# Accurate Decision Support System for Food Nutritional Analysis

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Master of Science in Information Technology

Faculty of Information Technology

University of Moratuwa

Sri Lanka

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# Declaration

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

Name of Student: S. I. kumarasinghe

Signature of Student:

Date:

Supervised by

Name of Supervisor: Mr S. C. Premaratne

Signature of Supervisor:

Date:

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# Abstract

Calculate nutrient intake from food consumption details is an uninteresting, time consuming, error-prone task when the data is fed by manually. People check the label of foods for various purposes. Many customers would like to know how to use this food label details more easily as well as effectively. So, there should be an easy methodology to identify users who need nutritional care as well as with measurements of nutritional facts. Food nutrients appear together in foods as well as dietary patterns, and the general effects of dietary choices according to patterns are not well understood. Overweight and obese are major problems in the world. Obesity occurs from weight gains over long time. Therefore, correct and accurate nutritional analysis is very significant to the current society. Personal nutrient guide by calculating nutrient intake, predict nutritious foods/meals by considering the health and willingness, predict en exercise schedule for the user and forecast health condition for individuals are the main modules of this research project which are made accurate decision support system for food nutritional analysis.

According to implementation of this decision support system for food nutritional analysis, using Fatsecret API calls, fetched food items with their nutrient amounts as well as exercise details. Client can be a registered user and enter his weight, age and sex with his health condition to have a diet plan. Not only that if someone need to lose his weight or gain his weight, there also diet plan and exercises schedules. Admin can access these records and keep history data to get the most frequent food items. For the history data, use the advanced data generator for MySql, populate thousands of records to develop the data set for associate data mining.

Outputs are when a user has two diseases, then recommended frequent food items for both diseases. Not only that, if a user wants to lose weight or gain weight, then give suggestions for relevant food items and give three or four exercises with time durations to control his body weight.

Keywords— nutrient intake, dietary patterns, nutritional analysis

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