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DESIGN AND DEVELOPMENT OF RETAIL PRICE COMPARATOR APPLICATION BASED ON ANDROID PLATFORM

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DESIGN AND DEVELOPMENT OF RETAIL PRICE COMPARATOR APPLICATION BASED ON ANDROID PLATFORM

This report is submitted in accordance with the requirement of the Universiti Teknikal Malaysia Melaka (UTeM) for the Bachelor of Computer Engineering Technology (Computer Systems) with Honours.

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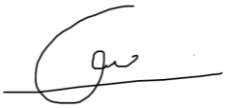
Signature: 

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APPROVAL

This report is submitted to the Faculty of Electrical and Electronic Engineering of Universiti Teknikal Malaysia Melaka (UTeM) as a partial fulfilment of the requirements for the degree of Bachelor of Computer Engineering Technology (Computer Systems) with Honours. The member of the supervisory is as follow:

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ABSTRAK

Barangan runcit merupakan barangan keperluan dirumah. Biasanya, pengguna akan ke pasaraya-pasaraya atau kedai runcit yang berdekatan untuk membeli barangan runcit. Saban hari, kita disajikan di dada akhbar berkenaaan dengan harga barangan runcit yang semakin naik. Pengguna-pengguna di Malaysia sangat sensitif terhadap harga barangan ini. Mereka inginkan simpanan yang terbaik apabila membeli barangan runcit tetapi tidak tahu tempat untuk membeli. Pengguna perlulah bijak membandingkan harga barangan di pasaraya-pasaraya. Aplikasi yang telah direka memerlukan rangkaian internet yang sangat kuat dan aplikasi tersebut tidak dapat membezakan harga berdasarkan berat. Jadi, pengguna tidak dapat membezakan harga untuk mendapat barangan yang paling murah. Aplikasi pembandingan harga runcit adalah aplikasi yang membolehkan pengguna membandingkan harga barang runcit dengan mengimbas label. Ia juga dapat menyimpan data item tersebut dan dapat membandingkan harga semasa dan harga sebelumnya. Aplikasis ini akan membantu pengguna untuk menentukan harga barang runcit yang lebih murah dengan membandingkan harganya. Projek ini akan dibangunkan sebagai aplikasi mobil yang menggunakan perisian 'Android Studio'. Pengakaln data aplikasi ini direka menggunakan 'SQLitedatabase". Projek ini akan apat menghasilkan keluaran yang dapat membangdikan harga berdasarkan 100g/ml dan membandingkan dengan barangan lain. Semua data akan disimpan dalam database. Projek ini Berjaya direka dan menolong pegguna untuk membandingkan harga serta mesra pengguna.

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ABSTRACT

Groceries are a various household supply. Usually, people will go to a supermarket or nearby groceries store to buying grocery. Nowadays, grocery items prices was increasing. So, people need to be smart in compare prices between items and also in different store to get the best price and greatest savings. All the proposed mobile application need a strong internet connection and also cannot compare price between similar item based on its weight. So the user doesn't know which is the cheaper item. We proposed a Retail price comparator application on Android based platform is an application that enables a user to compare the price of groceries by scanning the labels. It also can save the data of the item so that the user can manage their grocery shopping mobile application. This application will help the user to determine grocery price more economical by comparing the price. This application also enables a user to choose lower grocery prices. This project will be built as a mobile-based development and will be developed using Android Studio. The database of his application will develop using SQLiteDatabase. This project will produce an output that calculate the price of the item based on 100g/ml and compare it with another item. This data will be store in the database. This project were successfully developed and help the user to compare price and also is a user friendly application.

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DEDICATION

To my beloved parents, I acknowledge my sincere obligation and appreciation to them for their love, vision, and sacrifice throughout my life. I am humble my thankful for their sacrifice, tolerance, and considerate that were inevitable to make this effort thinkable. Their sacrifice had inspired me from the day I learned how to read, write, and think until what I have become now. I disable to bargain the appropriate words that could properly describe my appreciation for their devotion, support, and faith in my ability to reach my dreams. Lastly, I would like to lead my gratitude to any person that contributes to my final year project either it is directly or indirectly. I would like to acknowledge their comments and suggestions, which are crucial for the successful completion of this research

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LIST OF SYMBOLS

mW	-	milliWat
MiB	-	Mebibyte
s	-	Second
Cm	-	Centimetre
ml	-	millimeter
g	-	Gram

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LIST OF ABBREVIATIONS

iOS	iPhone Operating System
GPS	Global Positioning System
OS	Operating System
3D	Three-Dimensional
HTML	Hypertext Markup Language
CSS	Cascading Style Sheets
SWT	Stroke Width Transform
SLDC	System Development Life Cycle
PSM	Projek Sarjana Muda
BDP	Bachelor Degree Project
GUI	Graphical User Interface

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter will explain the background of this project in developing a retail price comparator application on Android based platform. This application will act as shopping assistance to the consumers. This chapter includes background, problem statement. Objective and scope of the project.

1.2 Background

Nowadays, a mobile device has been an important device in our life such as a smartphone. These smartphones were running by operating system. Today, three main systems in mobile devices are iOS by Apple, Android by Google, and Windows by Microsoft. These three operating systems has it owns advantages and disadvantages. According to Statista website, the number of available application of iOS, Android, and Windows are respectively 1.4 million, 1.5 million, and 0.3millon. (Statista,2015). People life was totally changed by the smartphone. People now less often communicate with sending SMS, they tend to use instant messaging which required Internet connection like Whatapps or Wechat. Other than that, GPS is integrated in smartphones so that smartphone users can use navigation applications to go wherever they want to go.

Today, online businesses should not rely on a website, it should focus on mobile platforms as well. According to Mobile Marketing Statistics 2015, the number of mobile

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users has the first time exceed the number of computer users. Besides, according to mobile analytics vendor Flurry, 80% of mobile media time is spent on the application instead of a browser. (Danyl Bosomworth,2015). In Malaysia, mobile usage is higher than computer usage with the percentage of 51% and 39%. This is why an online businesses should develop mobile application to stay prosper in the market. Having a mobile application in a customer smartphone because customers can always get the latest information from the push notification.

Shopping for groceries can be stressful but it is the one thing most everyone will need to do. Malaysian consumers are very sensitive about price when purchasing any item. Therefore, a few mobile applications in comparing price and help the consumer in shopping has been developed. All the proposed application has its own disadvantages. In conclusion, this project is going to develop a mobile application to compare the price of groceries. This project is an android based application. The user can compare the price of the product by only scanning the label and compare it with another similar item. Moreover, the app able to store all the price that has been scan and user can use it as a shopping tool.

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1.3 Problem Statement

Nowadays, a lot of people started saving money for their future due to economic instability. They need to be smart when purchasing grocery items. Statistic showed that grocery price varies in the different grocery store. The brands and weight for items are the same, but their price differences. Therefore, a consumer needs to make a comparison to get the best price and the best deals.

They're also a problem when a consumer wants to find the lowest price of the item based on the weights in the same grocery store, a consumer need to spend their time calculating the price based on the weights and compare it. The solution to this problem is to develop a mobile application that able to track the cheapest price of grocery items and help to manage the finances of the consumers.

1.4 objective

1. To develop a price tag comparator that helps grocery shoppers.

2. To design a user friendly and easy to manage grocery shopping mobile application using the android platform.

1.5 Scopes

The scope of this application are:

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I. The user can collect information about the price and weight by scan the label. The result showed a price based on the weight and can compare prices with other items with the same weight.

II. The user needs to choose the shopping centre when using this application.

III. The users can store the information about the item that they have scanned by using the app.

IV. The application can retrieve product details that the user can see all the products that have been store based on the shopping centre.

V. This is an application on Android based platform.

1.6 Project Outline

Chapter 1: Introduction

This chapter introduces the project which will be described in this report. It is the project background. This will explain the introduction of the project, which includes the introduction, the report of problems, the aims, and the scope of work of the study.

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Chapter 2: Literature Review

The review of theories is briefly explained in this chapter, experimental works and some findings that had been made during past research related to the current project. The research also will be summarized.

Chapter 3: Methodology

Chapter 3 describes the approach and plan for meeting the targets in greater detail. This chapter will cover the theory of control and will develop the application

process. The method is included for each phase and the flow chart for the entire project.

Chapter 4: Result, Analysis, and Discussion

This chapter presents the result of the experiments presented in the figures and the study results; it discusses drawings and graphs.

Chapter 5: Conclusion and Recommendation

The consequences of this experiment and the project priorities to be accomplished are outlined in chapter 5. This chapter also points out a range of suggestions for future growth and progress of development. Suggestions for potential inventors are also being created for future study.

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