

**UNIVERSITI TEKNOLOGI MARA**

**USER REQUIREMENTS FOR ELDERLY SMART  
PHONE**

**NUR HAMIZAH BT BAHAMAN**

Report submitted in partial fulfilment of the requirements  
for the degree of

Master of Science (Information Technology)  
Faculty of Computer and Mathematical Sciences

June 2014

## ABSTRACT

Nowadays, smart phone have become prevalent across the world. Many functions and services offered in the smart phone are important but current smart phone more convenient and user friendly to younger generation. Not to forget, Malaysia is one of the developing countries that have increasing in ageing population. However, the current trend smart phones designs are more focus to teenager and adult and elderly became a neglected user group. In addition, the current technologies do not adequately capture the smart phone pattern of the elderly and make them hurdles to adopting a smart phone. The objectives of this study are to identify usability issues that elderly faced due to smart phone and to recommend interface design for elderly smart phone. This study used two methods which are user testing and drawing method. As a result, usability issues can be identified and recommendations of user interface design for elderly smart phone main screen. The results of this study will contribute for another researcher on requirements for elderly smart phone.

## ACKNOWLEDGEMENT

I would like to thank Allah SWT, because of His mercy I am able to complete my project paper to fulfil requirements of the IT Project (SYS 798) course. This project could not have been written without the assistance and guidance of Dr Fariza Hanis Abdul Razak who not only served as my supervisor but also encouraged and challenged me throughout the academic program.

Not to forget, my appreciation goes to my parents, my sibling for all their blessing and prayers. I also would like to thank all participants who willing took part in this study. Without the generous help of many people, it would have been very difficult for me to complete this project. I thank to them all.

Nur Hamizah Bt Bahaman

June 23, 2014

Faculty of Computer & Mathematical Sciences

Universiti Teknologi MARA

## TABLE OF CONTENT

	<b>Page</b>
<b>STUDENT DECLARATION</b>	
<b>ABSTRACT</b>	ii.
<b>ACKNOWLEDGEMENT</b>	iii.
<b>TABLE OF CONTENT</b>	iv.
<b>LIST OF FIGURES</b>	viii.
<b>LIST OF TABLES</b>	ix.
<b>CHAPTER ONE: INTRODUCTION</b>	1
1.1 Background of Study	1
1.2 Problem Statement	3
1.3 Research Questions	3
1.4 Research Objectives	4
1.5 Research Scope	4
1.6 Research Significance	4
1.7 Conclusion	5
<b>CHAPTER TWO: LITERATURE REVIEW</b>	6
2.1 Introduction	6
2.2 Mobile Phone	7
2.2.1 Definition	7
2.2.2 Mobile Phone Components	7
2.2.3 Smart Phone	8
2.3 Elderly	10

2.3.1	Definition	10
2.3.2	Cognitive Capabilities	11
2.4	Previous Studies on Mobile Phone Use by Elderly	13
2.5	Requirement Engineering	16
2.5.1	RoADMap Framework	16
2.5.2	OldGen Framework	17
2.5.3	FlexInterface Framework	19
2.6	Conclusion	20
 <b>CHAPTER THREE: RESEARCH METHODOLOGY</b>		 21
3.1	Introduction	21
3.2	Research Approach and Methodology	21
3.3	Research Planning Phase	23
3.3.1	Preliminary Study	23
3.4	Research Preparation Phase	23
3.4.1	Identify testing objectives	23
3.4.2	Determine testing approach	24
3.4.3	Prepare the materials and instruments	24
3.4.4	Identify location and participants	25
3.4.5	Determine recording tools	25
3.4.6	Ethical consideration	25
3.5	Data Collection Phase	26
3.5.1	During testing	26
3.5.2	After testing	28
3.6	Data Analysis Phase	28
3.7	Documentation Phase	28
3.8	Summary	29
 <b>CHAPTER FOUR: ANALYSIS AND RESULT</b>		 30
4.1	Introduction	30
4.2	The Result	30
4.2.1	Pre-test results	30