

Web Sites for Senior Citizens

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INTRODUCTION

In the information era, the main source of productivity lies in the technology of knowledge generation, information processing, and symbolic communication (Castells, 1996; VanDijk, 1999).

As Rifkin (2000) observed, it raises a service industry that substitutes the material economy, and the wealth relations are decided in the arena of the access and correct exploitation of these services.

For sociological scientists, the biggest challenge is to overcome the classical sociological concepts of knowledge gaps (Tichenor, Donohue, & Olien, 1970) and the digital divide, often technologically determined, aiming at investigating the social and cultural problems that obstacle elderly people, housewives, and many other social groups in using the Internet and making it useful for daily life. We need to make the cultural codes available for using new media through remediation work (Bolter & Grusin, 1999) linking digital languages to the main communication practices and media languages.

BACKGROUND

The purpose of this article is to activate thoughts and valuations about cultural codes, fruition practices, usability problems, and affordances (Norman, 1988) that we have to consider when we project contents and services for elderly citizens.

Using ethnographic methods in order to understand daily practices without research bias (Silverstone, Hirsch, & Morley, 1992), we have investigated which content areas cause a real interest in the elderly and which ones should only be considered as false needs related to social pressure (Punie, 1997).

This work derives from a qualitative research developed in Turin, Italy, along with the Onlus Pari-go (www.pari-go.org), which was aimed at investigating the relationship between new technologies and the elderly in terms of access and content. The research was carried out thanks to the collaboration of 72 elderly people (44 women and 28 men) all over 60 years old living in a suburban area of the city.

The research integrated different qualitative methods:

- focus group in order to investigate everyday lives, needs, and expectations of the elderly about the Internet
- camera surveys and documental analysis of photos, diaries, and drafts about the relationship of the elderly with new technologies
- follow-up in-home interviews
- participatory observation during Web sessions in order to evaluate interaction experience

During the year, we also used participatory design tools (Laurel, 2003) in order to stimulate the direct contribution of the elderly in creating new solutions.

The recruitment was made using the snowball method (Silverman, 2000).

The object of the research aims at the following:

- to recognize key factors influencing how older people approach new technologies
- to define guidelines for enhancing the interaction, interface, and content design of Web sites aimed at this particular target group

The results of the study are not representative at the level of the whole category, but they offer the possibility of a critical analysis of the implementation of future Web platforms for elderly people, and of observing future developments.

INTERACTION DESIGN

Fear to be Wrong

One of the first problematic aspects that came out during the sessions was older people's fear of experiencing the new.

Contrary to new generations, which have grown up with video games, the elderly have abandoned the trial-and-error approach, the exploration of the world through unplanned manipulations of objects (Turkle, 1996). In so doing, gradually they have inhibited their skills for tack-

Figure 1. How to come back from one window to the last one



ling the new and dealing with it; meanwhile, children and young people use play to explore the world around them, to construct and dismantle, and to experience and to develop new skills without fears or regrets.

As we grow older, the fear of making mistakes, damaging something, or simply handling new technological devices become a frequent condition.

Often, older people fit into a rigid behaviour pattern: They are convinced that the only approach to using new technologies is through the instruction manual. That means learning the rules systematically in a standardised and impersonal way.

The proposed solution to this problem is experiencing interaction by playing with new technologies.

This approach can be introduced on two levels:

- at a teaching level, promoting personal styles, methods, and rhythms of learning
- in the production phase, designing accessible interfaces to encourage interaction and to reduce frustration, creating friendly error messages, and enabling people to reach the same goals even by different sequences

Remediation of Other Media

During the research, we found a second problem; domesticated (Silverstone et al., 1992) to the idea of the TV screen and printed page, elderly people find it difficult to deal with the window concept: several pieces of information on the screen at once, which can be opened, closed, moved, or resized.

Older people have more difficulties with the PC (personal computer) brainframe (De Kerckhove, 1991) because they are used to monotasking, fixed, push-content win-

dows as on the TV screen. For example, surfing on the Web site of a famous football team, users have been submerged by multiple windows, which opened at each click.

The capacity of concentration and memory are two recurrent problems among the elderly; in fact, dealing with parallel contents distributed in several windows generates stress and frustration, as well as orientation problems.

When the contents appear in a new page and the last one is reduced to an icon, many elderly people feel they have lost their place and cannot get back to previous pages using the back arrow in the browser.

Another aspect, which has proved to be difficult to acquire instinctively, is dealing with the scrolling windows. In fact, when the window is wider or longer than the screen, the elderly tend not to explore them.

Furthermore is the problem of the multitasking approach, in particular, the use of the windows icons in the status bar.

When designing interfaces, some tips include the following:

- eliminating multiple windows and pop-ups
- reducing the multitasking approach and making the interaction more linear
- designing clear graphic layouts
- reducing scrolling pages or making it clear that the visual pattern is longer than the page

Consistency

The problem of the consistency of the interfaces, as defined by usability theories (Nielsen, 2000), is very important for older users.

In particular, dragging the mouse to move on the screen, double clicking to open a program icon, typing a Web-site address in the browser bar, or filling in a form is another hot issue.

For older people, putting the mouse in the correct position in the empty space and then using the keyword to insert the data requested was a difficult task.

Some tried to type without positioning the cursor in the blank area. Others wanted to type the name of a folder instead of looking for it with the mouse.

The action of sending data is also conflictive. Often, they feel disoriented and hesitate to decide if using the "send" arrow or clicking on the relative link.

Two-click interaction implies a strong effort for people with arthritis or hand deficiencies. Furthermore, it is not intuitive to decide when it is necessary to use one click or to double click.

During the research phase, a lot of time was spent training them to use the double click.

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