MY PREGNANCY CARE MOBILE HEALTH MONITORING APPLICATION SYSTEM

SAW YEE CHING

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SAW YEE CHING

This report is submitted in partial fulfilment of the requirements for the Bachelor of Computer Science (Interactive Media)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
2014

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STUDENT : _____ DATE: _____

(SAW YEE CHING)

SUPERVISOR: _____ DATE: _____

(DR. AZAH KAMILAH BINTI MUDA)

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DEDICATION

To my beloved parents

Thanks for always providing me the continued support and counsel in order to complete this final year project. You are my constant source of inspiration. Most appreciate for giving me the moral supports to do any task with enthusiasm and determination.

To my supervisor

Your guidance, sage advice, and patient encouragement aided me to complete this Final Year Project in innumerable ways.

To my lovely friends,

Your support throughout the process of Final Year Project was greatly needed and deeply appreciated.

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ABSTRACT

The purpose of this project is to develop an Android application that can provide a useful guide for the pregnant mom to manage their gestational weight gain (GWG) by themselves. The application will serve as an alternative to encourage self-care among the pregnant women in order to maintain a healthy weight gain during their pregnancy stages. This application is developed to bring convenience to the pregnant women and increase their self -care awareness. Using an Agile software development approach, the project gathered requirement, designed, analysis, and implemented a smartphone application utilizing Android platform. At the last phase, the project will be tested by selecting focus group which is several pregnant women and few experts in the pregnancy field.

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ABSTRAK

Tujuan projek ini adalah untuk membangunkan sebuah aplikasi android yang boleh memberi panduan yang berguna kepada wanita yang hamil supaya mereka boleh menguruskan berat kencing dengan sendiri. Aplikasi ini akan digunakan sebagai satu alternatif untuk menggalakkan penjagaan diri di kalangan wanita hamil bagi mengekalkan berat badan yang sihat semasa penghamilan. Dengan menggunakan pendekatan pembangunan perisian Agile, projek ini berkumpul keperluan, direka, analisis, dan melaksanakan aplikasi telefon pintar yang menggunakan platform Android. Pada fasa terakhir, projek ini akan diuji dengan kumpulan fokus yang terpilih yang beberapa wanita hamil dan beberapa pakar dalam bidang kehamilan.

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TABLE OF CONTENT

CHAPTER	SUBJECT	PAGE
	DECLARATION	**II**
	DEDICATION	**III**
	ACKNOWLEDGEMENT	**IV**
	ABSTRACT	**V**
	ABSTRAK	**VI**
	LIST OF TABLES	**XIII**
	LIST OF FIGURES	**XIV -XV**
	LIST OF APPENDICES	**XVI**
CHAPTER I	**INTRODUCTION**	1
1.1	Project Background	1-2
1.2	Problem Statement	3
1.3	Objectives	4
1.4	Project Scope	5
1.4.1	Target audience	5

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	1.4.2	Module / Function	6-7
1.5		Project Significance	7-8
1.6		Report Organization	8-9
1.7		Expected Output	9
1.8		Conclusion	10
CHAPTER II		**LITERATURE REVIEW**	11
2.1		Introduction	11
2.2		Facts and findings	12-29
	2.2.1	Android	12-13
	2.2.2	Mobile Technologies in Healthcare	14-18
	2.2.3	Pregnancy	19-20
		2.2.3.1 Nutrition	20-23
		2.2.3.2 Pregnancy Workout	23
	2.2.4	Gestational Weight Gain (GWG)	24-25
	2.2.5	Existing smartphone application for pregnancy	25-29
2.3		Conclusion	29

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CHAPTER III		**METHODOLOGY**	30
3.1		Software Development Life Cycle	30-32
3.2		Project Methodology Selection	32-35
	3.2.1	Phase I: Plan and evaluate priorities	33
	3.2.2	Phase II: Analysis	34
	3.2.3	Phase III: Design	34-35
	3.2.4	Phase IV: Implementation	35
	3.2.5	Phase V: Testing	35
	3.2.6	Phase VI: Deployment	35
3.3		Project Schedule and Milestones	36-38
	3.3.1	Gantt chart	36
	3.3.2	Milestones	37-38
3.4		Conclusion	38
CHAPTER IV		**ANALYSIS**	39
4.1		Introduction	39
4.2		Analysis of Current System Scenario	40-42
	4.2.1	Quality of Data	40-42

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4.3		Requirement Analysis	42-44
	4.3.1	Functional Requirement	42-44
	4.3.2	Non-functional Requirements	44
	4.3.3	Technical Requirement	45-48
		4.3.3.1 Software Requirements	45-46
		4.3.3.2 Hardware Requirements	47
		4.3.3.3 Deployment Requirements	47-48
4.4		Conclusion	48
CHAPTER V		**DESIGN AND IMPLEMENTATION**	49
5.1		Introduction	49
5.2		High Level Design	50
	5.2.1	Android development environments	50
		5.2.1.1 Model View Controller Pattern (MVC)	50-51
		5.2.1.2 Android Activities	51-52
		5.2.1.3 Other Android components	52-53
5.3		System Design	53-54
	5.3.1	Database component	54

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	5.3.2	Pregnancy progress tracking component	55
	5.3.3	Weight tracking	55
	5.3.4	Diet Components	55
	5.3.5	Workout component	56
	5.3.6	Reminder component	56
5.4		Detailed Design	56
	5.4.1	Package diagrams	57
	5.4.2	Use Case Diagram	58
5.5		Logical Flow Diagram	59-66
5.6		Conclusion	66
CHAPTER VI I		**TESTING AND EVALUATION**	67
6.1		Introduction	67
6.2		Test Plan	68
	6.2.1	Test Organization	68
	6.2.2	Test Environment	69
	6.2.3	Test Schedule	69

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6.3		Test Strategy	70
6.4		Test Design	71
	6.4.1	Test Description	71-72
6.5		Testing Result and Analysis	72-73
6.6		Conclusion	73
CHAPTER VI		**CONCLUSION**	74
7.0		Introduction	74
7.1		Observation and Weakness and Strength	75
	7.1.1	Observation	75
	7.1.2	Weakness	75
	7.1.3	Strength	76
7.2		Proposition for Improvement	76-77
7.3		Conclusion	77
		REFERENCES	78-80
		APPENDICES	81-107

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LIST OF TABLE

TABLE	TITLE	PAGE
Table 2.1	Sample Recommended Pregnancy energy and protein requirement according to age catergories	21
Table 2.2	Key Nutrients for You and Your Baby During Pregnancy	21-23
Table 2.3	Weight Gain During Pregnancy	24
Table 2.4	Weight Gain During Pregnancy (Ministry Of Health)	25
Table 2.5	Table of Basic Information for Top Rated and Downloaded Alternative Application	26-28
Table 2.6	Table of Selected Features Comparison for Top Rated and Downloaded Alternative Applications	28
Table 3.1	Criteria for selecting a methodology	31
Table 3.2	Design Description	34
Table 3.3	PSM 1 Milestones	37
Table 4.1	Software Requirment	45
Table 4.2	Hardware Requirement for Personal Computer	47

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LIST OF FIGURES

DIAGRAM	TITLE	PAGE
Figure 2.1	Android Software Stack, Source	13
Figure 2.2	Visible Health's DrawMD	15
Figure 2.3	Epocrates	16
Figure 2.4	AliveECG	17
Figure 2.5	ResolutionMD	17
Figure 2.6	Diseases Dictionary	18
Figure 2.7	Fetal Growth: Health Mango	20
Figure 3.1	Agile modeling	33
Figure 3.2	Project Gantt Chart	36
Figure 5.1	A Common MVC Implementation	51
Figure 5.2	Android Activity Lifecycle	52
Figure 5.3	Architectural design of the system	54
Figure 5.4	Entity Relationship diagrams	54

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Figure 5.5	Package Diagrams	57
Figure 5.6	Use Case Diagrams	58
Figure 5.7	Logic flow of Main Activity	59
Figure 5.8	Logic flow of Login Activity	60
Figure 5.9	Logic flow of Main menu Activity	61
Figure 5.10	Logic flow of Weight Tracking Activity	62
Figure 5.11	Logic flow of Calculate BMI Activity	63
Figure 5.12	Logic flow of Diet Recommended Activity	64
Figure 5.13	Logic flow of Workout recommended activity	65
Figure 5.14	Logic flow of Reminder activity	66
Figure 6.1	Image of Klinik Kesihatan Ibu dan Anak in Taiping	72

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LIST OF APPENDICES

Appendix A. Snapshot of the existing pregnancy system

Appendix B. System Request

Appendix C : Interview to Capture Requirements

Appendix D : Testing Suite Case

Appendix E: Transcript of interview with target users

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CHAPTER I

INTRODUCTION

1.1 Project Background

In the era of globalization, mobile technologies have greatly evolved throughout the world due to the conveniences that it brings to the users. According to a study done by Afrizal Abdul Rahim (2013), there is a gradual increase of smartphone penetration in Malaysia from 47% in year 2012 to 63% in year 2013, while for the tablet penetration there is increasing almost three-fold which is from 14% to 39%. Because of this, the Ministry of Health Malaysia is looking to capitalize the potential of mobile technology to deliver the information about the gestational weight management for pregnant woman.

The title for this project is My Pregnancy Care. The purpose of this project is to develop an Android application that can provide a useful guide for the pregnant mom to manage their gestational weight gain (GWG) by themselves. This project consists of two parts: the first is to do a research based on the title so that this

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application is useful for the pregnant women with the information it provide. The next part of the project is to expose to the development of the android which include development tools, coding, and also the interfaces.

Gestational Weight Gain (GWG) refers to the weight gain by pregnant women during conception until delivery of the baby. It is crucial to manage the gestational weight gain because it may affect the health risk of both mother and infant. Many health issues will arise during the pregnancy stage if the pregnant mom has a poor gestational weight management. Some women will get underweight while some women may get overweight due to the poor gestational weight management. Both of these issues may lead to the risk of pregnancy complication. Hence, there is a necessary to have a good gestational weight management to reduce the risk of pregnancy complication.

The goal of the project is to bring convenience to the pregnant women. Most of the pregnant women need to visit their doctor regularly for a check-up and keep track of their health care including their GWG. However, the doctor might not be able to always keep track on them and give them immediate feedback. Thus, this application is to encourage the pregnant women can keep track on their GWG at anywhere and anytime they wish. In addition, this application will also provide some guidance to nutrition and some workout for the pregnant women. Hence, this may help them save their time, improve their healthcare and satisfaction and reduce costs.

In conclusion, this application is developed to bring convenience to the pregnant women and increase their self -care awareness. Therefore, this application may act as an alternative or medium that will help the pregnant women to reduce the risk during pregnancy. A market survey will be analysis to develop a persuasive application that can bring convenience to the target user. At the end of the project, the persuasiveness of the application will be evaluated.

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1.2 Problem Statements

Consumption of adequate of balance and healthy diet during the pregnancy stages are required for a healthy and successful pregnancy upshot. However, there are many pregnant women having unconscious of the importance of the prenatal nutrition. Hence, this may indirectly affect their gestational weight gain. Having obesity or underweight during the conception stage may cause pregnancy complication later. Thus, this application may guide the pregnant women to maintain a healthy gestational weight gain.

In addition, most of the pregnant women are too rely on their physician or doctor. They have to regularly make an appointment and visit to their doctor for a check-up and helping them keep track on their GWG. Due to the dependability of the pregnant women, they may cause strain of the hospital resource and burden the doctor. Besides, they also will waste their time and money.

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1.3 Objective

The objectives of this project are as follows:

i) **To investigate the most efficient way to help pregnant women to maintain healthy during their prenatal stages**

As the increase of widespread of smartphones consumers, the smartphone become a necessity in our daily life. Most of the human activities can perform through smart phones. In response to this, smartphone serve as a good platform for self-care.

ii) **To develop an Android software application that will help pregnant women to manage their own Gestational Weight Gain in which some recommendation of nutrition and workout are recommended to them during the prenatal stages**

Weight gain during pregnancy is vital for baby grows. A poor gestational weight management may cause labor complication. Hence, in the My Pregnancy Care application, it provides a pretty handy guide for the pregnant women to have balanced diet consumption and stay healthy during their pregnancy stages. In order to manage the gestational weight gain in a healthy amount, workout also plays an important role. In this application, it will provide some recommendation workouts for the pregnant women to help them stay healthy and keeping fit during pregnancy. This workout is aimed to help the pregnant mom to adapt to their changing bodies and their growing baby.

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iii) **To evaluate the effectiveness and how intuitive the My Pregnancy Care application navigation was**

As a developer who develops the application, it is a necessity to identify the requirements and the needs of the intended audience. By testing the application with the selected target users, it would help the developers evaluate how the application functions from a user perspective view.

1.4 Project Scope

The scope of this project is to include essential functionality to encourage self-care among the pregnant women throughout their prenatal stages.

1.4.1 Target audience

This product is developed and to serve pregnant women to help them stay healthy in the pregnancy stages. According to a study done by the Perdana University Graduate School of Medicine showed that pregnant women in Malaysia are at risk of obstetric complications. Furthermore, the study also concludes that maternal obesity also associated with the increase morbidity of Gestational diabetes, Gestational hypertension, Preterm labor, Postpartum haemorrhage, Eclampsia, Shoulder Dystocia and etc. Hence, this application will serve as an alternative for the pregnant women to keep track on their own GWG.

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