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JUDUL: WEIGHT MANAGEMENT APPLICATION WITH NOTIFICATION AGENT
SESI PENGAJIAN: 2013/2014

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WEIGHT MANAGEMENT APPLICATION WITH NOTIFICATION AGENT

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This report is submitted in partial fulfillment of the requirements for the Bachelor of Computer Science (Software Engineering)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
2014

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DECLARATION

I hereby declare that this project report entitled

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DEDICATION

To my beloved parents and my supervisor with their full support, encouragement and inspiration.

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I would like to express my gratitude to all those who gave me the possibility to complete this thesis. I would like to thank my supervisor Dr.Azah for her invaluable support, stimulating suggestions and supervision during the development of my project and writing this thesis. My coursemates from the BITS course who supported me in my project work. I am thankful for all their help, support, interest and valuable hints.

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ABSTRACT

It is time consuming and high body check-up fees for uses who queue in the hospital to wait for their turn to have basic body check-up and user might forget about their last medical check-up due to hectic lifestyle. The purpose of this thesis and project is to provide a platform for the users to increase their awareness on their health conditions based on their weight and daily routine. Besides, the proposed application helps to remind users to update their health condition to the application in a period after the last record. The proposed application is hopefully capable to solve the problems.

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CHAPTER 1

INTRODUCTION

.1 Project Background

The percentage of obesity of Malaysian has increased gradually since 2006. Citing from The Star Online, Datuk Seri Liow Tiong Lai says, "Malaysia is the fattest country in South-East Asia with its obesity rate on the rise". Due to the local food which is known for its delicious yet calorie-intensive foods such as Nasi Lemak, Char Kuey Teow, Roti Canai, and more, that exceeds the required amount of calories needed per meal. The recommended daily calorie intake is 2,400 calories for men and 1,700 calories for women.

In Malaysia, citizens' common diseases are obesity, high blood pressure, and diabetes. Somehow, the root of these three killer diseases is obesity. Obesity contributes to the risk of developing a range of serious diseases, such as hypertension, cancers, diabetes and heart disease. Public has less awareness with the imbalance diet between calories intake and calories burnt which can easily cause a person meet obesity level.

The "Notification Agent" is a proposed tool to solve the weight management problem in Malaysia. In this project, there are two modules, which are android-based mobile application connected to the database and notification agent.

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In the mobile application, there are two types of user, which are member and non-member. Each new user will be suggested to register themselves to the application in order to allow the system to record their information which includes health conditions into its member account.

For both member and non-member, the application allows them to measure Body Mass Index (BMI) by entering weight and height, view their health prediction based on the questions provided, and view suggestions given based on their health prediction. The information from non-member will not be save in the database; the member will be saved in database and is allowed to view their health history.

In the notification agent module, it is included in member type only. Notification agent functions as a notification or reminder to the member in order to allow them to trace their health conditions. It benefits those users who has hectic life by reminding them to check their health conditions from time to time. Member is allowed to set the time range after last used in order to remind them.

1.2 Problem Statement

- User might have interest on basic self-check before they seek for specialist.
- Time consuming and high body check-up fees for the users who queue in the hospital to wait for their turn to have basic body check-up.
- User might forget about their last medical check-up due to hectic lifestyle.
- User has lack of awareness on the imbalance diet between calories intake and calories burnt.

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1.3 Objective

- To provide a platform for the users to increase their awareness on health conditions based on their weight and daily routine.
- To provide basic information about their health condition before going for specialist for more accurate and detailed report.
- To help the user by reminding them to update their health conditions to the application in a period after the last record.
- To allow the user to view the history of its health conditions.

1.4 Project Scope

The scope of Notification Agent tool project includes 5 phases, which are planning, analysis, design, implementation, and testing. The scope of this project does not include any changes in requirements in standard operating systems to run the application, update the application or revise the application.

1.4.1 Target User

Notification Agent targets public who use android mobile application. Internet connection is needed to access the application. There are two types of user, which are member and non-member. User will be advised to register online as member for health record purpose. User is not allowed to modify their health record and their health condition will be evaluated by current BMI and answering a set of predefined questions. Then, the application will produce a health prediction where the prediction can only be used as a reference and opinion for the user. Only member has the benefits of getting the notification from the application to update their health-related information.

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1.4.2 Module

Module I: Member Login Module

This module will allow registered member to login for personal record purpose.

Module II: User Register Module

This module allows user to register to be member in this application.

Module III: Prediction Module

This module will is to produce prediction result to user based on the BMI entered by user or member and the predefined questions answered by user or member.

Module IV: Database Module

This module will update registered member health record which are BMI and prediction results each time member entered the information.

Module V: Notification Module

This module will allow application to send a notification to the member to remind member to update their health condition by using the application.

1.5 Project Significance

The importance of the tool is to allow the user to know their basic health conditions based on the prediction in order to increase their health awareness. The prediction will be produced based on their life style, eating habit, or exercise and BMI entered. By this process, it is indirectly reduce the disease that caused by the obesity.

Besides, it can also indirectly improve the user lifestyle as the accuracy of the prediction also rely on the accuracy of the information user input. Member can also trace their past health records to check whether any improvements on their health.

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Notification also grabs user attention after a time range that member last login to update their information in the application.

1.6 Conclusion

This tool is beneficial to the users by reduce the cost of body check-up and also the queuing time for check-up. User can know their basic health condition by using the application with a few clicks on mobile phone. User need not to worry their recent health conditions with the notification agent provided to reminds them to update themselves with latest health condition.

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CHAPTER 2

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

Chapter 2 describes the research and literature review related to distributed mobile application, notification agent and weight management.

Literature review is a comprehensive chapter where the process of sources and information has been collected will be reviewed and documented. Sources regarding distributed mobile application, notification agent and weight management will then be summarized for better understanding and support the facts to develop the proposed application.

From the literature review, an appropriate methodology is acquired to develop the proposed application. The methodology is to enhance the development process and to aid the developer to produce a quality application in shortest time and lower cost.

Hence, based on this project, agile methodology has been chosen. Agile methodology is an "Inspect-and-adapt" approach where the software can be developed at the same time of gathering requirement. Design of the interface and codes can be changed if necessary, without the entire application rewritten. The delivered product can be launched as the application is tested constantly in development phases.

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Therefore, Object-Oriented Analysis and Design (OOAD) is chosen to develop the project application.

2.2 Facts and Findings

2.2.1 Domain

Notification Agent is a documented and tested step-by-step method, which aims to produce a smooth function through standard practices. Notification system is used to deliver message to the recipients. Notification system is used in different fields, which functions to alert or remind to the users about the events or activities that has been set. There are many types of notification can be triggered by the event in web services, such as (1) talk page messages, (2) mentions, (3) page links, (4) page reviews, (5) edit reverts, (6) thanks, (7) user rights and (8) course talk. In Android, AlertDialog, Toast and ProgressDialog functions as reminder to the user. For example, user login with incorrect username and password will be notify by using AlertDialog.

Notification agent, emphasizing the use of and importance of notification to the application. Weight Management is used as the case study for the notification agent. Weight management is important for Malaysian as the number of obesity is increasing gradually. The proposed tool is developed for application which needs notification. Hence, the domain of the tool is weight management. The tools is expected to aid the obesity problems faced by Malaysian.

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2.2.2 Existing System

SCALES Weight Management, BMI Calculator and WeightMeter is Android version of weight management app. Notification Toggle is Android version of notification agent. This app limited to set the weight for day and night basis to aid the user to monitor body weight.

2.2.2.1 SCALES Weight Management

Figure 2-1 SCALES Weight Management

In SCALES Weight Management app, first-time user is required to insert the details such as height, current weight, desired weight, start date and goal date.

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