

Browse Sequences in Online Help

by Bruce R. Gibbs and David K. Farkas

Online Help is becoming a key if not the key piece in the standard documentation set. One important reason for this is that Help systems provide users with numerous electronic access devices. These include the contents screen (equivalent to the print table of contents), the search keyword list (equivalent to the print index), jumps from topic to topic (equivalent to print cross references), and context-sensitive access (which has no print equivalent). A well-designed Help system enables users to quickly find the particular topic or topics they are looking for.

Help information is written to reflect the strength of the access features in Help applications as well as the proclivity of computer users to use Help as a kind of quick reference, a means to solve problems or answer questions that arise as they are working with a software product. Thus, Help topics are written as much as possible in the form of independent modules, discrete chunks of information. Taking a broader view, Help systems are a form of hypertext, and the rich connections among Help topics afforded by the many access devices as well as the modular style of writing accord with hypertext theory.

One form of information access in Help (and other kinds of hypertexts) is to let users navigate through the information

by following a specific pathway established by the author. This feature generally appears to the user as Previous and Next buttons. (Backward- and forward-facing angle brackets are

often used as the symbolic equivalents of "Previous" and "Next.") These pathways have been given such names as "hypertrails," "guided tours," and "browse sequence"—the term made popular by Microsoft. Browse sequence should not be confused with the Backtrack or History features of Help; these enable users to return to previously visited topics, not navigate along the author's pre-established pathway.

Not all Help applications permit Help authors to create a browse sequence; moreover, numerous Help authors leave out a browse sequence when their Help application supports this feature. This situation is the impetus of our paper. We argue for the usefulness of browse sequences and predict that browse sequences will become increasingly important. We also show some of the design possibilities by which browse sequences can be made still more effective. We focus on Microsoft Windows 3.1 (TM) Help because it is so prevalent.

Can We Omit the Browse Sequence?

Printed books have a suggested, or "default," reading sequence that is indicated to readers by the binding of the pages and the page numbers. This

sequence represents the author's idea of the most likely and productive pathway through the material. Readers, of course, can and do read selectively and non-sequentially—especially in the case of technical reports, computer manuals, and other workplace documents. But depending on the tasks they are engaged in, readers often do read sequentially through portions or else all of a printed book.

The role of a browse sequence is to provide in Help the equivalent of sequentially reading a printed book. Help and other hypertext documents much more strongly invite non-sequential reading than do printed books. But even in hypertexts, readers at times prefer sequential reading. They may be more than willing to avoid the cognitive burden of constantly selecting the next node to visit and prefer to simply follow the author's default reading sequence in learning about a particular function of a software product. So, for example, a user might follow a browse sequence when wanting to read all the Help topics on styles. Help authors, however, do not always consider this role valuable enough to implement a browse sequence. The main arguments for omitting browse sequence are two-fold, and we review them below.

Browse Sequences Are Not Widely Used

One viewpoint is that Help users do not regularly use browse sequences. Rather, they usually consult Help for highly specific information, and they are

more likely to consult a user's guide when wishing to learn a broad area of functionality such as styles.

While there is no broad-based empirical evidence one way or the other, this argument is probably true to a large extent. On the other hand, there are certainly frequent instances in which computer users realize that they should gain a broader understanding than a single Help topic provides, and they will not necessarily want to jump up and grab a user's guide to do so.

Furthermore, this argument against browse sequences is being steadily undermined by a major change in the computer industry: we are almost certainly witnessing a transition toward greatly reduced printed documentation. Why? Help systems have gotten much better in recent years, and software companies face an ever-growing pressure to reduce the cost of goods, which is in large part the cost of manuals. Consequently, many software products will ship with very little printed documentation, and when a user's guide is shipped, it will often cover only the basic product functions and require the user to "graduate" to the Help system. Without a complete user's guide, computer users will have to rely on Help to learn broad areas of functionality and will therefore, except in the case of very small Help systems, require a good browse sequence.

Users will reject such clumsy alternatives as consulting a list of topics on a contents screen, jumping to the first topic on a particular subject, jumping

back to the contents screen, jumping to the second topic on that subject, and so forth. This is all the more true because users will expect good browse sequences from their experiences with online newspapers, online educational material, and other electronic documents.

Help Applications Make Browse Sequences Difficult to Implement

The argument that Help applications do not provide authors with good support for implementing browse sequences is largely true. For example, in Windows Help each topic can only occupy one location in the browse sequence, making it impossible to include a single topic in two places. A workaround is to make duplicate topics; the problem with this, however, is that a Help system with duplicate topics is difficult to maintain. A broader problem in Windows Help is the lack of an authoring interface for visualizing the browse sequence (and, for that matter, the overall construction of the Help system). Surely the best resolution of this second objection is not to abandon browse sequences but rather to improve Help applications. Devising good browse sequences will never be automatic or easy, but good tools can significantly ease the burden.

Design Possibilities

In this section we describe a variety of design options for browse sequences. Some of these have been implemented and others are only possibilities. Our goal is to strengthen the case for browse

sequences by demonstrating both that designers can work creatively to implement browse sequences within the limitations of current Help applications and that there are intriguing design possibilities for future Help applications.

Single Segment (Giant Chain)

The simplest arrangement for a browse sequence is to create a single long sequence encompassing every topic in the Help system. The user, therefore, simply clicks the Previous and Next buttons to move forward and backward through this long chain of topics until the first and last topics are reached. When the user reaches the end of the chain, the Next button is dimmed and disabled; when the user reaches the beginning of the chain, the Previous button is dimmed and disabled.

Multiple Segments

Usually, it is more effective to create a browse sequence consisting of multiple segments, each segment consisting of a group of related Help topics. Thus, all the topics pertaining to styles might become a single segment, and all the topics on printing might become another one. The order of the topics in each segment is the Help author's idea of the best reading sequence, presumably the same order in which the topics would appear if they were sections in a chapter of a user's guide. Thus, the first topic explaining styles might be an overview and the least-used options might come at the end.

With multiple segments the user cannot rely solely on the Previous and Next buttons to explore the full set of Help topics; the only way to leave one segment and alight on another is to use one of the other navigation features of the Help system—for example, pursuing a jump to some new topic or returning to the main contents screen. Therefore, the multiple-segment arrangement (or "topology" in hypertext terminology) is somewhat more restrictive than the single long segment. The trade-off is that the multiple-segment topology accentuates the relatedness of the topics in any one segment. In the single-segment topology the user may cross the boundary from one group of topics to another too easily to recognize the unity of each group. Help authors, however, can add special "divider/organizer" topics to a single-segment browse sequence to address this problem.

Ring

Another design option is to close up one or more segments into a ring topology. In this way, a user who is on the last topic of a segment can choose Next and go to the first topic, and a user at the first topic can choose Previous and go to the last topic. The topology of rings permits the user somewhat freer navigation than a topology of segments. But the user gets a weaker sense of the sequence that the Help author has established among the topics making up the segment. Still a ring of topics makes sense when the sequence among a group of topics is arbitrary or

unimportant—for example, the sequence among a group of keyboard shortcut topics. A ring also makes sense when the Help author wants to let the user move very freely through the group of topics. Imagine, for instance, a set of menu topics, each with brief explanations of the commands on that menu. The Help author probably wants to empower the user to navigate freely from the File menu topic, to the Edit menu topic, to Tools, to Help, and straight on through back to File.

Accelerator

Some progressive Help authors have used the resources of the Windows Help application to add custom "accelerator" browse buttons that enable the user to jump directly to the first topic in the current segment. This is an extremely useful feature. For example, if a user accesses one of the styles topics by choosing it from the search keyword list or by following a jump from another topic, the user might well decide to read all the styles topics. The accelerator button will take the user directly to the first of these topics.

Previewing

In most Help systems, users navigate forward and backward through the browse sequence without knowing what the next and previous topics are. This is an unnatural and highly limited form of navigation that discourages people from using browse sequences. The situation is akin to telling subway riders that a particular subway travels

through the south end of the city, but refusing to provide a route map that would let them determine what stations the subway has just come from and where it is going. Browse sequences, therefore, can be significantly enhanced when Help applications provide a small display area that previews the title of the next and previous topics. Better yet is a scrolling list box that would pop up from the main Help window and show the position of the current Help topic in the browse sequence it belongs to.

The previewing window in Figure 1 shows seven Help topics belonging to a single segment. The current Help topic is highlighted.

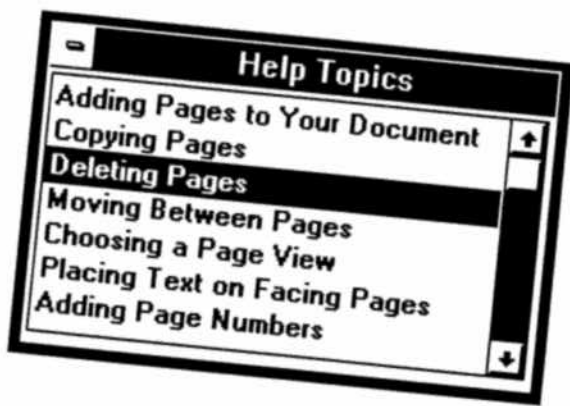


Figure 1: Previewing Window

Previewing can also be used in current Windows Help systems if you eliminate standard browse buttons and instead add special browse sequence jumps at the bottom of each Help topic (Figure 2).

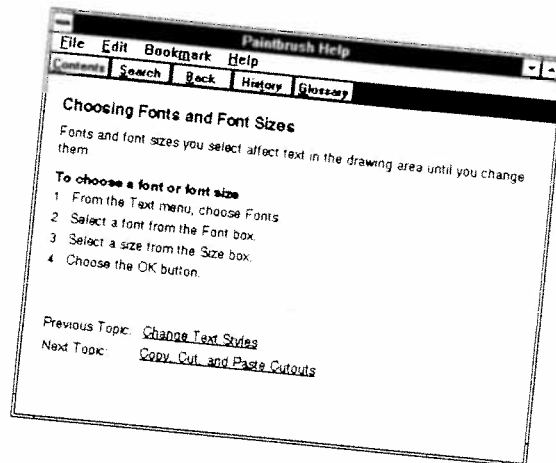


Figure 2: Previous and Next Topics in a Browse Sequence

Branching

A more exotic design possibility is a "branching" feature whereby the user can choose between two previewed topics. This feature, however, must be used conservatively because the entire rationale of browse sequences is to let the user avoid complex navigation decisions and to follow a path established by the author. In Figure 3, the user can choose between Using Page View and two outlining topics.

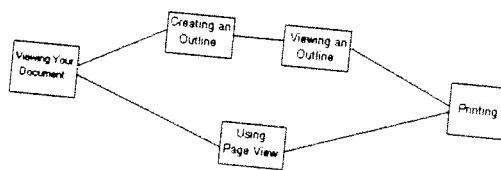


Figure 3: Branching browse sequence

Artificial Intelligence

An intriguing option that must await much improved technology in the area of artificial intelligence is a browse sequence (or quasi-browse sequence) in which the selection of the topics is determined "on the fly" in response to the system's perception of the needs of the user. Artificial intelligence can also be used for previewing topics.

Conclusion

The question of omitting the browse sequence in Help concerns all those who design Help applications, who author Help systems, and who use computers. We assert that browse sequence is an important feature in online Help, that it will become more important, and that still better browse sequences are possible.

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