

# Single-Sourcing Tools and Techniques

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This paper describes how our publications team built a new single-sourced documentation set consisting of five printed manuals totaling 1,470 pages and seven Windows online help files totaling 7.5 megabytes.

To accomplish this project, we used detailed writing guidelines, specially-designed templates, and a powerful online help authoring tool.

## Summary of the Project

The project is a documentation set at a small computer software company. The documentation is delivered in printed manuals and in online help on three Windows platforms: Windows 3.1, NT, and 95.

The company is a startup. The resources available include four writers, two production contractors, and one manager who also works as a writer. Our company has no dedicated online help staff.

In ten months, we hired a publications department, acquired equipment and authoring software, created a style guide and writing guidelines, authored the manuals, and published them in print and online. After authoring the information, converting it to online help was accomplished in two weeks.

## Why Consider Single Sourcing?

Single sourcing documentation means using one set of master files to produce readable materials in many formats. The most common goal is to produce both printed manuals and online help.

Traditionally, companies have maintained two separate teams of writers to create different versions of information for print and online delivery. Writing everything twice introduces extra costs, takes extra time from both writers and

subject experts (such as engineers), and increases errors and, therefore, the amount of testing time required.

Single-sourced documentation must be written with extra care, but it need be written only once. Maintaining a single set of files is easier and more accurate than maintaining information in several versions.

Single-sourced documentation also eliminates the worry that the online help contradicts the manual. Using one source of information means that the information is consistent, no matter what the delivery medium.

## The First Step: Writing Guidelines

Our company had no existing documentation at the start of the project, which was a major advantage in pursuing a single-sourcing strategy. Being present at the start of development for our company's first product, we took the opportunity to design an information strategy from the ground up.

We used extremely detailed writing guidelines to create information suitable for both printed and online publication. These guidelines were applied consistently by all writers from the beginning of the writing process. If documentation had already existed, it would have been necessary to rework the information to some degree.

All members of the publications team collaborated to craft the writing guidelines, which are much more specific than those common in our field. The concepts of Information Mapping contributed to our design: we took account of the different types of information as laid out in that discipline, including Rules, Overviews, and so on. All our staff team members are senior writers, and our collective experience converged to create a very detailed information design.

Writers anticipated what types of information would appear in each of our manuals. Overviews, step-by-step procedures, reference pages for programming language statements, comparisons, and other categories of information were laid out in detail, including standard text for headings and a description of what to write under each heading.

At all times, the demands of writing for online presentation were uppermost in our minds. For example, information must be segmented in sections of manageable size to keep

scrolling to a minimum; headings must make it clear at a glance what is to be covered in the topic. Our conclusion was that designing information for online display improves the quality of the information in print as well.

For example, the writing guideline for a step-by-step procedure section is four pages long. It instructs writers to begin the heading with the words “How to” and to make the first paragraph under this heading a numbered paragraph describing step 1 of the procedure. The guideline lists the few situations in which it is permissible to include introductory material immediately under the “How to” heading; for example, if there is some reason the reader may not need to do the procedure.

The guideline then gives details about how to structure the steps themselves, including both how to word the descriptions (start with the task, not the action: “To make the variable an instance variable, select Instance”) and what type of information to include (“Do not combine rules or tips with steps”). The guideline concludes with formatting choices for various situations, such as steps that involve choosing between alternatives.

Writers were responsible for adhering to the guidelines, and the team performed very well in this respect. Peer editing helped us catch inconsistencies. If a writer found a guideline too restrictive, or wanted to make an exception, the writer brought the issue up with the entire team for discussion.

In this way, the guidelines were updated and the team was kept aware of deviations which would require special attention in the online help conversion process later. Often a compromise was reached based on testing how a certain choice would affect the conversion to online help. Choices that adversely affected the ease of conversion or caused information to be structured inappropriately for online delivery were avoided.

### Choosing the Conversion Tool

The next step was to find the right tool to help move the information from print-ready FrameMaker tiles to online help. Many vendors offer software packages that assist the help author. Using our checklist of desired features, we evaluated several tools, including RoboHelp, Dot-To-Help, and others.

To evaluate tools, we relied on information from peers in the STC’s online help special interest group. Our fellow help authors were glad to share their experiences using a host of tools and their reasons for choosing or rejecting specific

tools. We were able to narrow our search to two tools: RoboHelp (Blue Sky Software) and HDK (Virtual Media).

We purchased copies of both software packages and began testing. It soon became apparent that HDK came closest to meeting our need assessment.

### Designing Templates

HDK reads files in Microsoft Word for Windows format and creates online help topics, using the style tags of headings to determine where a new topic begins. Our FrameMaker template includes special tags which writers use to make sure the files are ready for conversion.

For example, the template includes tags called .Head2 and .Head2Help which look the same in print, but have different effects on HDK. .Head2Help causes HDK to start a new topic, whereas .Head2 is merely the continuation of a topic.

All step-by-step procedures begin with a heading tagged .HowToHelp. This tag causes HDK to start a new topic, making it easy to display those topics online in a special cue card window.

Using this template in combination with the writing guideline, we produced a set of standard pages. Writers or contractors paste the page of standard, pre-tagged headings into their file, then write into that page. This procedure ensures completely uniform tagging, order of headings, and so on.

HDK uses a special Word for Windows template to determine the appearance of text online. We modified this template to provide online equivalents of all tags in our FrameMaker print template. This process involved making a new set of style decisions, because the appearance of fonts on screen is very different from their appearance on paper.

### Overview of the Conversion Process

Our five writers used FrameMaker 4.0 as their authoring tool to produce five manuals: two user’s guides, a programmer’s guide, a programming language reference, and a class library reference.

After final drafts went to the printer, each writer converted his or her book to online help using HDK. Because the required input to HDK is Microsoft Word for Windows documents, the first step was to convert our FrameMaker

files to the Word file format. Then we ran the files through HDK to create help topics. Finally, each writer used HDK's interactive editing facility to add features such as graphics and additional hyperlinks.

## Converting from FrameMaker to MS Word

Converting the files from FrameMaker to Microsoft Word for Windows proved to be the most frustrating portion of the conversion process. The files produced by Frame's MIF-to-RTF filter contained some formatting problems that had to be cleaned up in each file by hand.

Early testing provided a checklist of known formatting problems. For the most part, the cleanup was simply a case of going down the list and checking off each minor fix in each file.

Tables presented the most difficulties. For example, the FrameMaker conversion filter moved all tables to the extreme left margin, so writers had to drag tables back to their intended positions. Small tables were not a significant problem. However, the filter did not handle tables that spanned multiple pages, so these tables had to be reformatted in Word or re-keyed in extreme cases.

Because we knew that tables presented problems for online help conversion, our writing guideline advised against using them. However, in some situations the company's marketing or engineering requirements dictated the use of tables.

## Moving from MS Word to Online Help

Our team of writers included only one writer with experience implementing online help. This writer learned HDK, tested our conversion process, and produced a set of step-by-step procedures customized for our project. The other writers followed these procedures to convert their books to online help.

HDK offers several key features that speed the conversion process, including the capability to convert files to online topics; convert index markers into search keywords automatically; rearrange the topic hierarchy using a graphical Topic Outliner; apply settings from one topic to multiple topics in one operation; customize the hyperlink style; design secondary windows using a thumbnail version of the computer screen; and insert groups of links together instead of one at a time.

After running each file through HDK's automatic conversion, we had a help file with thousands of topics, a start-to-finish browse sequence, thousands of search keywords, and a See Also list at the bottom of each topic that provides links to sub-topics.

Authors then used HDK's interactive editing features to place additional links, move topics to secondary windows, re-insert illustrations, and perform other tasks that require item-by-item attention.

## Illustrations

The illustrations in the printed manual were saved as .GIF graphics files. For online help, it was necessary to convert these files to .BMP format, because that is the format the Windows help compiler expects.

Before converting files out of FrameMaker, we placed text in square brackets below each figure that gave the filename of the corresponding .BMP file. This text survived the conversion to Microsoft Word, whereas the .GIF illustrations were stripped out by the FrameMaker conversion filter.

After converting files to online help in HDK, writers re-inserted the illustrations by searching to the square brackets, choosing HDK's Insert Graphic command, and selecting the appropriate .BMP file.

## Conclusion

By following detailed writing guidelines, we authored text that was suitable for delivery either in print or online. By using a powerful authoring tool, we accomplished in a very short time what would ordinarily take an entire additional staff working in parallel with the writing effort.

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