Case Study Analysis on Redesigning Websites for Older Adults
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Case study written by Evelina Patsoule & Panayiotis Koutsabasis (2014)

In an ageing population where an increasing number of senior citizens are using the web to increase their independent participation in society, there needs to be a re-evaluation and study on the computer use in specific scientific areas such as Human Computer Interaction (HCI) of the older adults. A touristic web portal that showcases holiday destinations and supports online hotel booking is used as the case for redesign.

The redesign process includes:
  (1) Identification of a set of 7 principles and 45 guidelines for web design for older adults
  (2) Heuristic evaluation of target website on the basis of the identified set of principles and guidelines
  (3) Redesign of the website in an interactive online prototype
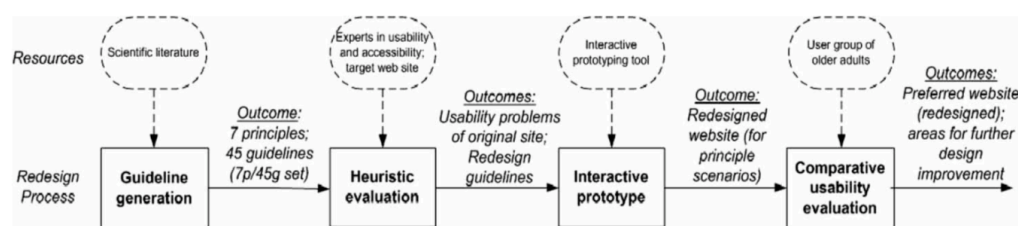 (4) Comparative summary usability evaluation

Figure 1: Web redesign process

Experiment Conducted
For this case study, a total of twelve older adults between the age of 60-75 (eight men and four women) participated in the experiment. Though they came from the similar occupational and education background, they had varying level of expertise with computers – familiarity with desktop applications, could make good use of desktop applications and email, and had experience booking a hotel or ticket from a website before. All participants were tasked to complete six tasks and answer a set of questionnaire at the end. The six tasks were:
  (1) Locate the user guide for this website
  (2) Locate a particular hotel at a specific destination
  (3) Locate specific services and affordances concerning older users of that hotel
  (4) Locate all accessible hotels in a specific destination
  (5) Register to the website and apply for e-mail notifications about specific destinations
  (6) Apply for booking at a particular hotel at a specific destination

Usability Metrics

The following usability metrics were used for this experiment:

(1) Task success (binary result): succeed or fail
(2) Time on task
(3) Errors: measured through video recording and observation

Types of error:
1. Navigation error
2. Selection error
3. Insertion error
4. Interpretation error

(4) Efficiency: measured using the indicator 'Lostness by Smith'

Probing technique were used by the facilitator throughout the individual experiment session and each task were timed and notes were taken. Varying results in the total amount of time completed were insignificant as this attributed to their level of expertise in using of the computers.

In conclusion, the redesign showed to be more usable and satisfactory than the original version. Specifically, the time spent on tasks were found to be significantly lower for the redesigned version (136 seconds for the original version and 37 seconds for the redesigned version). With the right resources (experts) that are familiar with the heuristics and usability tests, the redesign process may not necessarily be a long one.