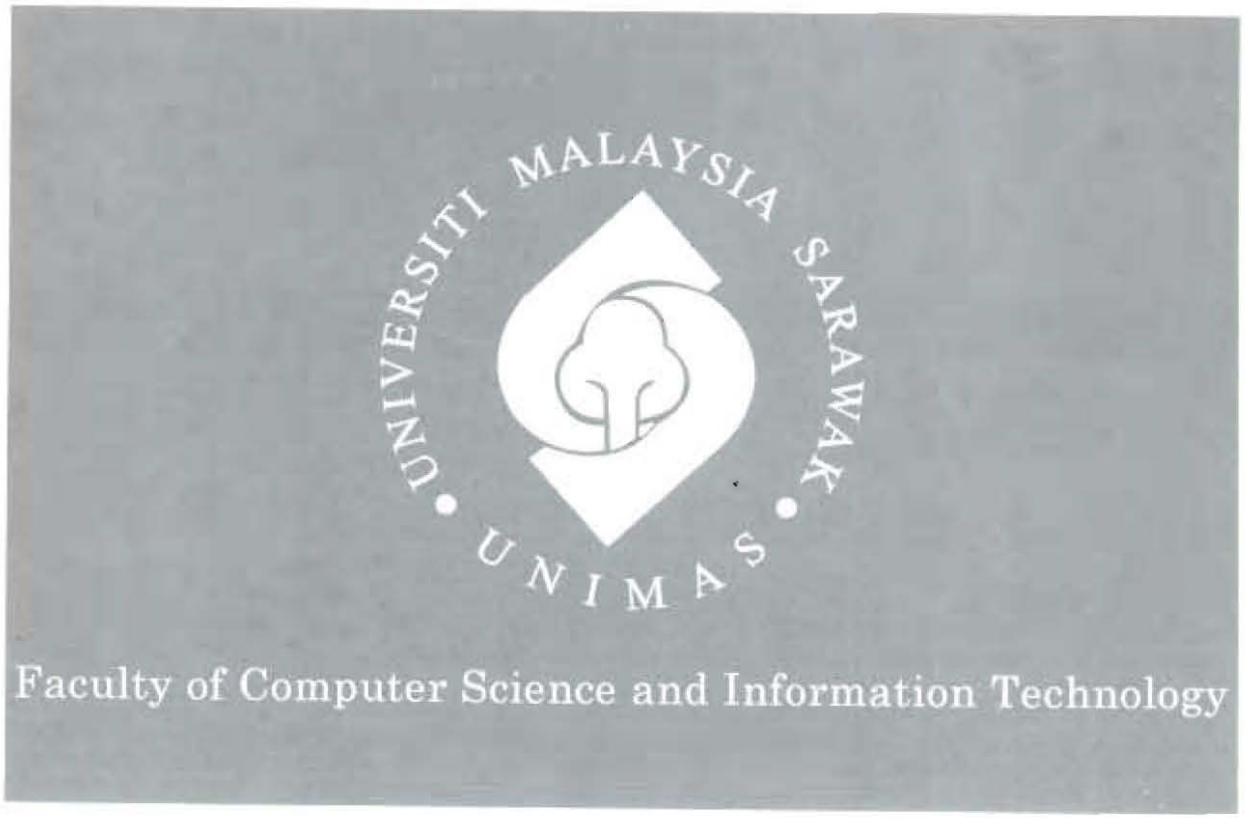

ANDROID-BASED CLOTH MANAGEMENT APPLICATION

Lai Chin Chong

Bachelor of Computer Science with Honours
(Software Engineering)
2015

ANDROID-BASED [illegible]ENT APPLICATION

LAI CHIN CHONG

This project is submitted in partial fulfillment of the
requirements for the degree of
Bachelor of Computer Science and Information Technology

Faculty of Computer Science and Information Technology
UNIVERSITI MALAYSIA SARAWAK
2014

UNIVERSITI MALAYSIA SARAWAK

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Acknowledgement

I would like to deliver my heartiest gratitude to all of the people who involved directly or indirectly in my Final Year Project. First of all, greatest appreciation and special thanks to my Final Year Project supervisor, Mdm. Nurfauza Jali for her assistance, guidance, suggestions and supervision in my Final Year Project. Her advices have lighted my way to complete my Final Year Project. With her help, I was able to complete my Final Year Project with confidence.

Next appreciation goes to my university, Universiti Malaysia Sarawak (UNIMAS) for providing me a study platform to gain knowledge and stand a chance to learn a lot of things. The following appreciation goes to my faculty, Faculty of Computer Science and Information Technology for giving me an opportunity to experience challenges in my Final Year Project which in turns prepares me to go work in the future.

I would like to deliver my gratefulness to the Final Year Project Coordinator, Professor Dr. Wang Yin Chai for the guidelines and coordination throughout the conduction of Final Year Project. Lastly, special thanks to my coursemates and friends around who helped, guided, and expressed idea to help me with my Final Year Project.

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ABSTRACT

The difficulty in managing a large collection of clothes is a common problem faced by many people, especially when there is little time to be spared on it. Complication in handling this task will lead to other problems such as unmanageable appearance and may affects the daily life of an individual. The conventional way of closet management proves to be time consuming and requires a lot of efforts. Thus, the proposed application is developed in order to solve the problems that arise.

Three objectives are specified for the proposed application. This includes the building of a fully functional Android-based cloth management application and the accessibility which is through offline. The scopes includes the form for user input, function to trace the use of cloth in term of date of use, cloth placement, and recommendation for maintenance with the addition of search utility through keywords or from the inventory. Apart from that, the implementation phase of this application will adopt the Software Development Life Cycle (SDLC).

In this approach, the implementation will be divided into seven phases, which are planning, analysis, design, prototyping, development, testing, and evaluation. The flow of this methodology is in linear form where one stage should be completed before moving to the next stage.

ABSTRAK

Kesukaran dalam menguruskan koleksi pakaian adalah masalah umum yang dihadapi oleh setiap individu terutamanya apabila masa yang diluangkan bagi menguruskannya adalah terhad . Komplikasi dalam mengendalikan tugas ini akan membawa kepada masalah lain seperti penampilan yang tidak terurus dan boleh menjejaskan kehidupan seharian. Cara konvensional dalam pengurusan pakaian ternyata melibatkan usaha gigih dan mengambil masa yang agak lama untuk diselesaikan. Oleh itu, aplikasi yang dicadangkan akan dibina bagi menyelesaikan masalah tersebut.

Tiga objektif ditetapkan bagi aplikasi yang dicadangkan . Ini termasuk pembinaan sebuah aplikasi Android bagi pengurusan pakaian yang berfungsi sepenuhnya dan boleh diakses secara luar talian. Skop pembinaan aplikasi pula adalah termasuk boring digital untuk merekod input pengguna, fungsi untuk mengesan penggunaan pakaian dari segi tarikh penggunaan , penempatan kain, dan cadangan untuk penyelenggaraan dengan tambahan utiliti carian melalui kata kunci atau carian dalam inventori pakaian . Selain itu, fasa pelaksanaan pembinaan aplikasi ini akan mengguna pakai Kitaran Hayat Pembangunan Sistem (SDLC).

Dalam pendekatan ini , perlaksanaan projek dibahagikan kepada tujuh fasa , iaitu perancangan , analisis , reka bentuk, prototaip , pembangunan , pengujian , dan penilaian. Aliran metodologi ini adalah dalam bentuk linear di mana satu peringkat perlu diselesaikan sebelum bergerak ke peringkat seterusnya.

CHAPTER 1: INTRODUCTION

1.1 Project Title

Android-Based Cloth Management Application

1.2 Introduction

The Cloth Management Application is android-based application that can help users to manage their clothes and wardrobe and is accessible through offline. This application provides three main functions.

The first function would be to notify user on the last date and time that the particular cloth is used. The recording of the date and time is done each time that the specific cloth is used by the user. This means that they have to select the cloth from the inventory and the application will automatically record the current time of the selection being made. Then, in the future, user can check the date and time of the cloth in order to verify that the cloth that they use have not been used before or for specific period of time according to their preferences.

The next function of this app is to locate the placement of the particular cloth. Sometimes, the users may have difficulty in finding the exact place where their cloth is kept. Thus, by using this application, user can choose the desired cloth by searching it from the list in the inventory or the search tool provided. The location will be displayed in the form of pictures and descriptions of the location.

Lastly, this app also provides a recommended method for maintenance and cleaning of the clothes. As different materials of cloth have its own way of maintaining and cleaning, the app will display the most suitable method based on the cloth that have been chosen by the user from the from the inventory.

This application is very flexible and convenient to be use as user will only have to follow the flow of managing the cloth provided in the application. However, before experiencing the function provided by this app, users will need to fill in a form. In this form, users have to provide the picture of the cloth either by uploading from existing phone gallery or capture it by using the plugin camera utility. Other information needed would be the types of materials, and location where the cloth is kept. All the information is important for the application to provide precise and efficient functions to the user. Vague or incorrect information of the cloth will affect the way that the application manages the cloth.

1.3 Problem Statement

Managing a whole load of cloth is a very tidiest work especially there is only a limited time to do so. This is a common problem faced by people with busy and hectic lifestyle. The most common problem when it comes to managing cloth is to find the exact place where those clothes are kept. The failure in searching for the desired cloth can be very frustrating and might affect one's overall appearance physically.

As for individual with active social lifestyle and highly conscious about their appearance on a daily basis, or even professional workers who need to look good most of the time when meeting clients, choosing the right cloth to be use and avoid from using the same

cloth each day is a must. However, there might appear some confusion sometimes when it comes to recalling the kind of clothes that are being used in previous days or week. This complication can happen when there are several clothes with slightly different patterns, colors, or designs.

Another problem that surfaces when managing our cloth is the method or procedure in maintaining and cleaning. Different materials of cloth have its own method of maintenance. Applying the wrong method can affect the condition and quality of clothes. In addition, most of the times, we had a hard time in finding the source of information regarding the suitable method to be used to maintain or clean clothes of uncommon types of material.

There are several Android applications in the market that may solve some of the problems stated above. However, most of the apps are focusing on providing updates on the trend of fashion, shopping catalog, and even on a social site.

1.4 Objectives

- To build a complete and fully functional android based cloth management application that can assist users in managing their clothes and wardrobe.
- To incorporate dual search utility in all functions of the android-based cloth management application.
- To provide an easy and simple navigation features throughout the application.

1.5 Methodology

There are various methodology that can be used and deploy into the development of an android application. For the Cloth Management Application, Software Development Life Cycle (SDLC) is the most suitable method to be deployed. This is because SDLC allow the tracking process and focus on the achievement of goals. Besides, the phases in SDLC are processed and completed one at a time which will lead to the development of a high quality software or application.

SDLC consists of seven main phases. This includes planning, analysis, design, prototyping, development, testing, and evaluation. Planning is the first and the most critical phase in SDLC. During this phase, the goals of the proposed project will be defined and the requirement are gathered through several methods such as interviewing the users, questionnaires , and even from reviewing the existing software or application on the market.

In the analysis phase, the information that is collected from the previous phase will be reviewed. From this review and investigation, the most appropriate methods in implementing the project can be determined and deployed. Then, the requirements and specification of the software or application will be defined as well as the functionalities.

The next phase in SDLC is designing and prototyping. The requirement specifications from the first phase are being studied in this phase and system design is prepared. System Design helps in specifying hardware and system requirements and also

helps in defining overall system architecture. This phase is extremely important and a big portion of focused should be given as the design will determine the nature, behavior and appearance of the system. As soon as the design is completed, checked for consistency and reviewed, the prototyping of the system will be implemented. Prototyping is essential as it can be the medium for collecting users experience and feedback on the system.

Development or implementation phase is the major phase in SDLC. Most of the effort in developing is concentrated on this phase. During this stage, the software design is realized as a set of programs or program units. This phase is then, followed by testing phase which divided into unit testing and system testing. Unit testing involves verifying that each unit meets its specification. Then the individual program units or programs are integrated and tested as a complete system in system testing, to ensure that the software requirements have been met.

The last phase in SDLC is the evaluation. In this phase, the system that was developed, as well as the entire process, is evaluated. The system is once again checked for the reliability and fault tolerance. The system is also evaluated in term of the function and its consistency with the approved functional requirements.

1.6 Scope

- Develop an android-based cloth management application that is accessible through offline.
- The functionality of this application will only cover the following:
    i. Forms that are used by user to input their cloth information or specification.
    ii. View the history of use for particular cloth in term of last date of use.
    iii. Locate the placement of cloth.
    iv. Recommendation for maintenance and cleaning of clothes.
    v. Search utility which is by tags, keywords, or select manually from a list of cloth in the inventory.

1.7 Significant of Project

The Cloth Management Application will be a useful tool for public use, especially for people with a significant collection of clothes. This application is also handy for people with professional career that needs them to manage and decide on the cloth that they wear on a daily basis. The availability of notifications on the use of a particular cloth can alert the user on the frequency of use of the cloth. The recommendation for maintenance and the utility to locate the placement of cloth, on the other hand, can be a useful assistance for user to keep their cloth in a good condition.

1.8 Expected Outcome

The expected outcome of this project is the cloth management application that works on android OS of a smartphone. This application is expected to provide an appropriate and precise functionality to the users on the effective way of managing the clothes. Apart from that, the application is also accessible through offline, which means that the user can use it at anytime and anywhere by using their android devices.

1.9 Project Schedule

Project schedule is an element that shapes the flow of a project. It used as guidelines for the progression of the project. For this project, the Gantt chart is selected to identify the set of time frame for each task in order to make sure that the project can be completed on time.

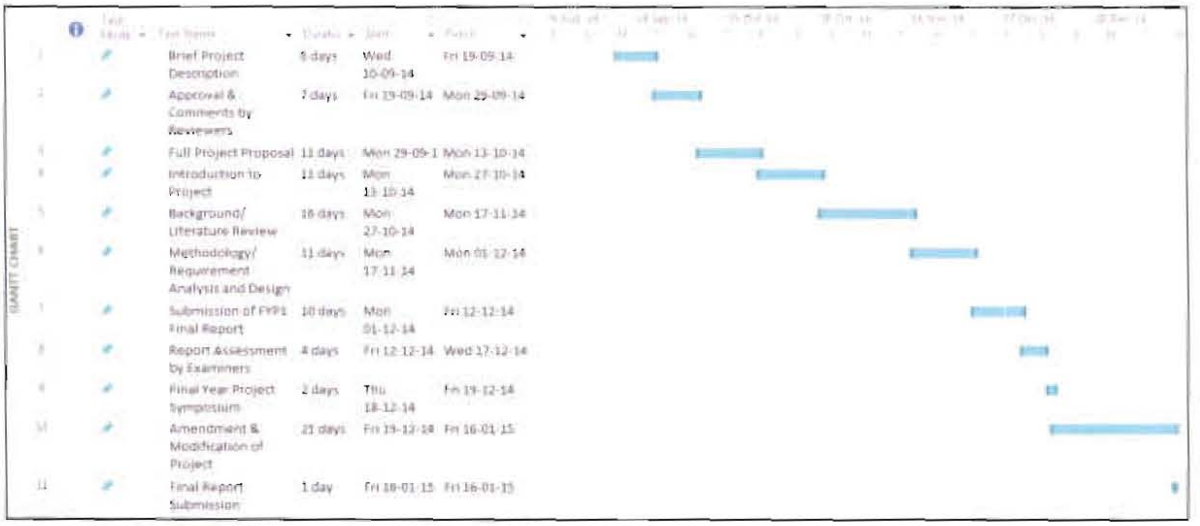

Figure 1.1: Project schedule for FYP 1

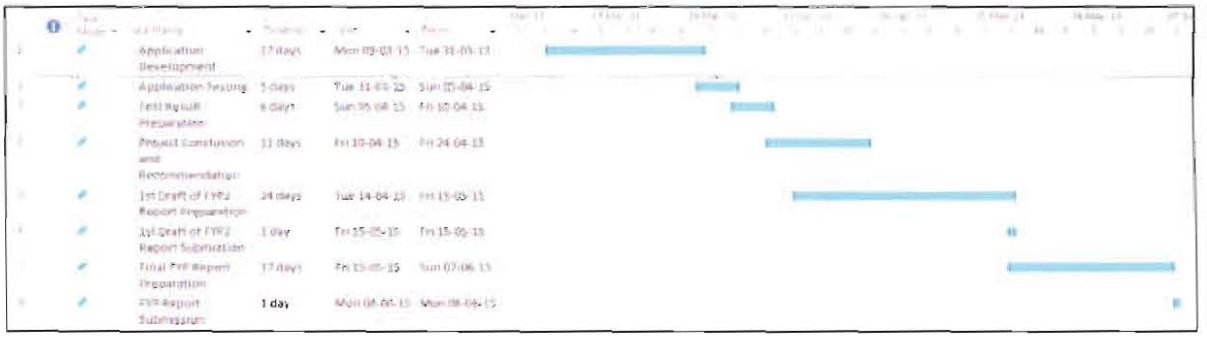

Figure 2.2: Project schedule for FYP 2

1.10 Report Organization

This report is organized as follows:

- Chapter 1 introduces the project by providing important details of the overview, the problem statement, objectives, methodology, scope, significant of project, and expected outcome.
- Chapter 2 discusses on the background study of the project.
- Chapter 3 discusses methodology of achieving the objectives of the project.
- Chapter 4 discusses the implementation and testing process of the project.
- Chapter 5 presenting the conclusion and future work regarding the project.
- Chapter 6 representing on the future works and limitations of the project.

1.11 Summary

This chapter discusses the introduction of the Cloth Management application which is android-based. This application is mainly to assist in managing a collection of cloth in a more effective and structured way. The application of android system to this proposed system can enhance the flexibility of use as the user can conduct it by using smartphone through offline.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Android operating system is the booming trend nowadays. It has been integrated in many different types of mobile devices such as smartphones, watch, and even PCs. Currently, android powers hundreds of millions of mobile devices in more than 190 countries around the world. It is recognized as the largest installed base of any mobile platform and growing extremely fast. It is estimated that each day, another million users power up their Android devices for the first time and start looking for apps, games, and other digital content.

2.2 Overview of Objectives

The Android-based Cloth Management Application would be developed to achieve the following goals:

- To build a complete and fully functional android based cloth management application that can assist users in managing their clothes and wardrobe.
- To incorporate dual search utility in all functions of the android-based cloth management application.
- To provide an easy and simple navigation features throughout the application.

The rising trend of android platform mobile devices has directly led to the popularity of android-based application. Android-based applications are also known as native apps. In this project, the Cloth Management Application is developed as a native app rather that a web-based app for several reasons. A native app is built for a specific platform, such as IOS or android, using their code libraries and accessing their available hardware features

(camera, GPS, etc.). A web-based app, on the other hand, is one that is hosted on the web and accessed from a browser on the mobile device. Native apps tend to be faster and more responsive. Because the code that runs the app is stored locally on the phone, there is no time spent waiting for static content (such as images and text) to be downloaded from the web. While dynamic content may still need to be accessed from the web, it is an improvement over the web-based model in which everything needs to be downloaded each time. Besides, native apps can run asynchronously, which means that dynamic information can be stored locally on the phone temporarily and synced with the central web-based server later. While new technologies and features such as those in HTML5, will allow for this to also be done in a web-based environment, native apps are still ahead of web-based on this front.

A simple render of interface will be used in the development of the Cloth Management Application. In order to implement this goal, unnecessary element of the interface is to be avoided and the use of explicit language on labels and in messaging will be applied thoroughly. A simple interface also means that the consistency level in using a standard user interface should be practiced throughout the application design. The design should allow the user to learn on how to use the application without much assistance and able to apply the skill to other parts of the application.

The availability of application that works through offline is currently showing a decreasing trend. This may be due to the existence of cloud storage which provides an advantage to the user in term of extending the storage of a device such as smartphone rather than depending on the limited local storage. However, retrieving data from a cloud storage or server can be time consuming and decrease the effectiveness of the application in