GROPALZ: RECIPE RECOMMENDER WITH GROCERY LIST MOBILE APPLICATION

MUHAMMAD WAFI BIN ISHAM

Written Report Submitted in Partial Fulfilment of the Requirements for the Degree of Bachelor of information Technology (Hons.) Faculty of computer and Mathematical sciences Universiti Teknologi MARA

FEBUARY 2022

ACKNOWLEDGMENT

All praises to Allah SWT for giving me chance and opportunities in completing this project proposal who's His endless generosity and kindness has given me the strength to complete this final year project in time. I am thankful to conduct this project under the supervision of Dr. Rogayah Binti Abdul Majid. Her guidance and time sacrifice from the beginning until the research is completed have undoubtedly enabled me to achieve the objectives of the project. All the advice, guidance, and ideas during the preparation of this project will never be forgotten. Next, I would also like to extend my special thanks to Dr. Emma Nuraihan Binti Mior Ibrahim, my CSP 650 lecturer, for all the positive and constructive feedback that has helped me shape and develop my work in many ways. It is impossible to repay all the effort and time she spends for all the students under her supervision. Furthermore, I would like to express my appreciation to Dr. Jasber Kaur a/p Gian Singh, my examiner, for her time, valuable comments and suggestions on this project. In addition, my special thanks goes also to my beloved parents who throughout this project gave me a lot of never-ending emotional support and prayers. Last but not least, I would like to give my special appreciation to my classmates who struggled night and day together to complete this project. Thank you for the support and the help that has been given. May Allah SWT bless us with peace and happiness. Amin

(Muhammad Wafi bin Isham)

ABSTRACT

GROPALZ: RECIPE RECOMMENDER WITH GROCERY LIST MOBILE APPLICATION

According to Food and Agriculture Organization, 32% of all food produced for human consumption globally is lost or wasted, amounting to approximately 1.3 billion tons per year. The main problem is people tend to buy grocery which sometimes lead to waste due to they do not cook or they buy more than they need. This will lead to an overbuying raw material and can cause a food waste. Thus, this project purpose is to provide a better way to encounter this problem. GroPalz an android based mobile application food recommender system can recommend a recipe based on available ingredient in user fridge. GroPalz also let user to view their ingredient anytime so that the user will keep up to date with their available ingredient in the fridge and will prevent user from overbuying stuff. Mobile Application Development Lifecycle (MADLC) starting from identification phase until testing phase only are used to complete this task. The Content-Based filtering method will be used as the recommender system technique. For conclusion, GroPalz: food recommender with grocery list mobile application can help user to save their time in deciding what to cook and help to reduce food waste. In the future this application can be used not just in house, but also in a bigger sector such as restaurant.

Keyword: food recommender, food waste, recommender system, Mobile application, Android, Mobile Application Development Lifecycle.

TABLE OF CONTENTS

SUPERVISOR APPROVAL STUDENT DECLARATION ACKNOWLEDGMENT ABSTRACT TABLE OF CONTENTS LIST OF TABLES LIST OF FIGURES		Page ii iv iv v vi vii ix
	T OF SOURCE CODE	xi
	Γ OF ABBREVIATIONS	xiii
СНА	APTER 1 INTRODUCTION	1
1.1	Project background	1
1.2		2 3
1.3		3
1.4	5 1	1
1.5	Project Significance	2
1.6	Chapter Summary	2
СНА	APTER 2 LITERATURE REVIEW	3
2.1 Introduction		3
	2.1.1 Recommender system	3 3 3
	2.1.2 Introduction to Food Recommender	
	2.1.3 Recommender System Techniques	4
2.2	Mobile Application	6
	2.2.1 Platform	6
• •	2.2.2 Types of mobile application	8
2.3	Mobile Application Development Tools	9
	2.3.1 Android Studio	10
0.4	2.3.2 SQLite	10
2.4	Summary of Design Features of existing mobile application	11
2.5	Chapter Summary	13
СНА	APTER 3 METHODOLOGY	14
3.1	Introduction	14
3.2	Mobile Application Development Life Cycle (MADLC)	14
	3.2.1 Identification Phase	15
	3.2.2 Design Phase	17
	3.2.3 Development phases	18
	3.2.4 Prototyping Phase	20

CHAPTER 1

INTRODUCTION

This chapter shows the project background, problems statements regarding the current issues identified, objectives of the project, project scope and limitation, and the significance of the project.

1.1 **Project background**

Food is a primary human necessity. Energy is obtained from food. Food has evolved over time to become more than a source of energy; it has evolved into an art form with additional value. Numerous creative cuisine items have been made and widely distributed. Many of these employ little ingredients to create an original recipe. A recipe is a series of directions for preparing and cooking food, together with a list of the ingredients required. A cooking recipe is composed of various components, including the following: the name of the meal, the steps involved, the instruments and materials used, the time required, and the quantity of the dish.

Malaysia is known for its food and believe that food is a significant component of a destinations gastronomic appeal. Malaysia is a gourmet paradise because to its numerous ethnic groups, races, cultural customs, and beliefs (Abdul Karim, 2011). The food choices are so many that most of us are having a difficulty in deciding on what to cook.