

UNIVERSITI TEKNOLOGI MARA

**DESIGNING MOBILE INFORMATION
ARCHITECTURE (IA) M-HEALTH
LEARNING APPLICATION FOR
TRADITIONAL MALAY MEDICINAL
PLANTS WITH MEDICINAL
PROPERTIES USING USER PERSONA
AND CULTURE DIMENSION**

NORIFFAH BINTI ISHAK

Computing Project submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Information Technology

Faculty of Computer and Mathematical Sciences

January 2017

ABSTRACT

There is deficiency of content structuring in existing m-Health application due to weak structuring of information architecture and poor usage user interface design. The reason is explained by the lack of incorporating cultural elements in the design of information architecture. The main objectives of this study are; to investigate the requirements of mobile learning application m-Health Malay, to design a mobile learning application for m-Health Malay traditional plant by using User Persona and Cultural Dimensions and, to evaluate the design m-Health Malay traditional plant. The research methodology involves using Goal Directed Design is adapted as the research approach. Based on interview with some experts, the study purposes two designs for Mobile Information Architecture (IA) m-Health learning application for traditional Malay medicinal plants with medicinal properties using user persona and culture dimension. The first design is based on high power distance and uncertainty avoidance. Design showing detail on the function and more structure on the access of the information of the m-Health application design and the second design is based on low power distance and uncertainty avoidance. Design is showing more on the graphics and image to access on information in the m-Health application design. Those designs are being be evaluated and user persona prefers designing two over design one. The design was evaluated and the result show it is proven that designing m-Health application towards content, context and navigation is partly influenced by culture. The design can be used by stakeholder, SMEs and end users to conduct mobile learning. As a conclusion, the design was developed for m-Health based on cultural dimensions and user persona. Future work may involve incorporating cultural dimensions and user persona in other different type of applications such as mobile travel, mobile banking, mobile shopping, mobile entertainment, mobile gaming, mobile creative industries, mobile trade, mobile commerce and mobile education.

ACKNOWLEDGEMENT

In the Name of Allah, The Most Gracious, The Most Merciful.

First and foremost, praise to Allah for His Almighty and His utmost blessing for giving me this opportunity to pursue my study and was able to complete this study.

I would like to give my deepest gratitude to my supervisor, Dr. Wan Abdul Rahim Wan Mohd Isa, for his invaluable guidance, opinions and generous help throughout the entire process of completing this study. Without him, I won't be able to complete this study according to the requirement. Thank you very much.

I wish to thank to all the key informants involved in the data collections and the respondents that willing to spend their time to answer the survey in order for me to complete this study. May I also express my gratefulness to all my Master's Degree lecturers and my friends for their help, ideas and support throughout my master programme.

Last, but not least, I am greatly indebted to my parents and my siblings for their encouragement and their inexhaustible support.

Alhamdulillah, thank you all.

TABLE OF CONTENTS

	Page
AUTHOR'S DECLARATION	ii
ABSTRACT	iii
ACKNOWLEDGEMENT	iv
TABLE OF CONTENTS	v
LIST OF TABLES	vi
LIST OF FIGURES	vii

CHAPTER ONE: INTRODUCTION

1.1	Introduction	1
1.2	Background of Study	1
1.3	Problem Statement	2
1.4	Research Aim	3
1.5	Research Question	3
1.6	Research Objective	3
1.7	Scope	3
1.8	Expected Outcome	4
1.9	Significance of the Study	4
1.10	Research Design Summary	4
1.11	Report Outline	5

CHAPTER TWO: LITERATURE REVIEW

2.1	Introduction	6
2.2	Mobile Learning	6
2.3	M-Health Application	7
	2.3.1 Existing applications of m-Health application plant	8
2.4	Mobile Information Architecture	10

2.5	Information Architecture (IA)	11
2.5.1	Content	11
2.5.2	Context	11
2.5.3	Navigation	12
2.5.4	User	12
2.5.5	Relevant design to the dimensions of Navigation in IA	13
2.5.6	Relevant design to the dimensions of Context in IA	14
2.5.7	Relevant design to the dimensions of Content in IA	15
2.6	Definition of Culture	16
2.7	Culture Dimension	16
2.8	Hofstede’s Culture dimension, Hall Context & Trompenaars Theory	17
2.8.1	Power Distance	17
2.8.2	Uncertainty avoidance	17
2.8.3	Individualism vs Collectivism	17
2.8.4	Masculinity vs Femininity	18
2.8.5	Long Term Orientation (LTO) vs Short Term Orientation(STO)	18
2.8.6	High vs low Context	18
2.8.7	Monochronic vs Polychronic Time	19
2.8.8	Universalism vs Particularism	19
2.8.9	Information Architecture Design culture dimensions	20
2.9	Malay Culture	21
2.9.1	Malay Attitudes and Morals	21
2.9.2	Malay Language	21
2.10	Mobile Application Development Using Personas	22
2.11	User Centered Design	23
2.11.1	Contextual Design	24
2.11.2	Goal Directed Design	25
2.12	Summary	27