Trends for 2000: Moving Beyond the Cottage

JoAnn Hackos, Center Director

At STC’s Annual Conference last May in Cincinnati, Ohio, Jaap van der Meer, CEO of Alpnet, a provider of translation services, noted that his company and others have been working to turn translation from a cottage industry into a global business. I believe that the same transition is occurring and will continue to occur in technical communication. In the past twenty years, even with the phenomenal growth we have seen in technical communication, we have tended to resemble a cottage industry. To survive and thrive, we need to take a strong and professional business perspective, moving from the cottage to the corporation.

Let us look at some of the characteristics of a cottage industry. Traditionally, cottage industries have been dominated by craftspeople working independently and isolated from one another. The craft world has developed individual definitions of quality, with workers doing what they believe is valuable, often despite outside pressures and customer needs. Craftspeople design and create what is important to them.

The craft world also traditionally has taken great pride in tools and technologies of the trade. In many instances, the craft world has developed its own tools, uniquely suited to the tasks at hand. The skilled craftsman becomes an expert in the use of these tools.

Craftspeople are often fiercely independent, preferring to work alone or with a few assistants. If they form coalitions, they form them as cooperatives, because they seek to avoid the structures and responsibilities that come with creating significant business ventures.

Since the advent of the PC twenty years ago, technical communication has grown as a cottage industry, even within large corporations. We have seen a dramatic increase in the number of independent contractors, who either work completely alone or form loose cooperatives. We have seen a similar increase in the number of people working at home, which many argue dramatically increases their productivity. Even within a corporate environment, we find most technical communicators working in groups of three or fewer people, often in close association with engineering or software development. And within these small groups, individuals often know little about the work being done by their colleagues. They behave as independents even though they are housed together.

Even in the largest organizations, those with thirty, sixty, a hundred, or even two hundred or more technical communicators under one management, we find the same “cottage industry” in place. Managers serve chiefly as project and personnel administrators. Communicators work independently, often having total control of their own deliverables.

The problem with this model is that it is becoming increasingly difficult to maintain. The demand to reduce costs, increase productivity, accommodate shorter schedules, and justify the return on investment in information development has changed the model. Managers who want additional funding are being asked to justify what they do in terms of value to the customers. And, as I see it, as the cost savings from electronic delivery are realized, corporate management will begin to look toward other means of cost savings, which will

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From the Director

Dear Friends and Colleagues:

I hope that you all had a restful holiday and that you survived Y2K. Let's hope that our programmer friends don't introduce another major software problem in the new century.

In this issue, we've reprinted the Trends article I wrote for STC's Intercom. I am interested in any feedback, pro or con, that you may want to offer. Notice that we've included a "Letter to the Editor" column with a comment about the Trends article by TomDes-Saint, manager at Great Plains Software. I know everyone could offer similar interesting stories of departmental change.

We all continue to see our organizations undergo an extraordinary amount of change. A manager wrote recently that her company had changed hands four times in less than six months. She is now working for part of one company that stayed behind in the mergers and reorganizations. Several other managers have had changes in the people they report to, sometimes more than once in the past year. Others are experiencing an increasing rate of turnover among staff who are offered fabulous salary increases and stock options by startups.

All this disruption provides both challenges and opportunities. Changes in our own management can mean moving from a supportive manager to one who doesn't understand our goals. The process of educating a manager begins all over again. On the other hand, we may also move from a non-supportive manager to one who is willing to learn.

Does it take a crisis for positive change to occur in your organization? One of our members, she managers faced such a crisis when members of their product user group announced that the documentation was not meeting their needs. The customers organized a task force and actually volunteered to work with the publications people on redesigning the technical manuals. Great move—until the developers felt threatened by publications' stronger voice.

I have found my own company faced with considerable change in the past several years.

Bill Hackos and I have an outstanding personal financial manager. She remarked to us recently that she thought we should write a book called "Reinventing Your Company." She was amazed, she said, at our ability to respond quickly to changes in the business environment.

Between 10 and 20 years ago, most of our business was focused on information design and development. We did large projects for major companies to redesign the documentation or training for a particular product. From redesign, we frequently rewrote the entire documentation suites and were involved over many years in updating the manuals. For example, we were the outsourced documentation and instructional design department for Public Services of Colorado (gas and electric company) materials management for nearly ten years. We produced and maintained thousands of pages of information.

Now we rarely run large documentation projects—almost all of our work involves management consulting, education, and product redesign. Most of you know us from our workshops and conference presentations, our work with your organizations on structure and process maturity, or our work helping your software developers create processes for user-centered design.

The change in direction was not easy but it was planned. I am a firm believer in long-term strategic planning. Sometimes strategic
planning for an entire organization seems an act in futility. You wonder, “How can we plan five or ten years out when so much is likely to change?” I’ve learned that you can and must plan for the long term. Nearly ten years ago, we decided that we wanted to concentrate our efforts in becoming an organization that would help others learn. We drew a picture of what and who we wanted to be when we were still primarily a development organization. Even though that picture seemed unachievable, as it turned out, it helped us focus our decisions. Gradually, almost invisibly, we became what we had envisioned.

I urge you to reinvent your own organization. If you don’t, the pace of change will pass over you like a tidal wave. If you’re ready, you’ll ride the crest of the wave (most of the time) and emerge on the next shoreline. You may get a soaking in the process but otherwise you’ll drown.

It’s never simple to ride the crest of the wave. We experienced lots of really rough times that are frightening when you’re operating a small business. Sometimes you think you won’t survive. But there are no alternatives. You can’t stay the same.

I hope we can continue a dialog about change on the Best Practices Listserv and through articles and letters to the editor. We’ll publish them all.

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...not be as simple to achieve. Abandoning paper has, in fact, been an easy mark. The next set of demands will require significant changes in the way that we do our work. Independent ownership of the output of our efforts will become less and less likely.

I argue that technical communication is on the verge of a major paradigm shift, one that will take us away from the “cottage industry” that has been growing since the advent of desktop publishing. Following are some of the trends I believe have begun to put pressure on the independent technical communicator’s prerogative to craft a personal vision of a document.

“Headcount” limits
Pressure to keep staffing low results in too few technical communicators to allow everyone to craft individual books and help files. We find that many organizations believe that they do not have enough staff to meet all demands. Consequently, staff members are responsible for multiple deliverables, and individuals are required to assist their colleagues in meeting deadlines.

Especially in the United States, low unemployment figures mean that a department may not be able to find qualified individuals to fill open positions. Many managers report that they have open requisitions or are hiring less experienced individuals. Unless an economic downturn occurs, I expect no short-term relief in the race to do more with fewer trained people.

So far, it has been easy to hide minimal productivity gains under the cost reductions and schedule tightening of electronic delivery. That will change as electronic delivery becomes the norm. Already, many managers I work with are being asked to report on the number of projects completed in relation to the total staff hours expended. Senior management expects to see increases in overall productivity with the same or smaller staff.

Continued use of contractors
Because of limitations on hiring and restrictions on number of personnel, organizations have satisfied some of their needs for additional people during peak periods by hiring contractors. In the United States, tax regulations have limited the use of independent contractors, resulting in the growth of the contract agency or “job shop.” Recent court decisions have made it increasingly difficult for companies to retain contractors for long periods.

I believe that the use of contractors will continue. However, their roles will continue to evolve. In the future, more contractors will be “short termers” with little connection to the core activities of the organization. At present,
the industry is experiencing an increase in the number of permanent positions that companies hope to fill because of high and continued long-term demand for technical communication. In the current high-growth economy, the trend toward more in-house positions should continue, but the need for short-term contractors will remain high. As long as there is a population of technical communicators who prefer short-term assignments and are willing to do more maintenance than design work, good opportunities for continued work will exist.

At the same time, we have seen a decided downturn in the past five years in the demand for large-scale, project-oriented design and development work. The large organizations with sophisticated management that used to provide most of this work are long gone, replaced by smaller organizations with less experienced managers who are more comfortable hiring individuals full time as contractors to work in house.

Complex delivery requirements
In the past five years, I have heard many technical communicators complain about the number of tools they have had to learn. Reviewing résumés these days is like reviewing a tools catalog—communicators list all the technologies of their craft that they have mastered.

Unfortunately, there is no rest. The delivery technologies that are available to us continue to change and continue to display a frustrating lack of standards. Everything works differently everywhere.

As a result, we are now seeing an increase in the number of organizations using production specialists to handle the technologies of final delivery to customers. In a way, this is a backward trend. When publications departments relied upon typesetters and print specialists, they had groups devoted to handling production issues. Only with the introduction of desktop publishing in the mid-eighties was it assumed that individual writers could handle a document all the way through final production.

Not only has the diversity of delivery methods contributed to increasing specialization, so too has the growing recognition that the craft model in which an individual handles all aspects of document creation detracts from content development. In one organization we recently studied, more than 75% of an individual communicator’s total time was taken up by page design and final page production. Less than 25% of time was devoted to user analysis and content development. The introduction of new tools and a specialized production staff to handle them is the direct result of customer complaints about the quality of the content and the lack of understanding of their information needs.

Telecommuting
With the increased use of short-term contractors and the continuing craft environment, opportunities for telecommuting have either grown somewhat or have stabilized. In general, I have not seen a great increase in telecommuting for technical communicators except in a few companies with space problems. The need to interact with the engineering or programming teams often precludes working at home for long periods.

In fact, I believe we will see a decrease in opportunities for large-scale telecommuting because of the increasing use of information databases and the need for information reuse. The use of databases and the cooperation needed among the team members using information will make it much more difficult for team members to be absent for long periods.

In addition, the need for a customer focus, rather than an engineering focus on information design means that team members must cooperate more. People designing user interfaces, embedded help, performance support systems, and domain-centric information cannot work as isolated craftspeople. They must function as fully involved and cooperative team members. Technical communicators who need to work closely with marketing, support, development, and consulting team mem-

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bers to better understand customers cannot be “home alone.”

**Shorter cycle time**

We have all experienced product-development schedules that are getting shorter and shorter in response to competitive pressures. Shorter schedules mean that our organizations need to find ways to eliminate process steps or decrease the amount of time we take to perform them. The simplest way to do so is through technology. Many departments have learned that if we can automate production steps through technology, we can shorten cycle time without risking quality.

We can also shorten cycle time by adhering to standards and using standard processes and practices. Standardization, however, comes with some consequences. Innovation becomes less a matter of individual preference and more a matter of organizational decision making. In fact, an increasing number of organizations are moving to standard formats controlled either by ordinary templates or by SGML. Shorter cycle times demand that we seek enterprise-wide solutions to process issues rather than trying to resolve those issues individually.

**Increased globalization**

Our companies are facing increased globalization of their markets, which requires that information be translated into multiple languages and localized to meet international customer requirements. Many companies are facing enormous translation and localization costs. One company was shocked by the potential costs of translating 8,000 pages of documentation into multiple languages. The company is now asking its technical communicators just why there are 8,000 pages. It also wants to know why there are no terminology standards, why the same information is written differently in multiple documents, and why highly personal writing styles make translation memory systems almost useless.

To minimize translation and localization costs, we need to learn to maintain strict standards on terminology, style, and document design. We need to increase editorial review to ensure that standards are maintained. We need to maximize reuse of information so that automated tools to support translation actually function as they are supposed to. Once again, individual choices need to be sublimated to the needs of the organization.

**Customer focus in maturing markets**

Although the need for standardization and structure is being driven by the need to reduce or contain costs, other factors are driving the need for innovative information design. Many areas of the computer industry are becoming mature, which means that customer information needs are changing. Where we once had innovative customers willing to take on more responsibility for learning new products, we now have pragmatic and conservative customers who demand more support for learning and using products effectively in their industry-specific domains.

**Need for domain knowledge**

The need to help customers adapt our technology products to their industries means that technical communicators must take responsibility for gaining domain and customer knowledge in addition to understanding the technology. At present, many technical communicators work closely with developers to understand the product and capture product specifications. In increasingly conservative markets, we have new roles to play, showing customers how products will affect their work.

System-based information and task orientation that starts with system tasks are fast becoming obsolete for customers. In other words, users don’t necessarily want to know what the product can do; they want to know how to do what they want to do. To produce truly viable customer information, we must “go to work for the customers.” That may mean abandoning the existing goal of “sitting with the engineers.”

Increased customer focus may also lead to the need for two groups of technical communicators: one that works with development teams to gain product knowledge and another that works with customers to understand their information needs. This division of labor offers exciting opportunities for communicators who want to specialize in creating effective information for customers.
Outsourcing in commodity markets

In the past few years, we have witnessed an increase in wholesale outsourcing in companies that produce commodity products. Commodity markets experience enormous pressure to reduce costs; one way to do that is to outsource activities not considered core. In some companies, technical communication is outsourced because management has not recognized the role of communicators in supporting the learning processes of commodity customers.

Technical information managers have the responsibility of communicating customer needs and finding ways to maintain core staff while outsourcing some functions. Managers of outsource companies also need to take responsibility for organizing their staff members to take advantage of cost-saving technologies and putting key processes into place to perform quality checks and reviews.

Electronic delivery of information

Except for a few holdouts and a few organizations that are sensitive to customers' needs for paper, we have experienced a complete transition to electronic delivery. Most of that delivery, however, has taken the form of book files saved as PDFs onto CD-ROMs or Web sites. Electronic delivery is still being driven by cost savings rather than utility. Electronic delivery can be counter productive, especially in global markets where Web access is not ubiquitous.

Technical communication managers are discovering that electronic delivery is not enough to satisfy demands for increased productivity and reduced costs. Now they are beginning to look for technology that will decrease the manual labor of creating and posting files to the Web. I'd suggest that all the effort to learn new coding schemes may be quite short-lived. We cannot afford the time and effort of hand coding; new technologies already automate the process of file conversion.

Single sourcing

The dramatic increase in interest in single sourcing and documentation databases in the past year represents a recognition that the cost savings from electronic delivery of information have already been achieved. Organizations are now looking for additional means to reduce costs: information reuse, dynamic updating, decreased production times, decreased development times because of standardization, and so on.

Maximum benefits from single sourcing come from structured writing, enforcement of standards, teamwork, and collaboration. That means a reorganization of the technical writer's environment. No longer can we work independently, responsible for crafting whole books. We need to work as teams, with some members responsible for technical content, some for customer requirements, and others for design and innovation. Working as teams means everyone must know what everyone else is doing so that we can support the team goals for information design and development.

Documentation databases will also prove the demise of desktop publishing. I would predict. Many information managers have told me that desktop publishing and WYSIWYG have been the worst things to happen to their organizations, and they are happy to see an end to a focus on "tweaking" the appearance of a page.

SGML and XML

A few years ago, I really thought that SGML was dead as a tool for structured content and format. Yet, in the past six months, I've met many managers who are introducing SGML into their organizations. The reason—more standardization. They see SGML not as a way to facilitate printing on multiple platforms (its original purpose) but as a means to standardize information and maximize reuse. In every case, these same managers view SGML as a stopgap.

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on the way to a full implementation of XML.

Does that mean that technical communicators need to go out and learn SGML or XML? Well, perhaps—at least to know what they are and what they can do for us. Unlike HTML, the tools for SGML and XML require less, not more, understanding by the person doing the writing. The tools are better and much of the conversion into XML will be automated. So we needn't expect to know XML coding; it won't be necessary. And, unless you want to be the organization's tools expert, there's not much to know about SGML either. Once an SGML system is designed, the writers follow the rules. Some of the SGML editors are more user friendly than others (FrameMaker + SGML being one of the friendly ones), but the data-entry rules are specific to the organization and to the information types.

Cross-functional design teams

I'll end with what I view as a continuing trend rather than a new one. The trend toward including technical communicators on cross-functional design teams was first mentioned almost five years ago at the first Trends Panel at the STC conference. All the managers and industry pundits participating in the panel focused on the need for people who could "hold their own" in a cross-functional environment. I think this trend continues and is changing at the same time.

The demand for skilled designers, knowledgeable about user needs and design issues, to participate on product design teams is already very high in innovative companies. I know at least a half dozen information-development departments that have assumed major responsibility for interface design and embedded performance support. This evolving role requires people who have learned a lot about design, work well in a cross-functional environment, and are willing and eager to keep learning. People who do well in this heady atmosphere tend not to be typical technical writers. Managers are looking for a new type of communicator who is very self-confident, viewing other team members as equals rather than superiors.

If you want to know what this emerging specialization looks like, I recommend Alan Cooper's new book, The Inmates are Running the Asylum (Indianapolis: Sams, 1999). He describes interaction design and outlines the skills needed to do it well. It's an exciting frontier for technical communicators—and the time to move in the direction of interaction design is now.

Taking a business perspective

It should be obvious that I am urging you to take a strong business perspective on your future in technical communication. If you most value individual craftsmanship, there will be places where your skills will continue to be welcome. But you may well be missing out on the major paradigm shift and the greatest challenges we face. At the forefront of the field, among the leaders, traditional technical communication (the design of manuals) is being challenged. Massive volumes of information that describe how products were designed, help systems that no one uses, system-oriented tasks, individually crafted masterworks, and so on are all fast becoming obsolete. You can accept the changes and add value, or you can drag behind. The decision is yours to make.

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Hello Dr. Hackos,

I just wanted to drop you a quick note to tell you I enjoyed your article in the January issue of Intercom and to let you know I believe you’ve really described what we’re experiencing at Great Plains well. Our organization is beginning to function very much like what you described in your Intercom article. To illustrate, here’s a short description of my team.

I manage the Great Plains Documentation Department in North America (24 people located in offices in Fargo, N D., Watertown, SD., M inneapolis, M N., and Seattle, WA). We also have a Product Development office in Oslo, Norway (one technical writer/translator), M anila (five technical writers), Toronto (one translator) and Germany (one translator) with dotted-line reporting relationships into my team.

I have four team leaders reporting to me (one a telecommuter in Lincoln, N E) and the rest of the writers and editors report to them. We ship documentation in Print, P DF, Win-H elp, and HTML Help (all our e-business applications are in HTML Help). We’re moving all our documentation into a FrameMaker-based single-source system. One of our technical writers from the Watertown, SD., office (Patty Ewy) will be demonstrating this system and how it’s being used to create documentation for our M manufacturing product line in the Peer Showcase at the WinWriters.

Writers get involved with projects at the requirements phase, contribute to the UI design, and are included in all levels of meetings (from cross-functional project teams like those adding enhancements to our P urchase O rder P rocessing module, to Program-level releases of all product lines—we must ship them close to simultaneously as they share a common database of financial data).

To move our documentation forward in a consistent manner across all product lines, we’ve created the position of “D ocumentation Architect.” The Lincoln-based team leader functions as our “D ocumentation Architect” in addition to leading the H uman Resources and M anufacturing documentation team. She’s responsible for researching new models, usability testing them, and recommending next generation documentation changes. She’s part of the team designing our next generation UI and is responsible for both contributing to the evolution of the product UI as well as determining how the documentation components fit into the UI.

Anyway, I just wanted to tell you how much I enjoyed your article in Intercom, your book, Managing Documentation Projects, and your sessions at WinWriters in the past. I also thought you might find our company and department interesting and another example of what you’re describing taking place in our industry.

In case you’re not familiar with Great Plains, I included some information below. It’s been a great place to work these past 15 years. When I started in 1984, we had only 40 employees. Great Plains delivers integrated front office/back office and e-business solutions for the midmarket. Great Plains offers e-business applications for financials, distribution, enterprise reporting, project accounting, electronic commerce, human resource management, manufacturing, sales and marketing management, and customer service and support. Great Plains’ solutions are sold and implemented by a unique worldwide network of independent partner organizations that share the company’s commitment to lasting customer relationships.

Named three times to the “Top 100 Companies to Work for in America” list, Great Plains has more than 1,100 team members worldwide. More information about Great Plains can be found at http://www.great-plains.com.

Thanks again for the excellent article and all you do to advance the field of Technical Communication.

Tom DesSaint
Global Documentation Team M anager
Great Plains
CAMPUSE RECRUITING

New Mexico Tech

Sarah Flenar, Cedarville College

Located 80 miles south of Albuquerque in Socorro, New Mexico, New Mexico Tech (NMT) has about 1200 undergraduate students and 300 graduate students. NMT is one of the few Technical Communication programs to offer a BS rather than a BA degree.

Background
Housed in the Humanities Department, the Technical Communication program produced its first graduate in 1984. Since then, over 90 students have graduated from the program. NMT is a school of science and engineering and, even in Humanities, students must complete a science concentration that includes successful completion of upper-level coursework as well as their Technical Communication coursework. This science concentration can be in any of the major disciplines offered by NMT.

Coursework
The program prepares students to work in many key areas of our field. Students must take nine required courses and choose from several electives including usability, online information design, and publications management.

Program Benefits
The Technical Communication program at NMT offers students several important benefits: given a faculty/student ratio of one-to-four, the students must complete an internship in the real world, and 32% of their credits must be in math, science, and engineering.

Opportunities for Professional Interaction
Additionally, students interact with professors who have ties to the outside profession, either through contracts they complete or through professional societies, such as the Society for Technical Communication (STC).

These activities allow the faculty to expose students to a diverse group of professional contacts because their involvement helps to bring professional events to New Mexico. Last year, NMT joined with New Mexico State University to host the prestigious CPSTC annual meeting.

Students have taken this example to heart. They have an outstanding STC Student Chapter, which won the Chapter Achievement Award from the Society in 1999. The NMT Student Chapter's newsletter, Technikos, won an Award of Merit in 1999 as well.

Post Graduate Opportunities
This preparation pays off when students leave the program. The most frequent comment heard from employers is “They’re ready to go to work.” Graduates have started their careers for technological leaders such as Hewlett-Packard, Intel, Compaq, Tech Reps, NEC, Westinghouse, and several national laboratories.

Future Focus
Currently, NMT offers one distance-learning course—Technical Writing at the 300 level. In the next three years, NMT plans to add more distance-learning classes and establish a Master of Science degree in Technical Communication. The MS would largely target professional technical communicators who want higher degrees or more advanced training in Technical Communication. If these plans are successful, such a program could be of immense benefit for Information Development departments.

If your department can offer an internship or has information, college hiring, or other needs, please write or call the professors listed on the right.

For more information on the NMT Technical Communication program, recruiting programs, and internships, contact:
Professor Chuck Campbell (through May 15, 2000),
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CASE STUDY

Why Managing Up is Important

An Interview with Julie Bradbury, Cadence Design Systems

At the CIDM conference in September, Julie Bradbury gave us a refreshing but short overview of what she calls “managing up”; this case study expands and clarifies the points she made there.

Julie Bradbury is the Knowledge Transfer Director at Cadence Design Systems, Inc., and “in her spare time” she is a valued member of the CIDM Advisory Council. Her management style emphasizes collaboration and partnership with peers and upper management. While this style naturally suits her personality, she believes that all information-development managers should cultivate these attributes to enhance the standing, credibility, and long-term value of their departments in the eyes of the larger organization.

One of the most prevalent laments heard from information developers is “Well, I would do a better, shorter, cheaper, etc. document if ‘they’ would just let me talk with our users!” Generally, this statement is followed by a sigh, a look of frustrated resignation, and a sardonic comment about “them” (depending on the company, this could be engineering, marketing, upper management, or department management).

Bradbury agrees that information-development departments sometimes have limited travel budgets, tight schedules, and lack of clout in the hierarchy. However, she has developed a model to turn this “Oh, well.” attitude into a “Yes, well, what am I going to do about it?” attitude. The figure shows Julie’s four-point model. Working through the model is the process Bradbury calls “Managing Up.”

Managing up allows you to move out of your comfort zone, which is a sign of personal growth. She says that the degree to which you are able to communicate with and exert influence on people outside your group is a measure of your skill as a leader. If you learn to manage up appropriately, your job will evolve, you will begin to think differently, and you will find that your behavior changes to match your wider perspective.

When given appropriate visibility, these changes allow your department to benefit as well. First, other disciplines may not know how to value your department or understand the key drivers in our business. Second, you need data and visibility to make the value-added case for your department to prosper and evolve, which often means asking the business for resources. Third, as your business recognizes your increased capabilities, you will be given new responsibilities. These higher-level responsibilities often provide greater access to other innovators in the organization and greater insight into the business’ needs and values.

Although Bradbury developed this model as a theory, she has implemented it with good results. This case study outlines a very successful managing up project she began in 1998 and is still reaping benefits from today.
Develop a Business Perspective
Bradbury states: “Viewing things from a business perspective is the most important lesson when managing up.” A company is most focused on its revenue-producing activities and on serving the needs of its customers. If you manage a functional or service-oriented department in the company, it is easy to be distracted by internal interests and issues. Instead, you must learn to understand that what may be good for information development is bad for business. To clarify the difference between a business perspective and your department’s interests, ask yourself a series of questions:

- Do you know what the long term strategy of the business is?
- What do you need to do to position information development to support this strategy?
- Do you know what the key customer concerns are with the documentation?
- Do you know how you are going to address these concerns?
- Is there a way to partner with other groups to meet customer needs?

In 1998, Bradbury was looking for a way to get more input from users without inventing new systems. She initiated a series of meetings with the Director of Customer Support to see how the two organizations could collaborate on issues affecting their long-term strategies. The first question they tackled was to look at how much different types of customer support calls cost and how frequently the different types occurred. They were also interested in what kind of calls came at different times in the product lifecycle.

The Director of Customer Support agreed that she was interested in data that might lead to reducing repetitive calls. She saw the potential value of adding information to the documentation or to FAQ Web sites she managed. Therefore, these two directors formed the first link in a collaborative chain. They agreed to meet every six weeks to discuss progress.

Communicate
Bradbury’s next step was to communicate her linkage with her management staff and to discuss her partnership goals with her team. Ultimately, Bradbury was looking for a way to develop metrics to track progress and improvements in documentation over time. Metrics are an excellent way to communicate accomplishments and requests for resources to upper management. Through her partnership with customer support, she hoped to develop metrics.

After meeting with her team, Bradbury invited members of the customer service team to her staff meeting to learn more about their department. She also dispatched members of her staff to offer similar presentations at customer service staff meetings. These “get acquainted” meetings helped spark interest in both departments, but without the next key step, only this small link might have been forged.

Bradbury’s next step was to create a management objective around partnering with customer support. This objective stated that each manager had to work with customer support in some capacity and to require all their writers to do the same. She also made a standing invitation to customer support to send a regular attendee to her staff meeting.

Partner with Upper Management and Peers
Depending on their projects, priorities, and interests, the publications managers developed several clever ways of partnering with customer support. Some of them read through the customer support call logs to look for remarks on documentation and for examples that could be added to the documentation more useful. These managers found the logs to be extremely helpful; however, reading through them was time consuming. They put together a proposal to develop an automated way to “mine” the customer support database for information and examples related to publications.

The mining operation yielded two successes. First, it informed publications about the type of users who were having problems, what kind of problems they were having, and how the customer support engineers solved these problems. This insight led the managers to gather additional data from these customers if necessary and to point their limited labor resources at the hot spots. Second, the writers created examples and FAQs that would go on
the intranet so that when customer support encountered the same problem, they would have a successful solution close to hand.

An additional benefit came when publications managers began sharing their data with engineering. The data clearly showed that some information required more technical assistance, which helped them argue for additional engineering review time for some projects.

By following this partnership path with one peer, Bradbury developed stronger relationships with her management, her staff, the customer support staff, and engineering. She advises managers to remember these key points about partnering:

- Make partners of those who are charged with representing the company’s interest in your work.
- Build a rapport with your manager and with peer managers, even if their personal styles are different from yours. Everyone responds positively to being consulted.
- Remember, when you ask for advice, you are also presenting your ideas.
- Understand, as clearly as possible, your manager’s agenda and objectives.
- Align yourself, especially publicly, with the values and vision dear to your manager and the organization.

**Have Ideas**

These successes encouraged Bradbury to request permission to actively seek information from customers. She asked the Director of Customer Support if she could customize a couple of questions on the customer response card. After several weeks, Bradbury read through 324 responses and categorized them into four buckets:

- Content
- Use of examples
- Help
- Accessibility

Eighty percent of the comments related to content and use of examples. Bradbury then created a pie chart displaying the data and presented it at her manager's staff meeting. She used the data to successfully argue for a focus on increased technical content and more examples. In this case, Bradbury followed her own advice:

> Come to upper management with recommendations and innovations. Initially focus on publications because you have credibility there. Once you have established your position as an idea person, you can begin to branch out.

This new focus on content/examples helps her explain why writers need to be technically competent. The data also help her encourage her writers to invest the time and effort to improve their technical skills.

**Next Steps**

Success breeds success. In Bradbury’s case, a single visit to a peer resulted in a far-reaching positive effect in her department, in the documentation users receive, in validating the need for highly skilled writers, and in new visibility for her department. In fact, the Customer Service Director backs the publications department and presents the relationship between these two departments in a positive way.

The key is to create a mutual agreement that supports an organizational goal. Make the goal important by calling attention to it on expectations documents and make time for employees to report and implement new ideas quickly. To start your own managing-up process, Bradbury suggests the following steps:

- Inventory your current managing up behaviors.
- Compare them to the four-point model.
- Is there an important business issue that no one else is addressing?
- Is there a step you can take on your own to begin working on the problem?
- What will tell you that you are succeeding?

Julie Bradbury also recommends taking classes, asking for feedback and mentoring, and reading the book, *How to be a Star at Work*, by Robert Kelley. If you have examples of managing-up successes, please share them on the Best Practices Listserv or in letters to the editor.
BOOK REVIEW

Designing Web Usability: The Practice of Simplicity

Review by Tina Hedlund, Comtech Services, Inc.

“Short preview: Relish simplicity, and focus on the users’ goals rather than glitzy design.” And so begins a wonderful, easy-to-read book that exhorts Web designers, corporate executives, and anyone else who will listen to their users: first, last, and always. The book, which could easily be mistaken for a cookbook approach to Web usability, encourages the reader to dig in and learn the common-sense advice on every page. Jakob Nielsen, in fact, states his goal early on:

The goal of this book is to change your behavior. I am an evangelist at heart, and I want you to be able to provide better service to your users after you have read my book.... After you have read this book, you are ready to take action.

He continues in the introduction to disclaim any large, strategic intent and yet concludes in the following passage:

The book does, however, focus on one big-picture strategic idea: Place your customers' needs at the center of your Web strategy. The remaining strategies will differ from company to company, but I can guarantee than any company that makes its site easy to use will have a major advantage over its competitors, no matter what industry it is in.

For information-development managers and departments, this book provides compelling ammunition for justifying usability studies with customers—yes, those people who we rarely get to meet. To jump start your work and prevent errors that Nielsen made early on, though, he offers the fruits of 20 years’ experience with non-linear design and usability.

To help you out, he offers a list of common mistakes that everyone makes in their initial Web design, himself included. When designing sites, Nielsen urges you to consider the following factors:

- A sound business model
- Effective project management
- Excellent information architecture
- Solid page design
- Responsible content authoring
- A good linking strategy

The book itself follows a logical progression from page design to future predictions. As you will see in the following highlights, Nielsen constantly harks back to the subtitle of the book: The Practice of Simplicity.

Page Design

Nielsen begins his discussion with page design because pages are the smallest building blocks. To improve page design, he recommends, among other things, using screen real estate more efficiently, keeping download time to a minimum, incorporating link titles, and using cascading style sheets.

Nielsen feels that designers allocate too much screen real estate to navigation and advertisement. His rule of thumb is to set aside 20% of screen real estate for navigation and 50–80% for content. The home page may require a higher percentage dedicated to navigation to orient the user to the Web site structure, but the “meat” of the Web site should focus on the content.

Nielsen’s research shows that Web sites are more popular when they download quickly and recommends designing Web pages so that they take ten seconds or less to download. He tested 20 sites; half were the most popular sites on the Internet and the other half were the Web sites of some of the biggest companies in the country. The most popular sites downloaded on average in 8 seconds, while the big corporate sites downloaded in 19 seconds. For users to feel that there is no lag from page to page, the response time should not exceed one second and, for users to stay focused on their tasks, the response time should not exceed ten seconds. Since response time varies depending

Jakob Nielsen
New Riders Publishing Co., 1999
See Nielsen’s Web site at: www.useit.com
on the kind of connection the user has to the Internet and the browser version running, test your site using a worst-case user scenario: a 28.8 modem running a two-year-old browser version. If the site comes up in ten seconds or less, you should meet all your customers’ expectations for responsiveness.

The implications of this advice on the use of frames and Java scripts is quite profound, which makes Nielsen’s advice somewhat controversial among Web designers who want to use the latest bells and whistles. He goes on to urge Web designers to separate content from format by using links and cascading style sheets.

Content Design

Users typically read 25% slower from a screen than they do from paper, so Nielsen maintains that content must be completely redesigned for use online. You can accomplish this goal by adhering to the following advice:

♦ Design content for “scanability”
♦ Chunk documents
♦ Hire an editor
♦ Make content legible
♦ Provide the right type of online documentation
♦ Label multimedia so that users can decide if they want to download

Users typically scan headings and titles to decide if a section contains information they want to read. To accommodate this practice, Nielsen recommends designing your content in the following manner:

♦ Structure documents with no more than three levels of headings
♦ Use concise and descriptive headings
♦ Use bulleted lists
♦ Bring the user’s attention to important information by making it a hyperlink or by changing the font color

By chunking the data, you can let users decide which parts they would like to read. Chunking the data requires that documents be completely redesigned. It is not enough to break up one long document into several pieces; users then waste time downloading every time they go to the next page. The document needs to be written for scanability into segments that can be accessed in chunks.

Nielsen recommends hiring an editor skilled at editing for the Web to make sure that these standards are maintained. He estimates that a company can lose $5,000 on one badly written link on an intranet. This estimate rests on the following assumptions:

♦ It takes employees five seconds to decide if the link would be helpful to them.
♦ Ten percent of employees will click the link even though it does not apply to their needs.
♦ These employees will spend 30 seconds reading the wrong content before realizing it.
♦ There are 10,000 employees.
♦ Their time is worth $50 per hour.

Nielsen encourages you to make sure that users can read your content easily. He recommends a high contrast between the background and the text, fonts that are large enough to read, and subtle or muted background colors and graphics. He cautions against using blinking or moving text, which users find annoying. He does feel it is appropriate to use non-looping animated graphics to attract a user’s attention, as long as the animations blink or move only once and then stop.

Many designers are tempted to add online help to their Web sites, but Nielsen recommends designing a site that does not require online documentation. In fact, according to Nielsen’s First Law of Computer Manuals, “People don’t read documentation voluntarily.” If documentation or help is necessary, he recommends the following strategies:

♦ Provide a search capability
♦ Use many examples
♦ Provide task-oriented procedures
♦ Provide a short, conceptual model of the task
♦ Create hypertext links to the definitions of difficult words
♦ Keep your documents as brief and concise as possible
If you are providing multimedia on your Web site, Nielsen recommends informing users of the size of the clip, approximately how long it takes to download, and how long it takes to run. If you provide video clips, you should also provide a screen capture from the video so users can predict if the clip meets their needs before they download it.

**Site Design**

Site design is the most important aspect of Web site usability and determines more than anything else how quickly and easily users locate the information they need. Issues that Nielsen discusses are the use of splash screens, site structure, and breadth versus depth when providing navigation.

Nielsen’s contempt for splash screens is obvious in the section called “Splash Screens Must Die.” In his opinion, users click off splash screens as soon as possible so they can get to more substantive information. Users do not care about “setting the stage” and are often irritated by a splash screen that just increases download time.

The structure of a Web site should be determined by knowing who the customers are and how they think of the product or information on the Web site. Designers are often tempted to structure the Web site in the same way that the product is viewed internally; however, customers rarely view the product in this way.

Nielsen performed a usability study for an e-commerce site where two designs were competing for supremacy: a Web site structured the way the product was viewed internally and a Web site structured the way customers viewed the product. Not surprisingly, users had an 80% success rate when using the customer-oriented Web site and only a 9% success rate on the site structured the way the product was viewed internally.

Although Nielsen does not seem to have a preference for any navigation style, he discusses the differences between the navigational styles of breadth and depth. Breadth emphasizes the top-level directories at a Web site. Many Web sites use this navigational technique when they list the top-level links in the left portion of a page. Depth tells users where they are in the Web site by providing a map back to the initial choice. For example, the site may display the following:

CIDM Home → Members → Best Practices Newsletter → February Book Review

Nielsen cautions designers to highlight where in the hierarchy the user is by using bold text or color changes. He also notes that a combination of breadth and depth appropriate to your users often gives the best results.

**Intranet Design**

Nielsen recommends keeping the same design standards in mind when designing for an intranet as when designing for the Internet, even though the customers are now employees or partners. Employees know the company’s internal structure and benefit when you organize the intranet to mirror that structure. They also want and benefit from more options (in other words, more depth) from your home page. Nielsen recommends maintaining rigid standards and adding navigational components to an intranet to make it more usable.

Rigid standards are the key to a successful intranet. Users learn from predictability. In most intranets, different departments across many sites post documents to the intranet without following any of the corporate guidelines, leading to a hodgepodge of chaotic information.

Nielsen recommends hiring a standards expert to help Web designers define and follow the standards and to monitor the intranet for compliance to those standards. He also recommends putting some organizational clout behind the standards, with repeated, diplomatic explanations of the benefits (for each department and the organization) of complying with standards. By establishing these standards early, you will find it easier to work with “maverick” departments later.

Because you have a captive user pool and you understand your own cost structure so well, Nielsen asserts it is much easier to demonstrate the impact of a bad intranet interface than an Internet site. If you redesign your intranet to save employees one minute when searching for information and there are 1,000 employees, you save the company two work days per week. He recommends determining the marginal cost of time wasted on a bad user interface. Because it is difficult to determine actual values he recommends using average values.
Every intranet should have a directory, a search function, and an area set aside for news. The directory should look similar to the directory used on sites such as Yahoo. Display a hierarchical list of all of the site's content on the home page. Since intranets have between 10 and 100 times more information than Internet sites, make sure your site has a robust search capability.

By setting aside an area for news, you reduce announcement email to all employees. This practice has three benefits: it improves productivity, reduces mail server load, and encourages employees to visit the intranet frequently. The table below outlines some common differences between Internet and intranet design.

Nielsen estimates that bad intranet interfaces will cost companies $100 billion around the world. Because obtaining test subjects for usability tests is easier (you have a pool of test subjects waiting to give their opinion) and cost benefits are easily demonstrated, Nielsen feels that it is usually easier to justify the cost of usability testing on intranets to upper management.

**Conclusion**

Nielsen frequently reminds us that the Web is a new medium and that our ways of doing business need to change radically to accommodate these changes. Perhaps the most persuasive argument is that Web users are sophisticated and impatient — users have the ultimate power. They have the mouse, and the next site is just a click away.

Overall, Nielsen's mantra throughout *Designing Web Usability* is simplicity. By simplifying page design, content design, site design, and intranets, we create a more usable Web. Simplifying Web sites for your customers will become more and more important as Web technology is integrated into more and more information appliances. Through concrete examples and illustrative screen shots, he shows us all how to create a more usable Web.

*Designing Web Usability: The Practice of Simplicity* is a must read for manager and designer alike. Nielsen's readable, somewhat irreverent style and excellent examples are extras too rarely found in technical books.

<table>
<thead>
<tr>
<th>Internet</th>
<th>Intranet</th>
</tr>
</thead>
<tbody>
<tr>
<td>♦ Designed for external customers</td>
<td>♦ Designed for internal customers</td>
</tr>
<tr>
<td>♦ Typically created in a single, cohesive design effort</td>
<td>♦ Created across multiple sites/departments and does not always have a cohesive design</td>
</tr>
<tr>
<td>♦ Designed for multiple platforms and multiple browser versions</td>
<td>♦ Generally can be designed for a specific browser and platform based on corporate hardware standards</td>
</tr>
<tr>
<td>♦ Must wait until users upgrade to newer browser versions (~ one year) before implementing new Web technologies</td>
<td>♦ Can implement new Web technologies immediately since you know that the user has an upgraded browser</td>
</tr>
<tr>
<td>♦ Best organized the way customers view your product</td>
<td>♦ Best organized based on internal structure</td>
</tr>
<tr>
<td>♦ Written in plain English</td>
<td>♦ Uses corporate terminology and acronyms as appropriate</td>
</tr>
<tr>
<td>♦ Customers may waste time trying to find information or may leave the site due to a poorly designed user interface</td>
<td>♦ Employees may waste time trying to find information due to a poorly designed user interface</td>
</tr>
<tr>
<td>♦ Harder to demonstrate business lost due to poor usability</td>
<td>♦ Easier to justify usability testing for an intranet site since it is easier to show the impact to the bottom line in terms of how much employee time is wasted trying to find information</td>
</tr>
</tbody>
</table>
Quadralay WebWorks Publisher 2000 is a multiple-media, single-sourcing tool for FrameMaker. WebWorks offers information-development departments a number of well-executed features:

- Works directly with FrameMaker
- Outputs to six media formats
- Supports FrameMaker+SGML and effectively maps SGML elements and structures
- Automatically maps cross-references to hypertext links
- Supports conditional text very well
- Simplifies the single-sourcing publishing process for the average author
- Provides very powerful mapping mechanisms, including macros, which enable authors to customize output

Publishing in Multiple Media Formats
You can publish documents in six multiple media formats:

- Portable HTML
- Dynamic HTML
- Microsoft HTML Help
- Microsoft WinHelp
- WebWorks Help
- Sun JavaHelp

Portable HTML
Portable HTML produces HTML that is compliant with both Netscape and Internet Explorer. It produces HTML v. 3.2 output. The HTML is clean and well-formed. Although this format does not use Java to produce any of the output, you can add Java if desired. This format uses HTML styles embedded in each HTML page and produces the following features:

- Table of contents "page"
- Index "page"
- Navigation buttons
- Full control over backgrounds and fonts

Dynamic HTML
The Dynamic HTML (DHTML) format requires at least a level 4.0 browser (in either Netscape or Internet Explorer) and does not rely on the use of Java. This format enhances Portable HTML to produce cross-browser HTML by adding the support of cascading style sheets and image maps.

Microsoft HTML Help
WebWorks produces all the files necessary to create Microsoft HTML. Once you have generated the files, you move them into the Microsoft HTML Workshop to compile them into a .chm file. This format allows you to customize material in several ways:

- Break content into appropriate HTML topics
- Customize the Microsoft HTML Help template
- Add context-sensitive HTML links
- Create pop ups
- Customize the Contents Tab appearance

HTML Help produces "vanilla" Microsoft Help; however, it is still quite usable. While Microsoft HTML Help does support pop ups, it does not yet support the new secondary windows or DHTML.

Microsoft WinHelp
The Microsoft WinHelp format enables you to produce standard Microsoft WinHelp 4.0 files. WebWorks produces all the files necessary to create the .hlp file. Once you generate the files, you move them into the Microsoft HTML Workshop.

This medium produces standard WinHelp files quite easily. However, if you want to
change the “look and feel,” you need to make your edits in rich text format (rtf). Editing in rtf can be onerous because the rtf code displays along with the content, making this process much less straightforward than editing in Microsoft Word.

**WebWorks Help**

WebWorks Help is Quadralay’s own version of cross-platform Help. It produces HTML v. 3.2 and uses Javascript ECM A 262. WebWorks Help creates the following tabs with Javascript: Contents, Index, Find, and Favorites. This media format’s interface resembles Microsoft HTML Help but it also easily supports cross-platform use. One drawback is that the Contents Tab cannot be collapsed and expanded to hide or display levels of information. Rather, it displays as a long, scrollable list with levels shown as indents. As a workaround, we find it more practical to use Portable HTML and use a Java applet to create the Contents and Index Tabs. We frequently use the Microsoft HHCTRL applet (also cross-platform), which you can download from the Microsoft site.

**Sun JavaHelp**

WebWorks also allows you to create JavaHelp v. 1.1, which supports the following features: Pop ups, See also’s, and Java-based text search.

**Support for HTML**

HTML support is very good. Portable HTML displays well in either browser and has a number of nice additions such as indented lists. WebWorks enhances this format by allowing bulleted or numbered items to be interleaved with nested, unnumbered text.

WebWorks also provides simple methods to set up your styles. Use the “building block” macros to define how you want your materials to display. You can also use page templates to define how your different types of pages (contents, index, normal, single, no navigation links, etc.) will display.

**Authoring with WebWorks 2000**

Authoring is accomplished using templates. WebWorks provides default templates that you may modify to create custom templates. When you use a template for the first time, map the FrameMaker styles to the available WebWorks styles. Each media format described above has its own styles to reflect the output.

If you do not like how the styles display, you can change them. Once you modify a template to match your materials and your desired output, any file that uses the same styles automatically converts when you select that template.

This feature means that the average writer does not have to worry about making any template or style changes when moving text from FrameMaker to one of the supported media formats. Additionally, WebWorks allows you to process your files in batches. Authors route their files to a server where they are processed in a batch, which requires no manual intervention.

WebWorks also offers a powerful macro language. The macros enable you to change the format and functionality of your converted materials. They also enable you to create your own styles that perform in a particular way (for example, pop ups in cross-platform HTML, which are generated using Javascript). In previous versions of the software, the use of macros was largely obscured by a dreadful user guide, which failed to document them. However, the current user guide provides considerable detail on the use of macros.

**Conclusion**

Quadralay WebWorks Publisher 2000 is a powerful multiple-media conversion tool for FrameMaker documents. If you are using FrameMaker and need to convert your files to an electronic format, WebWorks is the only logical way to go. Additionally, WebWorks’ support of automated conversion means that you no longer have to “hand craft” your electronic output. You design it once and convert volumes of information rapidly. This process ensures consistency, accuracy, completeness, and repeatability. Authors spend time on content—where the effort counts—not on repetitive tool and file manipulation.
MANAGING 101

Understanding Your Organization

Katherine Brennan Murphy, Center Associate

Okay, you have found your desk, met your employees, and can find the boss in emergencies. Now, it is time to sit back, relax, and begin putting out all those fires left by your predecessor (be it the president who was writing all the documentation until you came along or your former boss who now works for you). If you follow this course, you probably won’t see daylight for months; you will also miss the opportunity to learn or relearn your organization.

Taking on a new job gives you a great excuse for wandering around asking questions—at least for the first month or so. Use that “get acquainted” meeting with your boss to drag out the organization chart and really see where your department fits into the larger picture.

End the meeting by asking who you should be talking with in Customer Support, Finance, Human Factors, Engineering, Marketing, Manufacturing, and Human Resources. If possible, ask your manager to introduce you to these key resources.

You should also have your “get acquainted” meetings with your employees to find out what they think is important, where the communication blocks are, and who has been a staunch ally.

Next, start your research—quietly, informally, and softly. Call the people who have been recommended to you and ask if they have a half hour to discuss their needs and interests with regard to your department. Ask open-ended questions, listen attentively, and spend a few minutes taking notes after talking with them. If they have asked for information or decisions, offer to check and get back to them—then do so. Finally, take the time to send an email thanking them.

Why go through this process? Several reasons—first, you have invited your manager and your employees to give you their perspective on the department and the organization. As Julie Bradbury noted in this issue’s Case Study, asking other people’s opinions is always a good first step. Second, you have let your internal clients, employees, and colleagues know that you are on the job and are looking to establish good working relationships. Third, you will begin to get a feel for what the organization considers important.

This process is especially important if you are making the transition from writer to manager or if you are moving from one level of management to another. You are, in effect, reinventing yourself in the eyes of others in your organization.

By the way, you can start this process at any time in your tenure—create a reason and make a little time each week. The payoff in visibility, respect, and opportunities is just awaiting your initiative.

IN PRINT

A SELECTION OF ABSTRACTS FROM THE FIELD

High Speed Data Races Home

All of us have experienced the frustration of trying to use the Web when response time is excruciatingly slow. Depending on your access to the Internet, you may face the same frustra-
data that can be transmitted is limited by the line frequency. Because conventional telephone lines must carry audible sound, they have a frequency limit of between 300 and 3,300 Hz. However, data transmission does not need to be audible, and it can travel at much higher bandwidth (faster speeds). This special report discussed the advantages and disadvantages of the new technologies for high-speed data transmission including cable television (through coaxial cables), Digital Subscriber Lines (DSL), fiber optic access, satellite access, and wireless access.

While the last three options are exotic and not yet widely available, cable TV and DSL access are fast becoming available in most areas. The cable TV companies are marketing coaxial cable connections through their existing coaxial infrastructure. Coaxial cable transmits data as fast as 40 mbps (megabytes per second), which is nearly 1,000 times as fast as the best audible systems. However, cable has two limitations. First, all Internet data for an entire neighborhood is transmitted on a single cable. The cable modem in your home filters out your particular data at your home based on a code assigned by the cable company. This method can pose security problems for your data because anyone who has your code can access your data. Second, the coaxial cable capacity is fixed; therefore, as more of your neighbors sign up, the response time to everyone slows down.

For businesses (and some homes) the best current choice is DSL. DSL transmits data faster by using higher frequencies over telephone lines. However, these transmissions must be routed through new broadband data switching substations. To access these substations, your modem must be located within four kilometers of it. At the substation the data is converted to optical cable and sent on the Internet Service Provider (ISP). While DSL is available in most urban areas, it is taking time for the telephone companies to install optical systems and substations.

Perhaps the greatest advantage to these technologies besides faster response time is that your Internet connection is always available—no more second lines, constant busy signals, or other problems. This transition to full-time Internet availability will allow us to use the Web for many tasks, not just research, communication, and shopping. The Internet will truly become our full-time connection to the world. As information developers, we can expect to be using the Web to deliver our information more and more in the next few years.

**MANAGER’S CALENDAR**

Please visit our Web site infomanagementcenter.com for more information on these events.


**Retune Your Brain** March 30–April 1. Sponsored by the Society of Competitive Intelligence Professionals, www.scip.org/atlanta, 703-739-0696


**Making Connections: The Key to Performance Improvement** April 1–14, Cincinnati, OH. Sponsored by ISPI, www.ispi.org, 202-408-7969