Calorie Counter and Diet Tracker

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Abstract— **Diet is the amount of food consumed by a person or organization, and the way a healthy diet does not mean reducing food portion only. But the meaning of the diet can be described as a set pattern of our own food. Various ways of healthy diet foods can be developed that is appropriate, then, directly or indirectly, to obtain and provide sufficient energy for our bodies even though we can gain the benefits of the diet is that we run with our weight loss. Many people do not know how to calculate how many calories they consume every day, and sometimes the calories consumed exceed the calories they need per day. This research discusses how people can manage a healthy diet based on daily calorie intake. Here will discuss a wide variety of diets such as weight loss, and diet for people with diabetes, cholesterol, gout, stroke, and hepatitis. This research help user regulating daily caloric intake according to the weight and height and also help user to calculate and keep the absence of excessive caloric intake per day.**

Keywords— **diet tracker, calorie counter, health manager**

I. INTRODUCTION

A healthy diet contains a balance of food groups and all the nutrients necessary to promote good health. Human nutrition is enormously complex and a healthy diet may vary widely according to an individual's genetic, environment, and health. Healthy eating is the practice of making choices about what and/or how much one eats with the intention of improving or maintaining good health [4].

Overweight has become a problem for those who crave for a proportional body. One easy way to lose weight is by doing a diet. In a modern era of technology like this, there are many diet applications can be downloaded and installed to electronic device such as laptop, smartphone, etc. which will help to do diet easily.

The two most important factors in a diet are correct calories intake and appropriate nutrient levels. Within a healthy balanced diet, a man needs around 10,500kJ (2,500kcal) a day to maintain his weight. For a woman, it is around 8,400kJ (2,000kcal) a day. These values depend on age, metabolism and levels of physical activity, and other things. Calories are the measure of how much energy food or drink contains.

Basal Metabolic Rate (BMR) shows the number of calories your body needs to operate. This doesn't account for any activity, it's simply the energy needed to sustain a heartbeat, breathing and normal body temperature.

This research aims to develop an application that is easy and useful to manage a diet program, to develop an application that helps the users to calculate the amount of body mass in order to determine their ideal weight, to develop an application that helps the users to calculate the amount of calories in the food they consume daily and to create an application that has a system admin, and users. Admin can change the information or entering data, and the users is the person that using the application.

However, this application is not web base application, but desktop application. To use this application, the user must know what kind of diet that will be applied by the user. Users must know what kind of disease is owned by the user, and what kind of diet is needed by the user.

Most of similar diet applications like this already developed in Desktop, Smart Phone and in web-based application. But unfortunately, not all applications that show how to calculate body mass weight, how to calculate daily calories, or count the number of calories in food. Most of diet application display only ways to diet, foods that contain low calories, and some diet tips.

The comparison between Calorie Counter and Diet Tracker application with other diet application can be seen in Table 1.1.

TABLE 1.1
COMPARISON BETWEEN CALORIE COUNTER AND DIET TRACKER WITH THE OTHER APPLICATION

Category	My Diet Diary Application	BMW Diet Manager	Easy Diet	Calorie Counter and Diet Tracker Application
Calculate Body Mass Index	Yes	Yes	Yes	Yes
Calculate Basal Metabolic Rate	Yes	Yes	Yes	Yes
Calorie content of foods	Yes	Yes	Yes	Yes
Diabetic Diet	No	No	No	Yes
Cholesterol Diet	No	No	No	Yes
Gout Diet	No	No	No	Yes
Hepatitis Diet	No	No	No	Yes
Lose Weight Diet	No	No	No	Yes
Stroke Diet	No	No	No	Yes
Food Calculation	Yes	Yes	Yes	Yes

II. METHODOLOGY

In order to complete the research and to develop the application, RAD (Rapid Application Development) is used for the methodology. "RAD is a software development methodology that uses minimal planning in favor of rapid prototyping. The "planning" of software developed using RAD is interleaved with writing the software itself. The lack of extensive pre-planning generally allows software to be written much faster, and makes it easier to change requirements" [1].

III. RESULTS

The user who wants to get diet program in this application must calculate their Body Mass Index (BMI) first to know their daily calorie intake. Body Mass Index (BMI) is a number calculated from a person's weight and height. BMI is a fairly reliable indicator of body fatness for most people. This application provides a counter to calculate users BMI. BMI is calculated the same way for both adults and children (Table 3.1).

TABLE 3.1
FORMULA TO CALCULATE BODY MASS INDEX
(BMI) [16]

Measurement Units	Formula and Calculation
Kilograms and meters (or centimeters)	weight (kg) / ((height (cm) / 100) x (height (cm) / 100))

User Interface Development is divided into several sections: Register Interface, Admin Tab Menu Interface, and User Tab Menu Interface.

In the Admin tab menu, there are the item menu and the users menu and the Item menu is only accessible by admin, the Item menu will only appear in the admin account. The Item menu is a menu where the admin can add, update, or delete items of food in this application. Click the Close button to return to the home page.

While In the users tab menu, there are 11 menus which can be selected by the users, i.e. my account menu, food nutrition menu, food calculation menu, diet programs menu, diet progress menu, diabetic diet menu, gout diet menu, hepatitis diet menu, stroke diet menu, cholesterol diet menu and lose weight diet menu.

Users can see the number of calories from foods that will be consumed per day by the users in the foods menu. In this menu there will be a column name items and categories, the users can fill out these fields and click the submit button and the results will come out in the column under the page. Click the Close button to return to the home page.

Food Calculation is a menu where the users can calculate the amount of daily calories to be consumed by them per day. Users can input the foods that will be eaten in a single day in the field item 1, item 2, etc., and then click the submit button and the program will check into the database and counting calories. If the foods which will be consumed exceeding the daily calorie limit, there will be a pop-up message that reminds the users display. Click the Close button to return to the home page. Figure 3.1 shows the Food Calculation Page. Figure 3.2 shows the warning pop-up message.
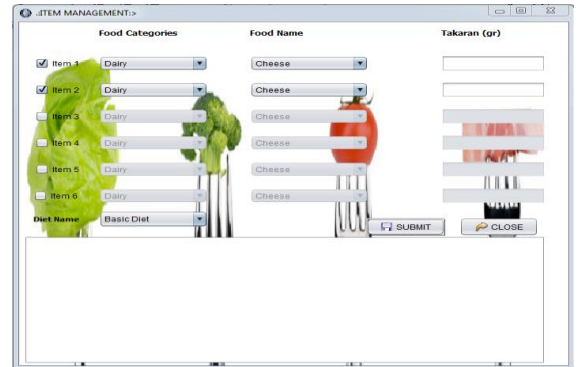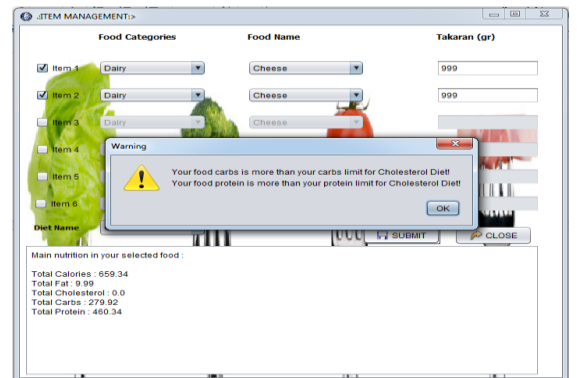

Figure 3.1 Food Calculation Page

Figure 3.2 Warning Pop-up Messages

In the user's menu progress, there are two fields that must be filled to see the results or progress of a diet that is done by the users. After filled the fields, click the submit button and the results will appear in the result column and will display a pop-up message that contains a number of users BMI ratio, and then click Ok button. When Ok button is clicked, Diet Progress Chart will appear to show the progress diet in the last time the user input with the result recently input by the users. Click the Close button to return to the home page. Figure 3.3 shows the BMI Ratio result. Figure 3.4 shows the Diet Progress Chart.
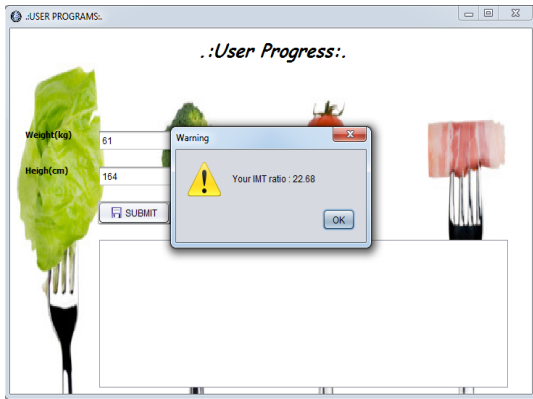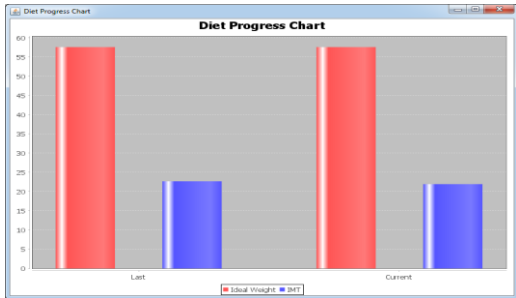
Figure 3.3 BMI Ratio Result

Figure 3.4 Diet Progress Chart

Hepatitis Diet

In hepatitis diet menu as seen in Figure 3.5 there are three fields that must be completed to see the result in the result column, i.e. weight, height, and category. Category is a column where the users can choose the category of hepatitis diet, there are three category i.e. Non Complicated, Decompensation, Hepatic Encephalopathy. After the columns filled click the Submit button to see the result.
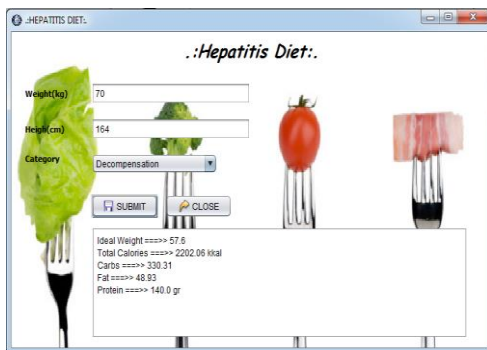

Figure 3.5 Hepatitis Diet Page

Stroke Diet

In the stroke diet menu (Figure 3.6) there are three columns that must be completed to see the result in the result column, i.e. weight, height, and Phase. Phase is a column where the user can choose a diet stroke phase, there are two phases, i.e. retrieval and Critical. After the columns filled, click Submit button to see the results.
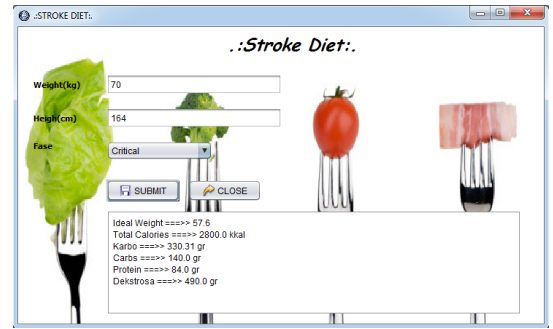

Figure 3.6 Stroke Diet Page

Cholesterol Diet

In the cholesterol diet menu (Figure3.7) there are three columns that must be completed to see the result in the result column, i.e. weight, height, and Phase. Phase is a column where the users can choose a diet cholesterol phase, there are two phases, i.e. phase I and phase II. After the columns filled, click Submit button to see the result.

Figure 3.7 Cholesterol Diet

Lose Weight Diet

In the lose weight diet menu (Figure 3.8) there are three columns that must be completed to see the result in the result column, i.e. weight, height, and Activity Level. Activity Level is a column where the users can choose a diet to lose weight by the level of the activity, there are five Activity Level, i.e. Sedentary, Lightly Active, Moderately Active, Very Active, and Extra Active. After the columns filled, click Submit button to see the result. There will be displayed a pop-up message of the calorie that have to burn per day by users.
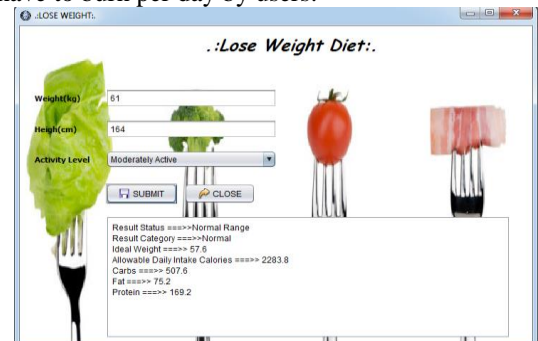

Figure 3.8 Lose Weight Diet Page

IV. CONCLUSIONS

The use of Calorie Counter and Diet Tracker application in the process of managing the user's diet based on desktop application can give some benefits to the users, which are:

1. Calorie Counter and Diet Tracker can help users to manage a diet. This application offers to handle and calculate user daily calorie intake. This application can handle and calculate user's daily calorie intake. Not only to calculate the daily calorie intake but also to calculate the calories to consume per day. By using this application, the users do not need to worry if they consume too many calories per day.

2. Calorie Counter and Diet Tracker can help users to know the calorie content in each food, there will be a list of calories in the types of food such as vegetables, fruits, grains, and others.

3. Calorie Counter and Diet Tracker can help users who want to lose weight by regulating their daily caloric intake according to their height and weight.

4. Calorie Counter and Diet Tracker can help the users who have diabetes, hepatitis, stroke, gout, etc. to control their daily caloric intake and to perform proper metabolic control.

5. Calorie Counter and Diet Tracker can easily be used anytime. By using this application, the users don't have to worry if the users want to consume the food, because users can calculate the calorie of the food first.

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