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Edition

Designing the User Interface

STRATEGIES FOR EFFECTIVE HUMAN-COMPUTER INTERACTION

Fifth Edition

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12.5.3 Context-sensitive help

The ability to provide context-sensitive information is a powerful advantage when using online help systems. The simplest way to take context into account is to monitor the cursor location and provide helpful information about the object under the cursor. This form of user-controlled interactive object help is readily understandable to users and even fun to use. Another approach is to provide system-initiated help, often called “intelligent help,” that tries to make use of the interaction history, a model of the user population, and a representation of their tasks to make assumptions about what users need.

User-controlled, interactive object help A simple approach to context-sensitive help is based on the interactive widgets in the interface. Users position the cursor on a widget (or other visible interface object) and then press a help key or hover the mouse over the object for a couple of seconds to produce information about the object on which the cursor is resting. In a common version of this technique, users simply move the cursor to the desired location and hover over the

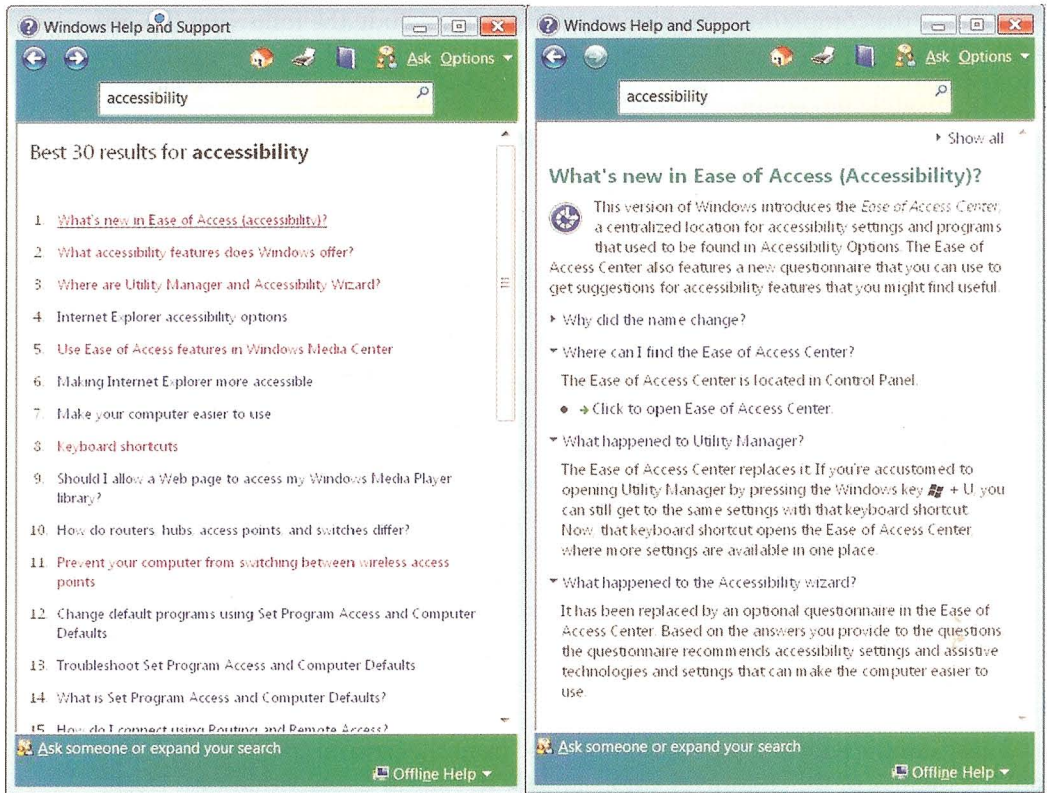


FIGURE 12.6

The Microsoft Windows Vista Help and Support Center provides multiple ways to navigate to the pages of information. Here, a search for “accessibility” returns the Best Results and What’s New. In addition, there are other links to offline help. Commands (such as the opening of the Magnifier) can be activated within the help pages.

object, causing a small pop-up box (often called a tool tip, ScreenTip, or balloon help) to appear with an explanation of that object (Fig. 12.7). Alternatively, all of the balloons may be displayed at once, so that users can see all of the explanations simultaneously. Another approach is to dedicate a portion of the display to help, which is updated automatically as users hover over or select interface widgets (Fig. 12.8). User-controlled help can also be used for objects more complex than widgets, such as control panels or forms. These features provide a narrower window into the extensive volume of help that is available to the user.

System-initiated help By keeping track of user actions, some researchers believe that they can provide effective system guidance, such as suggesting that users should redefine their margins since they are indenting every line. Research in computer-based intelligent user interfaces has seen mixed results

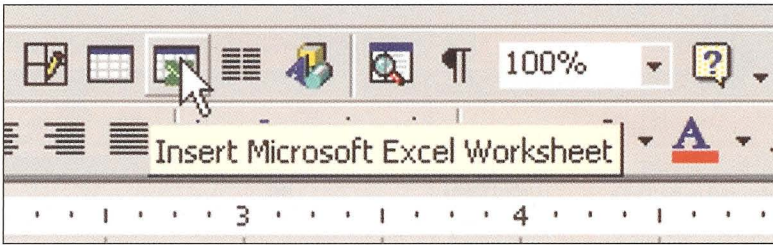


FIGURE 12.7

In Microsoft Office, when users hover over an icon a ScreenTip appears that explains the command represented by the icon, providing help at the widget level.

(Hook, 2000). Early on, a simulated “intelligent help” system was tested with eight users doing business tasks, such as printing a mailing list (Carroll and Aaronson, 1988). The researchers prepared messages for expected error conditions, but they found that “people are incredibly creative in generating errors and misconceptions, and incredibly fast.” The results, even with a simulated system, were mixed; the authors concluded “Development of intelligent help systems faces serious usability challenges.” Intelligent help systems that provide system-initiated support have generally failed. The most infamous example illustrating the problems of this approach is Microsoft’s Office Assistant (or “Clippit”), which has created much controversy (Shroyer, 2000). One of its functions was that as soon as users typed “Dear . . .”, Clippit popped up and offered assistance in formatting a letter. Many users considered the paper clip so intrusive that they immediately turned it off. Today, the Office Assistant (Fig. 12.9) still exists in the Microsoft suite of products, but it is an option that is user-controlled, and the default status is not to display it (it is hidden).

A system-initiated help system has also been implemented in the Smalltalk™ programming environment, where cartoon-like gurus appear on the display and offer audio commentaries with animated demonstrations of the graphical user interface (Alpert et al., 1995). Smalltalk’s designers considered many of the problems of anthropomorphic help, such as user initiation, pacing, and user control of remediation; unfortunately, however, no empirical evidence as to the efficacy of the help system is available.

Hybrid approaches Intelligent help advocates have promoted as alternatives a mixed-initiative approach, in which initiative is shared between the user and the system (Horvitz, 1999), and an advice-giving approach (Lieberman, 2001). For example, Letizia (Lieberman, 1997) gives advice and suggestions to users browsing the Web, but its focus is on web-site suggestions rather than interface training. A Telephone Triage Assistant for junior nurses received good feedback during usability testing (Mao and Leung, 2003); the content of the advice window was unpredictable but rather unobtrusive, and it did not interfere

The screenshot shows the Alamo website's reservation process. At the top, there are navigation tabs for 'RATES & RESERVATIONS', 'LOCATIONS', 'CARS', and 'HOT DEALS', along with a 'Check-In now!' button. Below the navigation is a breadcrumb trail: 'alamo.com >> membership >> business travel >> programs >> travel tools >> rental policies >> contact us'. The main content area is titled 'Step 1: Tell us about your trip' and includes a 'Helpful Information' sidebar on the left. The sidebar contains a 'Pickup/Dropoff Location' tip. The main form fields include: 'Where do you live?' (United States), 'Pickup / Dropoff Location' (with a 'Find a Location' link), 'Pickup Date' (OCT-2008, 1) and 'Pickup Time' (12 Noon), 'Dropoff Location' (with a 'Find a Location' link), 'Dropoff Date' (OCT-2008, 6) and 'Dropoff Time' (12 Noon), 'Quicksilver Members' section with 'Member I.D.' (QS) and 'Member Last Name', 'Optional Rate Information' section with 'I.D. / Corp I.D.', 'Membership ID', 'Rate/Product Code', and 'Coupon Code', a checkbox for 'Check here if you will be making a reservation using an applicant code.', and 'Flight Information' section with 'Airline' (Select) and 'Flight Number'. A '>> CONTINUE' button is at the bottom, and a footer note says 'Need technical help? Call 1-877-252-6600.'

FIGURE 12.8

To rent a car from Alamo (<http://www.alamo.com>), users fill in a form with information about their trips. As they click on a field (here, the “pick up location” menu), context-sensitive, detailed help information appears on the left part of the screen. Notes in italics give brief directions and explain why the data is needed.

with users’ tasks. This approach requires dedicating a large portion of the display to the help information, but it keeps users in control of the amount and timing of the advice they receive, making this technique an effective hybrid of online help and tutorial approaches.

Although many of the earlier attempts have had mixed results, a concerted effort for personalization of interfaces is being made. Research by Russell

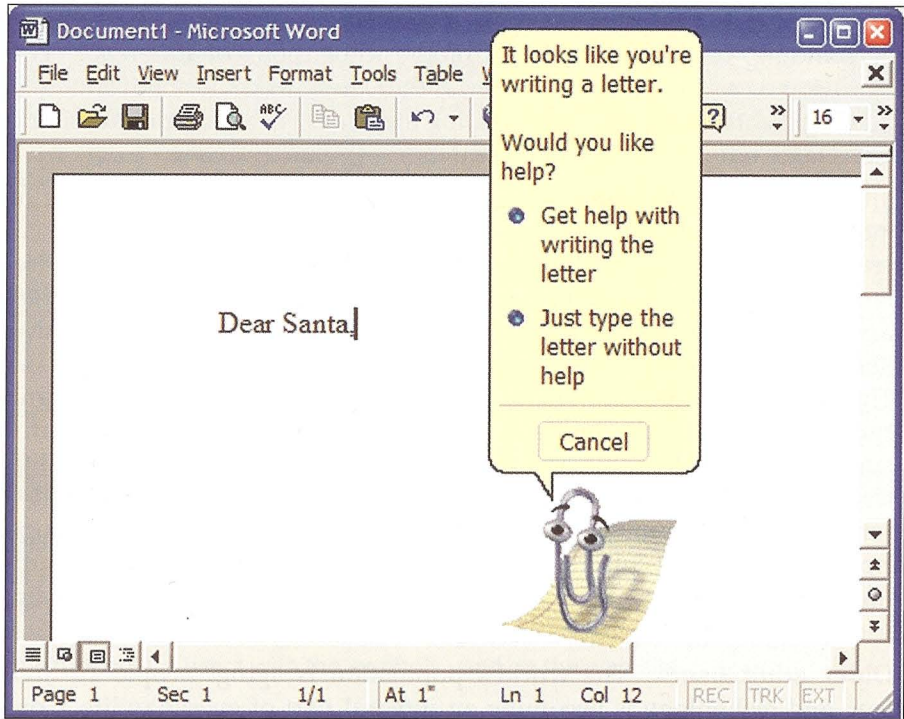


FIGURE 12.9

Clippit the Office Assistant guesses that a letter is being written and offers help to prepare a standard letter in Word 2000.

(2003) has shown that clearly defined operations coupled with extensive data-mining techniques can yield acceptable results. His study investigated a heterogeneous audience with varying levels of experience interfacing with a large documentation library at Oracle® Corporation. Usage data was analyzed over a 90-day period and consisted of several hundred thousand searches. Russell observed a difference between *persistent choice* and *single-use choice*, and he warns against inconsistency in user choices, which is often based on the lack of a full understanding of the system. He distinguishes between *customization* (where the user makes explicit choices) and *personalization* (where the system observes and adapts) and recommends a hybrid approach that balances the two.