

## CHAPTER ONE

### INTRODUCTION

#### 1.0 Introduction

The rapid growth of population in Malaysia shows that the elderly population has been increasing significantly. According to Mat and Taha, 2003, the United Nations World Assembly on Ageing held in Vienna, 1982, has defined elderly population as people from 60 years old and above. Studies by the Gerontological Association of Malaysia (GeM, 2005), shows that in 1991 the elderly were 560,979 which increased to 785,306 in 2000. This reflects an increase of 40%. It is also reported that by 2020, the population of elderly in Malaysia are projected to increase to about four million which is almost 11.3 percent of the total population (*The Sunday Star*, 9 October 2005). This proves a shift in Malaysia's population structure towards an ageing population. In line with the shift, government has currently taken into consideration a wider spectrum of elderly care services which include Internet services.

Since the majority of the elderly are retirees usually they are secluded with a lot of free time (Becker, 2004). Following this, Internet has become very appealing to them to seek information and services that relate to shopping, finance, travel and health (Hanson, 2001). However, since many elderly people start to have cognitive impairment at that age, they find using the web and accessing them a problem. It is important that the design of the websites is compatible with the ability of the elderly as well as their expectations.

This research focuses on designing Blue Air Travel website prototype for the elderly users.

## **1.2 Problem Statements**

Elderly people have a strong tendency to decline in their ability to move around, hear properly and see properly (Keates et al., 2004). According to Zajicek (2001a), other reductions among the elderly are memory loss and reduced thinking ability for strategic tasks which becomes worse as they grow older. These barriers block them from expanding their wings on the virtual world and it prevents these elderly people from attaining their goals of downloading resources they want from the Internet (Becker, 2004). The requirements and needs of the elderly are often neglected in the design aspect of website's which includes content, layout and style, navigation and multimedia.

In order to make the information highway more accessible and usable to the elderly users, web designers should be provided with Web design guidelines (Zaphiris & Kurniawan, 2005). There are many productions of guidelines for Web designing with many of its points overlapping and stressing the same point but phrased differently (Zaphiris & Kurniawan, 2005). By employing a user centered approach, it also helps to incorporate needs of elderly user. Their involvement throughout the design lifecycles facilitates in making the websites more usable and accessible.

Although it is common for web information to be dedicated for the elderly in overseas, in Malaysia this awareness has yet to develop. There are no websites in Malaysia that are

designed considering the elderly. Therefore there is a great demand in overcoming the virtual barrier to e-services that are so essential for the older generation.

### **1.3 Research Objectives**

The objectives of this research are:

- To produce a travelling web site for the elderly named Blue Air Travel Website using a user centered approach.
- To produce a list of most recommended web design guidelines for the elderly from various published studies. The most recommended guidelines gathered are used in the design stage of the UCD lifecycle.

### **1.4 Research Scope**

The scope for this research focuses on:

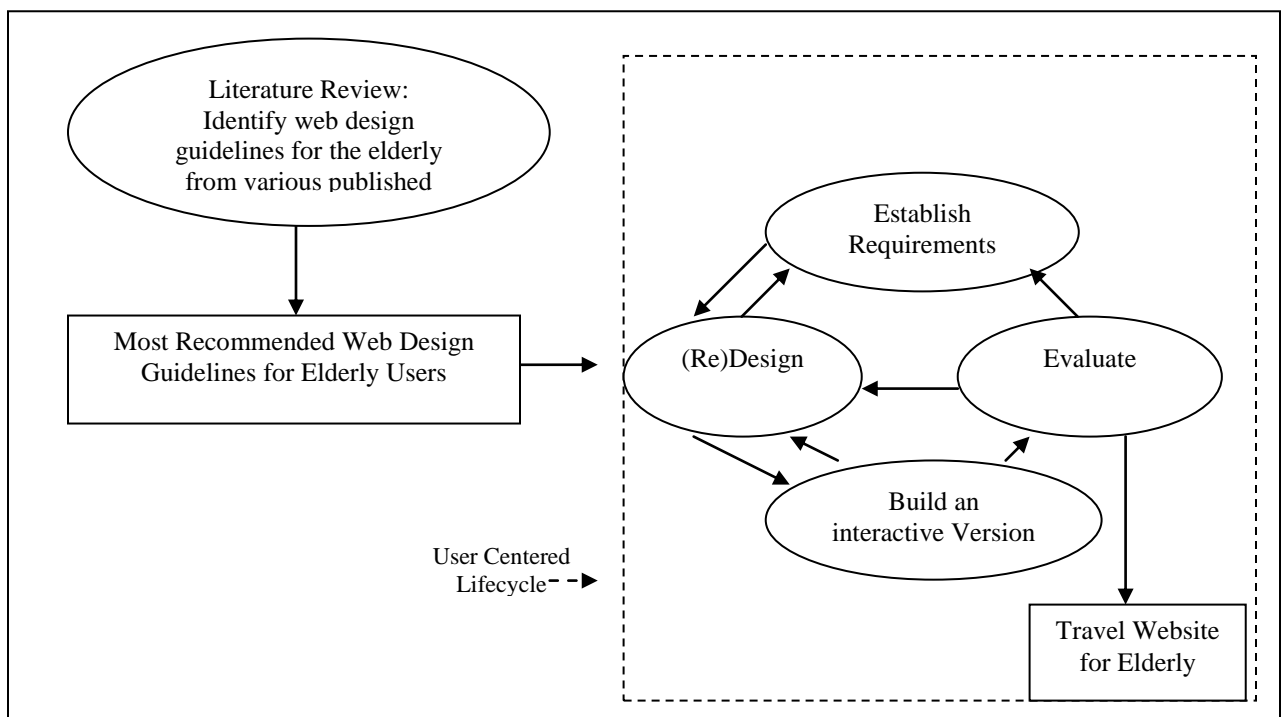
- A website limiting the domain to travelling for the elderly.
- Two selection criteria for elderly users. The first one is the users has to be aged 65 years old and above. The second criteria is the elderly has to be someone who is not information technology (IT) illiterate and not an expert as well as in using the Internet.

### **1.5 Research Significance**

There are two main outputs of this research, the first one produces a compiled list of the most recommended web design guidelines for the elderly users and the second one is a

travelling website prototype for the elderly users in Malaysia. The guidelines contribute to web designing for the elderly. The elderly website prototype is a stepping stone for emergence of websites to be designed targeting elderly users in Malaysia.

## 1.6 Research Methodology



**Figure 1.1: Research Approach for Developing a User Centered Blue Air Travel Website for the Elderly**

Figure 1.1 shows an overview of the research approach in producing the Blue Air Travel Website for elderly.

There are two parts to the research. The initial stage is carried out through literature review, where it identifies the most recommended web design guidelines for the elderly through an extensive literature review from various published studies.

The second part focuses on the User Centered Design (UCD) (Preece, 2002) process. There are four stages in this process which are establishing requirement, (re)design, build an interactive version, and evaluation. The identified most recommended guidelines contribute to the design stage of the website prototype. The participation of the elderly users and iterations are inevitable throughout this UCD process. In this research, three elderly users are involved throughout the process. Nielsen (2004) in his article recommends a smaller group of participants but with more iteration. Many techniques are applied at different stages of the process. Suitability of techniques depends on the stages of the UCD process. Section 3.5 of chapter 3 provides the details of the user centered approach for the travel website prototype targeting the elderly users.

### **1.7 Organization of Chapter**

The organization of the chapter in this research is described as following:-

Chapter 1 gives an introduction to this research, the problem statement, research motivation, research objectives, and research methodology.

Chapter 2 is on literature review that describes the benefits of the Internet for the elderly, usability problems faced by them, elderly and web design issues, the guidelines for elderly website designs and discussions on the existing travel websites for the elderly.

Chapter 3 discusses the user centered design approach in detail, comparing several types of user centered design methodology , description of different types of user centered techniques and strategies taken to conduct the research for designing of the travel website for the elderly.

Chapter 4 is about identifying needs and establishing requirements from the user about the travel website through task analysis and contextual inquiry.

Chapter 5 describes the process of designing and building interactive version of the Blue Air travel website. It describes the iteration that was carried and the techniques that supported it.

Chapter 6 describes the evaluation through the final user testing and also gives the analysis of the evaluation results.

Chapter 7 provides a conclusion based on the research conducted and discussion on the future recommendations.

