ANDROWN APPLICATION DEVELOPMENT OF AMILITION FACT EVALUATOR THIS LINEAR BARCODE SCANNER

THESIS

KIM ROMMEL M. SUPNET
JUDHOEL A. ZANTUA

College of Engineering and Information Technology

CAVITE STATE UNIVERSITY

Indang, Cavite



April 2016

ANDROID APPLICATION DEVELOPMENT OF NUTRITION FACT EVALUATOR THRU LINEAR BARCODE SCANNER

Undergraduate Thesis
Submitted to the faculty of
College of Engineering and Information Technology
Cavite State University
Indang, Cavite

In partial fulfillment
Of the requirements for the degree
Bachelor of Science in Computer Science



Android application development of nutrition fact evaluator thru linear 613.2 Su7 2016 T-6512

KIM ROMMEL M. SUPNET JUDHOEL A. ZANTUA

April 2016

ABSTRACT

SUPNET, KIM ROMMEL M. and ZANTUA, JUDHOEL A. Android Application Development of Nutrition Fact Evaluator thru Linear Bar Code Scanner. Undergraduate Thesis. Bachelor of Science in Computer Science. Cavite State University, Indang, Cavite. April 2016. Adviser: Ms. Ria Clarisse L. Mojica.

The study was conducted at Cavite State University Main Campus in Indang, Cavite from June 2014 to September 2015. The purpose of the study was to develop an Android application that can scan the barcode of selected Jack n' Jill products and display the total amount of calories, sodium and fat contents based on the net weight of the product.

The methodology used in the study was iterative development process. Android Studio, Java programming language and SQLite database were used in building the study. The proponents used a software evaluation questionnaire based on ISO 9216 as the research instrument, and were distributed to 101 participants for the evaluation of the application.

The results collected through questionnaires were collated and tabulated. The mean and standard deviation were statistically calculated. An overall mean of 4.22 was obtained, which indicates that the system passed all the given criteria and met its objectives.

TABLE OF CONTENTS

	Page
BIOGRAPHICAL DATA	ii
ACKNOWLEDGEMENT	iii
ABSTRACT	v
LIST OF FIGURES	viii
LIST OF TABLES	. ix
LIST OF APPENDICES	. x
LIST OF APPENDIX FIGURES	xi
LIST OF APPENDIX TABLES	. xii
INTRODUCTION	1
Statement of the Problem	2
Theoretical Framework	. 3
Significance of the Study	5
Objectives of the Study	6
Time and Place of the Study	6
Scope and Limitation of the Study	7
Definition of Terms	. 8
REVIEW OF RELATED LITERATURE	10
Related studies	. 15
METHODOLOGY	19
Materials	19

Methods	19
Statistical Treatment of Data	21
RESULTS AND DISCUSSION	23
System Overview	24
Software Testing	28
SUMMARY, CONCLUSION AND RECOMMENDATIONS	34
Summary	34
Conclusion	35
Recommendations	36
REFERENCES	37
ADDENINGES	39

LIST OF FIGURES

Figure	e	Page
1	Theoretical framework for Nutrition Fact Evaluator	5
2	Software Development Methodology	20
3	Screen layout of Android Studio	. 24
4	Screen layout of Adobe Illustrator	. 24
5	Screen layout of main menu	25
6	Screen layout of scanning a barcode	26
7	Screen layout of result of the scanned product	. 27
8	Screen layout of the result of comparison of two products	27
9	Screen layout of favorites	28
10	Screen layout of generated meal	28

LIST OF TABLES

Table		Page
1	Comparison of features of the related studies and proposed system	. 17
2	Comparison of related studies to the proposed system	18
3	Summary results of the mean and standard deviation of the functionality indicators	30
4	Summary results of the mean and standard deviation of the reliability indicators	30
5	Summary results of the mean and standard deviation of the usability indicators	31
6	Summary results of the mean and standard deviation of the efficiency indicators	. 31
7	Summary results of the mean and standard deviation of the maintainability indicators	32
8	Summary results of the mean and standard deviation of the portability indicators	33
9	Overall evaluation of the system	34

LIST OF APPENDICES

Appendix		Page
1	Interview Report	40
2	Sample Evaluation Questionnaire	. 42
3	Unit Testing	. 45
4	Integration Testing	. 47
5	Letters and Approval Sheets	. 49

LIST OF APPENDIX FIGURES

Append Figure		Page
1	Fishbone diagram for problem no. 1: Inaccurate amount of serving size of food products	. 51
2	Fishbone diagram for problem no. 2: Insufficient knowledge about nutritional content of foods	. 51
3	Fishbone diagram for problem no. 3: Determining which has lower amount between two products	
4	Gantt chart	. 53
5	Use case diagram of the nutrifact evaluator	54

LIST OF APPENDIX TABLES

Appendix Table		Page
1	Frequency distribution of scores of the functionality indicators	. 56
2	Frequency distribution of scores of the reliability indicators	56
3	Frequency distribution of scores of the usability indicators	. 56
4	Frequency distribution of scores of the efficiency indicators	. 56
5	Frequency distribution of scores of the maintainability indicators	. 56
6	Frequency distribution of scores of the portability indicators	57

ANDROID APPLICATION DEVELOPMENT OF NUTRITION FACT EVALUATORTHRU LINEAR BAR CODE SCANNER

Kim Rommel M. Supnet Judhoel A. Zantua

An undergraduate thesis manuscript submitted to the faculty of the Department of Information Technology, College of Engineering and Information Technology, Cavite State University, Indang, Cavite in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science with Contribution No CEIT-2015-16-2-107. Prepared under the supervision of Ms. Ria Clarisse L. Mojica.

INTRODUCTION

The nutrition facts label shows how much of each nutrient is in a particular food, allowing you to choose those foods that will fit for your desired nutrient value. With this information, it can help an individual to control weight and improve malnutrition. Most of the consumers ignore reading the food labels in the products that they bought. Possibly, the main reason is that their knowledge and understanding about the core usage of the foods labels. Food labels discuss the most vital information about the products that consumers are buying.

According to International Data Corporation (IDC) (2013), which is the world's leading technology mediaevents and research company, Android continues to dominate the worldwide smartphone market. Android is an open source mobile operating system that combines and builds upon parts of many different open source projects. One of these open source projects is barcode decoder. A barcode decoder also called a price