Single Sourcing

Ann Rockley, Center Associate

Traditionally, technical communicators created primarily paper-based user guides and reference material. This is no longer the case. Most likely, you create documentation for multiple media (paper-based materials, Help, Web-based, and training), multiple types of users, diverse product lines, multiple languages, and customized products. Creating multiple types of documents simultaneously can be time consuming and costly, and can lead to errors in consistency. Additionally, timelines for developing documentation are getting shorter and budgets are getting smaller. In many cases, single sourcing can simplify the process and help you meet the multiple demands.

What is Single Sourcing?
For some time, writers have been creating what some have called single source materials, i.e., a paper-based manual and online Help. Tools have enabled this; however, typically the content of the paper-based documentation and the content of the Help was identical. This has raised valid concerns that information written for one medium is not appropriate for another. In fact, what was happening was conversion, not single sourcing.

True single sourcing is the process of reusing information where appropriate and creating unique information where appropriate. Depending on how single sourcing is implemented, companies typically decrease redundancy between 25 and 50 percent.

Benefits of Single Sourcing
Single sourcing has many benefits:
♦ Eliminates redundant or repetitive information
♦ Improves consistency within a documentation set or library
♦ Reduces the chance for errors because information is not written or updated several times
♦ Improves productivity of your staff by eliminating repetitive and clerical tasks
♦ Frees writers to focus on content
♦ Enables users to customize their own documentation set
♦ Reduces the commitment you need from technical reviewers who will only have to review a piece of information once

These benefits result in time and cost savings.

How Single Sourcing Affects Your Processes
Single sourcing affects your processes from analysis and design to content management, workflow, and writing.

Analysis and Design
While many vendors of content management systems (tools used for single sourcing) tell you that you can use existing information in its current form, to realize the full benefits of single sourcing you should redesign your materials and your design and creation processes. Analysis and redesign will be your largest up-front cost. The larger the information set, the longer this process will take, but it is only necessary once—at the beginning or as you introduce new types of information to your set.

Single source information consists of elements, not files or documents. You need to identify the elements of your information set. To do this, you look at the granularity at which information can be broken down.

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Dear friends:

The initial response to the Center has been very exciting! The office has been a cacophony of ringing telephones, incoming emails, and people talking about and working on Center activities. I’d like to thank all of you who have supported this long-overdue forum. For those of you who for various reasons are unable to join at this time, we hope you’ll subscribe to the newsletter to keep abreast of upcoming Center events, activities, and publications. Managers who have already enrolled their groups for membership have provided us a wide range of responses on why they wanted to become involved and how they won approval from their senior managers. A manager at one company convinced her manager that she simply had to join because the company’s chief competitor already sat on the Center’s Advisory Council. Another manager told us that while he always emphasized the importance of professional development to his group, there were few opportunities for him to grow himself; he found that the Center was an ideal resource for such professional growth. Still others told us and their managers that they thought Center membership would give their group and company a necessary competitive edge. I’m also pleased that two additional managers have agreed to take part in the Advisory Council: Gil Mounsey, Manager of Information Products and Development at NCR in Waterloo, Ontario and Mike Lewis, Director of Information Engineering at NCR in San Diego. You’ll be reading more about them and their work in future issues.

By the time you read this, we may have begun our Center chat rooms and study groups. The first Chat is scheduled for April 5 and will cover single-sourcing processes. The second chat is scheduled for April 19 and will be a discussion of single-sourcing tools. Center Associate Ann Rockley of the Rockley Group and SingleSource Associates and I will be leading these chats. These first two chats will be open to the public. Instructions for downloading the software were included in your last newsletter and are also available at our website, infomanagementcenter.com.

If you haven’t yet joined and would like to take part in my online study group on technology life cycles and information products, now is the time. Geoffrey Moore’s book *Crossing the Chasm* is widely available, and I invite any team member from a member department to join our discussions of it during the weeks of April 6, 26, and May 10. I’ll be reviewing Moore’s *Inside the Tornado* in our next issue and hope to be having an interview with him in the near future. Finally, our member list-serv is up and running so don’t forget to take advantage of this invaluable resource.
Granularity means looking at the smallest possible piece of information that is still a useful piece of information. You need to identify:

♦ which reusable information is the core of your information set
♦ which information is unique or different
♦ at what level the information will change (word, sentence, paragraph or section).

Once you have identified the reusable information and the size of your elements, your next major step is to map out the design and structure of the information set. A clear structure will make it easier for writers to “slot” information into the appropriate areas.

Content Management

Content management is critical to the success of single sourcing. Every component of information needs to be identified and controlled so writers can find and reuse it easily. Content management involves version control, access control, and categorizing information.

Version control is very important when information is reused. Each time an information element is changed, a new version of the element is saved and the previous one retained. Writers can then identify if they want the element to be updated as soon as the source is updated (e.g. web sites) or to remain the same regardless of further updates (e.g. for older versions of a product). Version control also lets you save a copy of information as it exists at a particular time. This is particularly important for information/product/services that are government regulated; you can go back to a saved version to “resurrect” the information as it existed on that day.

Access control enables a writer to “own” an element of information. The authoring writer is then responsible for making ongoing changes to that element. Thus, content is not arbitrarily changed by everyone, rather, it is changed in a controlled manner. Other writers can read or use the element but cannot change it without authoring privileges. Access control also ensures that only one person has a file open at any time. This check in/check out of information ensures that writers don’t overwrite each others’ changes or introduce contradictory changes. However, it is possible to create a branching version of the file/document if more than one writer has permission.

Categorizing information is a key component of content management. Since your team will be developing a repository of information, every element must be identified for access and reuse. Categorizing information elements is similar to indexing a document; it is done using meta-data, allowing writers to add information about the element of information (e.g., content, user group, hierarchy). Writers use categorization and search phrases to find information of a particular type or from within a particular category. The more meta-tags associated with an element of information, the more likely the correct piece of information will be found quickly and easily. Standard meta-tags should be identified before you begin creating materials so that information is consistently categorized from the start.

Workflow

Workflow is used to identify the process by which your information is created, reviewed, and “published.” Each element of information moves through the workflow, ensuring all documents are created in the same way. Workflow also identifies the review process, including who the appropriate reviewers are at which stage of the process. Workflow ensures that documents that have not been approved do not make it to release.

Writing

When you create single source materials you write elements, not documents. Once writers make this transition, they will find they are writing more rapidly and more effectively. It is important to note that even though writers work on elements, they do not write in isolation of the entire document or information set. Writers must always be aware of how their element fits into the whole information set or into many sets. To write effective documents, writers must have a broader understanding of how information is used to ensure that the elements they write will work effectively whether presented in a Help file, in a printed manual, or in any other type of reuse situation.

Additionally, writers are responsible for creating the “virtual document” which defines how the elements of information are drawn together to create a unified whole. Their vision of the complete document as they create the
Single Sourcing and the Changing Roles of Technical Communicators

In the past, technical communicators have tended to work primarily on their own to create a “document.” Single sourcing necessitates a team approach. This does not mean that writers are no longer responsible for their information or that they will lose control over the structure of the final output; it means that one writer may be responsible for writing the core information (the information that is reused) while others are responsible for identifying how their information differs from the core, then adding it to the source. Or it may mean that a number of writers work on different aspects of the core, working together to ensure that all the information is integrated.

The process of creating single source materials separates the creation of the input (content) from the output (media or information type). This means that writers will become more proficient communicators and rely less on the tools used to display the final information. Writers who enjoy working with the tools can take on the challenging role of tool expert. This position involves designing conversion templates that take the content and convert it into one or many different outputs (e.g., paper, Help, Web, training). Tools experts may also design and maintain the structure of the content management system.

Single sourcing increases rather than narrows the scope of what writers do. If information is to be used in multiple media, writers write for all those media simultaneously. Writers identify the building blocks of information and how the blocks fit together. Skilled writers need to understand how their elements will work in each medium, thus becoming more like architects than construction workers.

Writers also gain in other ways. They no longer have to contend with tedious updates. Now updates are always related to new content; information that stays the same is untouched. Changes to existing material are fast—a change to a single element automatically updates wherever it is used. Time previously spent on “busy” work can now be spent on creating new material and creating innovative changes in information delivery.

Information designers play a key role in the initial design of information. They become responsible for building the models that writers use when creating their information elements. The design of these models and accompanying templates facilitate the writing and assembly process.

Standards and consistency are important in creating seamless single source materials. Single sourcing makes editing an increasingly important role because standards must be implemented and enforced across the information set.

Clearly, single sourcing will change the way you work. These changes will result in better documents that are created more cost efficiently. The roles of many of the people in your organization will change, but many will take on broader, more exciting roles. Standards and consistency are important in creating seamless single source materials. Single sourcing makes editing an increasingly important role because standards must be implemented and enforced across the information set.

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ASSOCIATE PROFILE

Henry Korman

Henry Korman, senior partner of Wordplay Consulting, was trained as an architect in New York City at the Cooper Union and Columbia University. At Cooper Union he was awarded a Schweinberg Fellowship for continued study, and at Columbia he received a William Kinne Fellows Traveling Fellowship for a one-year study of design in India, Southeast Asia, and Japan. During his travels, Henry immersed himself in non-Western cultures to gain a birds-eye view of his own culture and began a lifelong interest in how different points of view reveal different aspects of our world.

After returning, he worked with the team that won the design competition for the new Boston City Hall—one of the most influential works of architecture in the United States for the next thirty years.

A few years later, working with Gruzen & Partners, a leading New York architectural firm, Henry headed another team that won a competition for the planning of about twenty city blocks north of the World Trade Center in lower Manhattan, including housing, a community college, public plazas and spaces, and office towers.

He has also won awards for the design of dormitories for the State University of New York and for Housing for the Elderly in New York State. Henry has also designed structures as small as a doghouse (although the dog liked it very much, it won no awards!).

Henry was Adjunct Professor of Design at City University of New York, then Professor of Design and chairman of the foundation year program in architectural, product, and industrial design at the Parsons School of Environmental Design. At Parsons, he taught the fundamental principles of design to hundreds of young people.

In 1985, Henry was called in by a good friend who was working at Apple Computer to troubleshoot the development of ideas for presenting new software. Henry went on to work with the team at Apple that developed and implemented the first hypertext online help and documentation system for personal computers. It was used in all Apple/Claris products for ten years and many of the innovations have since become industry standards. Later, he developed the first interactive courses meant to be delivered online for AppleLink University, a part of AppleLink Personal Edition and a precursor to America Online.

From his early experiences developing concurrent paper documentation and online help systems that contained 90 percent of the paper content, Henry became interested in the brevity needed for the online versions. (Remember, at the time, software was delivered on 800K floppies and 1MB was a huge amount of RAM!) This blossomed into developing and implementing methods and concepts for what would later come to be called minimalist documentation.

This interest has continued to the present. Recently, Henry has helped Fortune 500 companies, as well as small businesses, to improve their documentation while making cuts of up to 75 percent. For example, consulting with a team at Hewlett-Packard, he helped produce a prototype of a downsized user manual for a customer fax machine that had the best customer response of any manual ever produced by that division. He also leads numerous workshops and consults in developing online help and documentation systems and creating lean, downsized manuals, online and off.

Because of his interest in online information delivery, Henry was lured by STC competition directors into judging several Northern California regional and international competitions. He’s also spoken at STC meetings and ceremonies.

Henry is co-author with Jonathan Price of How to Communicate Technical Information (Benjamin/Cummings, 1993) often called the “Bible” of technical communication. His most recent book, co-authored with his wife Mary Ellen, is Living With Dogs (Wildcat Canyon Press, 1998), a book of tales that show why dogs play such an important role in the lives of many people today.
Julie Bradbury leads Cadence Design System’s Usability and Knowledge Transfer Organization. Cadence is the leading Electronic Design Automation company, producing tools, designs, and services for the chip industry. Becoming Cadence’s first publications director in 1995 changed a lot of things for Julie; she left a 16-year career at Unisys in Camarillo, CA, where she was Engineering Services Manager. She describes her new role as Cadence’s Director of Usability and Knowledge Transfer as her “most challenging and exciting management position.”

At Cadence, Julie and her management team respond to constant change in both organization and technology. A common quote around the company is “Cadence equals change.” Change management is a skill that Julie practices constantly and one that is highly developed in her talented management team. Under her direction, the team coordinates cross-company information development and delivery, people development, and product quality decisions while also serving their business groups. Her team credits her with substantially improving the status, credibility, and impact of the publication organization.

Recently, Julie’s scope was expanded to include the Usability group, and she is working with its manager to expand Usability’s impact on R&D. Usability focuses on early involvement in software design, developing prototypes for GUIs and cockpits that make highly complex software easier to use.

As a leader, Julie believes, “to make good decisions and to lead the organization effectively, you must have a business perspective.” She was one of the first publication managers to see the value of benchmarking to her organization and management team. Cadence has participated in two benchmarking efforts, knowledge transfer and evaluating organization size. Julie leveraged this information and JoAnn Hackos’ experience to position her organization for success with Cadence executives:

The benchmarking program allowed me to answer questions about how we stack up against the industry and best-in-class operations. The benchmark recommendations provided an outside view of our strengths and areas for growth. The results validated our practices to our executives.

The best practices of Julie’s publications group include: aggressive prioritization of projects by revenue growth, size of customer base, and stage of development (start-up, proliferation, end-of-life). Her managers control their resources and allocate them according to these guidelines. Julie is addressing customer satisfaction and support call cost reduction by finding innovative and, at times, controversial approaches to increasing writing time. She notes that “customers want increased accuracy and completeness in our documentation, and our processes are taking too much time away from delivering product information.” She is also re-engineering the documentation delivery process, leaving a rigid proprietary system for a flexible web-based one.

Julie is a Senior Member of STC and is active in the professional community. Recently, she served as a Peer Reviewer of the technical information organization at Lawrence Livermore Laboratories. In 1997, with Cadence’s Director of Education Services, she presented Knowledge Transfer Strategy: A Collaboration Effort between Education Services and Technical Publications at the Technology Performance Management national conference.

Before coming to California, Julie was Director of Federal and Special Projects for Public Schools in St. Louis.

Julie has two Masters’ degrees, one in management from the University of Redlands and the other in teaching from Webster University. Her Bachelor of Arts is from William Jewell College. She lives in Morgan Hill, CA, with her husband and two happy felines. Contact Julie Bradbury via email: julieb@cadence.com
FROM YOUR PEERS
A REPORT ON BENCHMARKING ACTIVITIES

Identifying Trends in Staffing Ratios

No matter what the task—a benchmark study, a Process Maturity study, or a consulting visit—consultants are continually asked the same question: What ratio of information to product developers are others using to staff their organizations? While the information from other organizations may appease senior management, information-development managers who seek this information discover that there is no simple or correct answer when it comes to ratios. Moreover, ratios become meaningless when we take into account that half the ratio—the number of engineers or product developers assigned to a project—does not follow any formal guidelines other than perceived or expected need.

Efficient information-development managers know what number of information developers works well for them. In the flurry of ratios floating around in informal exchanges, they will undoubtedly find support for their current staffing level. Unfortunately, the same data will provide less-efficient managers with support for their haphazard staffing levels and ratios.

We explored our own data on about 25 organizations that have participated in various studies conducted by the Center to determine what trends we could find in staffing ratios and if any themes could be discerned. Not surprisingly, the ratios of information developers to product developers in these companies ranged from a low of 1 to 30 to a high of 1 to 3.3. The median ratio was 1 to 10. We did, however, note two key differences:

- Software companies had a higher ratio (1 to 5) than hardware companies (1 to 10).
- Low-end products had a higher ratio (1 to 10) than high-end products (1 to 15).

**Product Nature and Staffing Ratios**
Because of manufacturing requirements, hardware companies generally have a longer time-to-market than software companies. This provides information developers with a greater period of time in which to prepare manuals. Additionally, this greater period of time creates fewer peak periods of work, thus allowing for more consistent staffing levels. Software, on the other hand, is on increasingly shorter release schedules. These release schedules create frequent peak periods of work and necessitate higher staffing levels. New policies of streaming releases deem an even higher ratio.

**Product Users and Staffing Ratios**
Information products on high-end products such as servers and workstations generally address a more experienced user. These users are generally technically proficient with technical information; they require less product information than low-end products and fewer information developers are needed to translate the information to new audiences. Thus staffing ratios are often lower for high-end products. Low-end products, on the other hand, address the needs of potentially very inexperienced users. Thus, information products require greater detail and a greater understanding of user needs, in turn, yielding higher ratios for organizations that produce them.

There are a number of other characteristics about your group that will determine ideal staffing level. In addition to the two trends discussed above, consider:

- the level of process maturity of the information- and product-development groups
- the experience levels of the individual information developers within your group
- the number of product developers whose work directly affects information of concern to the customers
- the position of the product in the technology life cycle (Moore, *Crossing the Chasm*, review in *Best Practices* Vol. 1, No. 1)
- the cost of the product per unit sales (less expensive products may need more information to decrease the costs of customer support)
Chrystal Software is a Xerox New Enterprise company—a part of Xerox that supports the development of new technologies. Documentum, one of the premier document management systems, also began as a Xerox New Enterprise. We first encountered Chrystal's products in their earlier manifestation at X-Soft. The product that later became Chrystal's Astoria was developed at Xerox PARC and marketed by X-Soft as InContext. Astoria, Chrystal's initial SGML-based product, has been marketed to customers in the aerospace, automotive, and telecommunications industries. When Chrystal was formed, Astoria was firmly settled in the SGML world. If one didn't want to pursue SGML, Astoria held little interest.

Now, the component-management system at the heart of Chrystal's design has opened new levels of exciting possibility. With the introduction of Canterbury, we no longer have to go the SGML route to achieve our goals. To quote Chrystal's product literature:

Studies show that at least 30 percent of the content created by technical publishing groups could be reused in other documents. Then why are authors ‘reinventing the wheel’ again and again? The problem is authors can’t find the information, which may be buried inside any number of documents. And the process of opening up these documents, and cutting and pasting information into new documents is so tedious and labor-intensive that there may be very little actual time savings over writing from scratch. (Canterbury Reviewer’s Guide, pg. 3).

Canterbury promises to take existing manuals and have them automatically separated into components that can be reorganized into manuals, Web content, online help, and CD-ROMs—all from the same content. Guided by tags assigned in FrameMaker and additional meta-data added to the database, Canterbury breaks the documents into components that are ready to be re-used.

Using these capabilities, we can create documents as we would in FrameMaker, using conditional text and variables to assign unique components based on platforms, customization, user requirements, media, and so on. We can export the documents to the database where they are broken down into information at the paragraph level. Then, we view the FrameMaker files as virtual documents containing images of the information in the database. By searching for and selecting components that already exist, other writers can create new documents using existing components in addition to new information objects they add. We can lock components so that only designated people can revise the content. We can reuse the same components in multiple documents; if they are changed in one place, they will change everywhere they are reused. We can even reuse the same components within a single document simply by referring to the unique object in the database.

Features
Here are some of Canterbury's features as they relate to the needs of technical publications organizations:

Granularity to the paragraph level—Canterbury automatically breaks FrameMaker documents down to the paragraph or file level.

Updates—Canterbury updates all documents that have reused a particular component when that component is revised. Although a component may appear to have been copied into a document, what has actually been inserted is a
pointer to the component. From the Repository Manager, you can view a list of all documents that include a particular component. If you have 500 documents using the same component, you need only change the component once and every instance of that component is immediately updated in all 500 documents.

FrameMaker—Canterbury works with FrameMaker 5.5.6 files. Writers need not learn a special tagging language. Canterbury breaks documents into components based on tags already assigned in FrameMaker.

FrameMaker variables—If you set up a variable with FrameMaker, that variable will extend to any document that reuses a component related to the variable. Canterbury also maintains all your FrameMaker cross references.

Searches—Canterbury’s search engine allows writers to search for a component by its text or by other criteria based on its function or location in a document, or by any of the meta-data that has been added to identify the component in the database.

Attributes (meta-data) can be assigned to components to aid searching—Typical attributes might be subject matter (troubleshooting, maintenance, etc.), status information (in review, final draft, etc.), and user type (novice, expert, etc.).

Security—Supervisors and project managers can assign access privileges to control who has authority to change a component.

Check in/Check out—Only one individual can check out and work on a component at a time.

Change history—Canterbury allows writers to enter comments about the changes they are making to a component.

Notification—Canterbury notifies the designated author of changes made to a component.

Version Control—With component-level version control, you are able to see which part of the file was changed and why (through notes attached to that component).

Multiple format storage—Like most document management systems, Canterbury will store images, video clips, spreadsheets, presentations, and other file types.

Translation Management
Chrysal offers an extension product called Lingua to manage multiple language versions of your documents and reduce translation costs. All the language versions are stored in the database with links to the base language components. If a writer changes a paragraph in the original language, the system identifies those paragraphs in the translated versions that will have to be retranslated. Such a system should work particularly well with translation memory systems, such as Trados.

Web Services
Chrysal provides a web tool that makes versions of the database components available through intranets, extranets, or the Internet. Users can search for particular components and display them in a browser. Functionality of this type is particularly useful to support help desks. The Web capability can also be used for reviews. Reviewers can attach comments to a component directly. The comments are identified by date, time, name, and other required information.

Competition
Most of the products that are well-known in the information management market today are document management systems such as Documentum and PCDocs. These systems allow us to manage at the file level and offer sophisticated tools for version control, security, check in/check out, and change history. They also offer workflow capabilities, which Canterbury does not. Using workflow setups, you can automate the process of sending documents out for editing and review. You can, of course, add a standard workflow tool to Canterbury, if needed.

Products such as Hynet offer publishing options superior to those that Canterbury appears to offer at this time. Using Hynet’s Directive (reviewed in Vol. 1., No. 1 of Best Practices), you can output derivative documents from the database to a variety of media such as HTML, print, XML, and Directive’s electronic book. With Canterbury, you use the publishing capabilities in FrameMaker but once your document is outside the database, it is no longer handled by Canterbury’s control mechanisms.

Tell us about your experiences with Hynet Directive (reviewed in Best Practices Vol. 1, No. 1), and Chrysal Canterbury. Send comments to editor@infomanagementcenter.com.
This Fall, Technical Communication (TC) at the University of Washington (UW—‘u-dub’ to insiders) will celebrate its 25th anniversary. Part of the College of Engineering, the TC program was the first in the US. The program started as an “inter-engineering degree” and has grown into a full department offering minors in TC, and BSTC and MSTC degrees. The department is also developing a proposal for a joint PhD program to be sponsored by TC, the School of Communications, Speech Communication, and the Political Science Department. If approved, the program will begin in 2000. Additionally, the faculty created a curriculum and provides instruction for the One-Year Certificate in Technical Writing and Editing UW extension program.

The 10 TC faculty members teach 18 undergraduate and 11 graduate courses; students also have the option of taking a number of partnered courses through other departments. Undergraduates must complete nearly one-third of their coursework in math, statistics, and natural sciences. They must also complete at least 34 of their 180 quarter hours in TC coursework. Students choose a special interest core and complete an additional eight courses in that area; multimedia design is an undergraduate favorite. Graduate students completing the MSTC requirements must take at least 22 credits in graduate-level TC courses and 9 in technical electives. Usability and science writing are among the most popular graduate courses of study. Graduate students must also complete an additional core of four courses, an internship and project, or a thesis to meet degree requirements.

The department currently has 60 undergraduate-student majors, 30 graduate students, and 26 evening certificate-program students in each of two locations (totalling 52 certificate students). Faculty and students are active in a number of professional organizations including STC which has an active UW student chapter. Program coordinator Kate Long posits the faculty’s industry ties as one of the keys to the program’s success:

One of the things that the students are attracted to is the faculty and the faculty’s involvement in the field. Their willingness to accommodate students and what they want to get out of the degree is also an attraction. Faculty advise student projects, co-author papers with students, and help them establish professional ties.

Internships are required of all undergraduate majors and, as noted above, one of three options toward completing graduate study. All internships are paid. While most students opt to accept full-time Summer internships, others take advantage of six-month co-op assignments, and still others choose part-time local internships that will not significantly interfere with their coursework. The department has established solid internship program relationships with AT&T, Boeing, IBM, Microsoft, and several other companies.

With up to 50 BSTC and MSTC graduates each year, recruiting at UW can be quite rewarding. Recruitment activity is administered by the UW Center for Career Services. The TC department also aids prospective employers directly by electronically distributing any job postings it receives to all students. Finally, the UWTC web page contains a section where employers can post job announcements themselves (www.uwtc.washington.edu). All of the students seeking employment find it through these various means. Primary recruiters include those mentioned above, Intel, Visio, and a host of West Coast companies.

For more information on UWTC programs, recruiting programs, co-ops and internships, contact:

TC Program Coordinator
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BOOK REVIEW

Information Architecture for the World Wide Web

Louis Rosenfeld and Peter Morville
O’Reilly 1998
ISBN 1-56592-282-4

Reviewed by JoAnn Hackos and Heather Zollinger

Amazon.com named Rosenfeld’s and Morville’s Information Architecture for the World Wide Web the best computer book of 1998. In terms of designing the information-rich Web sites that meet the needs of our technical communication users, Amazon’s assessment is correct. The authors take an approach significantly different from most Web-design authors we’ve read—they focus on the architecture of the entire site rather than on the design of individual pages. They write for information designers, not for graphic designers or computer programmers. In short, they write for people who manage the dissemination of large volumes of information—us.

We find it particularly noteworthy that the authors hold advanced degrees in information and library science. They effectively promote the perspective of professionals who have long focused on helping confused, time-short individuals find what they need in physical and virtual libraries. For example, they discuss search systems in the context of the reference interview, which was designed by reference librarians engaged in associative learning with the person who is searching for information. They believe that with an understanding of users’ major needs we can design search and indexing systems, as well as organizational structure, to enable us to cover 80 percent of the questions most of our users will ask. For the other 20 percent, we need to connect the users with actual human beings who can handle the really tough questions and feed this information back into the site.

The first half of the book focuses on the essential elements of a superbly organized Web site: organization, navigation, labeling, and searching. Refreshingly, the authors set these essential elements squarely in the world of content. They assume that we have lots of information to provide (they have designed sites with over 100,000 pages) and users who want that information. In chapter 3 on Organizing Information, they walk us through several organizational schemes, pointing out that many of them are difficult for outsiders to understand. They point to examples of sites that are useful only if the customer has already memorized the internal organization of the company. They explain the shortcomings of strictly hierarchical as an organizing principle, and complete the picture with recommendations about using documentation databases with a controlled vocabulary of keywords.

Chapter 4 on Navigation Systems explains the importance of building in flexibility and consistency. The authors discuss the utility and problems inherent in frames, tables of contents, indexes, site maps, and guided tours to enable users to move quickly around a site to the information they need. Chapter 5 discusses one of our favorite topics, labeling links. The authors include excellent recommendations about including adequate naming of links, scope notes to augment the brief names, the use of meta-tags and title tags to support browsing and searching through links, and the problems associated with graphic or iconic links (they are more difficult for most of us to understand). They even provide advice on finding the best naming system for your Web site links by analyzing users, interviewing experts, characterizing content, and using controlled vocabularies.

Chapter 6, another favorite, focuses on the problems with badly designed search systems. The authors advocate, as our director, Dr. JoAnn Hackos, has for many years, customizing the search interface so that it meets the needs of our particular users. They also provide excellent advice on how to index your Web site so that users get to what they need quickly.

The second half of the book is devoted to doing research with users, organizations, goals, functions, and content. Rosenfeld and Morville provide details about tactics to use in
IN PRINT

A SELECTION OF ABSTRACTS FROM THE FIELD

Going from Print to Online?

In “Print to Online: Conflicting Tales of Transition,” (Technical Communication: Journal of the Society for Technical Communication, 46(1), 1999), Louise Rehling uses personal research of a large, high-tech service support organization’s documentation strategies to illustrate the progression from print to online documentation. Rehling examines the case study both as a success story and as a cautionary tale and concludes by making some suggestions to ease the transition from print to online documentation.

From a success story standpoint, information developers maintain that their company is saving money for documentation by bringing documentation online, is utilizing new technology, and is at the forefront of the industry with CD and Web-based documentation. As a cautionary tale, Rehling states how the transition to online documentation had negative effects from both documentation and company perspectives. From a documentation perspective, key information became inaccessible or difficult for technicians to use. From a company standpoint, staff reorganization became necessary once the documentation group’s skills and functions became differentiated; further, increased revenues after online documentation were offset by expenses for staffing, development, and licensing.

Rehling proposes the following five principles and corresponding suggestions for smoothing the transition from print to online documentation:

♦ Evolution is not necessarily progressive: Do not uncritically champion the new over the old.

♦ Promises about tomorrow don’t do the job today: Beware the seduction of the new.

♦ Quality developments require high-level coordination: Integrate documentation planning with management thinking.

♦ Success in one medium is relative to what another could achieve: Do comparative research across media.

♦ Satisfying users in the ways that matter most to them is the first priority: Represent the interest of users.

Rehling is quick to point out that balance, rather than an “out with the old, in with the new” approach, is critical in the shift from print to online.

Money + Fun + Balance = Glue

In his article “The Company of the Future,” (Fast Company, November 1998), Robert Reich identifies six “social glues” that bind employees and employers in the company of the future. While once viewed as above and beyond the scope of the employment contract, these social glues are rapidly becoming the norm as employers fight to secure the most talented employees and employees seek a new variety of work experiences. According to Reich:

♦ MONEY is the primary glue. In addition to skyrocketing salaries, stock options are becoming routine. Further, many talented employees are willing to take lower sala-
ries in order to collect stock options in start-up companies.

- MISSION is another key selling point. The new workforce is filled with prospective employees who want to view their work as contributing to the improvement of society.
- LEARNING and a culture that values and promotes personal growth and knowledge is a cornerstone of the new knowledge-based economy.
- FUN in the workplace creates social bonds between workers and has been shown to increase productivity as well as attitude.
- PRIDE gained through being part of a top-notch organization further strengthens the social glue.
- BALANCE and flexibility in adapting to employees’ personal commitments and scheduling needs are also keys to strengthening and demonstrating commitment.

Reich concludes that the market for talent—which is both a buyer’s and seller’s market—is “the most vital market in the modern economy.” The companies that succeed in the future will be the companies that secure the most talented and committed employees; the most talented and committed employees, Reich argues, will continue to be drawn to those organizations that promote and pursue the social glues outlined above.

Strategic Approaches to Quantifying Intellectual Assets

Several articles in the February 1999 KMWorld investigate the problems associated with putting a value on a corporation’s intellectual assets. The rubric of intellectual assets is wide and varied. For example, despite extensive production and delivery infrastructures, Coca-Cola’s most vital asset is its intellectual asset—the recipe; WebTV’s was the hundreds of patents it had obtained for Internet delivery over the television.

Beyond human capital (employees’ skills and ideas) and structural capital (employees’ products such as systems and databases), patents are, perhaps, the most valuable intellectual asset a company has. Patents can be seen as intellectual capital because “they represent an innovation with legal value that can be quantified by being traded, bought, or swapped.” Several analytic tools have been created to aid corporations in assessing the value of intellectual assets. Document management products have been key in the capture, quantification, and increase of intellectual assets. The authors elaborate that the company that manages this knowledge effectively will gain marketshare at the expense of those that cannot.

With knowledge management posited as the path to intellectual property portfolios, the authors present three challenges to be met while transforming information to knowledge:

- Understand your knowledge assets.
- Protect and leverage your assets.
- Adapt to knowledge management.

Finally, the authors suggest a method for converting intellectual property into an asset. By selling intellectual property to a holding company which will license the property back to the inventor, a value and price are established which, in turn, enhance the company’s asset portfolio.

How Can I Motivate my Technical Communicators?

Because it seems more relevant in today’s tight job market than when it was written more than 30 years ago, we are abstracting Frederick Herzberg’s article “One More Time: How Do You Motivate Employees?” from the Harvard Business Review, January–February 1968.

Managers have always tried to motivate employees in the same way they motivate animals—they reward and punish them. Herzberg calls this “motivating with KITA” in which KITA is an acronym for what we might more politely expand to “kick in the pants.” While this phrase smacks of negative reinforcement, KITA can also be seen as a reward. You can motivate a dog by pushing it in the behind as well as by putting a biscuit in front of its nose. However, while you are motivated to move the dog forward, the dog is not. He is motivated either to avoid your foot or to get the biscuit.

Managers commonly use the more positive KITA to motivate employees. Spiraling wages, fringe benefits, sensitivity training,
employee counseling, and telecommuting policies are among the many ways managers have begun to reward employees and provide incentive. However, according to Herzberg, strategies such as these have, at most, short-term benefits and don’t really motivate employees to do their jobs any more than the kick motivates the dog.

In order to motivate people to do their jobs we must increase job satisfaction. Herzberg points out that job satisfaction and job dissatisfaction are not opposites. The opposite of job satisfaction is no job satisfaction. The opposite of job dissatisfaction is no job dissatisfaction. The lack of job dissatisfaction is not sufficient to create job satisfaction. In fact, the factors involved in both are very different. In a study of 1,685 people at a large range of job levels, Herzberg found that factors related to job dissatisfaction tended to be external to the job itself. Those factors included company policy and administration, supervision, relationships with supervisors, work conditions, salary, relationships with peers, personal problems, relationships with subordinates, status, and security. Job satisfaction factors tended to be job related and included achievement, recognition, the work itself, responsibility, advancement, and growth.

So what should managers do? They must redesign the job to increase job satisfaction—they must enrich the job. Herzberg calls this task job loading. He defines horizontal and vertical job loading. Horizontal job loading entails adding more tasks or more varied tasks to increase job satisfaction. Vertical job loading increases the challenge of the job rather than enlarging the job. As examples, Herzberg suggests assigning individuals specific or specialized tasks, enabling them to become experts and increasing the accountability of individuals for their own work.

Finally, Herzberg suggests a ten step process for creating job enrichment.

1. Select jobs for job enrichment in which motivation will actually make a difference in performance.
2. Approach these jobs with the conviction that they can be changed.
3. Brainstorm a list of job-loading changes that may enrich the job.
4. Screen the list to eliminate suggestions that are external to the job itself.
5. Screen the list to remove generalities such as “give more responsibility,” “growth,” and “challenge.” These terms have no substance.
6. Screen the list to eliminate all changes that represent horizontal loading.
7. Avoid direct participation by the employees whose jobs you are changing. This is not part of their job and the result rather than the participation will increase their job satisfaction.
8. If you have a large enough organization, set up a control and experimental group to be able to directly compare the effects of the job changes.
9. Be prepared for an initial drop in performance since the new job may lead to a temporary reduction in efficiency.
10. Expect some anxiety and hostility from your first-line supervisors since they may feel that some of their responsibility is being handed over to their subordinates.
Learning Pavilion, where interactive exhibits and scheduled demonstrations will help you learn about your profession’s newest tools. www.astd.org, 800-NAT-ASTD

**The Twelfth International Software Quality Week**
May 24–28, San Jose, CA. Sponsored by Software Research, Inc. The foremost experts from academia and industry come together to address such issues as process design, software test technology, software quality control, and how to plan for future software quality trends. www.soft.com, 415-957-1441

**“The Technical Writer’s Annual Physical: How Healthy is Your Writing?” Seminar**
June 4, Santa Clara, CA. Seminar leaders Paula Berger, Lynn Harris, and Jay Talbot. Sponsored by Solutions for Documentation and Training Needs. Even the most experienced writers and editors will benefit from this review of writing skills and usage considerations. This intensive workshop focuses on the trouble spots that technical communicators wrestle with every day. You’ll practice techniques of good technical writing, including crafting clear and concise sentences, writing lists that are parallel and properly punctuated, using gender-neutral language, distinguishing between pairs of frequently misused words and phrases, and more. www.sol-sems.com, 800-448-4230

**Rethinking Training: Training Directors’ Forum 15th Annual Conference**
June 6–9, Phoenix, AZ. Sponsored by TRAINING magazine. Conference themes include: knowledge management, ROI of performance improvement, managing online learning, performance support, corporate universities, skills training, and performance consulting. Pre- and post-conference workshops are available for an additional fee. www.tdforum99.com, 888-200-5058

**International Conference on Communication (ICC ‘99)**
June 6–10, Vancouver, BC. The conference features numerous technical sessions with over 330 technical papers, 10 business applications sessions featuring leaders from business and academe, plus mini conferences, tutorials, and workshops. www.icc99.com, 604-681-5226

**“Developing Standards for Online and Web-Based Communication” Seminar**
June 14–15, Washington, DC. Taught by JoAnn Hackos, PhD, sponsored by Influent. One of only two sessions in 1999, the two-day seminar provides instruction in: formulating an action plan for developing standards; conducting user and task analyses to develop a top-level access structure for online projects; defining characteristics of information types and designing paper prototypes. www.influent.com, 888-333-9088

Same session to be held: July 22–23, San Francisco

**16th International Conference and Exposition on Testing Computer Software**
June 14–18, Washington, DC. The goal of the ’99 confernce is to explore which testing technologies we will need to take into the new millennium and which ones we will not. We will explore the testing problems that accompany component-based design as well as learn how experts have used advanced methods and applications to improve the effectiveness of their testing while reducing costs. www.uspdi.org/conference/registration.html, 301-270-1033

**Usability Professionals’ Association 8th Annual Conference: Horizons to the Future**
June 29–July 2, Scottsdale, AZ. Sponsored by UPA. The theme of the 1999 conference is “Horizons to the Future”—appropriate as we share our experiences as usability professionals and plan for our role in our organizations and industries in the new millennium. www.firelily.com/upa/, 630-655-1647
MANAGER’S CALENDAR

To post an event in the Manager’s Calendar, fax us at 303/232-0659 or send email to editor@infomanagementcenter.com

Info Online ‘99
April 20–22, Orlando, FL. Sponsored by Influent and Help University. Three-and-a-half days of seminars that educate and train, keynote speeches that challenge and entertain, more than 60 sessions in all to provide you with the greatest conference experience available. Designed for anyone on your team responsible for getting your organization’s information online. www.io-conference.com, 888-333-9088

JumpStart Conference for JavaHelp Technology
May 3, Burlingame, CA. A series of instructional sessions designed to minimize your time commitment while maximizing your knowledge about JavaHelp. Features the latest information from Sun’s JavaHelp team and independent analysis from top experts. Includes a Java Primer, case studies from major corporations, demos, and a look at WebHelp and other Java-based technologies. www.winwriters.com/java/jhelp99.htm, 800-838-8999

“Effective User and Task Analysis for Interface Design” Seminar
May 5–7, Chicago, IL. Taught by JoAnn Hackos, PhD. Sponsored by Influent. Learn how to identify, define, and document users’ interface requirements. Discover strategies for translating requirements into usable interface designs. Design and develop interfaces that enhance user adoption. www.influent.com, 888-333-9088

Designing Instruction for Web-Based Training
May 11–13, San Francisco, CA. Learn the foundations for web-training development as well as the criteria to evaluate the usability of web training that you develop, manage, or are considering for your corporation. www.dsink.com, 831-649-8384

Eighth International World Wide Web Conference (W3C)
May 11–14, Toronto, Canada. Sponsored by International World Wide Web Conference Committee and Foretec Seminars. This conference will bring together leaders from academia, research organizations, government and industry, offering delegates a chance to gain a global perspective of the issues facing the Web community. www8.org/

CHI ‘99: The CHI is the Limit
May 15–20, Pittsburgh, PA. Sponsored by ACM. The annual CHI conference is the leading international forum for the exchange of ideas and information about human-computer interaction (HCI). Diverse members of the global HCI community meet at the CHI conference to share the excitement of discovery and invention, to make and strengthen professional relationships and friendships, and to tackle real-world problems. www.acm.org/sigchi/chi99/call/overview.html, 800-342-6626

46th Annual STC Conference: River of Communication
May 16–19, Cincinnati, OH. The conference theme, “River of Communication,” ties together our conference location and growth and the progress of our profession. We’ll focus on technical communication—its traditions, current state of the art, and glimpses into our future. As the last STC annual conference in the 1990s, this is the time to reflect on the flow of this River of Communication—to reflect on our past as a foundation for our future. www.stc-va.org

“One-Stop Documentation” Seminar
May 20–21, San Francisco, CA. Taught by Conrad Gottfredson. Sponsored by Influent. Create single source print and online documentation that people will choose to use. Develop a single manual for training and ongoing performance support. Maximize user independence and reduce support costs. www.influent.com, 888-333-9088

ASTD International Conference and Exposition 99
May 22–27, Atlanta, GA. Sponsored by ASTD. Choose from over 250 sessions according to your experience and interest. Hear case studies from high-profile, multinational companies, Make valuable contacts among your peers from over 80 countries. See the latest training products at the industry’s largest EXPO, featuring The Discovery Playground in the Technology Pavilion and the Experiential