

BORANG PENGESAHAN STATUS TESIS*

JUDUL : HYPERMARKET PRODUCTS SEARCH MOBILE APPLICATION
(ANDROID)

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HYPERMARKET PRODUCTS SEARCH MOBILE APPLICATION (ANDROID)

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

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
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2013

DECLARATION

I hereby declare that this project report entitled
**HYPERMARKET PRODUCTS SEARCH MOBILE APPLICATION
(ANDROID)**

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

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(SAFIZA SUHANA KAMAL BAHARIN)

DEDICATION

To my beloved parents, supervisor, lectures and my fellow friends for giving support to me to complete this project successfully.

ACKNOWLEDGEMENTS

Praise to Allah s.w.t, I am being able to finish my final year project. First, I would like to thank to my beloved parents and my family for their support to complete my final year project.

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Lastly, thank you to all my friends for sharing their knowledge and skills while completing my final year project. Although, I would like to thanks for other people that have contributed and helped me to complete this project. Thank you.

ABSTRACT

The main purpose of developing this application is to provide information about products in the hypermarket such as product price, product availability and product location. This application will provide to the user an interactive map that will show navigation from the entrance to the location of the products. Currently, in order to provide direction to customers in the hypermarket, each row of rack has its own sign that will represent the product department name. If someone looking for a product, he or she should search the product based on the sign above the rack. These applications also provide shopping list function. User just need to click add to list button on the product details view to add item into shopping list. This application is developed using Adobe Flash Builder and can be deployed in any android smartphone version 4.1 and above.

ABSTRAK

Tujuan utama untuk membangunkan aplikasi ini adalah untuk memberi maklumat tentang produk di pasar raya besar seperti harga produk, status produk dan lokasi produk. Aplikasi ini akan memberikan kepada pengguna peta interaktif yang akan menunjukkan navigasi dari pintu masuk ke lokasi produk. Pada masa ini, untuk memberitahu lokasi produk kepada pelanggan di pasar raya besar, setiap baris rak mempunyai tanda sendiri yang akan mewakili nama kategori produk. Jika seseorang mencari produk, dia perlu mencari produk berdasarkan papan tanda di atas rak. Aplikasi ini juga menyediakan senarai membeli-belah. Pengguna hanya perlu klik butang menambah barangan pada butiran produ untuk menambah item ke dalam senarai membeli-belah. Aplikasi ini dibangunkan dengan menggunakan Adobe Flash Builder dan boleh digunakan pada mana-mana telefon pintar android versi 4.1 dan ke atas.

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LIST OF ABBREVIATIONS

SDK	-	Software Development Kit
XML	-	Extensible Markup Language
MXML	-	File name extension from XML
AUT	-	Application Under Test
UT	-	Unit Testing

CHAPTER 1

INTRODUCTION

1.1 Project Background

Android technology is a fast growing in information technologies industry. Android is a Linux-based mobile phone operating system that developed by Google. Android is unique because Google is actively developing the platform but giving it away for free to hardware manufacturers and phone carriers who want to use Android on their devices.

Nowadays, more applications are develop to fulfil the user needs. Hypermarket Products Search Mobile Application is one of them. It will benefit the peoples in which it will provide them product information like product availability and location of the product in the hypermarket. This application also let user to make a list of their products to buy at hypermarket. This application is needed by customer especially when they do shopping in large hypermarket.

Currently, if people want to find a product at hypermarket they have to find it manually, meaning there is no map for them to refer and they will have to ask the sales assistant. There is some hypermarket that provide tool to customer to checking the product price but limited amount. It can be hard and time consuming especially for people who have a limited time and a lot work to do.

By using Hypermarket Products Search Mobile Application, users will benefit the application provided and can search products at hypermarket without much bother. Users can install this application and can use it wherever they are.

1.2 Problem Statements

The following list present the problem faces by customer to find a products in hypermarket.

1.2.1. Longer time spent to search the products manually

As we can see, sometimes items in hypermarket are hard to finds due to lack of product location information. This situation make customers take too much time when they are trying to get and find some products. They needs to go from one rack to another rack or even based on limited signage provided by the hypermarket. As for example, there is customer that does their shopping during lunch time. The customer only has ten minutes to do their shopping before lunch hour end. The customer wants to buy a shampoo but it takes too much time to find a shampoo manually because there is no sales assistant at that department. This situation make the customer exceed lunch hour time.

1.2.2. Price tag is not updated

Some products in hypermarket do not have their price tag. So that we should go to barcode scanner (see Figure 1.1) to know the product price and maybe in one level of hypermarket only one barcode scanner provided. Longer time spend to find the barcode scanner and queuing with other people to check the product price. Another issue is the price tag display on the rack is not updated. The price tag display and the price in the system are different. For example, the staff of the hypermarket forgot to change the price tag after sale end and customer pick the product to buy based on the price tag. When customer goes to cashier to make the payment they find

out the price appears on cashier is different from the price tag. This make customers will feels tricked.



Figure 1.1: Barcode Scanner

1.2.3. Do not know either the product still available or out of stock

Usually when customers go to hypermarket they do not know the products availability without going to the product place or rack. It's make customers feel down when they are coming to hypermarket to buy something, but the product is out of stock.

1.3 Objectives

The objectives of this project are:

- To investigate the use of mobile phone and android technology into hypermarket application.
- To study existing approach used by hypermarket in delivering the product information to the customer.

- To develop an application that provides location information of the products in the hypermarket by using interactive map.
- To integrate this application with hypermarket stock control in order to provides required information about the products to the customer.

1.4 Scopes

The scope of this application focused on Hero Hypermarket at Bandar Sri Permaisuri, Cheras.

Develop application of Hypermarket Products Search based on android application, version 4.1 Jelly Bean and above. In this application, user can create a list of their products to buy a hypermarket and know the product information like status and price. The product location will be return based on products categories.

The target users to use this application are all customers at Hero Hypermarket and also their employee that have android smartphone.

1.5 Project Significance

Apparently the project significance is to make searching for products in hypermarket easier and to make use an android technology. Users will benefit from searching function and information provided by the application in order to show the location of the product in hypermarket. Interactive map and information given will enhance user experience and bring user to use the application.

1.6 Expected Output

With development of Hypermarket Products Search Mobile Application, the expected output will come into android application that use information technology to provide product details and location of the products.

This application will definitely give best performance in terms of the product information and location. The application will return product location by interactive map that will show navigation from entrance to product location. The hypermarket map will be illustrated from floor view with product categories therefore will provide an understandable for users.

1.7 Conclusion

As a conclusion from this chapter, the Hypermarket Products Search Mobile Application can be described as portable application as it can be installed on any android phones. It will provide user with shopping list, product location map to search the product location at hypermarket, product details such as price, department of products and product availability. The application is hopeful to be benefit to users and exposed user to android application.

CHAPTER 2

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

Literature review is the evidence and information that can be used as a resource. The inputs in the resource are findings from the past research and also the existing systems that are presently used. The input and information were also possessed through interview with customers. The aim of a literature review is to give presumption to the reader about the project study with related information, statement and the ideas that have been on a topic and what are the courage and lack. Literature review is also important to accomplish user requirements and specifications.

This chapter also include Project Methodology that needs to be defined. The methodology consists of certain phases as rules that are to be following through. The methodology is an approach to use all technique and tools to achieve predetermined objectives. The project milestone from the beginning until the delivery phases and project requirements also will be further explained.

2.2 Facts and Findings

In order to implement the project, the application developer will collect all the theory and information based on earlier research to be used in the project. All the fact and finding will be base by a review of the existing system and technique that already been used by the others. The objectives of fact and findings are:

- To understand the existent environment and how the existent system works.
- To analyse existent problems.
- To know how the environment will change

2.2.1. Existing systems

For this research, there are two applications studied which are:

- i) Let it Shop (Jrk, 2013) (source: <https://play.google.com>)

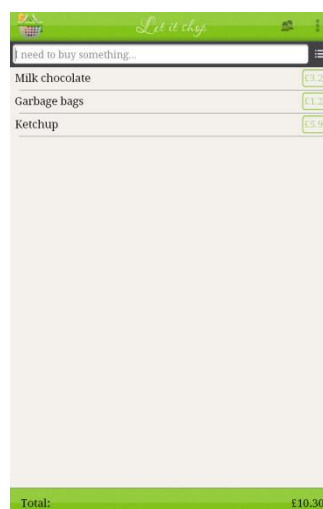


Figure 2.1: Let it Shop

Let it shop (see figure 2.1) is an android application that act as personal shopping assistant. It allows users to make a list easily because special suggestions and to calculate a value of all purchases. With this shopping list users can also control the value of products that are already in shopping cart. The features and limitation identified for this application are as below:

Features:

- Multiple lists (page style scrolling)
- Just tap an item to cross it out (you don't need to slide it)
- Tap "Total" to see the value of crossed out items
- Start to input the item, and you'll see the list of suggestions
- Tap "Next" after the inputted name, to input quantity
- Edit the cost right from the list
- Add personal quantity unit

Weakness:

Cannot put the products into categories.

ii) Tesco (Tesco plc, 2013) (source:<https://play.google.com>)

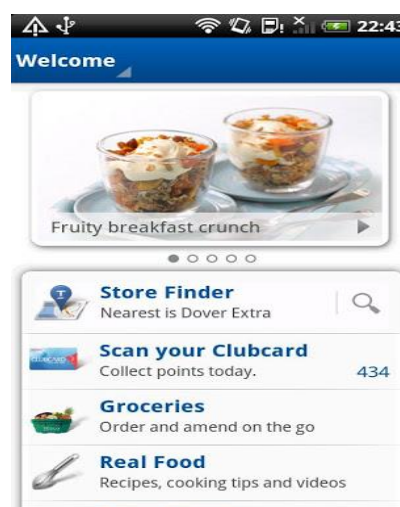


Figure 2.2: Tesco application

This application help Tesco customers to find nearest Tesco store, shop for groceries and 1000s of products from Tesco direct, and be inspired by Tesco recipes. The features and limitation identified for this application as below:

Features:

- Find your Tesco nearest store wherever we are.
- Add Club card and scan it at checkout straight from your phone.
- Order and amend grocery shop on the go.
- Browse hundreds of recipes by course or cuisine.
- Shop for 1000s of products from Tesco direct.

Weakness:

- Does not provide status products.
- Does not provide product location in Tesco Hypermarket.

Criteria	Let it Shop	Tesco
Shopping list	✓	
Product details		✓
Products locator		
Calculate total value	✓	

Table 2.1: Comparison between Let it shop and Tesco application

2.3 Project Methodology

In Information Technology (IT), methodology is mentioned to a group of procedures and guidelines of phase in software development lifecycle. The methodology will describe the order on the development of an application.

It is important to use the appropriate methodology to establish the good application and make development process easier. After some research, the application will use agile methodology for development of this application.

Agile methodology is a substitute to traditional project management that usually used in software development. Agile is a light weight methodology. Agile methodologies are an alternative to waterfall, or traditional sequential development.

Agile Methodology attracts many people because they attempt a useful compromise between no process and too much process to gain a reasonable payoff. They are less document-oriented, usually emphasizing a smaller amount of document for a given task.

Based on the survey conducted by Donald J Reifer from the Reifer Consultants (Donald, 2002) about agile methods, the respondents mention that they think the agile methodology is suitable for small, in-house teams developing software for fast market applications.

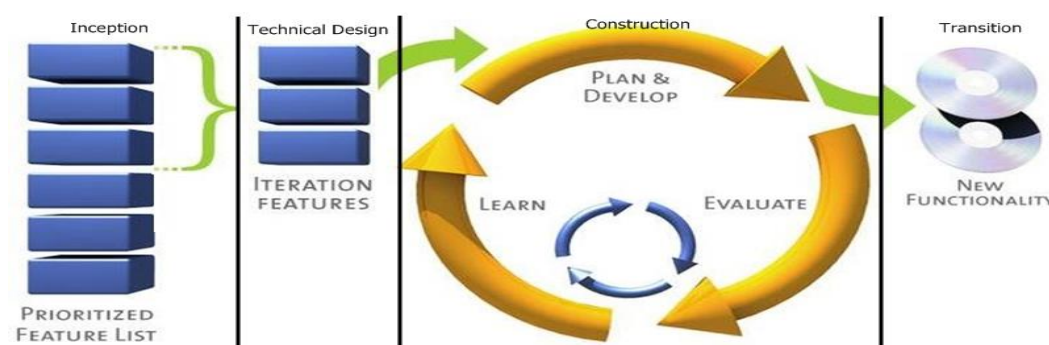


Figure 2.3: Steps in Agile Methodologies