INTERACTIVE 3D MODEL IN MOBILE APPLICATION FOR SELF-ACUPRESSURE PRACTISE

LU MAY NI

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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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DEDICATION

I dedicated this thesis to my families who support me. From the bottom of my heart, I would like to thank them for the support. Without their support, I can't come this far. I would like to dedicate this thesis to all the lecturers who have thought me and share knowledge from the beginning until today.

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ABSTRACT

Interactive 3DModel in Mobile Application for Self-Acupressure Practise is an Android application. This application develops to show acupressure point and its interconnection point. Acupressure is an alternative way to relieve pain. This method is applied by using thumb. Besides that, relieve pain by taking painkillers will cause many side effects to our body. The objectives of this project are to develop an application to show acupressure points and its interconnection point, to develop an interactive 3D visual model for self-acupressure points in mobile application, to recommend a set of self-acupressure and to evaluate user acceptance for application. This project use Agile methodology for the development process. This method divided into iterations. Each iteration includes the task to release increment of new functionality. The iteration includes planning, requirement analysis, design, implementation, testing and evaluation. There are 2 types of testing activity carried out, and each type involve different group of test users. The testing activities for this project include alpha testing and beta testing. Alpha testing involved a group of multimedia developer to test the functionality of the application. While the beta testing involved 30 public users to test the user acceptance test. As the results of the testing, test user understand the application. Besides that, they agree that this application can help them to learn how to apply acupressure. The goal of this project is recommend an alternative way to relieve pain. Hopefully, this application will help user to learn and apply self-acupressure treatment.

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ABSTRAK

Interaktif 3D Model in Aplikasi untuk Amalan Titik *Self-Acupressure* adalah sabuah aplikasi Android. Pembangunan aplikasi untuk menunjukkan titik self-*acupressure* dan titik sambungannya. *Self-acupressure* merupakan cara alternatif untuk melegakan kesakitan. Kaedah ini menggunakan ibu jari untuk menekan. Di samping itu, ubat penahan sakit yang sering digunakan akan menyebabkan kesan sampingan pada badan kita. Objektif projek ini adalah untuk membangunkan aplikasi untuk menunjukkan titik *acupressure* dan titik sambungannya, untuk membangunkan model 3D yang interaktif untuk titik *acupressure* dalam aplikasi mudah alih, untuk mencadangkan satu set titik *acupressure* dan untuk menilai penerimaan pengguna aplikasi. Projek ini menggunakan kaedah Agile dalam proses pembangunan. Kaedah ini dibahagikan kepada beberapa lelaran. Setiap lelaran akan menambahkan fungsi baru. Lelaran dalam kaedah in termasuk perancangan, analisis keperluan, reka bentuk, pelaksanaan, pengujian dan penilaian. Terdapat 2 jenis activiti ujian akan dijalankan, dan setiap activity melibatkan pengguna ujian yang berbeza. Aktiviti ujian untuk projek ini termasuk ujian Alpha dan ujian Beta. Ujian Alpha melibatkan sekumpulan pembangun multimedia untuk menguji fungsi permohonan. Ujian Beta pula melibatkan 30 pengguna awam untuk menguji ujian penerimaan pengguna. Daripada keputusan ujian menunjukkan pengguna memahami aplikasi ini. Selain itum mereka setuju bahawa pembangunan aplikasi ini boleh membantu mereka untuk belajar bagaimana menjalankan acupressure. Matlamat projek ini adalah untuk mencadangkan cara alternatif untuk melegakan kesakitan. Oleh demikian, pembanguanan ini dapat membantu pengguna untuk belajar and menjalankan *acupressure*.

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LIST OF ABBREVIATION

3D	-	three-dimensional

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CHAPTER I

INTRODUCTION

This chapter introduces the Interactive 3d Visual Model in Mobile Application for Self-Acupressure Points. It is developed for the purpose of encouraging people self-treatment using acupressure to relieve pain. Self-treatment acupressure is an alternative way to relieve pain instead of taking drugs like painkillers.

1.1 Project Background

Nowadays, many people face pain on their body parts and most of them choose to take painkillers to relieve the pain. Painkillers can relieve pain effectively. However, it only relieves the pain temporarily and it will cause side effects to our body.

Acupressure is also an effective alternative way to relieve pain in a variety of conditions. Acupressure is easy to learn and can be self-practise. There are many mobile applications about acupressure points. However, most of the mobile applications do not support interactive 3D visual model and less focus on the interconnect pressure point of

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acupressure to relieve pain. In addition, most of the people do not know about the self-treatment using acupressure point.

For this project, an interactive 3D visual model mobile application for self-treatment using acupressure is developed. These applications include an interactive 3D visual model, which contain all the acupressure points and its interconnection points to relieve pain. Thus, users can check the acupressure points for each part of the body and its interconnection points using this application. Therefore, it is more convenient for the users to learn about the self-treatment using acupressure. This application can be installed on the Smartphone and can use anytime and anywhere.

1.2 Problem Statements

Currently, many of the people rely on painkillers to relieve pain. Most of them do not know the painkillers will cause side effect to our body. Acupressure is also an effective alternative way to relieve pain. It can relieve pain by applying pressure to interconnect pressure point of acupressure point. In addition, many people do not know about the self-treatment using acupressure.

There are many mobile applications about acupressure, but most of them using 2D image for acupressure points representation where the interactive between users and the model. Moreover, user hard to identify the actual part of the acupressure points on their body.

Besides that, many applications less focus on the interconnect pressure points to relieve pain. Interconnect pressure points are the points to apply pressure to relieve the pain. The current application does not show the interconnect pressure points of acupressure points, users need to find out the point by searching it.

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1.3 Objective

This project embarks on the following objectives:

a. To develop an application to show acupressure points and its interconnection point.
b. To develop an interactive 3D visual model for self-acupressure points in mobile application.
c. To recommend a set of self-acupressure points for relieving pain.
d. To evaluate user acceptance for the application.

1.4 Scope

This project is developed for encouraging people about self-treatment using acupressure. The target users of this application are those who face pain in their body. This application is a mobile application to install on Android Smartphone.

This application is mainly focused on self-treatment acupressure points and its interconnect pressure point to relieve pain. This application provides an interactive 3D model to view acupressure points and the interconnect pressure point to relieve pain. Each acupressure points are labeled to prevent confusion.

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1.5 Project Framework

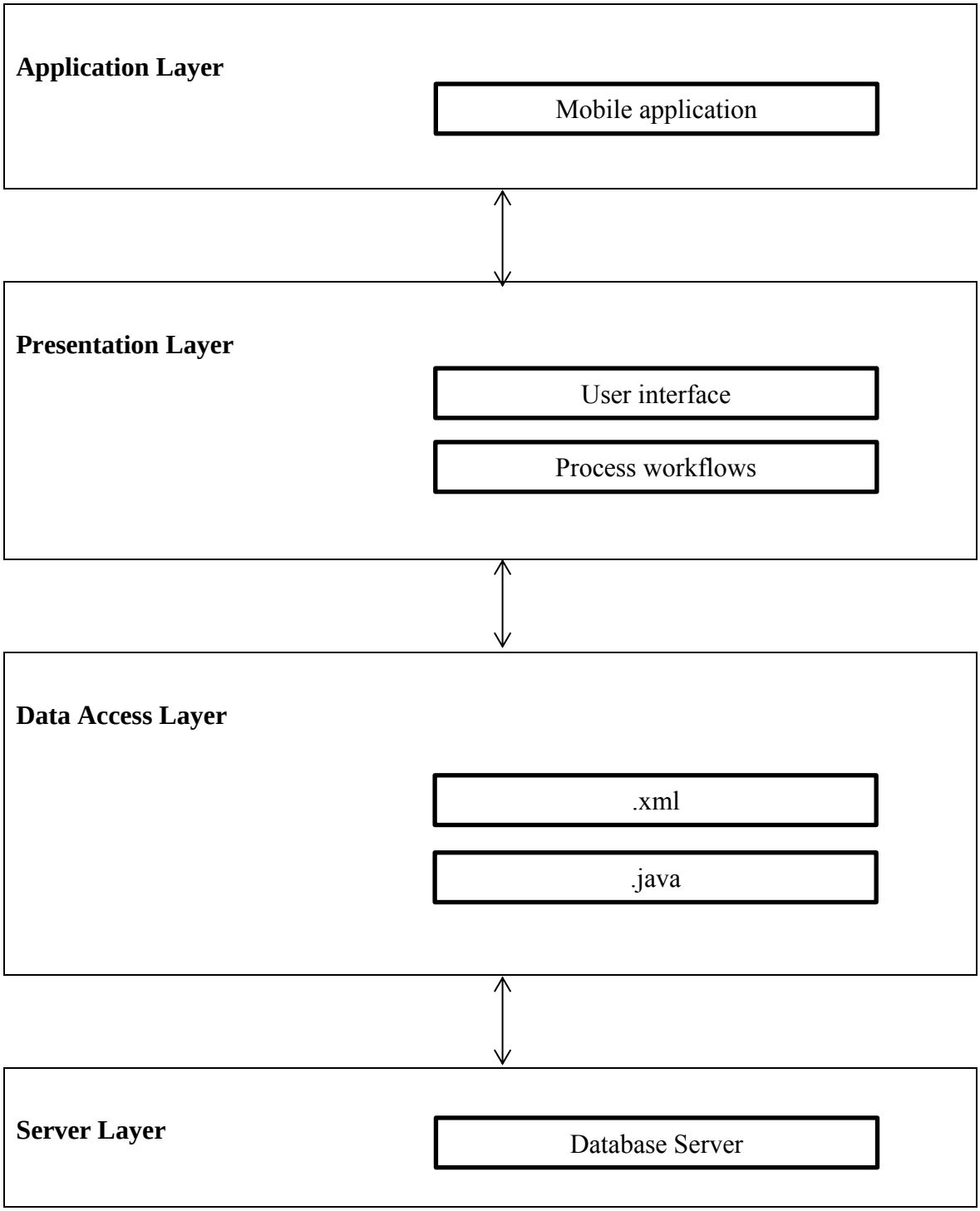

Figure 1.1: Project Framework

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1.6 Project Significance

This project is developed to encourage people to relieve pain without using painkillers. The alternative way to relieve pain by using acupressure is effective. Furthermore, the acupressure can be self-treatment and easy to learn. The self-treatment acupressure is applied using the finger to apply pressure to acupressure interconnect pressure points. In addition, relieve pain by acupressure will not cause any side effect to our body system.

1.7 Expected Output

This project will develop an android application of interactive 3D visual model on self-acupressure points. This application is to recommend a set of self-acupressure points and its interconnecting pressure points for relieving pain.

1.8 Conclusion

As a conclusion, this project is focused on interactive 3D visual model mobile application on acupressure points and its interconnect pressure point. The application is only for Android gadgets.

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CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

This chapter discuss about the area of study related to this project. The domain of this project is defined and reviewed. The existing applications related to acupressure are compared and review. The methodology used in this project development is determined. The software and hardware requirement to develop this project is also determined.

2.2 Facts and Findings

In this section, the domain focused in this project is determined and reviewed. The pros and cons of the existing system are discussed to improve the functionality of the application that developed in this project.

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