

Looking for Help?

Supporting Older Adults' Use of Computer Systems

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Abstract: Research with older adults indicates that despite considerable demand for help and support, the existing facilities built into computers are rarely used. Using evidence from our work with older adults, we argue that this is because they are often hard to find, hard to use and inappropriate. Reconsidering the ways in which support is presented to an increasingly diverse population of computer users would benefit not only older users, but everyone.

Keywords: accessibility, help, older adults, interface design, dynamic diversity

1 Introduction

As computer use increasingly spreads beyond the office environment and moves into most private homes the provision of inbuilt support facilities is an important part of enabling the autonomy of the home user. In this paper we argue that despite the nominal provision of extensive help and support facilities, many groups of home users remain unable to utilise them and that this situation will not improve until designers recognise the need to make support options genuinely usable and accessible to a wide range of users.

The UTOPIA Project (Usable Technology for Older People: Inclusive and Appropriate) focuses on the relationship between older people and technology (Eisma et al, 2003). The research presented in this paper is the preliminary result of a focus group examining these issues, a survey questionnaire with 50 respondents and over 20 one-to-one interviews. Our research indicates that, in general, older users do not take advantage of inbuilt accessibility, help or configuration options. This lack of use is common across the group, despite the population's wide diversity (Gregor & Newell, 2001). We argue that the reasons for this lack of use reflect underlying problems with the presentation of these 'assistive' facilities which affect almost all users.

As it is industry standard software for many computer applications, this paper focuses on the assistive features within the MS Windows system. Microsoft recognises that as an industry leader it does have responsibility for providing "products and information technologies that are accessible and useable by all people, including those with disabilities" (Microsoft,1995) However, attempts to meet this goal are not always successful.

2 Help!

Online help, "strategies which help novices to learn how to use a new software efficiently while assisting them in carrying out the tasks they want to perform" (Capobianco & Carbonell 138), is provided within Windows in various forms. Another source of assistance is the numerous accessibility options; as Shneiderman comments, for those who may need an adjusted display "adjustments can be made through software-based control panels that enable users to tailor the system to their changing personal needs" (Shneiderman, 27).

Failure to use these facilities is not explicable by lack of demand. Our research with older adults indicates considerable demand for genuinely useful help and support facilities. This demand has developed in part from environmental factors; people who use computers at home do not have access to the same support networks as those who use computers in an office setting. A recent survey

by Goodman et al showed that 48% of computer users over 50 lived alone. In addition, increasingly dispersed family structures mean that support from family members may not be easily available and, even when it is, such dependence on external help reduces the autonomy of the older user. Thus, genuinely usable help systems would support user autonomy and empowerment.

Computers offer enormous potential for personalised reading and work environments for older adults. Age-related visual impairments, for example, vary widely between individuals and enabling the user to vary the size of onscreen objects or to select a high contrast display allows a wide variety of individual solutions. Such solutions would be economically and practically unfeasible in paper-based materials. Inbuilt accessibility options also offer support to users who have motor control difficulties or hearing impairments. If these changes could be made easily and intuitively, people who needed personalized interfaces would be able to set them up themselves.

A common complaint from older users is the complexity of application interfaces, for example “[There are] too many icons for a total beginner! A simplified set of functions would be sufficient for many people.” In workshops older users responded positively to a highly simplified interface for MS Word where all toolbars were replaced by one with the most common actions. Configuration options permit the user to select only those interface elements that are appropriate for their use of the system and would be a useful tool for many novice users.

3 Not helping...

If demand exists, why is it that older computer users do not use the integrated assistive features in computer applications? Possible reasons for non-use of these features are suggested by interviews, comments on the questionnaire, focus groups and observations of computer classes for older adults.

3.1 Lack of Awareness of Feature

Older computer users may not use support options because they are unaware that these features exist.

Accessibility options, for example, are hidden deep in menu structures; in order to access the Accessibility Wizard the user must use the Start menu and progress through four levels (Programs→Accessories→Accessibility→Accessibility Wizard). Unlike applications, options for improving the accessibility of the whole system are not obvious on the desktop or in the “frequently used” section of the

menu. The people who most need the assistive elements of programs are thus effectively disabled by designers who do not consider how these features will be found in the first place. Of course, the older user must know in the first place that it is the “accessibility options” they are looking for!

Many designers fail to obey Nielsen’s heuristic that the system should “speak the user’s language”, for example, the user must know in order to increase the size of buttons the option they want is termed “accessibility” and that this can be reached through “Accessories”. Similarly designers do not take into account users’ concepts: many older users do not recognise the concept of ‘demonstration modes’. In research workshops on with computer games, older users appeared unable to distinguish between the demonstration mode of a game and the game itself.

To exacerbate these problems, assistive features are often neglected in computer classes for the elderly. Observations from the first session of a course for older adults in web and email illustrate this point. The tutor failed to inform the group that they could enlarge the text of the website they were learning about (BBC online), and as a result a number of the group members spent the session leaning forward to get close enough to read the text on the screen. This omission may be because tutors are often younger and more experienced with computers and do not need or use the assistive facilities. However, it may also be because they too do not know about them.

3.2 Difficulties in Use of Features

More experienced older computer users are aware of assistive features such as the Help facility, but often choose not to use them because of their perceived irrelevance and difficulty. Many older adults have difficulty with drop down menus which make targets very difficult to click on. Help facilities are also perceived to be irrelevant as our research with older adults indicates. A typical reaction was: “I find it difficult to get answers to specific problems at the moment I want them. “Help” sections are almost always totally irrelevant.” When one very experienced user was asked what he found most limiting about the computer in general, he reported the Help facility.

Language

“Computer speak” was identified as a serious problem by many older computer users, people described the language as “obscure”, “technical jargon”, or appealed for “simplified basic instruction”, or manuals “written by beginners”. One lady reported: “It would be so much easier if a booklet in simple language could be issued

explaining what would happen. There are never any instructions available...

Several users reported initial problems because they did not recognize that saving a 'file' is essentially the same thing as saving a 'document'. A similar example of terminology problems can be seen below from the results of two searches attempting to find from the Word help system how to make the text more readable. "Clearer text" provides no reference to enlarging text size or using the accessibility features that exist within the Windows system, nor does "bigger text".

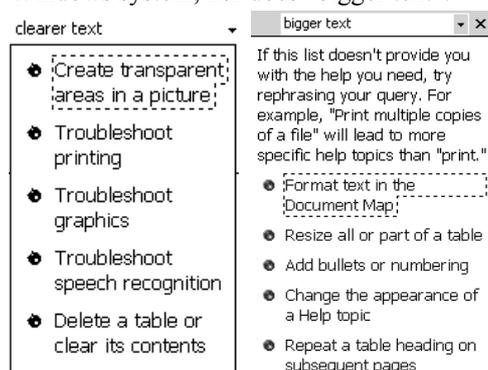


Figure 1: Search results in MS Word for "clearer text" and "bigger text"

It is unfair to suggest that these issues have not been considered by software designers, but despite attempts, the language used is not always sufficiently user-oriented. In the accessibility options, for example, users are instructed to "Use StickyKeys if you want to use Shift, Ctrl, or Alt key by pressing one key at a time." Although these terms are familiar to experienced users, they mean very little to novice older users (also, the "Shift key" is not labeled as such on many standard keyboards, but instead has a small upward-pointing arrow).

Lack of Clarity

Older users are excluded by issues other than inappropriate terminology, however. In some 'assistive' facilities there is a lack of clarity about the effect that a decision will have, and this promotes insecurity and confusion. A minor but instructive example is that "high contrast" settings include settings with titles like "eggplant" (black on green) and "rainy day" (black on blue), wholly non-descriptive names (eggplants, after all, are purple...) which do nothing to support the user in determining which of the many available settings would be of most use to them. Nor, of course, is it at all clear why users might want high contrast in the first place.

Rather than allowing the user to easily preview the effect that visual accessibility options will have over the desktop, some settings take effect immediately, some when "apply" has been clicked

and the dialog box closed, and some only take effect when the computer has been reset. There is little indication of which is which. This makes it cumbersome, awkward and confusing to change settings.

Additionally, text size changes are not applied to the accessibility dialog box itself. Even in the wizard when the "I am blind or have difficulty seeing things on screen" box is checked, both the targets and the text in the dialog remain small. This means that people who need larger text on their screens are effectively disabled from autonomous use of the accessibility options which themselves are inaccessible. Even those who manage to make changes may be put off by the presentation of these alterations, especially when, as below, the effect is confusing and ugly.

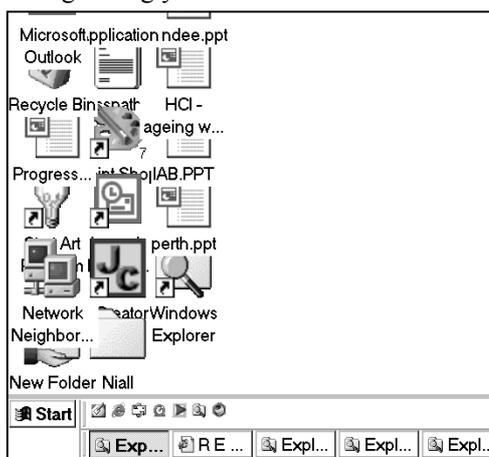


Figure 2: Screenshot of an "accessible" desktop with high contrast settings and extra large fonts. Note the desktop icons overlapping, the text describing them being curtailed by the lack of space, the shortcut toolbar icons remaining very small.

3.3 Inappropriate Features

Although in general much of the essential functionality provided in Windows is excellent, and would be used if users knew it was there and could implement it, further research is needed to determine whether inappropriateness also plays a part in the non-use of assistive features. Another reason for the non-use of supportive features may be that they do not offer support in the way the users would like, or need, to get support. For example:

"When we got our computer, printer etc. everything seemed to come on a "disc". I like to see what to do in booklet or leaflet form that I can refer to (& see diagrams etc.)"

Online help itself may be inappropriate, existing as a separate element alongside the application, requiring the user to move back and forth and to

retain the information while doing so; this is especially complicated for older adults with memory impairments, for example, or those who have suffered a stroke. In addition, features provided may be inappropriate in that they are aimed at a far more “sophisticated” computer user than the one who is trying to utilize them. Older adults are often confused by the functionality of applications and the myriad buttons and menus. To personalise an interface, often a whole series of individual decisions has to be made in the configuration while the user may have a simple higher level demand. Those users who would benefit most from a simplified interface are those without the experience to produce one. A ‘high level’ desire (“a simplified set of functions”) cannot be communicated to the system, instead it is necessary to go through menu systems, to drag and drop toolbar buttons (without any indication that this is what needs to be done).

4 Making Help Helpful

In order to make these assistive facilities genuinely useful and usable, a fundamentally different approach is needed. The inclusion of assistive functionality in a system is essential, but its inclusion is not enough. In order to be useful it must be usable and accessible for an increasingly diverse population of computer users. For many experienced computer users the problems described in this paper may seem trivial, but for older adults these “irritations” can become an insurmountable barrier that ultimately prevents computer use. One of the focus group participants commented that his computer has become part of his dining room furniture because it is simply too difficult to use. Comments like his have been very common in our dialogue with older computer users. Even when technical support has been available, older adults’ dependence on such support in order to use facilities like the accessibility and configuration options disempowers them and their “ownership” of their interaction with the computer is compromised.

These are clearly complex problems and cannot be solved without considerable research. We offer four suggestions about possible places to start.

First, the assumption that the Windows interface is self-explanatory must be challenged. It makes little sense that the desktop shows icons of the applications you can access without any indication of how you can configure the actual appearance (that is hidden away in the menu systems). Second,

interaction should be more direct, for example in the accessibility options it should be possible to see changes instantly reflected on the screen. Third, it might be possible to allow users to adopt an initial “profile”, eg: beginner, which would allow a more appropriate interface. Finally, as many people learn by exploration, a more effective supportive help system might be a solution. Capobianco and Carbonell conclude that “online help strategies are yet to be designed” (Capobianco & Carbonell, 138) and more attention should certainly be given to this. There is also clearly demand for ‘minimal’ manuals with clear step-by-step instructions, oriented towards what the user wants to achieve (Kelley and Charness, 115) and the role and uptake of non-computer based materials should be investigated as part of this further research.

Although this paper has focused on the problems that older adults face with accessing and using the ‘assistive’ facilities in Windows systems, improving these facilities would benefit a far wider group; Kelley and Charness reported as early as 1995 that in terms of tutorials “what is good for younger adults is good for older adults” (Kelley & Charness, 114).

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