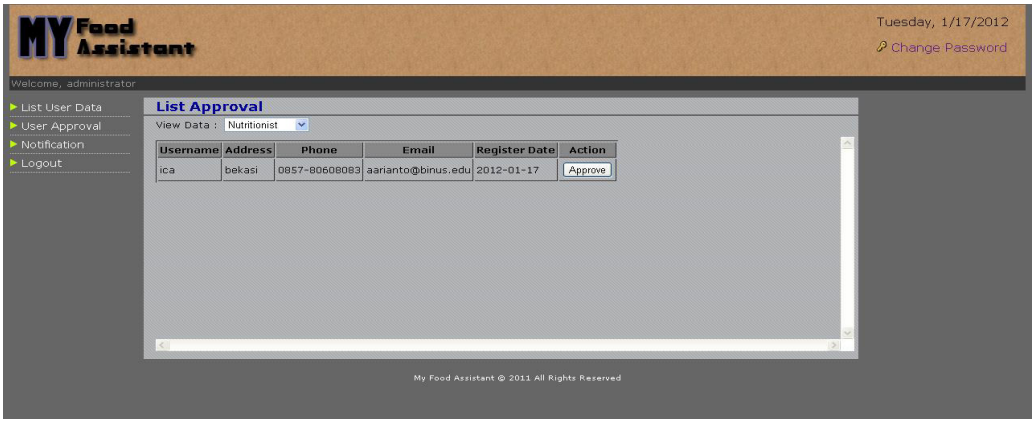

Figure 7. User Approval page for Administrator

Figure 8. Restaurant Menu Page for Food Provider

4. Evaluation

Some users participated in the evaluation of this system. Users tried to use this system and then filled out an evaluation questionnaire to review about the system they used. The result achieved is that the system can assist them in planning a balanced diet with the information contained in the system and can be used easily. Other evaluation shows the system in accordance with Eight Golden Rules[17]

5. Conclusion

The system can assist users in planning a balanced diet with the information contained in the system and can be used easily. My Food Assistant application helps users to organize and conduct the diet history tracking and to make balanced food choices that fit the needs of his body also this system can provide a restaurant where the user can get the food according their food plan.

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