

MINI HEALTH KIT MOBILE APPLICATION

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DECLARATION

I hereby declare that this project report entitled

MINI HEALTH KIT MOBILE APPLICATION

is written by me and is my own effort and that no part has been plagiarized without citations.

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DEDICATION

I would like to dedicate this thesis project to my beloved dad, Mr Abdul Azziz bin Kadir and mom, Mrs. Noraini binti Mustafa who always be my role models and the most supportive people while I'm doing this project.

ACKNOWLEDGMENT

Bismillahirrahmanirrahim...

First, I want to say Alhamdulillah to Allah for giving me a lot of strength to complete this tough thesis project. At first I felt despair, but with little hope to Allah I managed to complete the project.

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ABSTRACT

Our lifestyles are constantly changing and we often tend to ignore the importance of a healthy lifestyle in daily life. The main reasons why health became weak are because of illness, improper diet, injury, mental stress, hygiene, unhealthy lifestyle, etc. So, it is important to keep ourselves healthy. Therefore, this Mini Health Kit mobile application is develop to help user to keep track their health and fulfill all user needs. This application is consists of five modules that will provide ultimate user requirements which are searching healthy recipe, identifies suitable diet plan, scanning barcode for searching nutrition fact, count heart beat and a pedometer.

ABSTRAK

Gaya hidup kita sentiasa berubah dan kita sering cenderung untuk mengabaikan kepentingan gaya hidup yang sihat dalam kehidupan seharian. Sebab-sebab utama mengapa kesihatan menjadi lemah adalah disebabkan sakit, diet yang tidak betul, kecederaan, tekanan mental, kebersihan, gaya hidup yang tidak sihat, dan lain-lain. Oleh itu, adalah penting untuk menjaga diri kita sihat. Oleh itu, aplikasi mudah alih yang diberi nama Mini Health Kit dibangunkan untuk membantu pengguna untuk mengikuti perkembangan kesihatan dan memenuhi segala keperluan mereka. Aplikasi ini mengandungi lima modul yang akan menyediakan keperluan yang sesuai kepada pengguna yang sedang mencari resepi sihat, mengenal pasti pelan diet yang sesuai, pengimbasan kod bar untuk mencari fakta pemakanan, mengira denyutan jantung dan alat pengukur langkah larian.

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LIST OF ABBREVIATIONS

ADT	- Android Development Tools
BMI	- Body Mass Index
BMR	- Basal Metabolic Rate
ERD	- Entity Relationship Diagram
EX	- Extreme Programming
OOAD	- Object-oriented analysis and design
PSM	- Projek Sarjana Muda
SDE	- System Development Environment
SCM	- System Configuration Management
SC	- Security Characteristic
UTeM	- Universiti Teknikal Malaysia Melaka

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CHAPTER I

INTRODUCTION

1.1 Introduction

When we think about health, we know it is not just about physical body but also mentally. Wellness can be defined as a situation where both of our body and mind is functioning properly. Our lifestyles are constantly changing and we often tend to ignore the importance of a healthy lifestyle in daily life. The main reasons why health became weak are because of illness, improper diet, injury, mental stress, hygiene, unhealthy lifestyle, etc. So, it is important to keep ourselves healthy. Even though people are aware about the importance of healthy lifestyle, there are still exist common problems faced by people to keep the body healthy. They often do not know what foods are good for their health and what type of diet that suited them. They were unable to identify the ingredients contained in foods that they eat, thus do not aware about the health level of that food. For person who has active lifestyles, they usually forget to record their running exercise, so this makes them difficult to know good input that they can get based on their pass running exercises. Our heart must also be taken care of because it is one of the ways of a good lifestyle. Even so, there are still a lot of people have a difficulty to check their heart rate every day because this check-up can only be made in hospitals.

In this modern world of ours, all people with smart phones can access a lot of useful applications for themselves. With the evolution of mobile phone technology nowadays, everyone can control their diet and health by only using mobile applications. Therefore, this Mini Health Kit mobile application will be develop. This application will consists of five modules that will meet all the user requirements which are searching healthy recipe, identifies suitable diet plan, scanning barcode for searching nutrition fact, count heart beat and a pedometer.

1.2 Problem statement(s)

People often do not know what foods are good for their health and what type of diet that suited them. They are unable to identify the ingredients contained in foods that they eat, thus do not aware about the health level of that food. For person who has active lifestyles, they usually forget to record their running exercise, so this makes them difficult to know good input that they can get based on their pass running exercises. Our heart must also be taken care of because it is one of the ways of a good lifestyle. Even so, there are still a lot of people have a difficulty to check their heart rate every day because this check-up can only be made in hospitals.

1.3 Objective

This project embarks on the following objectives:

1. To provide users an appropriate healthy food recipe and as a guidance for theirdiet.

2. To help users to choose an appropriate diet style based on calorie need and BMI.
3. To help users to identify nutrition information contained in food.
4. To identify the level of user's heart rate.
5. To help users to keep track their running pace.

1.4 Scope

User:

This application is targeted for all people who want to take care of their health.

Operating System:

1. Mobile Phone = Android KitKat version 4.4.2
2. Laptop = Windows 7

Module:

This project contains 5 modules:

1. Recipe Module

This module will provide healthy recipe for the users that interested in preparing meal for themselves. When users do not have any idea what to cook or eat on that day, the system can suggest some recipe for the user. Besides that, users also can vote the meal by using 'like' style and the total of likes can be view by other users.

2. Diet Module

This module will provide an appropriate diet plan for users. After a user enters their information, the system will calculate their BMI and BMR. Based on their calorie needed, this application will provide the diet plan based on users calorie needed and preferable duration.

3. Scanner Module

This module can help users to find any food nutrition information by scanning barcode label. After scanning the barcode label using phone camera, this application will display all nutrition information of the food.

4. Heart Rate Module

This module will help users to calculate the speed of the heartbeat. It is measured by counting the number of heart beats per minute (bpm) and the results will be displayed to the user. It is quite important for the user to find out about their heart rate as it will help users monitor their fitness levels and it may also help users spot any developing health problems.

5. Pedometer Module

This module help users to estimate the distance travelled on foot by recording the number of steps taken and calorie burned from running exercise.

1.5 Project significance

This application can give many benefits to any users who want to keep themselves healthy. This application can help users to check and search healthy recipe easily. They also can know which diet is suitable for them and can apply it on their daily life. Besides, user also can easily find nutrition information of any foods. In addition, they are able to check heart rate without need to go to hospital and also can keep track their running routine.

1.6 Expected output

At the end of this project, hopefully this application can help many people to become healthier. Besides, all users who are using this application can achieve and be able to practice a healthy life style. Also, hopefully all users can control their health and diet in a right ways.

1.7 Conclusion

As a conclusion, this chapter actually explains about what project is going to be developed and what is the reason this project need to be develop. Based on all the problem statement stated, one application is need to develop to help users to control and keep track their body health. This application will combine a few functions that will complete all user requirements. So, user can easily find all what they need only in one application. Next chapter will explain about project methodology and literature review about this project.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

A literature review is an account of what has been published on a topic by accredited scholars and researchers. The main purpose of this literature review is to survey previous system and studies on knowledge about system that will be develop. “This was in order to scope out the key data collection requirements for the primary research to be conducted, and it formed part of the emergent research design process” (Denscombe, 1998). Overall in this chapter will discuss about the general significance and importance of the Mini Health Kit Mobile Application in process of development. In addition, it also will explain about project literature review, project methodology and also fact and finding about the existing system.

In Fact and finding part will explain about domain of the system and review about existing system related to project application. Next, project methodology regarding to project will be explain. After that, in project requirement will explain about software and hardware requirement. In this chapter also will include project

milestones and project schedule to make sure that the project will be able to finish on time.

2.2 Facts and findings (based on topic)

2.2.1 Domain

2.2.1.1 Heart Rate

Heart rate had a normal distribution with an average value of 72 ± 10 beats/min (range: 45 to 120 beats/min) (Zoccali C. et al 2012). Generally, a lower heart rate at rest implies more efficient heart function and better cardiovascular fitness. For example, a well-trained athlete might have a normal resting heart rate closer to 40 beats a minute (Edward R. Laskowski 2012). Gender also becoming a factor why women and men has a different heart rate. Figure 1 and 2 shows the Resting Heart Rate Chart for men and women.

Resting Heart Rate for Men						
AGE	18-25	26-35	36-45	46-55	56-65	65+
Athlete	49-55	49-54	50-56	50-57	51-56	50-55
Excellent	56-61	55-61	57-62	58-63	57-61	56-61
Good	62-65	62-65	63-66	64-67	62-67	62-65
Above Average	66-69	66-70	67-70	68-71	68-71	66-69
Average	70-73	71-74	71-75	72-76	72-75	70-73
Below Average	74-81	75-81	76-82	77-83	76-81	74-79
Poor	82+	82+	83+	84+	82+	80+

Figure 2.1: Resting Heart Rate for Men

(Taken from Normal Resting Heart Rate, Normal Resting Heart Rate, 2015, ACCESSED 12 July 2015, <<http://www.normalrestingheartrate.org/>>)