Doc-To-Help makes it possible to create documentation, policy manuals, and training materials in the format you need. Focus on creating quality content by making processes such as source control, formatting, single-sourcing, and navigation simple and even automatic. Create content in Doc-To-Help’s editor, Microsoft Word, or Adobe Dreamweaver and produce Online Help for desktops, Web sites (NetHelp), and print-ready manuals. No special skills or knowledge needed. It’s simple; if you can use Microsoft Office, you can use Doc-To-Help.

Highlights:

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• Use Dreamweaver

MANAGE:  
• Visually edit automatically created TOC, index, related links & more  
• Collaborate with Microsoft SharePoint, Team Foundation Server, or Doc-To-Help’s built-in technology  
• Manage Translations with Microsoft SharePoint

PUBLISH:  
• Professional Web, desktop, and print outputs  
• .NET API reference with Microsoft Sandcastle and Help Viewer 1.0
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A Note from the Guest Editor

WOULDN’T IT BE NICE if there weren’t any barriers? If anyone, at any time, in any circumstance, could get the information they need when they need it, in the form or format they need it in?

That’s what accessibility is about. According to the latest statistics, one in five people has a disability of some sort, whether it’s permanent or temporary, acute or chronic, acquired or congenital. The problem, of course, is that many items, both physical and virtual, are created for the 80% without disabilities. This is changing as countries enact new laws and as people realize that barriers don’t need to be there. But changes take time. For example, curb cuts are now mandatory in many countries, but they’ve only been required legally for a relatively short period.

Curb cuts are the most common example of what’s known as “universal design.” Even though they were originally designed to make it easier for people in wheelchairs to cross the street, curb cuts are used by everyone with a wheeled device: parents pushing strollers, cyclists, skaters, delivery people with hand trucks, and travelers with wheeled luggage. They are also convenient for people with crutches and canes and those with bad knees and hips—anyone who has trouble stepping up and down.

As Kel Smith explains, universal design “describes any broad-spectrum approach bringing value to all users, including and not limited to people who have disabilities.” In other words, everyone benefits from universal design principles. Kel explains the seven principles of universal design, talks about both physical and online design issues, and discusses the differences between usability and accessibility.

However, universal design can’t always be considered, especially when we’re talking about games. Mark Barlet and Steve Spohn of AbleGamers explain why games cannot always be accessible to everyone. For example, a game that is optimized for the blind will, by necessity, not be available to the deaf. Mark and Steve present a new approach to accessible games, talk about what developers can do to make games available to the widest audience, and show examples of accessible and enjoyable games.

While Mark and Steve talk about captioning for games, Karen Mardahl covers video. Karen, who is the co-manager of the STC AccessAbility SIG, includes step-by-step instructions with screenshots, making it possible for everyone to create captioned videos. As Karen says, “Captions make your video inclusive.” Captions apply not only to the deaf, but also to those who can’t use headphones and those who need to keep their environment quiet.

For those who use Microsoft Word, Cliff Tylick shows you how to create accessible documents. Not only does he provide an overview to accessibility, but he also includes a discussion on usability and accessibility. Cliff covers styles and why they matter (even to the character level) and talks about Word’s Document Map feature, which enables you to see the structure of your document and navigate quickly to any heading. If you don’t use Word, you can still use Cliff’s principles to create accessible documentation.

You can keep up with the latest accessibility news by searching Twitter for the #a11y hashtag, which is the “short name” for accessibility. (The “11” stands for the 11 omitted letters between the “a” and the “y.”) For more information about accessibility, visit the Web Accessibility Initiative website (www.w3.org/standards/webedesign/accessibility). If you’re attending the 2011 STC Summit in Sacramento, be sure to check out the sessions on Usability and Accessibility (www.softconference.com/stc/slist.asp?C=3859#TID13020).

—CHAR JAMES-TANNY

intercom

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ABOUT A YEAR AGO, I was working with a small internal team on the architecture and conceptual design of a software product. Our goal was a workplace solution to improve upon the inadequacies and burdens of common “e-room” applications with greater collaboration and efficiency.

During discussions around the visual design of the application, accessibility for users with disabilities was raised (the specific instance in this example being color blindness). A colleague made the comment that “we should not design for the lowest common denominator.” He went on to insist that such features are only of benefit to a small minority of users and not worth the effort.

I responded by describing a recent global analysis of workplace software against ISO 9660 standards, mentioning that design considerations are not merely a matter of visual preference or assumed user demographics. Providing employees of all abilities the necessary tools to do their jobs was our moral and legal obligation; a technology that accommodates all users would benefit everyone and make for a better overall product.

The scenario described above is a classic example of pressure-testing product specification against the principles of barrier-free access. The term universal design describes any broad-spectrum approach bringing value to all users, including and not limited to people who have disabilities. Applicable to such use cases as software design, architecture, store layout, transportation, and media, universal design operates under the belief that accommodating people with physical or cognitive challenges results in better solutions for everyone.

The Seven Principles of Universal Design

The principles of universal design are as follows:

- **Equitable Use**—The design is useful and marketable to people with diverse abilities.
- **Flexibility in Use**—The design accommodates a wide range of individual preferences and abilities.
- **Simple and Intuitive**—Use of the design is easy to understand, regardless of the user’s experience, knowledge, language skills, or current concentration level.
Perceptible Information—The design communicates necessary information effectively to the user, regardless of ambient conditions or the user’s sensory abilities.

Tolerance for Error—The design minimizes hazards and the adverse consequences of accidental or unintended actions.

Low Physical Effort—The design can be used efficiently, comfortably, and with a minimum of fatigue.

Size and Space for Approach and Use—Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user’s body size, posture, or mobility.

To better understand these principles, note the example of 6 North. This St. Louis, MO, multifamily development is considered to be among the first large-scale residential buildings constructed with universal design in mind. According to a 2007 article in the New York Times, 6 North offers the following features for residents:

- Kitchens have adjustable-height countertops, roll-in showers, and no-step entrances
- All doors have handles instead of knobs
- Appliances are recessed into walls to avoid bumping into them
- Common hallways are colored to assist residents with limited vision, and the color of the carpet becomes darker as you reach an entrance
- Once at the door, a small shelf provides a place for residents to put their belongings as they fish out their keys

Offering a living experience free of barriers provides great value to residents with disabilities. Of arguably more importance is that 6 North looks and feels like any other residential apartment building. The lack of segregation creates a sense of inclusiveness, since the environment is usable also to people who do not have a disability.

Web Accessibility

It wasn’t long ago that justifications against accessibility were common: accessibility was thought to be prohibitively expensive, difficult to implement, restrictive of visual creativity, not marketable, of no value to shareholders, impossible to test conclusively, and of benefit to too few users to prioritize. Recent history, dovetailing browser standards, and an evidence-based marketplace disprove many of these self-fulfilling rationalizations.

In the early days of Web design, it was nearly impossible to create a site that wasn’t accessible. HTML was intended to be a simple language because it had a simple function: to transmit textual information across a network onto another user’s computer. At that time, browsers weren’t interested in the display of content; since pages largely consisted of text, it didn’t matter in what particular browser a page loaded. As a result, screen readers had no problem translating the pages back to a blind user.

Those who published the content, however, wanted more options in terms of colors, fonts, and imagery. They began to manipulate HTML into presentation styles that weren’t intended for primitive browsers. Since Internet software at the time wasn’t adaptive to these highly personalized methods, views of page displays varied from one computer to another. Over time, the needs of the disabled user were jettisoned in favor of bloated, poorly coded pages that looked nice but lost cohesion when read by speech readers.

Multimedia capabilities such as sound and video, with no governing standards to regulate their use, left disabled users further recessed on the scope of priorities. It is ironic to recall that the edifice of the “Web page” as we currently understand it was originally provided as a community forum for the blind, who were among the earliest and most enthusiastic adopters of today’s Internet, and yet technical innovation largely neglected the basic needs of this user group.

Universal Design for the Web

Thanks to efforts by the World Wide Web Consortium (W3C) and industry thought leaders, online accessibility is an increasingly vital topic among Web design communities. Section 508 of the Rehabilitation Act was amended in 1998 to provide more legislation behind laws prohibiting discrimination on the basis of disability. Recent years have seen a palpable increase in the number of companies hiring user experience architects to ensure that websites are designed with all audiences in mind. Businesses leery of potential lawsuits prepare contingency plans in defense of inaccessibility claims, and government agencies list Section 508 compliance as a standard requirement.

Creative designers and technical developers have also begun to proudly champion digital accessibility. The Web Content Accessibility Guidelines (WCAG) underwent a scope update in 2008, taking into account such emerging technologies as DOM-level scripting, AJAX, and Flash. Browser manufacturers increasingly place greater emphasis on standards compliance, bringing the focus back to content as well as presentation. Open data practices have evolved as well: Web application APIs by independent third-party developers now provide access to such social media frameworks as Facebook and Twitter.

It is not enough, however, to simply follow technical guidelines dictating how to write compliant code. Challenges remain for production teams who wish to better accommodate users with disabilities; capacity and resource needs sometimes prevent proactive assessment, leading to assumptions that best intentions fully represent those of the intended target audience. As a result, we can fall into the trap of designing features that make sense to ourselves, but not for the people who will actually use our products.

Usability vs. Accessibility

Usability is the extent to which a product can be used by people to achieve specified goals within a context of use. Accessibility focuses on people with disabilities among those specified users, often including assistive technology as part of the context. The challenge is in recognizing that technically meeting compli-
ence checkpoints does not necessarily guarantee an optimal user experience for those with disabilities.

A digital experience that is accessible may not necessarily be an example of good usability, and vice versa. People with severe vision impairments often rely on a screen reader to navigate a website's contents, for example, and they listen at an incredibly fast rate. Most blind users are just as impatient as sighted people; they want the information they need as quickly as possible and tend to "scan with their ears" until the desired result is accomplished.

Universal design provides an opportunity for project teams to take a step back and cultivate empathy for our users. The intention is to design and test a product's adaptability toward meeting the needs of users with different levels and types of ability. In order to achieve a point of empathy with our users, it's good to keep in mind some general best practices:

- **Positive redundancy**—the ability to accomplish the same task in multiple ways
- **Path of least astonishment**—good usability is partly the result of removing unpleasant surprises
- **Principles-first approach**—accessibility is more than a checklist; it's a tactical plan guided by intention
- **Variability among subjects**—every user is different, and no blanket rule or exception can cover all use cases

One example of a well-meaning accessibility feature would be the "Skip Navigation" link, commonly found on many websites. For pages with long navigation menus containing several items, it makes sense to provide a way for users of screen readers to skip to the main content. The word "navigation," however, may confuse blind users who are unfamiliar with the context of this term. A better option is to use the phrase "Skip to Main Content," which provides a clear and concise directive to the main information on the page. The use of the modifier "main" further underscores the screen reader's interpretation of the word "content" as a noun (as opposed to "content" as an adjective denoting happiness).

### Universal Design for Mobile

Recent innovations, such as Apple's iPad and increasing reliance on touchscreen technology, have brought to light issues relating to barrier-free access for people with disabilities. The iPad in particular has been praised for its applicability to learning contexts, such as those related to developmental disability and autism spectrum disorder. In addition, the device offers accessibility features built into the product to aid access for people with visual impairments, hearing difficulties, or muscular challenges.

Universal design covers both devices and information delivery. With the increasing age of mobile customers expected to exert a strong influence on human-computer use cases, sensory fluency and motor-skill abilities directly inform orientation benchmarks. Researchers continue to synthesize existing guidelines with respect to the needs of all users, cultivating best practices for screen navigation, error handling, search querying, text/language protocols, voice/sound equivalents, graphics, font sizes, and contextual help.

### Conclusion

The Web has become increasingly essential to the ways in which we seek education, employment, and entertainment. When the U.S. Access Board prepared to update Section 508 in 2010, the technical and legal aspects of standards compliance were framed not as a "stop order" but as an "include everybody" approach. The message was clear: the issue is not about restriction but rather inclusiveness.

Universal design provides the necessary methodology for inclusive design strategies and extends beyond legal and economic considerations. Choosing a digital design strategy that accommodates people with disabilities isn't catering to the "lowest common denominator" any more than putting a ramp on a sidewalk caters solely to a population dependent on wheelchair access. Everyone uses ramps because they are an easier means of access; ramps just happen to be more of a necessity for a sampling of the population.

Technology vendors, particularly those who supply workplace and transactional services, need to recognize the aging and disability demographics as part of their deliverable scope. Teams that deprecate universal design to the back burner perform a disservice to their clients, the products they endorse, and the customer base that supports them. In short, the benefits of universal design simply make good ethical and business sense.

KEL SMITH (Kel.Smith@anikto.com) is an innovation and accessibility advocate whose articles have been cited by the Pentagon Library, Kent State’s Knowledge Management Program, and the Sandra Day O’Connor College of Law. His presentation credits include RNIB TechShare Conference in London, St. Joseph’s Center for Consumer Research, IxDA10 in Savannah, Unitech 2010 in Oslo, CSUN 2010 in San Diego, and the Universitat Autònoma de Barcelona. A current member of the Interaction Design Association (IxDA) and the Usability Professionals’ Association (UPA), Kel served two terms as vice chair of the Philadelphia chapter of ACM/SIG-GCH for computer-human interaction. Visit his website at www.anikto.com.

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THE PROJECT YOU’RE BIDDING ON calls for all documents to be accessible. Your first questions are: Can you do it? How much more work will it take? How much more should you charge? And how can you know you have done it right?

Believe it or not, as a competent technical writer, you probably are producing accessible documents already. And if you aren’t, there should be very little you have to do to make the documents you produce accessible.

In this article, I will cover the high points of accessibility. I hope to show you a new way to appreciate the importance of the work you do. And I hope to give you the confidence to be able to tell your customers not only that your products are accessible but also why and how they are.

Throughout the article, I will give examples using Microsoft Word 2003 and 2007 for Windows, because that is the software with which I am most familiar. The general principles carry over to any word-processing application and the documents you produce with it.
So what is accessibility all about?
I break accessibility down into three key concepts. It’s about information that is:
- Stored electronically
- Usable for everyone
- Available to each of us in spite of our disabilities

Our overall goal in making information accessible is to ensure that people with disabilities can experience whatever that information causes people without disabilities to experience.

Accessible information is electronic
First, accessibility is about electronic information resources—not a printed report, but the Word file you used to create it; not your presentation before a meeting, but the Keynote file that produced your slides; not a government document, but the print-friendly PDF file on the website; not a printed data table, but the Excel workbook or Access spreadsheet that generated it.

Accessibility is also about online forms, electronic kiosks, ticket machines, websites, and Web apps—but if we were to address everything about those, we could fill a book.

Accessible information is usable
When I teach classes on creating accessible resources of any kind, I never leave this part out. Before information can be accessible, it must be usable.

That’s right—usability is the first part of accessibility. Hold that thought.

Accessible information is available to everyone
If information is accessible, no disability prevents people from finding and interpreting that information. We specifically consider these four areas of disability:
- Vision
- Mobility
- Hearing
- Cognition

Impaired mobility or hearing won’t interfere with your ability to get information from a document—but impaired vision or cognition can. To make our documents accessible, we must be sure that the information in them is available to people who have limited vision, dyslexia, attention deficit, or any of a number of other disabilities—as it is to people without disabilities.

In other words, we want to be sure that everyone can learn from, delight in, cry over, or be moved to think by your document. Not just people who can see. And not just people who can devote the full attention of a college-educated adult to the task.

Accessibility is about shared experiences. And remember usability? It’s about making sure those shared experiences are worthwhile.

Is your document usable?
Think of the steps you take to produce a usable document:
- Break the information down into digestible chunks.
- Organize it in a logical way.
- Add headings to reveal your organizational scheme.
- Strip away irrelevant and nonessential details.
- Use lists to provide focus and emphasis. Use a bulleted list when there is no sequence or hierarchy involved.
- Use a numbered list when the order is relevant.
- Edit your language to make it as simple as appropriate for your audience.
- Format your document to ensure that it is easy to read.
- If you use tables, make sure they are organized well and easy to interpret.
- Design illustrations to convey information effectively.

Each of these steps reduces the amount of work involved in reading—and that especially benefits people who must operate at their highest cognitive ability simply to read the text:
- Everyone, but especially holistic thinkers, will benefit from a strong outline.
- People with attention deficits will benefit from chunked information that is free of irrelevant detail.
- People who have a hard time reading benefit from anything you do that makes skimming more productive, such as adding informative headings or using lists properly.
- People with dyslexia and other reading disorders are helped by proper formatting.
  - By left-justifying text, you maintain a consistent spacing between words. Many people with reading disorders rely on that consistent spacing to help them identify individual words.
  - Lines that are 55 to 70 characters long can be read with in a single sweep of the eye, or saccade. If you set your lines to this length, you reduce the amount of effort anyone needs to expend to read the text.
- And, of course, everyone, but especially people with cognitive disabilities, can benefit from plain language.

So all the work you already do to make documents usable also makes them accessible to people with cognitive disabilities. And, depending on how you produce your documents, you might also be making them accessible to people with visual disabilities.

Your document is usable.
How do you make it accessible?
As far as the text is concerned, the next step toward accessibility is really about helping yourself establish control over the text. By no accident, if you take the right steps to make your document’s formatting easy for you to control, you will also make your text accessible to people who have visual impairments.
These are the key steps to gaining control of your text:

- Use heading styles.
- Use styles—or at least automated formats—to create lists.
- Use styles to control paragraph formatting.
- Use styles to control special character formatting. (Do you notice a trend here?)

If you follow the steps above with your running text and add the following for tables and illustrations, you will have covered the most significant aspects of accessibility:

- Insert tables—do not draw them.
- Use tables to display data, never simply to position content.
- When you use informative illustrations, position them in line with text.
- Associate alternative text with each informative illustration.

Let's examine these steps, how they help you control formatting, and their connection to accessibility.

**Use Heading Styles**

As you probably know, when you apply a heading style to a paragraph, you are also telling your word-processing application two important pieces of information:

- The set of formatting instructions to apply to this paragraph (See “Use Styles to Format Body Text”)
- This heading’s place in the outline of your document.

Setting the outline level of each heading in your document lets Microsoft Word make your job easier. It also makes your electronic document accessible to people who can’t see it. Here’s how:

**Whenever you need a current table of contents, Word can produce it for you.** Word collects all the headings from your document and, using the outline level associated with each style, gives them the correct level of indentation in the table of contents.

Although I’m sure that most Intercom readers regularly take advantage of this feature, I am continually amazed to hear self-proclaimed Word experts complain about how hard it is to keep track of the table of contents when they edit documents.

It’s no trouble at all for me—I select the table, press F9, tell Word whether to update the whole table or just the page numbers, and hit Return. Instant update, complete and correct.

**Word’s Document Map can help you navigate your documents quickly.** If you’re not familiar with Word’s Document Map, you really need to check it out. In Word 2007 and 2010, you display it with a checkbox on the ribbon’s View tab. In Word 2003, you use a button on the Standard toolbar.

The Document Map is an instantly expandable view of your document’s outline. Each Heading 1 appears in order. If a Heading 1 has Heading 2s beneath it, an icon appears to the left of that Heading 1. Clicking on that icon displays those Heading 2s, which themselves will display a clickable icon if there are Heading 3s below.

And here’s the Document Map’s best feature: When you click any heading, Word immediately takes you to that section of your document. So even if you haven’t generated a table of contents for your document, you can still enjoy many of its benefits with the Document Map—if you format your headings with heading styles.

Actually, that’s not quite true. If you use no heading styles at all in your document, then after you close and re-open your document, Word will construct its own best guess of a Document Map. As is often the case, Word’s best guess isn’t very good—it guesses every “heading” is a Heading 1, and I’ve seen it decide that the P.O. Box line of an address was a heading. So don’t let Word guess—tell it exactly what you need.
Screen readers and other forms of assistive technology can read your outline, too. That’s right—all you have to do is create a style, and the assistive technology will do the rest.

Just how quickly a person relying on a screen reader will be able to skim your document depends on how well they know their screen reader’s commands. But typical screen readers have these or similar commands:

1. Announce all Heading 1s.
2. Announce all Heading 2s.
3. Go to the heading being announced.
4. Go to the next heading.
5. Go to the previous heading.
6. Go to the next heading of this level.

As you can imagine, the experience of a person using a screen reader without being able to see the text is similar to the experience of a sighted person using the Document Map. Both can use their software to navigate the document quickly.

This common experience is not coincidental at all. Both Word, in constructing the Document Map, and the screen reader, in announcing the headings it perceives, are responding to the same information—that is, the heading levels that you programmed into your document when you used heading styles.

Use Styles for Lists
There are many ways to create lists—some, absolutely wrong for accessibility; others, perfectly accessible:

- Type in the bullet character or number to begin each item, followed by either a space or a tab. (Depending on your Format-As-You-Go settings, Word might automatically change this into the next kind of list.)
- Using a button on the Formatting toolbar or in the Format group of the ribbon, apply a list format.
- Apply a list style.

When a list is created with either a list format or a list style, a screen reader will be able to detect the list just as Word can. As with headings, the person using the screen reader can control what it announces when it encounters a list. Typical options are:

1. That the screen reader has encountered a list.
2. Whether the list is ordered or unordered.
3. The number of items in the list.

This information is generally not available to the screen reader when you type in the bullets or numbers rather than using a list format or style.

I personally prefer to use styles rather than formatting to format lists. By setting up and using list styles, I tell Word explicitly how I want each list in a document to be formatted. For example, perhaps lists in the appendices should look different from lists in the main text. If so, I use one named style for the lists in the appendices and a different style for the lists in the main text.

When I set up the styles, I can tell Word what features, if any, those lists should share. If I were to use list formatting for the same purpose, I would not be sure what features Word considers the two types of lists to have in common. That matters if I decide to change the formatting of one type of list—say, the lists in the appendixes. By using list styles, I can reliably predict whether the changes made to the lists in the appendixes will carry over to the lists in the main text. If I were to use list formatting, I would never be sure.

As with heading styles, the same step you take to make your work easier also makes your document more accessible.

Use Styles to Format Body Text
The body text of your document can call for a number of special situations:

- You might want the first paragraph after a heading to have no indent, but all other paragraphs to have the first line indented.
- If a portion of your document presented experimental procedures, you might want its formatting to be distinctive.
- You certainly would want a unique appearance for extended quotes.

To create these unique formats, you could select a block of text, change the font, add (or remove) indentation, and so on—all with the formatting commands (or buttons) made available by your software. I call this approach “point and paint.”

But a better and more accessible way to get the same effect is to create a series of related paragraph styles. For example, your set of styles could be:

- **Body Text**, used for most plain running text, with default margins and font set in 12-point Times New Roman.
- **Experimental**, the style for the procedures, could be based on Body Text but set in 10-point Times New Roman.
- **Inset Quote**, the style for extended quotes, would be based on Experimental, but would have an additional half inch added to each margin.

By setting up these related named styles, you have a number of advantages over anyone who simply points and paints:

- Because of the “Based on” relationships, you can change the font throughout the document quickly. For example, if you decide to change the font for all text from Times New Roman to Georgia, which most people find more readable on screen, you would have to modify only one style: Body Text. Experimental would pick the change up from Body Text, and Inset Quote would pick the change up from Experimental.
- Your document is more accessible. Given the electronic file, anyone who cannot read your document as you have formatted it has two options:

  1. Import a new template (a collection of styles and their formats) that displays each style in a format they can read.
2. Edit the styles in your document until each has a format that they find readable. For example, if I could read only the large fonts used in your document, but not the 10-point font used in Experimental and Inset Quote, then I could fix my problem by editing one style—Experimental. Because Inset Quote is based on Experimental and shares its font size, it would also pick up that change.

Remember your headings? They can also be reformatted systematically. For example, people with moderate low vision—that is, vision that cannot be corrected to any better than 20/70—often increase the size of running text, say to 24 or 30 points, but decrease the size of headings to make documents easier to read. Because they spend relatively little time reading headings, they don’t mind struggling to read them in 18-point bold. To distinguish heading levels, they will give each one a unique background color.

Why not simply change the zoom level? Because by zooming in close enough to make the text readable, the column will often be wider than a screen, and users will have to scroll horizontally as well as vertically to read the document. When you have to scroll in two directions, it’s easy to lose your place. It’s far better to be able to increase the text size without increasing the column width. (Because PDF files cannot be reformatted in this way, people with moderate low vision would prefer to receive your document in its native format, not as a PDF file. Otherwise, PDF files can be made at least as accessible as the word-processing files used to create them.)

Once again, a step you took to give you better control over your document’s formatting also made your document more accessible also gives you more control over the end result.

Use Styles for Character Formatting

Character formatting is applied to text that is less than a paragraph. For example, to emphasize a word or phrase, you might put it in bold or italics.

Character formatting is the one area where you must use the point-and-paint approach. But once you have selected the text, it makes a difference whether you simply change its formatting or apply a style to change its formatting. For example, these are three reasons you might italicize several words in the middle of a block of running text:

- To add mild emphasis
- To show that the words are the title of a book
- To show that the words are in another language

You could directly apply an italic font in each of these cases, but another option is to use three different character styles, each with a meaningful name:

- Emphasis, when you meant to add mild emphasis
- Book Title, to indicate titles of books
- The name of the language, when the words are a foreign language

By using these character styles, you would clearly indicate to screen readers when to change tone of voice to indicate emphasis. But that’s not all. Word processors also let you specify the language associated with a style. With that language specification, a screen reader can pronounce the words in that style as a native would—and your word processor can tell which dictionary to use to help you check your spelling.

Once again, an approach that makes your document more accessible also gives you more control over the end result.

Keep Tables Simple

Screen readers can help their users recognize and interpret the structure of a table, but either of these situations can make it a challenge to understand what the screen reader is saying:

- Multiple levels of column or row headings
- Spanner heads that divide a table into smaller sections

Avoid complex table headings. When necessary, break a complex table into a series of smaller, simpler tables. All of your readers—not just your readers with disabilities—are likely to appreciate the favor.

Explain Informative Images

Effective illustrations clarify relationships. If your charts, graphs, and other illustrations are truly effective, you should be able to succinctly state the meaning of each of them.

In many word processors, that succinct statement can be entered into a property of the image called alternative text. When a screen reader encounters that image, it will announce the alternative text—so people who can’t see the image can hear the message you expect that image to convey to a person who can see it.

Accessibility is access for everyone

As technical communicators, we make complex information clear for the people who need it most. Our skills are essential to the effort—required by law in many countries—to ensure that information available electronically is accessible to all.

To learn more about the principles of accessibility and techniques for making information accessible, read the Web Content Accessibility Guidelines, published online by the World Wide Web Consortium’s Web Accessibility Initiative at www.w3.org/TR/WCAG20/.[1]

CLIFF TYLLICK (cliff.tyllick@yahoo.com) has been a technical editor and Web usability coordinator for the Texas Commission on Environmental Quality since 1996. For the past two years, he has devoted much of his time to helping his coworkers find practical ways to comply with accessibility guidelines and making Drupal more accessible. Cliff holds a BA in chemistry from Austin College. Follow him on Twitter (@clifftyll) or at his blog cliffknows.net.
Captioning Videos on YouTube

By KAREN MARDAHL | Senior Member

WITH VIDEO GROWING in popularity as a form of documentation and training, technical communicators must include captions or transcripts on their video checklist.

Why?

Ask people who are hard-of-hearing or Deaf, who work in noisy environments, or who cannot use the sound on their computer for various reasons. Captions make the video perceivable and understandable to those people. Captions make your video inclusive.

This article explains how to caption videos using YouTube’s auto-caption feature. (Note: You need a free YouTube account to use this feature.)

Figure 1. Uploading a video to YouTube.
Upload a video to YouTube. (The four-minute, 18 MB video processed for this article took less than two minutes to upload.) While you wait, provide a clear title, a description, the appropriate tags, and a category to help people find your video. You might want to set the privacy settings to Private while you edit your video.

During the processing, YouTube extracts the images that are used for displaying the video on its Web pages.

When YouTube is finished processing your video, you can add a caption track as shown in Figure 2.

![Figure 2. When the processing is completed, you can add a transcript.](image)

YouTube’s machine translation is part of the processing, but results are generally poor and will always require a heavy edit. In my video, the machine translation failed, likely due to the speaker’s British accent.

Luckily, I had a transcript prepared for this video, so I clicked “Add New Captions or Transcript.”

When uploading your transcript file (as .txt format), choose the type “Transcript.”

**Processing Your Transcript**

<table>
<thead>
<tr>
<th>Add New Captions or Transcript</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>File</strong></td>
</tr>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td><strong>Language</strong>:</td>
</tr>
<tr>
<td><strong>Name (optional)</strong>:</td>
</tr>
<tr>
<td><img src="image" alt="Upload file" /> <img src="image" alt="Cancel" /></td>
</tr>
</tbody>
</table>

**Available Caption Tracks**

| ![English - html5notos3caption (processing)](image) ![Machine Transcription (Failed)](image) |

**Add a Caption Track**

| ![Add New Captions or Transcript](image) |

**Viewing the Caption File**

![Figure 4. YouTube creates a caption file out of your transcript file.](image)

Currently, you can only upload an English-language transcript. (I discuss more on adding languages later in this article.)

YouTube processes a transcript file very quickly. My four-minute video took two or three minutes.

![Figure 3. Uploading the transcript file.](image)

**Captioning is not just the spoken word. External sounds, such as doorbells or background music, need to be conveyed to the viewer… in square brackets.**

![Figure 5. You can turn on captions now that the transcript file is transformed into a caption track.](image)

Click the arrow at the bottom right of the video frame to get to the closed captioning (CC) option to turn on captions. The transcript I submitted was matched to the video with amazing accuracy. I bow to the algorithms that made this possible.

Of course, editing is needed, but it was easy to catch errors in my original transcript when I listened to the audio and read the file at the same time.

Captioning is not just the spoken word. External sounds, such as doorbells or background music, need to be conveyed to the viewer. A speaker might use a silly voice or break into song, which cannot be seen in the images. This type of information should be included in square brackets so those watching but not listening can receive more of the details. In my example, Bruce says “Ding” as a kind of verbal indication of his movement while he holds up a book. I wanted to connect his expression to his action. Figure 6 shows my attempt to give the text an extra layer and capture Bruce’s personality in his talk.

![Pull quote? Iquis nosto eiusmodco nsequisit luptate magnim dolore tem quisim niscin ut lor adiamco](image)
Editing the Caption File

To edit the caption file, I download a copy of the transcript that I just uploaded. (The download button is shown in Figure 6.) I need to do this because my original transcript has been processed and now contains time codes. It was also renamed to captions.sbv.

Use HTML editors to edit this file. (Mac users can also edit with TextEdit in Plain Text mode, but Windows users should not use Notepad because it doesn’t retain the text layout.) Make sure you keep the .sbv extension. The time codes that were added to your transcript file are the great value of using YouTube for captioning. YouTube saves you the tedious chore of manually adding time codes.

Review the video with this caption file opened for editing. Not only can you correct misunderstandings and grammar or spelling errors, but you can also evaluate the flow of the text and the images—for example when one phrase appears for too short a time span or another phrase remains on the screen too long.

The time codes that were added to your transcript file are the great value of using YouTube for captioning. YouTube saves you the tedious chore of manually adding time codes.

Uploading the Edited Captions File

Figure 8. The page for editing captions and subtitles is found in the overview of your videos and playlists.

Upload the edited captions.sbv file on the “Captions and Subtitles” page. (Delete the existing caption file uploaded. Both files are called captions.sbv, and YouTube doesn’t ask about overwriting a file!)

Review the video again to be sure that everything is to your liking. Tweak again, if necessary. If you set your video to Private while working on it, make it public now.

The Bonus!

The bonus to using YouTube is that the captions file becomes an interactive transcript! The icon for the interactive transcript is next to the video description (see Figure 9).
The interactive transcript is extremely useful. If you are searching for a bit of information in a training video, you don’t have time to listen to the entire video. With the interactive transcript, you can skim the video as shown in Figure 10.

Another bonus is the ability to translate the transcript into other languages. Remember how your transcript file had to be in English? Now that you have a transcript with time codes, you can make a copy of the file, translate it, and upload it to YouTube. Viewers then have the option to choose the languages you provide with the video.

When you upload your translated files, you can upload them as captions, not as transcripts, because the time codes are already in place.

When naming the extra language files, I suggest using language codes; for example, a German language file might be captions-de.sbv.

Some Statistics
With the four-minute video I used as an example for this article, I uploaded and transcribed it in 30 minutes, then uploaded the transcript file and waited for YouTube to process it in 10 minutes, for a total of 40 minutes. I also resolved some slang issues in the video via email—all part of the good editor’s job!

In another example with a transcript copied from a prepared manuscript (a storyboard) for a two-minute video, the processing took less than 10 minutes. That included uploading the video, uploading the transcript, editing the transcript, and declaring the job done.

Remember, technical communicators preparing videos are working with storyboards and manuscripts. This makes generating a transcript much easier: the process of building the storyboard creates the manuscript. When you are ready to caption a video, you can usually copy and paste from your storyboard text.

Videos of interviews rarely have a manuscript, which means you will have to take the time to prepare a transcript before you can caption the video.

Conclusion
When captioning is this easy, there is no excuse for professional organizations and businesses to leave captions out of their videos. The time spent is minimal compared to the huge benefit of making your Deaf and hard-of-hearing audience happy.

Resources and Acknowledgements
For statistics on the number of Deaf or hard-of-hearing people in your country, visit the website of your local association for the Deaf or contact them directly. Some resources are:

- Gallaudet University (U.S.), http://research.gallaudet.edu/Demographics/deaf-US.php
- The video used in this article was made by Bruce Lawson (www.brucelawson.co.uk) with his kind permission and support. The captioned video is available at www.youtube.com/watch?v=SvEncpCDEBI (accessed 5 November 2010).

KAREN MARDAHL is a technical writer in Denmark and manager of the STC AccessAbility SIG. Find her through http://flavors.me/kmdk.
An Alternative to Universal Design in
Mainstream Video Games

By MARK BARLET AND STEVE SPOHN
UNIVERSAL DESIGN IS a wonderful practice for most areas of digital media. Thanks to champions like the W3C and individuals like Kel Smith, the best practices for compliant digital content are well known, and in most cases, now baked into most development frameworks. As the Web continues to evolve, designers are challenged to remember that blind and low-vision users need additional accessibility. Thankfully, adding this technology is relatively easy; almost every coder knows how to include font size changeability in the CSS and the necessary tags to allow screen readers access to the content.

When it comes to websites, the battle is not can it be done, but why is it not being done. For the most part, a standard content-driven website has little excuse for remaining outside the reach of people with disabilities. Due to the fine work of groups and individuals like those mentioned above, a developer can only feign ignorance or laziness in most cases when challenged on the missing accessibility features in his or her content.

With one area of digital space largely conquered by tools and know how (the Web), let’s take a look at one of the largest growth sectors in technology: video games, which have also been one of the biggest drivers in consumer computing for the past 20 years.

To understand the challenges, we need to first break down what makes this industry thrive. Modern video games are built on a mix of gameplay and storyline, all wrapped up in as stunning a visual layer of eye candy that technology can provide and money can buy. From the first line of code to the packaging the game comes in, the visual layer is what defines the video game industry. Given the visual nature of video games (video game process/video games sales strategy), the application of best practices on this industry, especially when addressing the needs of the blind, is an incredibly daunting task, if not outright impossible.

Adding to this already complicated issue is the addition of real-time gaming in massively multiplayer environments. More and more video games are no longer stand-alone experiences like those in days past, but include a rich online component. This online portion can exclude gamers with disabilities who are challenged by processing and reacting in real time. The mainstream gaming public has little tolerance for less than peak performance.

For the mainstream gaming markets, the best practices of universal design cannot be applied. At the moment, the technology is not there, not only from the tools perspective, but from the adaptive technology prospective as well. Frankly, the technology may never exist to make every video game compliant in the same way Section 508 guarantees accessibility on the Web. Lastly, given the massive complexity of today’s games, the cost-benefit analysis for true total inclusion will never translate to profitable proposition for the backers of a project, and therefore it is a nonstarter.

**New Approach to Game Accessibility**

Instead of looking at things from the perspective of universal design, we need to consider an alternative approach to including people with disabilities in the gaming space that acknowledges that 100% inclusion is not feasible, but access to entertainment is.

Our goal is to make gaming as accessible as technology will allow to the widest group of people with disabilities on a game-by-game basis, and to further increase the alternatives available for people who may not be able to play a particular title. In short, we need to work to get every title to have the broadest audience possible and make sure that, for those left out of a particular title, there are other titles waiting for them to play.

**Achieving the Broader Audience**

Using technology and best practices that exist today, such as captioning, changeable font sizes, and mouse sensitivity settings, every mainstream game can accommodate well over half of gamers with disabilities. While most games use some of these best practices, sadly only about 15% of the mainstream titles released in 2010 took advantage of all of these technologically available improvements.

The best practices that can be employed and are technologically feasible fall into one of three categories: captioning, controlling, and visual tuning.

**Captioning**

Most people know what captioning is: streaming the vocal and ambient sound into text or other visual formats that can be consumed by people with auditory disabilities. This is one area where content producers do the most captioning, but not for the reasons you think.

In a conversation just a few months ago, one game tester at Microsoft Studios told Mark why many games his studio produces have captioning. He explained that a large percentage of the audience who plays the titles he is working on are in the 24-to-34-year-old range, and these households often have young children.

“Nothing would cause issue in the house faster than a video game waking up the baby,” he went on to say. They add captioning so that the game can be played with no sound. This is why deaf gamers find so many titles with captioning: not because the game company thought about deaf gamers, but because no one wants to wake the baby.

**Controlling**

The second available best practice is Control. Controlling a game is a critical part of playing it. This is sometimes referred to as “remappable” commands. This feature is imperative to gamers with motion impairments. Remappable commands allow motion-impaired gamers to have easier access to any game.

The ability to move frequently used functions to buttons more accessible to a gamer makes the game more com-
portable and increases the joy of playing. Unfortunately, developers have mostly abandoned reconfigurable controls in favor of pre-set configurations. Many games offer two to three of these configurations but not the ability to assign any function to any button, which can be the difference between a gamer being included or excluded. The reason for this trend? Tighter budgets, tighter timelines, and more focus on that all-important eye candy.

**Visual Tuning**
The last best practice falls into the visual enhancement area. Colorblind options allow those with the inability to differentiate between certain colors to change the color for something they can more easily recognize. In fact, many developers are beginning to incorporate colorblind features because of how common colorblindness is.

Paul Barnett, creative director of EA Mythic, refines his game’s color schemes with a fine-toothed comb because he is colorblind and understands the frustration poorly designed color schemes can present. The option to change important gameplay objectives to various colors can be added at any stage of development. Other visual accessibility accommodations that can be employed, if the developer chooses, are resizable text and high-contrast settings.

It is because of the work of organizations like the AbleGamers Foundation that the demand for these features is on the rise. These organizations work with content producers to make sure that as many of the above features as possible are included, making a game support as many people with various disabilities as possible. They also help identify where each game falls on the spectrum so that disabled gamers can make informed purchases. Every mainstream game naturally includes some accessibility, whether the developers know it or not.

**An Example of How to Do a Game Right**
*Dragon Age: Origins* is an extremely well-thought-out and very profitable title that included accessibility early in the development process, when it was the cheapest and most feasible to include. *Dragon Age* for the PC features full subtitles, multiple alternative controls, diverse color schemes, a “click-to-move” interface, the ability to pause the game at any time, and auto-save features. The latter features accommodate the cognitively disabled, such as gamers with autism, learning disabilities, and difficulty focusing. The ability to pause the game and to continue interacting, issuing commands at your own pace, and observing the game’s environment gives those who have trouble with the fast-paced nature of most video games the chance to play at their own speed.

But even when a game like *Dragon Age* sets the bar extremely high, some gamers will still be left out. That is where the second goal of this alternative to universal design comes in: making sure that there are games for every person who wants to play.

Luckily, most of the major gaming platforms have created avenues that allow for independent game developers to create content. Great titles, such as *In the Pit* (a game that uses only audio), or *Star Trigon* (a game that can be played with a single switch), are able to enter a market space that was out of reach a few years ago. While these games are almost never a commercial breakaway hit, the low cost of development and publishing allows for specialty developers to work on including these smaller audiences with very special needs without the pressure of making huge profit margins. This is the second part of the alternative to universal design—making sure that the entire spectrum of players has games that they can play.

Game accessibility will not always be a profitable endeavor. However, there are 100 million gamers with disabilities worldwide, many of whom have disposable cash for things like entertainment and who shy away from video games because of the possibility of being literally unable to play the game they just bought.

Thankfully, there are websites dedicated to helping mitigate these problems by testing games for their accessibility and reporting the findings to the disabled community. Pressing content developers to include the easy-to-implement accessible features outlined above will bring more people into the market, and this will encourage greater research and development (R&D) into some of the more technologically challenging areas, benefiting even more disabled gamers as gaming continues to advance.

While it is currently impossible to apply universal design practices to the entire video game space, industry leaders are working to make mainstream titles accessible to as many as possible, and they are also fostering the growth of the independent market to fill the gaps the mainstream gaming community cannot. Developers simply need to be aware that adding accessibility is the right thing to do, even though it won’t always bring a large profit boost.

**MARK BARLET** (mark@ablegamers.com) is the president and co-founder of the AbleGamers Foundation, a nonprofit dedicated to bringing greater accessibility in the digital entertainment sector and to supporting the development of technology that aids the enjoyment of gaming. Himself a disabled veteran, Mark’s lifelong mission is to bring greater access to technology for people with disabilities.

**STEVE SPOHN** (steve@ablegamers.com) is the editor of AbleGamers.com, the largest community for gamers with disabilities. Steve was born with Spinal Muscular Atrophy, a form of Muscular Dystrophy that has left him with very limited mobility. Steve has, due to personal life experience, become an expert in game accessibility and enjoys a rich social life through gaming.
President’s Midterm Report

IT’S A NEW CALENDAR YEAR and just about the halfway point of my term as president. It’s a good time to reflect on where we are and where we still need to go.

Project Phoenix has received a lot of visibility. It is an intense project to redefine our Society and maintain our professional relevance for the future. Two critical activities have dominated the project so far. The first has been a series of surveys aimed at learning what members want and need from STC, what programs they value, and where they want to see more activity. We’ve gotten some very insightful input from those surveys. For instance, while I’ve been pushing an à la carte model, I hear the members asking for the all you can eat buffet instead. Not sure how to resolve that gap, but I’ve heard the message. The second critical activity has been the redesign of our entire IT infrastructure, most notably www.stc.org, but also the back-end systems that will control content, customer service, etc. I am very pleased by the content management and service delivery platform we are moving to.

Not so visible has been the work that board members Judith Herr and Tricia Spayer have been doing with communities. They have recruited a stellar group of community leaders for the Community Affairs Committee. STC leadership at all levels stays committed to the belief that strong communities of practice promote a strong profession.

We launched a redesigned Competition, thanks to Jackie Damrau’s committee. We have shifted the emphasis from the documentation product to the communication goal. The emphasis has also shifted to forms that provide constructive feedback to the authors.

Our Summit in Sacramento is shaping up nicely. I’m excited by the program and arrangements Alan Houser and his team have put together.

The Board of Directors has approved the 2011 budget, and again, it is a balanced budget!

And the last highlight: We have made significant progress on the certification program. Steve Jong has led that group through significant milestones, and we hope to release the program at the Sacramento Summit. This program will promote technical communication as a profession, establish STC as the authoritative body within our profession, and draw employer attention to the importance of using qualified professionals (whether they are certified or not—certification increases the professional status of a practice as a whole). I keep coming across misconceptions people have about the program, and we will continue to communicate to clarify the program.

Our biggest challenge is how to stimulate membership growth again. With growing membership, all things become possible; with declining membership, all programs are at risk. We are looking at ways to be more visible to our potential members and offer solid benefits for affordable fees. Why is something that is so easy to articulate so hard to achieve? Now that we have dealt with a website and IT structure that were a collective albatross around our neck, we can move forward and focus on meeting the information, networking, and professional development needs of the technical communication professional.

Finally, an issue I addressed in my inaugural message was the need to elevate the professionalism of our debates. I feel the difference. Criticisms are constructive, not derisive; members in these debates are engaged at a positive level and looking for solutions, not just throwing jabs. I’d like to thank everyone for trying so hard to help us find our heart again.
Introducing the “Path to Fellow”

ONE OF THE SOCIETY for Technical Communication’s highest honors is to be named a Fellow. Fellows “have attained such eminence in the field of technical communication that the Board [of Directors] … deems them worthy of being singled out as one of the select few who have distinguished the Society and the profession.” The lengthy journey to Fellow status includes being recognized as an Associate Fellow previously. Members must be nominated as an Associate Fellow, and after two years Associate Fellows are eligible to be considered for Fellow. (See the Honorary Ranks page at www.stc.org/recog/honorary-ranks.asp for full information on the process.)

STC is extremely proud of the Fellows and Associate Fellows, past and present. Nicky Bleiel, STC Director and chair of the Recognition Committee, has implemented a program to recognize their valuable contributions to the field of technical communication. This program, to be carried out on STC’s Notebook (http://notebook.stc.org) and then posted together on STC.org, is called the Path to Fellow. STC has invited each honored member to submit an article discussing the path they took to their success, celebrating their skills, career, and STC experiences. The members were asked to write about any subject and in any form they desire, so the articles will be varied in tone and direction. What won’t vary is the importance of their journey.

STC’s Fellows and Associate Fellows are among the top technical communicators in the field; join us as we celebrate their Path to Fellow.

If you’re a Fellow or Associate Fellow and did not receive an email to participate, please contact Kevin Cuddihy, kevin.cuddihy@stc.org, for basic submission guidelines.

Coming Soon to a Browser Near You

It’s Not Just a Website
It’s a Whole Lot More

The updated STC website will deliver new ways for you to improve your career outlook, interact with your fellow members, access rich content, and get even more value from your STC membership.

You Spoke We Listened

WOULD YOUR EMPLOYER be willing to pay at least part of the expenses of attending the Technical Communication Summit in Sacramento, CA, 15–18 May 2011? It couldn’t hurt to ask! Consider writing a memo to your supervisor that explains how you and your firm would benefit from your attendance. The following model is based on a memo that worked for its author. Feel free to modify it for use within your company.

Dear [your supervisor’s name]:

To help provide [your company] with the most current professional methods and technological advances in editing/writing and report/publication management, I would like to attend the Society for Technical Communication’s annual conference—the Technical Communication Summit—in Sacramento, CA, 15–18 May 2011. The conference will offer sessions in eight tracks: Communication and Interpersonal Skills; Design, Architecture, and Publishing; Education and Training; Managing People, Projects, and Business; Professional Development; Usability and Accessibility; Web Technologies; and Writing and Editing. There are more than 80 education sessions over the three days of the conference, and the following are of particular relevance to the company:

[List the sessions that you think will benefit your company most. Refer to the list of sessions in the conference Preliminary Program, available on the Summit website, http://summit.stc.org.]

Although I will try to attend these particular sessions, some of the most popular may be closed because of limited seating. In that case, I will choose alternates. I also will have additional access to almost all of the sessions after the conference through STC’s SUMMIT@aClick. This service provides access to the sessions online as MP3 files, audio synched to PowerPoint and video synched to PowerPoint, and STC is the only meeting in the technical communication field that offers this. Our company can also benefit from the conference Proceedings, which includes papers from many conference sessions and is provided free to all full-conference registrants.

Costs:
[List transportation costs, registration fee, cost of meals, and the price per night of the hotel room. These are posted on the Summit website.]

Summary of benefits for [your company]:
The sessions will provide me with more knowledge of report production, editing, writing, management concepts, and government contracting. This knowledge will enable me to handle [a particular project] with more professionalism and confidence, which will reflect favorably on [your company]. I will be able to pass on much of this information to coworkers, to access SUMMIT@aClick again and again throughout the year, and to use my notes and copy of the Proceedings as a valuable reference.

Sincerely,
[Your name]
THE NOMINATING COMMITTEE is pleased to announce the 2011 slate of candidates for Society office. Please note that the election slate presented below is based on the changes to the composition of the Society Board of Directors made in August 2009 as reflected in the Society’s Bylaws. These are available for review at www.stc.org/PDF_Files/bylaws.pdf.

Congratulations to all of the candidates, and thanks to everyone who expressed interest in running for office.

NOTE: All STC members must have paid their dues by 28 February 2011 to vote in the election.

For President:
Hillary Hart will automatically succeed from Vice President.

Candidates on the Slate for the 2011 STC Election

For Vice President
Alan Houser
Victoria Koster-Lenhardt

For Treasurer
Aiessa Moyna

For Director (two positions to be elected)
Bernard Aschwanden
Ray Gallon
Brian Lindgren
Rich Maggiani
Tricia Spayer

For Nominating Committee
(two positions to be elected)
Sharon Burton
Leah Guren
Jack Molisani

The 2011 Society election is scheduled to begin 9 March and end 30 March 2011 at 4:00 PM EDT (GMT-4). Please watch the STC website after 2 January 2011 for detailed information about the candidates and to access a question-and-answer area where you can ask questions of the candidates.

Discounts Available for Summit Travel

STC HAS SET UP DISCOUNTS on airfare, car rental, and shuttle bus tickets for those attending the 2011 Summit in Sacramento, CA.

STC has arranged a discount with American Airlines for flights to Sacramento between 7 May and 22 May. Make your reservations online at www.aa.com. In the field requesting a Promotion Code, enter 4651BT. This will apply a 5% discount to the published rates when you purchase the ticket.

If you prefer to call American Airlines directly, call 1-800-433-1790. They will book your flights for you. If you select this option you will be charged a $20.00 ticketing fee. You will use the same promotion code to receive the 5% discount.

Avis Car Rental is also offering a discount to Summit attendees. The discount varies depending on location and type of car, but is roughly 10 to 15%. Contact Avis at 1-800-331-1600 and refer to AWD# B136001 to reserve your car at a discounted rate. Outside the United States, please call +1 (918) 624-4301.

Finally, if you wish to take a shuttle bus to and from the airport rather than renting a car, SuperShuttle is offering a discount to Summit attendees who pre-purchase using our special code. Attendees can receive the discounted rates to and from their hotel by booking their shuttle at www.SuperShuttle.com or by calling +1 (800) 258-3826 and referencing group code 3HHLH.

Visit the STC Summit website at http://summit.stc.org and click on the “Hotel-Travel” menu bar for easy access to all travel discounts.

Member Spotlights Need Volunteers

WE’RE LOOKING FOR volunteers to write or be interviewed for the three columns about STC members. “My Job” highlights members with a unique or interesting job in the field of technical communication; “Off Hours” celebrates a hobby or side gig—your passion away from work; and “Looking Back” presents lessons learned from long-time technical communicators. See previous issues of Intercom for examples. To volunteer, please email Kevin Cuddihy at kevin.cuddihy@stc.org.
Technical Communication and the AccessAbility SIG

BY KAREN MARDAHLL | Senior Member

THE STC ACCESSABILITY SIG is a small but dedicated group. Our major claim to STC fame is preparing the conference accessibility guide for the STC Summit each year.

The AccessAbility SIG would like to see technical communicators driving the necessary changes within a company—getting development to discuss accessibility from the first day of planning and guiding the company to see the wisdom of incorporating accessibility into the business strategy. Technical communicators have many different backgrounds, but we all have the potential to make these changes.

The concept of accessibility is universal. However, some are moving away from the term accessibility and referring to “inclusive design.” Why? The word accessibility takes on different meanings in different contexts, and if it is considered something for people with disabilities, people without those disabilities ignore it. This is unfortunate, because everyone gains when our world becomes more accessible.

Sometimes legislation is the only way to convince companies to embrace accessibility in their products and services. This usually means the accessibility will be built-on, not built-in—which is expensive and time-consuming. Many people are unaware of the skills and processes required to make products and services that are more inclusive.

The SIG has a mix of expertise, too. We are not all experts! Some people come to learn and some have years of experience. Building a body of knowledge about accessibility for technical communication would be a more lasting way to develop resources for technical communication. We should be the ones who lead the technical communication field to a greater awareness of accessibility.

Even better—we can collaborate with other STC communities on issues that have a strong connection to accessibility, such as usability, plain language, and e-learning. Collaboration is how to compensate for our small size. Why should we lead alone when we can lead together and find the starfish?

Starfish? Listen to former SIG Manager Dan Voss, and you’ll learn about the starfish, too.

I marvel at the way this organization has grown in the past 12 years from a small committee to an organization of experts on accessibility that is respected the world over—one that has made many significant contributions to the cause of universal accessibility. Can that elusive goal ever be achieved? Well, that takes me back to the story with which Judy Skinner concluded her landmark article on disabilities in *Proceedings to the 47th Annual STC International Conference,* “My Brain Works … My Legs Don’t! Let’s Take the ‘Dis’ Out of Disabilities.” It’s a story that is familiar to many, but which takes on a special poignancy in the context of helping those with disabilities:

“I’m reminded of the story about the beach strewn with starfish and the little girl picking them up and throwing them back in the ocean.

‘Little girl,’ a passer-by said, ‘what are you doing?’

‘I’m saving starfish,’ she replied.

‘But there are so many! Your efforts can’t possibly make a difference.’

As she picked up another starfish, the little girl said, ‘It makes a difference to that one.’”

We ask you to help us make a difference.

Yes, we’ve come a long way. We’ve “saved” many, many starfish, but we won’t rest until they are all back in the sea. Let’s help those starfish together!

**The AccessAbility SIG online:**

[www.stc-access.org](http://www.stc-access.org)

[http://twitter.com/stcaccess](http://twitter.com/stcaccess)

[www.linkedin.com/groups?mostPopular=&gid=1852045](http://www.linkedin.com/groups?mostPopular=&gid=1852045)

STC email listserv

Thanks to Dan Voss, Lori Gillen, Fabien Vais, and Whitney Quesenbery for inspiration and assistance with this article.
Our organization has gone through several name changes since its creation in 1953: TWE to STWE to STWP to STC; Herbert B. Michaelson saw them all. He is included on a roster of “associates” who participated in at least one TWE meeting/conference between April 1953 and March 1955. Thus, Michaelson had been affiliated with our organization for more than 50 years when he passed away on 13 February 2009. He remained active in STC well into his 80s, and his contributions to the profession were many.

Born in Washington, DC, on 29 December 1916, Herbert Bernard Michaelson was the third child and first son of Samuel and Minnie Michaelson, two naturalized citizens who had immigrated from Russia in the 1890s. During World War II, Herbert served in the U.S. Army Signal Corps, specializing in microwave radio communications. After his discharge in 1946, he went to work as a technical editor for Sylvania and attended New York University, earning a bachelor of arts in physics in 1955. From 1956 to 1984, he worked for IBM, most notably as an associate editor of the IBM Journal of Research and Development.

After his retirement in the mid-1980s, he continued to work as a technical communication consultant.

Michaelson was a featured speaker at the Winter 1955 national meeting for TWE. He worked in an editorial capacity on the TWE Journal (Spring 1956 issue) and contributed articles to that journal in the 1950s. Over the next three decades, he served on various national committees, chairing several of them, including the publications, nominating, goals, and bylaws committees. He was the program chair of the 15th annual ITCC in 1968 and a frequent session moderator at later conferences as well as a guest editor of an issue of Technical Communication in 1977. He served on the STWP/STC Board of Directors from 1970 to 1973 and was elected Fellow in 1979. For his contributions to the New York Metro chapter, he received STC’s Distinguished Chapter Service Award in 1998.

Michaelson was also one of the founding members of the IRE Professional Group on Engineering Writing and Speech (PGEWS), now called the IEEE Professional Communication Society (PCS). He was that group’s first treasurer (1957–1960), the second editor of its Transactions (1960–1961), and a long-standing member of its Administrative Committee. In 1990, he received PCS’s Alfred N. Goldsmith Award for Distinguished Contributions to Engineering Communication, partly in recognition of his influential book, How to Write and Publish Engineering Papers and Reports, published in three editions between 1982 and 1990.

Michaelson was a scholar, with a publication record that would have earned him tenure at most universities. He published more than forty articles about physics, engineering, and technical communication in such journals as the Proceedings of the I.R.E., Engineering Education, Journal of the Franklin Institute, Journal of Applied Physics, Journal of Technical Writing and Communication, the transactions of at least two IEEE societies, and of course STC’s Technical Communication. His first peer-reviewed article about technical communication was published in 1949; his last in 1991. The example he set as a practitioner-scholar with a commitment to professional service may be his greatest contribution to the profession.

Edward A. Malone is a senior member of STC and associate professor of technical communication at Missouri University of Science and Technology (formerly known as the University of Missouri-Rolla).

In Memoriam: Herbert B. Michaelson (1916–2009)

STC Friends Remember Michaelson

“In the early formative days of our Society, when our group was shaping the professional organization, Herb was known for his insight into what was evolving. His calm and thoughtful manner helped us through the uncharted waters. He was certainly a profound influence on the STC we know today.”

—A. Stanley Higgins, Fellow and former STC President

“Herb was not flashy, but he was a genuine pro and a very decent man. Like many others, I am better for having known him and diminished by his passing.”

—Jeffrey L. Hibbard, Fellow and former STC President

“May every STC member be inspired by Herb Michaelson’s dedication to clear, precise communication of complex ideas to those with less knowledge of science and technology.”

—Andrew Malcolm, Fellow
What’s Accessible for Some Is Better for All

BY BRIAN STILL | Member

WHAT WOULD WE HAVE DONE without the mouse? First integrated by Telefunken with its TR440 computer in 1970, then followed in 1981 by Xerox’s own version, it really came into popularity with the advent of Apple’s Macintosh that same decade. Rarely have so many relied so much on such a simple device to navigate the Web or to use a variety of different desktop software. Part of our lexicon now as noun, adjective, and verb, we can buy any kind of mouse we want, even ones that don’t even look like a mouse or those that literally do. The mouse is everywhere, and we take for granted that any computer we sit down to use will have one attached to it.

It seems a foregone conclusion, then, that the mouse has made computing easy for all. But has it? Yes, many wouldn’t know what to do on a computer without one. Proof of this can be found any time you see a user frantically guiding the mouse back and forth in a desperate attempt to find the arrow lost on the screen. It’s a true ontological crisis.

But there is a danger in assuming that just because a lot of people use it, and a lot of people rely on it, that somehow the device or product in question is usable. We must never equate ubiquity with usability. The fact is that an ever-increasing percentage of the population of computer users cannot effectively use a mouse. Some cannot use them at all. The statistics are surprising. For example, the U.S. government’s Center for Disease Control reports that more than 60 million Americans have limited hand function due to a number of conditions, including arthritis. Consider other users both here and in international markets with different but equally disabling barriers, and we quickly realize that the mouse’s lack of usability is not a minor issue affecting just a few. There are economic as well as moral reasons to consider alternatives to the mouse. And this is true for a wide range of products that we take for granted, in how we use them and how, in turn, we design them to be used, or even evaluate the effectiveness of that use.

To deal with this requires a refocusing on users that moves us away from an over-reliance on profiles stereotypically representative of particular market niches. Looking closer at the complexity of the human situation reveals not only that there are many people who skirt the narrow boundaries of what we consider normal or “abled,” but also that these people are more than just aberrations isolated in the darkness of the margins. Rather, they are a significant population, a population growing in number, with an equally significant need for technology and a buying power to match.

Let’s remember these great admonitions:

– Know thy user
– Thou art not thy user

Once we see that there are different sorts of users in the forest that is the user community, we’ll see that we can and should design for as many of them as we can, and that in doing so there may be positive ramifications for all. Just recently in the Texas Tech usability lab, we’ve begun pre-planning for eventual usability testing of different websites for which visually impaired users are our target population. To say that a lot of what we take for granted in facilitating a test has been turned upside down is an understatement. Setting up software so the users can engage the websites is just the beginning. We’ve had to reconsid-
er our entire process of orienting the user to the lab, of explaining where things are, of looking for visual cues during testing, and so on. If anything, doing all this has made us think more carefully about how we facilitate testing, which I’m confident will mean that we do a better job of it, since any ruts we’ve fallen into over time will be exposed and smoothed. For the owners of the websites that will be tested, I, too, think that their sites will come away better for more than their visually impaired users.

Good accessibility comes down to user awareness, and that comes down to making your intended users part of your design and evaluation process from the very beginning. Call your users, interview them, ask them to guide you through how they interact with the world, with technology to do their jobs and live their lives.

Some people are already doing great work on this. Sean Zdenek, an associate professor at Texas Tech, is tackling the lack of accessibility in films, podcasts, and YouTube videos. We have come to rely on the speed of creation and the desire of users for more audio and video online to rush to make more and more media available as quickly as possible. But the result is that much of it lacks, for example, alternative scripting that would allow hearing-impaired users also to participate. This is compelling language from Sean on the subject (www.seanzdenek.com):

Students with disabilities are in danger of being either excluded from the new media revolution or accommodated as after-thoughts of pedagogies that fail to anticipate their needs. Too often, our excitement about new media, even when that excitement is tempered by sober reflection, leaves intact a set of normative assumptions about students’ bodies, minds, and abilities. These assumptions operate behind the scenes…

Normative or so-called “ableist” assumptions about our students—e.g., that they hear, see, and move well enough or in certain anticipated ways to engage directly with course learning … threaten to undermine our commitments to accessibility and inclusivity.

As educators, we must make accessible design part of our curriculum when teaching media creation. As practitioners, we must make accessibility awareness part of our design process. Yes, there still remain few laws on the books, outside of the federal government, to force us to craft accessible alternatives. But lawsuits are increasing for those who presume a far too narrow idea of who their audience is. It is absolutely crucial to understand that a greater recognition of the need for accessibility, as well as a commitment to understanding the diversity of the audience and its different needs, can only mean that what we ultimately develop and make available as products will be better, more useful and usable, for a richer sense of the user population.

A final example from our lab’s recent work crystallizes this. We are an academic shop. What money we have, and there isn’t much of it, goes to paying graduate assistants. We do not charge a lot because of the research nature of what we do, and so when we are confronted with challenges that might normally require a decent-sized budget to address, we either must be creative or go without.

In addition to our testing of products, we also teach, and last year, at almost the same time, both a client and a student came to us asking about eye-tracking software. As Jakob Nielsen (among many others) has noted, eye-tracking as a methodology can prove to be very useful in understanding what users are doing when interacting with a product such as a Web page. Unfortunately, most of the better software to facilitate eye-tracking is expensive—really expensive.

Knowing we couldn’t buy the software, but needing a solution, we first experimented with free or open source eye-tracking software. There were multiple solutions, but not any that offered a workable possibility. We kept searching, however, and began to work on our own in-house, built-from-scratch invention. Today, after a lot of frustration, hard work, missteps, back steps, and a little luck, we’re in the early stages of testing what we call EyeGaze. Once it goes live, we think it will be a very affordable eye-tracking product for ourselves or others interested in eye-tracking but who have a limited budget.

In our experimenting to create EyeGaze, we also figured out that if you can track where users are looking, you can let their eyes control the cursor just as, ironically, a mouse does. A number of smart people have come up with solutions similar to this in the past few years. What separates ours from the rest, without giving too much away of how it works, is its affordability and its dependability. Whereas many technologies require users to keep their heads perfectly still or risk having to re-calibrate their eyes every time, our product calibrates without the need for re-calibration. Focusing on eye, not head, control also makes it more precise.

We think a large population of users who cannot use the mouse are being left out. But their eyes might provide an alternative that their hands, given present technology, cannot. And since eyes are faster than hands, this software may offer users not just getting something almost as good but something better. In addition to disabled users, users who have no problem using a mouse but want an enhanced training or gaming experience, might be able to use the same invention to improve the speed, the intensity, and thus the overall quality of their experience.

Thinking about alternatives and focusing on solving problems for all users is not, therefore, an obstacle. Heightened user awareness of all potential users and of all user limitations does more than make technology accessible for some. It makes it better for all.
AS I WAS CATCHING UP on the tweets from the STC AccessAbility SIG (@staccess), I came across a retweet that said, “Spread the awareness for colour blindness. Numbers don’t lie.” This tweet had a link to the following pie chart.

Color Blindness in the World Population

- Normal eyesight
- Red-green color blindness
- Total color blindness

The chart made me smile. With simplicity, it brought the message home that when you are building a website or graphic, you should not forget about your users who are color blind. If you want to create an accessible website for all, then you need to take color-impaired users into consideration, because for your users who are color blind, bad color combinations might make navigation and interaction difficult, if not impossible.

The following list is an overview of evaluation tools to help you to assess the color combinations in your websites and images. This list is by no means comprehensive. These are the tools I have used or have heard good things about. For a more comprehensive list of evaluation tools, visit the World Wide Web Consortium’s website, where they collect information about evaluation tools (www.w3.org/WAI/ER/tools/).

- **Vischeck** ([www.vischeck.com/](http://www.vischeck.com/)) is both a free online service and a downloadable application that shows you how your Web page or graphic would appear to a user that has one of three types of color blindness. It also has the ability to correct an image so that it is more usable for a person who is color blind.

- **Coblist—Color Blindness Simulator** ([www.colblindor.com/coblis-color-blindness-simulator/](http://www.colblindor.com/coblis-color-blindness-simulator/)) is another free online tool that simulates what an image looks like to a person who has one of eight types of color blindness. The tool allows you to check a Web page's foreground and background color combinations to determine whether they provide adequate contrast.

- **The Contrast Analyzer** ([www.paciellogroup.com/resources/contrast-analyser.html](http://www.paciellogroup.com/resources/contrast-analyser.html)) by The Paciello Group is a free downloadable application that allows you to check a Web page's foreground and background color combinations to determine whether they provide adequate contrast. You can also select a graphic so that the tool can simulate what the graphic looks like to users who are color blind or have cataracts.

- **ColorDoctor** ([www.fujitsu.com/global/accessibility/assistance/cd/](http://www.fujitsu.com/global/accessibility/assistance/cd/)) by Fujitsu is a free, downloadable application that simulates what a website looks like to a person who is color-blind. They claim that it can also simulate the “real-time display” of presentation or moving images, such as Flash images, by selecting the “Transparent” mode.

The **Colorblind Web Page Filter** ([http://colorfilter.wickline.org/](http://colorfilter.wickline.org/)) is an online tool where you enter a URL and select a type of colorblindness to emulate, and the tool shows you what the page looks like to the selected audience.

Even though these tools are easy to use and are readily available, they do not replace human feedback. When evaluating your websites, conduct usability and accessibility tests with real users so you get their unique perspectives.

This column shares information about accessibility requirements and techniques, and introduces standards and policies that might affect your products. If you have feedback, contact Linda Roberts at lerober1@yahoo.com.

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**Most common types of color blindness:**

- **Deuteranopia/Deuteranomaly:** People have trouble with red/green color deficit due to missing or faulty green retinal receptors.
- **Protanopia/Protanomaly:** People have trouble with red/green color combinations due to missing or faulty red retinal receptors.
- **Tritanopia/Tritanopia:** People have trouble with blue/yellow color combinations due to missing or faulty blue retinal receptors.
IN FLORIDA a few years ago, I decided to learn how to scuba dive. My instructor led me through the required pool drills (how to clear your mask when it fills with water, how to free your tank if you get caught on something, etc.). And while the lessons went well, I cannot say I was totally confident in my abilities (this feeling was compounded by the instructor brushing aside my concerns).

I passed the pool drills and moved on to an open-water checkout. Even though the instructor said I was doing “fine,” I didn’t feel like I was. I chose to skip the open-water checkout and complete it after I returned to Los Angeles.

Shortly thereafter, I found an instructor in Honolulu who could do my checkout. When I met her, I couldn’t have been happier! She was as patient and attentive as my last instructor was impatient and superficial. Anytime we did a pool drill where I didn’t feel 100% confident in my abilities, she said, “Do it again!” And I did, again and again, until I knew I had it down cold.

Throughout the course, my new instructor also had me repeat, anytime anything went wrong, “STOP. BREATHE. THINK! Then act.”

Stop. Breathe. Think! What to do when your gear gets fouled, I was able to avert a crisis, all because I remembered to Stop. Breathe. Think. Then act.

So why this long story about scuba diving in a column about career advice? Because I can’t tell you how often I apply, “Stop. Breathe. Think,” in the work-a-day world.

Want to send an angry reply to an email from your boss? Stop! Breathe! Think!

Are you participating in a negotiation (perhaps for a job offer) and it’s not going your way? Take a break!

Is something wrong in your online help files that is breaking the software build and threatening to affect the software ship date? Don’t panic or start the blame game. Stop. Breathe. Think.

A problem is only a problem because you don’t know what to do about it. I prefer to not call such situations “problems” because problems have no solutions (otherwise they wouldn’t be problems, right?). Instead, I label such events “unaddressed situations.” Because no matter how bad things look when you are 100 feet down and can’t find your air hose, you just need to keep your head, assess the situation, and find a solution.

Do you have a situation in your job, your career, your life, that seems unsolvable?

Stop. Breathe. Think. There is a solution. You just need to find it!

JACK MOLISANI is the president of ProSpring Technical Staffing (www.ProspringStaffing.com), the executive director of the LavaCon Conference on Digital Media and Content Strategies (www.lavacon.org), an STC Fellow, and a certified scuba diver.
Developing the Required Talent, Part I: Personal Training

BY GEOFF HART | Follow

OVER THE PAST five years, I’ve somehow managed to neglect two important topics in my information design columns: how to develop the talent required to apply the theoretical information I’ve provided in your daily work, and how a similar approach can help your audience acquire expertise in areas that they consider important. In the workshops I give, a recurring theme is that mastering the basics frees up time you can use to learn other things that make you more effective—and better still, time you can spend on the fun part, which is solving your audience’s problems, whether those problems are conceptual (understanding) or practical (doing). This approach was based on my personal experience, and Geoff Colvin’s book Talent is Overrated (2010) confirms that I’ve been on the right track.

Colvin notes that there are two keys to achieving mastery. First, you must accept the counterintuitive notion that talent is not something you’re born with. Barring serious disability, most of us can develop talent if we’re willing to invest enough time. Second, you must understand the distinction between what Colvin calls deliberate practice and repetition. Though repetition eventually confers competence, deliberate practice is how we perfect a skill. Mastering a profession requires us to identify the skills that most need improvement, then intensively hone those skills until we perfect them.

In this article, I’ll explain what this means for you, as a practitioner. My next column will explain how you can use this knowledge to help your audience excel.

Deliberate practice
Deliberate practice has several key characteristics. It must be designed to:
- improve performance
- make you stretch and stimulate thought
- both permit and encourage repetition
- provide ongoing feedback
These criteria separate the kind of deliberate practice that leads to improvement from mindless repetition that dulls the mind and ensures mediocrity.

Improve your performance
Our knowledge of audience and task analysis facilitates this initial step, but this time we’re the audience. Start by identifying the basic skills that support your work. For example, if you communicate using graphics, you’ll need to master software such as Illustrator and Photoshop. Each time I create graphics for this column, I waste hours relearning necessary skills because I use both programs so rarely; I know what I want to “say,” but I find it hard to create graphics that say it. Were I earning a living creating graphics instead of teaching others to create effective graphics, I’d need to invest enough time to master both programs.

It’s difficult to identify one’s flaws and bad habits, but an expert coach or mentor can identify your flaws and guide you to potential solutions. (I’ll talk more about this later, under “Feedback.”)

Stretch yourself and stimulate thought
As is the case with physical exercise, sticking within our comfort zone means we’ll never improve. Those who excel learn to look beyond what’s right before them and see clues that others miss. To spot those clues, stretch yourself by looking farther ahead, behind, and to both sides than you typically do, looking for clues that will guide you before, during, and after you use a skill. Learn to think through what you’re doing, based on those clues. Start with specific goals and identify the steps that lead to each goal—but figure out how you’ll know when you’ve reached each milestone on the way to your goal. As you work, monitor your progress and modify your approach if the clues suggest you’ve missed a signpost because the situation changed.

Evaluate your thought process to reveal things that are slowing you down because they’re unnecessary or because you’re doing them inefficiently—then eliminate or mitigate these problems in the future.
each information design is complete, evaluate the results to identify where you succeeded, failed, or could do better. Then improve your plans for the next time, and implement that improved plan. Do this even for routine work—particularly the kind of work you could do in your sleep. The goal is to force your mind into a higher gear instead of remaining comfortably in neutral. But stretch, don’t tear: aim for reasonable improvements so you’ll see tangible progress rather than risking failures that eliminate the incentive to try again.

Deliberate practice must be mindful, which means it requires intense concentration. Fatigue typically limits practice sessions to between 1 and 1.5 hours, and it’s hard to spend more than 4 hours per day at this intensity level, even if you have that much time available. To increase the efficiency of this practice, seek both better ways to think and the knowledge you need to support those thoughts. This is like having both a powerful engine (thought) and the fuel that engine requires (knowledge): neither is much use alone.

Deepening and broadening your knowledge reveals new strategies and reduces the risks of reinventing the wheel and rediscovering errors others have made. This lets you expand and revise your mental models of the general context in which you work and the specific context for each task you perform within that larger context. This knowledge must integrate tightly with a framework (such as a mental model) that provides an efficient “retrieval structure” so you can fit new information into your existing knowledge, remember and retrieve that information more easily, and understand what is truly important and, thus, what to focus on as you work.

One problem with deep knowledge is “domain blindness”: you become so knowledgeable about your domain that you no longer think outside its box. To open your eyes again, learn to identify and question your assumptions. Ask yourself: “For this statement, belief, or solution to be true, what conditions must be met?” Those conditions are your assumptions, and if they aren’t valid for a given situation, rethink your approach.

**Permit and encourage repetition**

Find time to practice. At the 2005 STC annual conference, I presented more than a dozen tips that free up time for practice so you can improve old skills or learn new ones. It’s like continuous process improvement, but for you rather than your employer. Colvin reports that mastering any field typically requires about 10 years of intensely focused practice of the basic skills that underlie the overall activity. The good news is that’s the time requirement to create a prodigy; lesser levels of mastery take much less time. Still, you’ll require persistence and patience; genius doesn’t happen overnight, and particularly in the beginning, you may not see clear signs of progress. The earlier you start, the sooner your skills will improve, but to get there, you must push through your initial resistance to working that hard. Well-designed practice keeps you motivated by reassuring you that you’re making progress toward your goal.

**Provide ongoing feedback**

Feedback involves critiquing your results and deciding whether and how to modify your approach. The most effective feedback comes from a coach or mentor who has objectivity (distance) you lack. Where one isn’t available or practical given your various workplace constraints, seek an expert you can emulate. If you can’t find one, ask your STC colleagues for an introduction to someone who can mentor you or for examples of stellar work.

**Mastery takes time**

In my September/October 2010 *Intercom* article, *Subjecting Theory to a Reality Check*, I reminded you to keep your brain engaged while applying any theory. Deliberate practice is no different. For example, just because most people require 10+ years to achieve mastery doesn’t mean you’ll take that long; each of us undoubtedly varies in our ability to benefit from deliberate practice. Moreover, STC members are already a long way along the road to mastery. Like George Miller’s “magical number seven” (see my April 2006 *Intercom* article and www.musanim.com/miller1956/), what’s important is the underlying principle (here, “it takes time”), not the number.

How can you motivate yourself to invest the required time? The research on expert-level performance shows that both intrinsic (personal) and extrinsic (organizational and environmental) factors are important. Intrinsic motivation is crucial because only you can find the willpower to practice hard enough to excel. But extrinsic motivation can’t be neglected, since encouragement and rewards (e.g., praise) give us reason to strive. At some point, intrinsic motivations take over: we develop an intense desire to excel because of the emotional and other rewards provided by our efforts. If those rewards fail to materialize, possibly you’re in the wrong profession, and that’s an important discovery, too.
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F.Y.I. lists information about nonprofit ventures only. Please send information to intercom@stc.org. For STC's complete calendar of events, visit www.stc.org/edu/related-events.asp.

1 April

6
8–13 April
The International Society for Performance Improvement (ISPI) will hold its Performance Improvement Conference at the Walt Disney World Swan Hotel in Orlando, FL. For more information, contact: ISPI +1 (301) 587-8570 conference@ispi.org www.ispi.org/AC2011

7–12 Oct
The American Society for Information Science and Technology (ASIS&T) will hold its Annual Meeting, with a theme of “Bridging the Gulf: Communication and Information in Society, Technology, and Work,” at the Marriott New Orleans in New Orleans, LA. For more information, contact: ASIS&T asis@asis.org www.asis.org/assist2011/am11cfp.html

10
30 March–3 April
The American Society for Indexing (ASI) will be holding its annual conference, with a theme of Providenceal Transformation, at the Hilton Providence Hotel in Providence, RI. For more information, contact: ASI conference@asindexing.org www.asindexing.org/

11
25–26 March
The Philadelphia Metro Chapter of STC hosts its Annual Conference in Willow Grove, PA, at the Conference Center in the Willow Grove Giant Community Center. The conference includes a workshop on Friday and multiple sessions in three tracks on Saturday. For more information, please contact: STC-PMC www.stcpmc.org/index.php?section=44

12
1 April

8
18–24 April
The Society for Technical Communication (STC) will hold the 2011 Technical Communication Summit in Sacramento, CA. For more information as it’s available, visit: STC http://summit.stc.org

9
15–18 May 2011
The American Society for Indexing (ASI) will be holding its annual conference, with a theme of Providenceal Transformation, at the Hilton Providence Hotel in Providence, RI. For more information, contact: ASI conference@asindexing.org www.asindexing.org/

10
31 May–3 June
Join the Association of Proposal Management Professionals for the 22nd Annual APMP International Conference and Exhibits at the Sheraton Downtown in Denver, CO. The theme of the event is “The Art of Winning.” For details: APMP www.apmp.org/ca-29.aspx

12
15–18 Oct
Join the Public Relations Society of America (PRSA) for their 2011 International Conference, taking place in Orlando, FL. For more information, contact: PRSA +1 (800) 350-0111 www.prsa.org/Conferences/InternationalConference/index.html
Constructing a Career in Technical Communication

BY NATHAN KUBICEK | Member

THE 3.9-TRILLION-DOLLAR GLOBAL construction industry is deceptively rife with opportunity for the technical and professional writer. My own path to a professional writing career in construction was circuitous and almost unintentional, but the recent economic travails that have plagued the industry as a whole created a “new frontier” for professional writers. Now more than ever, progressive companies are putting a renewed focus into marketing strategies, internal communication, and documentation management, in order to be leaner competitors in an increasingly cutthroat industry.

I didn’t begin my career with a roadmap or any real thought about what an “ideal” job might mean to me. When I graduated college with a degree in technical and professional writing, my goal was to find a job as a technical writer in one of the “standard” technical writing industries in my region: manufacturing or software. My aspirations weren’t lofty at that point. I needed to find a job that afforded me three meals per day and I wanted to use my degree. Luckily, I found a job in the manufacturing industry that satisfied both requirements. My first job as a Jr. Technical Writer was challenging, rewarding, and it proved to be a valuable learning experience. I wrote process guides, reformatted company documentation, and edited training curricula. Most importantly I discovered that, while I enjoyed the technical writing profession, I might find a more rewarding career in an industry that better aligned with my own interests and background. I had grown up around construction and have always been fascinated by the building process. I also had a longtime interest in grant writing, and when I discovered that a large and progressive construction company was hiring a grant writer, I leapt at the opportunity.

Grant Writing and Technical Writing
I was offered the job and began at Crossland Construction Company, seeking funding opportunities for innovative construction education projects at regional schools. As is the case with most writing jobs, the position rapidly evolved to include a mélangé of technical, professional, and grant-writing assignments. I wasn’t surprised by the expansion of my original job description, but I was surprised to learn that most general contractors don’t maintain a fulltime team of professional and technical writers. The amount of documentation generated by the construction process is staggering! There are RFPs, RFQs, bid packages, contracts, subcontracts, liens, scheduling, pre-planning, bonding requirements, and the list goes on. There are thousands of project details that not only need to be tracked, but they need to be organized and made accessible for quick retrieval in the future. As a technical writer, the organization, formatting, and dissemination of historical data is vital to being able to “sell” a company to potential clients.

Marketing
In addition to the challenges faced by capturing and managing the vast amount of raw project data, professional writers are tasked with converting that information into marketable content for potential clients. The construction industry is filled with left-brained, technical thinkers that typically are more comfortable with math than the written word. A professional writer in this industry must “translate” the technical composition of a building into accessible and illustrative language that potential clients can use to make informed decisions. When a project is complete, our marketing department captures photographs and tells the story of the entire construction process on a single-page, summarizing profile sheet. It takes a professional writer to be able to succinctly capture the activities and outcomes of projects that, in many cases, take years to complete.

Internal Communication
The bigger any company gets and the more successful they become, the greater the need becomes for well written, internal communication. Successful communication of company initiatives through various social media, a company intranet, and organic word-of-mouth are vital in allowing employees to be good ambassadors of the company. In the construction industry, many employees are nomadic, so company communication needs to be mobile and easily accessible on multiple media platforms.

As previously stated, the construction industry, in my view, is the new frontier in professional writing. Many facets of technical and professional writing will become more necessary as the industry continues to grow and evolve. Communication of services, the management of company data, and the ability to keep employees informed will continue to be a challenge best faced by a professional and technical writer.
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