## UNIVERSITI TEKNOLOGI MARA

# DESIGNING ISLAMIC CALENDAR ANDROID APPS BASED ON ELDERLY REQUIREMENTS

## **MOHD IKHSAN BIN MOKSIN**

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

Master of Science (Information Technology)

Faculty of Computer and Mathematical Sciences

January 2014

#### ABSTRACT

Aging society in every country cannot be denied as well as the increment in the number, there is particular needs or desire on technology dependant. To establish a cohesive and inclusive intergenerational society and put away technology divide that still might exist, technological products and services must be adapted to the needs and preferences of these citizens. Mobile phone is one of the close technology and promising tools to be desired by elderly. Countless application available in stores but it is difficult to determine which of them elder-friendly type is and which is not. Since all the development is based on the dire needs on major population. This research focusing on the development of the prototype of Islamic Calendar apps. It's a compilation from the requirements gathered from elderly and were used as a baseline of the prototype development. The prototype development adopted two design guideline which is Islamic Design guideline and Elderly Design guideline towards the development. This two guideline is the important value that increase the usability of the prototype developed to meet elderly requirements. The work of research provides a foundation for researchers, designers, and mobile phone application developer to think about the existing needs of the elderly, the developing trends in the field and the opportunities that mobile applications offer to improve the apps used elderly and to support a cohesive and inclusive society.

#### ACKNOWLEDGEMENT

Alhamdulillah and exclusive grateful to Almighty God, Allah s.w.t. which blessing me with the opportunity to complete this project. I also take this opportunity to express my profound gratitude and deep regards to my supervisor, Madam Suzana Zambri for exemplary guidance, monitoring and relentless inspiration all the way through the course of this project. Everything that being taught and shared with this priceless knowledge and experience, will be carried out along the journey of life which I am about to embark.

Not to forget all others lecturers which involve during the development of the project until it's complete. All the input and advice given does help towards the completion of this project and also become a trigger to new ideas along the way. Huge thanks for encouraging spirits that I can absorb and maintain my motivation. I am obliged to my family for the interminable support and understanding. This become my wonderful moment and experience that I will not forget.

Lastly, I also want to show my gratitude towards individual or groups which directly or indirectly involved along the stages in this project. All the commitment and cooperation is the valuable asset, and thanks again for everything.

iii

### TABLE OF CONTENTS

Page

STUDENT'S DECLARATION		i
ABSTRACT		ii
ACKNOWLEDGEMENT		iii
TABLE OF CONTENTS		iv
LIST OF FIGURES		vii
LIST OF TABLES		ix
CHAPTER 1: INTRODUCTION		
1.1 Introduction	×	1
1.2 Problem Statement		6
1.3 Research Objective		7
1.4 Research Question	wa shi ta	7
1.5 Significance of Research		8
1.6 Scope and Limitation of Research		9
CHAPTER 2: LITERATURE REVIEW		
2.1 Senior Citizen/Elderly		11
2.2 Calendar		
2.3 Design of Islamic Calendar		16
2.3.1 Islamic Values		16
2.3.2 Islamic Identity		18

2.3.2	Islamic Identity	18
2.3.3	Design Guidelines	20

2.3.3.1	Islamic	20
2.3.3.2	Elderly	22
2.3.3.3	Usability	23
2.4 Related Work	s/Discussion on Previous Study	25
2.5 Summary		28

### **CHAPTER 3: METHODOLOGY**

3.1 Data Collections		29
3.2 Research	Design	31
3.3 Data Ana	llysis	33
3.4 Designin	g and Developing Prototype	33
3.4.1	Hardware and Software Requirements	34
3.4.2	Development Tools	35
3.5 Testing		36
3.6 Research Plan		36
3.7 Summary		37

### **CHAPTER 4: ANALYSIS AND FINDINGS**

4.1 Introduction	on	2000 - P	м,	38
4.2 Interview	Results			39
4.3 Prototype				42
4.3.1	Value on Elderly Design Guideline			42
4.3.2	Value on Islamic Design Guideline			43
4.3.3	Graphical User Interface			46
4.4 Testing an	d Result			54
4.4.1	Speed Test			54
4.4.2	Verbal Feedback			56
4.5 Summary				58