

ACHIEVE!



See You All in Baltimore!

*By Fabien Vais
AccessAbility SIG Manager*

NAVIGATING



The annual conference is a time to learn about new methodologies, products, and technologies. However, it's also a time to meet new people, see people you haven't seen all year, and enjoy being part of the largest assembly of technical communicators in the world! I hope to see as many of you as possible in Baltimore!

Our AccessAbility SIG is going to be extremely visible at the Baltimore conference. Here are a few examples of our efforts this year to make our SIG and our mission known to the world.

The Accessibility Guide

For the third year in a row, our SIG is publishing the annual conference Accessibility Guide. This guide (see http://www.stcsig.org/sn/PDF/conference_guide_may04.pdf) is for all people with various disabilities and special needs who are considering attending the annual conference. It thoroughly describes the conference site (including the convention center, the headquarter hotel, and even a few other nearby hotels) with a distinct eye to possible situations that might be difficult for people with disabilities. It is chock full of useful information and tips to ensure that people with disabilities enjoy the conference to the fullest extent.

I could not have published the guide without the invaluable help of many people who advised and informed me, and later edited the draft document. However, I especially want to thank Mel Haughton, who designed the guide and put everything together, right at the time when she was busy buying a new house and moving in, and continuing all her regular activities. Mel, you're the best!

I feel that this year's Accessibility Guide is better and more useful than ever. Our plan is to improve it each year to the point where it can be adapted for use at other conferences as well, such as regional conferences—and not just those organized by STC, but also by other similar organizations.

THE FUTURE

OF TECHNICAL COMMUNICATION



STC's 51st Annual Conference is being held at the Baltimore Convention Center.

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Two Big A-SIG Progressions on Tap for Baltimore

By Lori Gillen
Boston Chapter

Technical communicators from around the world will have the advantage of attending two high-quality AccessAbility SIG progressions at STC's 51st Annual Conference.

Willing and Able: How Technical Communicators with Disabilities Can Succeed in Their Profession (UID 5U)

Tuesday 8:30-10:00 AM (Room: Ballroom I)

In this progression, you can speak to actual users about what keeps them from accessing your Web site or your public place, participating in your meeting, or understanding the content of your video. Hosting this enlightening session are members of the STC AccessAbility SIG, a group of "ambassadors" who are challenged by inaccessible design every day of their lives.

Find out the barriers that impede their practice of technical communication, discuss how they cope with these barriers, and explore ways to make products more accessible to end users with both functional disabilities, such as vision, hearing, and mobility restrictions; and situational disabilities, such as incompatible computer equipment or lack of a sound card.

These are the topics and presenters for this session:

- Making Public Places and Events Truly Accessible (Fabien Vais)
- Secondary Disabilities: The Vicious Circle (How One Impairment Can Cause Another) (Lori Gillen, Dan Voss, and Ria Voss)
- Airport Security for People with Disabilities (Mike Murray)
- Adaptive Technologies and Techniques for People with Vision Problems (Gloria A. Reece)
- Work Accommodations for People with Emotional or Mental Disabilities (Helen A. Marty)
- From East to West: Comparing Experiences as a Wheelchair User in Asia, Europe, and the USA (Eleanor Lisney)

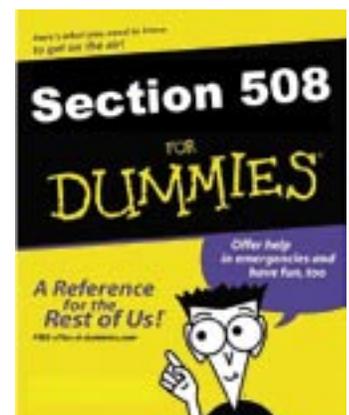
Section 508 for Dummies (UID 7B)

Tuesday 2:00-3:30 PM (Room: Ballroom II)

Have you ever found yourself asking about the meaning of Section 508 and why you suddenly feel threatened with a lawsuit for non-compliance? If you answered "yes," then this progression is for you. Talk with members of the STC AccessAbility SIG. They will help you to demystify Section 508 and give you practical advice for implementing the law in your workplace without having to tear apart your existing products and start from scratch.

These are the topics and presenters for this session:

- An Overview of Section 508 and the Law (Gloria A. Reece, Mike Murray)
- Redesigning the AccessAbility SIG Web Site for Accessibility (Cynthia Lockley, Leslie Reed)
- Conducting a Usability Test for People with Hearing Impairments (Lori Gillen)
- The Top Five Roadblocks to Accessibility (Karl Groves)
- Retrofitting Two Web Sites for Section 508 (Eleanor Lisney)
- Using Section 508 to Improve Internet Access to Information for Everybody (Thomas Vander Wal)
- User Interfaces and Adaptive Devices: Value Delivery for People with Impairments (Judy Cossel Rice) 



A-SIG Earns \$650 in '03-'04, Pins in Stock for '04-'05

Operation Butterfly is a Smash Success!

By Dan Voss, Orlando Chapter

With Bonnie Spivey, Orlando Chapter

More than a year ago, when I was AccessAbility SIG manager, Fabien Vais, my successor in that position, came to me with an idea for a SIG lapel pin.

He also provided an image for that pin—a striking graphic of a butterfly that is flying despite an injured wing.

As most of you are aware, that graphic and the motto “The Wind Beneath Your Wings” (the latter used with the kind permission of Barbara Luther*) were subsequently adopted by strong consensus as our SIG’s official logo and motto.

At the time Fabien raised the lapel pin idea, the SIG was up to its you-know-what in other alligators: we faced severe budget pressures, in response to which the global “Operation Starfish” membership drive was in full swing, and we were also hip-deep in preparation for the 50th annual conference in Dallas (conference guide, A-SIG progression, SIG business meeting, etc.).

So the lapel pin idea had to go onto the back burner.

But that was before I met Bonnie Spivey, president of the Future Technical Communicators (FTC) club at the University of Central Florida. Bonnie and I began a mentor-mentee relationship that became a pilot for a full-fledged formal mentoring program pairing UCF students with professional practitioners in the Orlando Chapter. She and I are co-coordinating that program. Several members of the FTC are members of the AccessAbility SIG.

As one of the initiatives in our industry/academe partnership, Bonnie and I decided to pull the lapel pin off the back burner and, with the help of the A-SIG, make Fabien’s vision a reality. In the process, we also resolved to make a major dent in the SIG’s funding problems. Thus, “Operation Butterfly” was born.

Although it sounds more like a top-secret military plan, Operation Butterfly is another prime example of industry and academe working together to support a meaningful

and important cause: in this case, our SIG’s cause—accessibility.

The A-SIG was in need of serious funding help or we would lose the ability to reach our goals. Having seen the Orlando Chapter conduct a highly successful fund-raiser by selling a chapter lapel pin to members, we contacted the same vendor who supplied the pins to the Orlando Chapter and got a price quote for making our A-SIG logo into a beautiful full-color 1 ½-inch lapel pin. Confident that SIG members would be willing to pay well above the unit cost as a way of financially supporting the SIG, we devised a price structure that encouraged multiple-pin purchases and put the word out to SIG members through e-mail

communiqués, listserv announcements, Web postings, and an article in the [February 2004 edition \(V2N1\) of Achieve!](#) (see pages 1 and 6).

With SIG members scattered across the world, the logistics involved in executing a fund-raiser of this nature were considerable. Orlando STC Chapter treasurer and A-SIG member Karen Lane agreed to coordinate the financial processing via chapter channels, simplifying the interface with the STC Office; and FTC has offered its support to process the orders and mail-outs on a timely basis.

After an initial surge of orders, the campaign slowed. We had enough orders to place and pay for 500 pins, with some “profit,” but not enough to take advantage of a significant break on unit price that we would gain if we could order 750.

We redoubled our promotional efforts and, as the final deadline for pin orders (midnight Sunday, February 29)

* Copyright ? 1999, Barbara Luther, at www.WindBeneathYourWings.com. The AccessAbility SIG acknowledges Barbara’s kind permission to share her slogan.



Brisk sales of our new A-SIG lapel pin have replenished our coffers.

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Letters to the Editor

This month, I want to share with you a posting to our SIG's e-mail listing. The post was made by Lori Gillen. Knowing Lori as I do, I was certain she wouldn't mind me republishing it here. I actually found it very revealing and hope you do as well.
The Editor

From: Gillen, Lori

Subject: CAC Decision on Hearing Accommodation at Conference

Guys-

This is interesting. I wrote to a woman who advocates for the deaf and the hard of hearing. Her daughter is deaf and she is hard of hearing. I asked her why the deaf seem to have a strong lobbying voice while the hard of hearing don't. This is her answer.

The deaf have pride in themselves, in who they are. Many of them do not consider themselves "disabled." Self-worth and self-identity have an awful lot to do with it.

As far as the deaf getting their accommodations, I question that. I see more ASL signers around but not much else. It's still a problem for parents who are deaf to get accommodations for things like PTA meetings or a child's reading day. There is still a huge fight going on in this arena.

Hard of hearing people most likely consider themselves "disabled" and carry all the burdens that go with that label. They wear miniature hearing aids so no one "sees" they have a problem, they will not agree to learning any sign language, and they won't speak up for something like CART because they may be afraid of the difficulties that go with receiving the accommodation or having to admit they have a "problem."

I wear a large 4 inch button that reads: Please Face Me, I'm Hard of Hearing. I'm having them made. I've had requests for them. I tell everyone that I don't want them to think I'm ignoring them or really not paying attention to them. It really makes it so much easier. Imagine how easy it would be if everyone admitted their loss. Maybe the "rest of us" would "get it."

Best,

MaryAnne

In short, the deaf community is proud, and the hard of hearing community is ashamed. I don't yet know where to go with this, but it looks like the problem is right here staring us in the face. Thoughts?

- Lori 

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Okay, my learned audience of A-SIGers, I have a question for you this month. Who amongst us once said, "It is one of the most beautiful compensations of this life, that no man can sincerely try to help another without helping himself"?

I know, that's a tough one — especially with *this* group. But one of the most fascinating and fulfilling things I found long about you folks is that you've always had it backwards! That's right, by being so willing, able, and eager to help others, you've not only helped yourselves, but also all of the so-called "able-bodied" STCers as well.

But please don't change a thing! I've been in the business world for over 30 years now, and never in my life have I seen anything like when an A-SIG member calls for help, and the responses come flooding in. In fact, I know for a fact that our e-mail listing now extends deeply into that "able-bodied" community, as does our actual membership. Hey, even "those guys" know a good thing when they see it!

So, what about the quote I mentioned in the beginning of this short article? While any number of our members "get it" enough to say something that deep and meaningful, the quote was actually made by one Ralph Waldo Emerson. Poetic justice, don't you think? 



Web Accessibility Test Tool Available Free to K-12 Students

By Dan Voss, Orlando Chapter

The HiSoftware Company has announced the availability of a free version of its popular Cynthia Says Web accessibility test tool for use by grade school and secondary school students.

The software being offered is the AccVerify Cynthia Says Edition, which the company has said it will also make available to other users at a nominal cost.

“We believe this supports our goals of education and outreach and that it is important to teach young Web developers to create accessible Web content as they learn to create Web pages,” declared HiSoftware spokeswoman Dana Louise Simberkoff.

Launched by HiSoftware in partnership with the International Center for Disability Resources on the Internet and the Internet Society Disability and Special Needs Chapter, Cynthia Says provides testing of Web sites for compliance with Section 508 of the Rehabilitation Act and W3C Web accessibility standards.

For further information on Cynthia Says or the free AccVerify edition, the reader is referred to: danalouise@hisoftware.com.

Editor’s Note: The editors of Usability Interface and *Achieve!* encourage our SIG members with children in the K-12 range or with friends who teach elementary or secondary school to notify them that this free tool is available for their students’ use. 

“The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect.”

Tim Berners-Lee, World Wide Web Inventor

Operation Butterfly a Success

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drew nigh, Bonnie anxiously watched her e-mail screen. She cranked the late returns into her handy-dandy automated Microsoft Excel tracker, applied her intuitive grasp of mathematics, and presto—instant report. We were elated! Our final order tally had climbed to 495 pins, which enabled us to order 750 pins at the lower unit price.

All told our commitments totaled \$1,307, versus a vendor cost of \$657. That means assuming everybody sends us their checks, the SIG will benefit from \$650 in net income for the 2003-2004 STC fiscal year. Moreover, we also have an inventory of 255 pins that are already “free and clear,” meaning we have the potential to realize approximately \$700 more in revenue when we make those pins available to the general membership next year.

As *Achieve!* went into final production, pins were either in the mail or set aside for delivery in Baltimore to all purchasers who have sent in their checks. Bonnie had to do some “fast footwork” involving international postage and currency, but she persevered, and the situation is well in hand.

Anyone who made a pin pledge and has not yet sent a check, as well as anyone who wishes to make a direct contribution as a corporate or personal sponsor, please contact Bonnie Spivey at bspivey77@cfl.rr.com.

Thanks to all those who supported us on Operation Butterfly. If you missed the order deadline, take heart—we’ll be doing this again next fall! 



The STC Orlando chapter and the Future Technical Communicators (FTC) Club at the University of Central Florida helped make Operation Butterfly a great success.

See You in Baltimore

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The Onsite Visit and the Addendum

As in Nashville two years ago and in Dallas last year, I will be arriving in Baltimore one day early to scout the premises, joined in this onsite visit by immediate past A-SIG manager Dan Voss and hopefully a few others. We will take note of any useful details that somehow didn't make it into the Accessibility Guide. Then we will print a brief Addendum onsite and insert it in each of the 150 printed copies of the Guide. In the past, the onsite inspection has found many small details that we had failed to mention in the Guide, such as the fastest route from one area to another when you're in a wheelchair, or the narrow width of certain hallways, or the total inaccessibility of certain out-of-the-way areas, or dimly lighted or excessively noisy areas.

As you may know, when I attend a conference, I like to use a wheelchair because there is so much walking. So I try to really put the conference site to a rigorous test on my advance visit. A rigorous check for physical accessibility provides useful guidance to attendees with mobility restrictions who will be using wheelchairs or motorized scooters—as well as to speakers who are hauling equipment or handouts. But while physical accessibility is perhaps the most obvious thing to check, we also keep an eye out for potential problems relating to other disabilities and special needs as well. For example, something as simple as the presence or absence of benches on a long corridor can be really important to an attendee with who has fatigue syndrome, fibromyalgia, or who is walking with assistance such as a cane due to an injury or a disability.

Our SIG Progressions

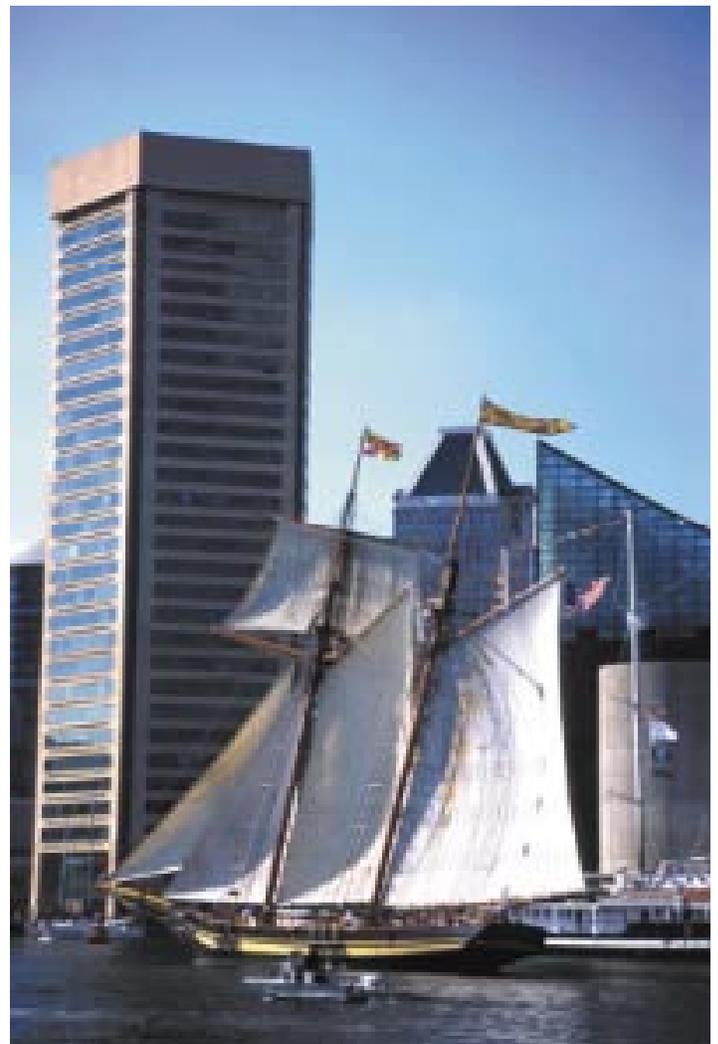
Please read Lori Gillen's story on page 2 of this newsletter, which will tell you everything you need to know about our SIG progressions. Whether you are participating in the progressions, are simply interested in attending, or can help us get the word out about our sessions to boost attendance, you won't want to miss Lori's article.

Promoting our Sessions

We will be busy promoting our own sessions in different ways at the conference this year, just as we have in years past.

V2N2a of *Achieve!*

First, as in Dallas, we will publish a special conference edition of our widely acclaimed newsletter *Achieve!* In it, we will reiterate the complete information on our progressions and other SIG news directly related to the conference.



The Pride of Baltimore is an ambassador ship for the city of Baltimore.

Promo cards

Then, we will hand out and drop off dozens of promotional cards advertising our sessions. These 3 x 5 brightly colored cards were found to be very successful in Dallas.

Promoting our SIG

We will also be quite busy promoting our AccessAbility SIG in Baltimore.

Accessibility Guide

First of all, the printed guides will be strategically placed all around the conference site for people to pick up. This guide is the third annual publication in this series, and it has received excellent reviews in the past. Based on experience, we expect all 150 copies to be gone in a couple of days.

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Stuckness and Low Vision

How Technology and Socratic Classroom Dialogue Changed My Life

By Gloria A. Reece, Ed.D.
Atlanta Chapter

Editor’s Note: This is the conclusion of Gloria’s story that began as the feature article in the [previous edition of Achieve!](#), in which she discussed “stuckness” situations 1 through 3. In this second and final installment, Gloria examines “stuckness” situations 4 through 7 and reveals her conclusions and recommendations.



Gloria in a Photoshop “crayon” effect

“Stuckness” Situation #4: Text Design and Visual Threshold

In writing programs, I adjust font size through the “View” menu expressed in percent. When type is outside of my visual threshold, I rely on print materials and accommodation through various reading aids (e.g., contact lenses and/or eyeglasses designed for specific purposes, hand-held magnifiers, enlarged print, custom room lighting, etc.). Other instances where font size could be improved are in documents associated with shopping (e.g., charge card and cash receipts, tags for clothing size, and bank teller receipts).

Problem: Text Size. Text size is something that I frequently customize when I am writing a document. Programs like Zoom Text™ are not especially helpful for me because they create too much distortion. I see better at near distances than far. Keypads that contain small letters and numbers are also difficult. For example, I have an older-model cell phone that contains a small, difficult-to-read display and keypad. Each month, when the phone bill arrives, my husband asks, “Honey, who do you know at ...?” I reply, “Well, what’s the date of the call? Oh, that must have been the call I made with a dialing error.” Adding information to a stored phone book does not help me because the display is incompatible with my visual threshold. Additionally, dimly lit environments and those with glare add further complications. (See also, “Glare and Size of Electronic Displays.”)

Current Strategy. When viewing an online document, I usually change text size through the percentage view. As for the small keypad on the cell phone, I memorize the sequence of the buttons, but sometimes I still get stuck!

Problem: Fonts. Fonts that have insufficient contrast between foreground and background are difficult to read, encouraging premature reading fatigue.

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Stuckness and Low Vision

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Current Strategy. Terry Clark, a country music singer, best sums up my approach about using fonts with her hit song, “Easy on the Eyes!” In general, I prefer familiar, easy-to-read typefaces. For dense text, I prefer a serif face and print on a high-contrast (black or white) background. (See also, “Contrast.”)

Problem: Proportional and Monospaced Print and Dense Text. Since I rely on one eye for both reading and distance activities, electronic documents (e.g., Web pages) that require reading of dense, proportionally spaced text on screen is difficult and causes reading fatigue.

Current Strategy. Whenever a Web page requires me to read dense text, I generally print the material so I can use a variety of reading and printing aids. I can also use self-generated Socratic questioning strategies to make content my own.

Monospaced print is easier to read. For example, e-mail that contains dense text is somewhat easier to read when written with a monospaced font. When reading dense text in this medium, I mentally divide the screen page into three vertical columns. I skim down the first column to get the “gist” of the message. If it is important, I either skim the second column for more detail or print the material out for reading.

Problem: Headings and Structural Cues. When headings lack a clear structure and are inconsistent in style and placement, it creates confusion about the document’s structure and impedes wayfinding.

Current Strategy. I prefer left-aligned headings and structural cues. Since I read with my left eye, this alignment makes the task much easier.

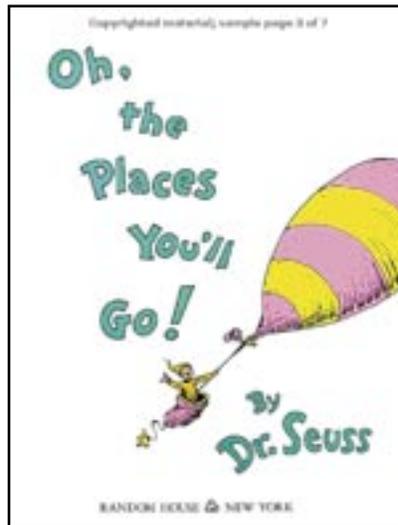
“Stuckness” Situation #5: Contrast

Contrast between foreground and background is essential for good Web page design and navigation in real-life settings.

Problem: Lack of Depth Perception. Strabismus is responsible for my lack of depth perception. This inability to perceive depth causes “stuckness” of various forms. In

order to see, I rapidly parse a visual scene into discrete parts and then use figure-ground strategies to help me navigate. Some examples of where these strategies occur are writing (with or without a computer), drawing (with or without a computer), filling a coffee pot with water, driving a car, and moving objects from one place to another.

Current Strategy. For example, when using Microsoft Word™, I use the “Normal” view with paragraph symbols turned on. The dots between words and the paragraph symbols help me keep my place. The paragraph symbols are helpful cues for visualizing and processing “chunks” of information.



Headings that lack a clear structure create confusion about the document’s structure and impede wayfinding.

Problem: Technology for Changing Contrast. I have also explored accessibility accessories for modifying contrast in on-line documents. For example, when using Microsoft Word™, I have used the “Accessibility Wizard” for changing the background color of a document; however, the accessory that came with my PC is difficult to maintain as a “standard” setting between boot and shutdown processes in spite of specifying appropriate setup information. Additionally, the wizard does not seem to translate to all of the applications that I use and poses usage limitations.

Current Strategy. Continue to accommodate.

Problem: Lack of Color Application at the “File” Level for Outlining Tasks. I use color as a wayfinding strategy. Few word processing or publishing programs have the capability to change the color designation of sections in the document from the “file” level.

Current Strategy. For example, I use Inspiration™ software for outlining when I write. I use red headings for first-level items and then change colors for headings at lower levels. This strategy helps me locate information faster.

“Stuckness” Situation #6: Glare and Size of Electronic Displays

For computer work, I use three types of displays: (a) active (commonly found on most PC monitors), (b) reflective (commonly found on most LCD monitors such as laptops),

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Stuckness and Low Vision

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and (c) backlit (commonly found on most Portable Desk Accessories [PDAs] and cell phones).

Problem: Glare. Glare is a problem for me in many settings, and electronic displays in general cause me difficulty. For example my 1990 Toyota Camry recently started having trouble with the air conditioning. After I took my car to the mechanic for a check-up, he replied, “Your car passed all of my tests—I don’t see a mechanical problem!” A couple of days later, the air conditioning quit working again on a long distance trip to Memphis, TN. Apparently, something tripped the control and caused the air conditioner to stop producing cool air. The indicator light on the air conditioner display panel was a problem. From my perspective, it was difficult to tell if the “green” light was on or off. Cell phone conversations with my husband then became interesting. He kept asking, “Is the light on the air conditioner control panel on or off?” I kept responding, “Honey, it’s black—either way the air conditioner button is pressed on or off—it’s black; I don’t think that I see the same things you see!” There were two problems here: First, the air conditioner control panel was in the area of my reduced visual field and was not clearly discernible. Second, illumination and glare (bright sunlight) were also a factor.

Current Strategy. When doing computer work, I prefer laptops to regular computer monitors because they reduce problems with on-screen glare. For example, when I work at a regular monitor using Microsoft Word™, I usually accommodate and change the background color to something other than white or bold blue (see Tools Menu, Options+General Tab). In doing so, I can achieve better contrast and less glare. I do not use the bold blue settings that Microsoft provides because that color causes severe headaches.

When I purchase computer monitors, I usually buy the largest monitor that a given vendor makes because I need the real estate! The most comfortable display for reading is my big-screen laptop—a Dell Inspiron 7000™. As for PDAs, I carry one; however, my i705 Palm Pilot™ (black and white version) remains difficult to read. How do I accommodate? I keep electronic planners and task lists; however, I print the materials or translate them to paper-based products. I have been an early adopter of PDAs and find them useful for organizing lots of information, writing task lists, and doing reflective journaling; however, the small screens are problematic.

“Stuckness” Situation #7: Mobility

As vision problems develop, mobility issues may also become apparent. For example, as I explained in the introduction to this article, I was not able to walk until the doctors fitted me with eyeglasses, which also corrected my spatial world. As a result, mobility issues have also been part of my accommodation strategies through the years.

Problem: Navigation in Unfamiliar Settings. Navigating in unfamiliar environments is also problematic for me due to lack of depth perception from Strabismus and amblyopia (lazy eye) from adverse refractive error. For example, while visiting the Opryland Hotel for STC’s 49th Annual Conference, I had difficulty finding my way. The “outdoor” theme of the park made it difficult for me to locate the



Opryland Hotel

Headings that lack a clear structure create confusion about the document’s structure and impede wayfinding.

kiosks that contained the elevators. I knew that elevators should be in those areas; however, because of dominant vision in one eye and further reduced vision in dim lighting, I did not discover the elevators until I was walking through the hotel with Judy Vinegar on the last day of the conference! The interior of the kiosk was painted brown, the elevator doors were painted in the same matching color, and there were no lights in that area. Due to the circular design of the kiosk, I missed the elevators on other occasions because they were not in my visual field. So, I had to develop alternative strategies for getting to and from conference sessions! These treks were lengthy and tiring.

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Stuckness and Low Vision

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Current Strategy. Boarding airplanes poses mobility stress because they have poor ventilation and small signage (seat assignments). As I board, I usually ask for assistance with a question such as, “Where can I find this seat number?” In general, when I am in unfamiliar settings, I rely on asking others for help and use questions in this form:

- “How close am I to ...?”
- “How far away is it?”
- “Where does the sidewalk end and the street begin?”
- “How much more space do I have before I reach the top of the mug?”
- “Where are the puddles from today’s rain?”
- “How windy will the weather be?” (Wind prevents me from wearing contact lenses due to the Strabismus [the way my eye muscles work]. If the winds are mild, I can accommodate by wearing sunglasses, welder’s glasses, or a big hat.)
- “What is that precipitation—rain or sleet?”
- “Oh, here are the stairs (or escalators). Would you mind going ahead of me?” (In this setting, I can sense depth by listening very carefully to the sound of the person’s footsteps as they walk the stairs or get on the escalator. Additionally, by having a person in front of me, I can begin to parse the visual scene. In general, I avoid escalators whenever possible because they are very difficult to use: it is often difficult to determine where one step ends and another begins. Those with yellow painted edges are easier than some older styles.)
- “What type of lighting will the room have?” (Poorly lit environments require extra accommodation strategies for seeing.)
- “How much ventilation (heating and cooling) will the room have?” (Poorly ventilated rooms keep me from wearing contact lenses which reduces motor skills [e.g., ability to walk, use right arm, speak].)
- “Will the location be a smoke-free environment?” (Smoky environments cause an “eternal fog” to set in which prevents me from seeing using my contact lenses.)
- “The buffet selection looks really good. What kinds of

foods are featured today?” (Some foods are difficult to distinguish. For example, the following are problematic: grilled chicken from sliced mushrooms, fried green tomatoes from fried eggplant, fried mushrooms from fried shrimp, mashed potatoes from grits, etc.)

My husband is very skilled at giving me advance cues for walking and locating signage. My lack of depth perception causes mistakes in walking into or out in front of things; therefore, I cannot let my guard up. For example, one of

the easiest intersections for me to cross is one that has a “whistle” that indicates when it is appropriate to cross the street.

There’s nothing like smashing yourself in the head in front of other window-shoppers!

Last year, I went to a shopping mall in Boston, MA. One of the doors to the breezeway was clear glass. I never mastered detecting my distance from the door because it was always in motion—someone coming or going.

A pastime that I enjoy is shopping for jewelry; however, I usually give it up after a few bumps on the forehead from my inability to detect my distance from the glass wall that often surrounds entrances to such stores. There’s nothing like smashing yourself in the head in front of other window-shoppers, so my husband saves a lot on jewelry purchases! Sometimes the embarrassment overcomes me, and I never make it into the store.

Conclusions and Recommendations

In conclusion, blends of technology and Socratic dialogue have been the keys to my professional success. Retinopathy of Prematurity (ROP) does affect premature infants. In my case, the earliest sign of Strabismus was an inward turning of the right (amblyopic) eye, also a late sign of ROP damage. Oftentimes, this problem is difficult to detect. Parents of preemies write:

“Retinopathy of Prematurity is abnormal growth of blood vessels in the baby’s eye. It is most common in babies who are very premature, more than 12 weeks early. In



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Stuckness and Low Vision

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development, blood vessels grow from the back central part of the eye out toward the edges. This process is completed just a few weeks before the normal time of delivery. In premature babies, this process is not complete. If blood vessel growth proceeds normally, the baby does not develop ROP. If the vessels grow and branch abnormally, the baby has ROP.” (http://www.pediatrics.wisc.edu/childrenshosp/parents_of_preemies/rop.html)

Additionally, the Texas School for the Blind and Visually Impaired (<http://www.tsbvi.edu/Outreach/seehear/winter98/rop.htm>) now reports that there are late complications from ROP that include Strabismus (crossed eyes), amblyopia (lazy eye), myopia (near-sightedness), and glaucoma — and that regular follow-up is needed to monitor and treat these conditions.

Currently, there does not appear to be a solution for my vision situation. Work in the field indicates that implantable contact lenses (<http://sanjose.bizjournals.com/sanjose/stories/2002/07/01/smallb7.html>; <http://www.eyemlink.com/EyeProcedure.asp?EyeProcedureID=12>; and a non-laser radio frequency procedure; (<http://www.refractec.com/US/Professional/1700.html>; http://www.wilmerlaser.net/whats_new.php3) are two relatively new procedures for correcting farsighted vision problems. My own self-evaluation of these two procedures indicates that I am not a good candidate for either implantable contact lenses (see Table 1) or the radio frequency procedure (see Table 2) because I have already had one surgical procedure (Strabismus surgery) and have too much astigmatism.

Characteristic	Yes	No
Over 18 years of age	X	
Do not qualify for laser surgeries	X	
Eye fatigue from excessive reading	X	
Farsighted (extreme conditions)	X	
No previous eye surgery		X

Table 1. Profile for Implantable Contact Lenses for Gloria Reece

Characteristic	Yes	No
Over 40 years old	X	
Less than +0.75 D of astigmatism		X
Healthy eyes		X
Stable vision		X
FDA-approved	X	
Increase in cornea’s curvature	?	?

Table 2. Profile for Radio Frequency Procedure for Gloria Reece

On behalf of all people with Strabismus due to adverse refractive error (and that’s less than 2% of the nation’s population (see <http://www.lighthouse.org>), I wish for you success in accommodating for your vision loss. It is a lot of work for me to keep my guard up. Sometimes when “stuckness” happens, it can be a serious wakeup call. And, my husband John often comments, “Life with Gloria is interesting!” If you are interested in knowing about more resources for Strabismus, please contact me.

My area of professional expertise is design of Web pages for low vision; nonetheless, I am hopeful that this case study material is useful to Web page developers and others interested in signage and accessible environments. In closing, here are a few “Questions to Ask” when designing accessible, usable Web pages:

- “If the site uses images, is alternative text used?”
- “Is the page capable of being understood when the user cannot see certain colors?”
- “Is there sufficient contrast between foreground and background elements? For example, is the font easy to read on the selected background?”
- “Are the font and background colors complimentary to each other?”
- “Does the page use plug-ins (e.g., Flash, Shockwave? If so, is the page viewable without them?”
- “Are the font sizes easy to read?”
- “Are all links unbroken?”
- “Are all links readable?”

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Stuckness and Low Vision

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- “Are all links accessible?”
- “Are there any pop-up items? If so, are they easily hidden from view?”
- “Is the page navigable without a mouse?”
- “If the page has sound, does it use alternative text or the ability to navigate the site without need of sound?”

Additional principles for usable, accessible design are given in Reece (2001, 2002), Reece and Bine (2003), and Reece, Vinegar, and Gillen (2003). These materials are located at (http://www.stc.org/sn/articles_conf_session_mat.shtml).

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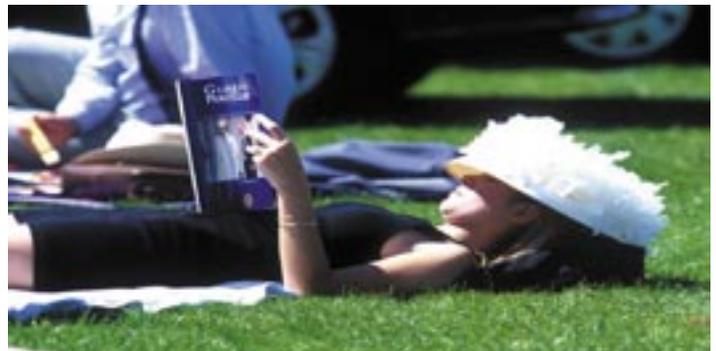
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A senior STC member (Atlanta Chapter), Gloria A. Reece is an assistant professor of information systems at Mercer University. Gloria has extensive academic and industry experience in business and technical communication, instructional design and technology (includes multimedia with specialization in accessible design for new media), and information systems. Dr. Reece’s current teaching and research interests include integration of technology into teaching and learning, assessment in education, active and problem-based learning, digital storytelling, and design issues in accessible, user-centered design. Currently, Gloria is conducting a Web-based multimedia study for people with low vision. She is a member of the Digital Storytelling Association and several STC SIGs, including the AccessAbility SIG. 





See You in Baltimore

Continued from Page 6

Lollipops

As in Nashville and Dallas, we will give out hundreds of lollipops to everyone in Baltimore. Printed on the lollipop stick will be the name of our SIG, as well as our slogan “The Wind Beneath Your Wings.” We are counting on you to give these lollipops to everyone in sight. They’re fun, they’re delicious, and they make our SIG known to people.

Pins

As you know from our recent very successful Operation Butterfly (see page 3), through your generous donations we have purchased a large number of beautiful SIG pins. These spectacular full-color pins show our logo and our slogan. We count on you—no, make that we *urge* you—to wear this pin proudly at the conference, and if you have yourself purchased a few pins during Operation Butterfly, why not give out a few, especially to people who show some interest in our work? Since this pin will not simply be given away to everyone at the conference, it will be in limited supply, and will probably quickly become a coveted item. We can use this to our advantage by doling them out to only those who seem to be interested in our work. I suggest that those of you who purchased a bunch of pins might want to come to the conference with several copies of the SIG sign-up form (see http://www.stc.org/PDF_Files/sigform.pdf) and use the pins as a way of encouraging people to join us. Give them the form along with the pin as a reminder to follow through by submitting their SIG registration and fee to the STC Office.

The SIG Business Meeting

I would like to invite any interested conference attendees, not just A-SIG

members, to attend our annual business meeting. It will take place Sunday, May 9, 2004, from 3:30 to 5 pm, in Room 324. Bring your ideas and your good humor and come hear the latest SIG news.

The SIG Networking Luncheon

I would also like to invite you all to the SIG Networking Luncheon at the conference. It will take place Tuesday, May 11, 2004, from 12:15 to 2 pm. The room is not yet known, but it will be in the final program you will receive when you register. The SIG Networking Luncheon is an opportunity to discuss light topics and perhaps meet new SIG members and other people who are interested in our work.

Monday Night SIG Party

Monday night is a perfect time for our annual SIG party! For those of you who weren’t there last year in Dallas, we had a costume party on a medieval theme. Everybody gathered in my room for a glass of wine and appetizers, and then we headed to an excellent Mexican restaurant right in the hotel, where we spent a couple of hours wining and dining and having a lot of fun.

This year, the party will start with a mixer with drinks and light hors d’oeuvres in Ria and Dan Voss’s room at the Hyatt from 6 to 7:30, then proceed to a nearby restaurant. If you would like to attend one or both of these events, and have not yet RSVP’d, please do so to Ria (bardavon@earthlink.net) and Dan (daniel.w.voss@lmco.com) as soon as possible, specifying your preference on beverage (red wine, white wine, beer, regular soda, diet soda, decaf soda). We are asking for a \$10 contribution for the mixer (\$5 for student members). 



George Herman “Babe” Ruth, Jr., was born February 6, 1895, at 216 Emory Street in Baltimore. From humble waterfront beginnings he would become the most famous athlete of all time, baseball’s greatest star. His power would forever change the game. The Babe’s birthplace is only two blocks from Camden Yards, home of the Baltimore Orioles, and both are in close proximity to the Baltimore Convention Center.



Oriole Park at Camden Yards, the beautiful baseball-only facility in downtown Baltimore, became the official home of the Orioles on April 6, 1992. The one-time railroad center is 12 minutes west by foot from the City’s Inner Harbor.



AccessAbility Around The World

By Karen Mardahl
Nordic Chapter

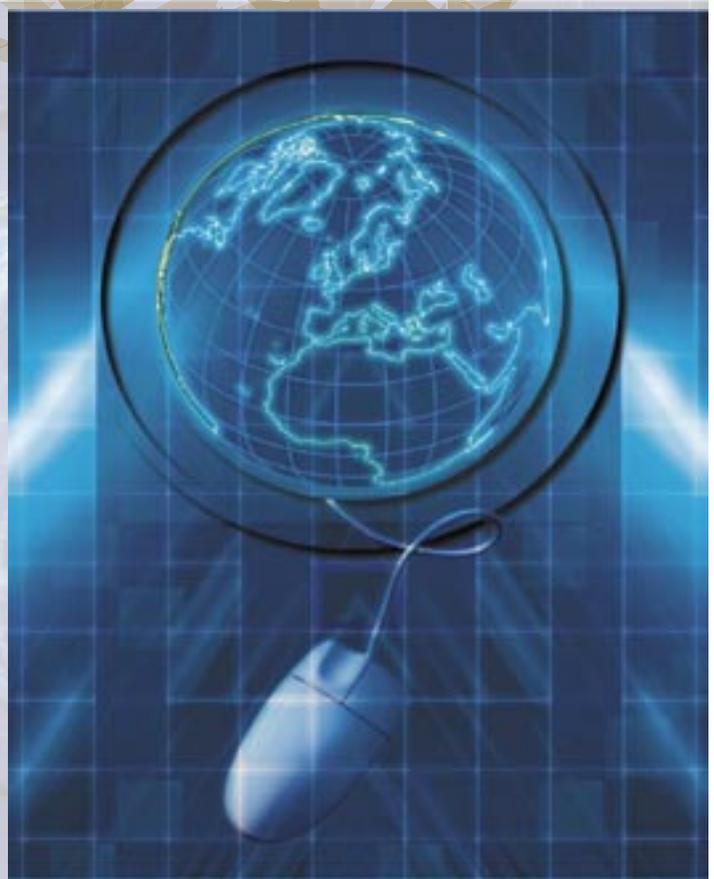
Just to let you know what's happening around the world in accessibility — at least in Europe!

Norway implemented a "...Programme of Action for Universal Design... in 2002 to strengthen the development and utilization of solutions that are functional for all. In its initial phases, the programme is aimed at further specifying the implementation of the universal design strategy in public policy and integrating this line of thinking into government instruments." All the information is gathered in one spot at <http://www.universell-utforming.miljo.no/>. The site has AA compliance with W3C standards according to its details. Of course the site is primarily in Norwegian, but there is a link to an English translation and they have spoken text in English and Norwegian. Nice to see an integrated approach at the governmental level. I don't know how it all works on a day-to-day level, however.

The Helen Hamlyn Research Centre is a center for inclusive design, set up at the Royal College of Art, UK, in 1999 "...to alert designers and industry to the far-reaching implications of a rapidly changing society. A society in which there are growing numbers of older and disabled people, radical shifts in working patterns, and mounting pressure on mobility and other public services." It has a plain text version: <http://www.hhrc.rca.ac.uk/plain/index.html> or a graphics version <http://www.hhrc.rca.ac.uk/index.html>.

I use these links as inspiration for both design and the way in which they communicate the message of accessibility.

I became aware of these sites through a "link of the month" feature in the newsletter from the Danish Center for Accessibility (<http://www.dcfk.dk>). "The Danish Centre for Accessibility (DCFT) is a national, self-governing center, established in 1996. The background was the government's signing of the UN Standard Rules on the Equalization of Opportunities for Persons with Disabilities." Its goals are "... to contribute towards improving accessibility for everybody in society in general and particularly for the disabled and the elderly. The center will contribute towards highlighting accessibility and Design for All on the public agenda and work as a national focal point and coordinator in questions concerning accessibility and Design for All."



Last but not least, we have the EuroAccessibility Consortium (<http://www.euroaccessibility.org>). Its objectives are:

- Avoid the risks of fragmentation of the WAI outcomes.
- Develop testing methodology based on the W3C/WAI Web Content Accessibility Guidelines.
- Set up a common certification methodology of Web sites.
- Create an Accessibility Quality Mark based on common rules.
- Establish a certification authority for Web accessibility.
- Set up a European network of regional consulting desks.
- Develop an harmonized set of supporting services over Europe.
- Disseminate best practices in accessibility evaluation.
- Significantly increase the number of accessible Web sites.

All text marked with quotation marks are statements taken from the relevant Web site.

Regards, Karen Mardahl 

Bridging Usability and Aesthetic Design of Wheelchairs

By Betsy Fields,
Stanford University



Figure 1
The Guardian Escort from Sunrise Medical is a manual, standard weight wheelchair.



Figure 2
The Sunrise/Quickie Recliner is a manual recliner wheelchair.



Figure 3
The Invacare Ranger II is an electric wheelchair.

A wheelchair provides transportation for the disabled, independence and self-sufficiency to someone who would otherwise be completely dependent on others. But is functionality the only aspect of a wheelchair worth contemplation? Should we not evaluate the design aesthetic of wheelchairs to the same extent that we analyze the design of other useful and purposeful objects?

Wheelchairs date back to the 16th century, when Jehan Lhermite built the first one for Philip II of Spain. In the 19th century, designers attempted to improve wheelchair design by using wicker instead of heavy wood in order to make them lighter. However, the wicker couldn't handle the stresses and strains of daily use, so chair designers went back to using wood. In 1919, Herbert Everest, a mining engineer, broke his back in a mining accident. Dissatisfied with his unwieldy wooden wheelchair, he invented the first lightweight, folding wheelchair with the help of his friend Harry Jennings, a mechanical engineer. Several decades later, Everest & Jennings was the first company to produce a commercially available electric wheelchair.¹

Today, consumers have a wide range of choices when it comes to buying a wheelchair. One can choose between a manual chair and a power chair; standard, lightweight, and ultra-lightweight chairs; sport wheelchairs; recliner wheelchairs; heavy-duty wheelchairs; and tilt wheelchairs. Compared to the early days, when wheelchairs came in but one form, this is an amazing improvement. In terms of functionality, today's wheelchairs are much more versatile and user-friendly than the first models were, and in terms of comfort, today's wheelchairs are presumably a vast improvement over those of the past, utilizing new developments in

seat cushion technologies and the advent of new, better materials.

In terms of aesthetics, however, current wheelchair design is disappointing in its lack thereof. Figures 1, 2, and 3 show three types of wheelchairs currently on the market. Figure 1 is the Guardian Escort from Sunrise Medical, a manual standard weight wheelchair. Figure 2 is the Sunrise/Quickie Recliner, a manual recliner wheelchair. Figure 3 is the Invacare Ranger II, an electric wheelchair. While each of these chairs clearly has different functional features, the aesthetic similarities between them are rather striking. All three chairs have the same basic design: a boxy shape, huge in-your-face wheels, and a mechanical, sterile appearance. Moreover, each model is available in exactly one shade: grayish black.

What is the consequence of this sterile uniformity in wheelchair design? In fact, the repercussions may be more serious than we would like to think. When you see an able-bodied person walking down the street, you notice various things about them: looks, body English, facial expression. You form an impression of them that stems from what they are wearing and what kind of vibes they give off. An able-bodied person is able to communicate something about their personality to the world – they have quite a lot of control over what the world sees when they are in public. When you see a person with a disability moving around in a wheelchair, what do you first notice about them?

Chances are, you mainly notice the wheelchair. Those immense wheels and the lowered height of the person in the chair makes the entire package – person and chair – stick out like a sore thumb. Its occupant is probably someone to be pitied,

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Wheelchairs

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not someone to be reckoned with. No question, the presence of that wheelchair has a huge impact on any further interaction you may have with the person in it. Such is human nature.

Why is the basic design for most wheelchairs today the same as it has been for years and years – sterile, unfriendly, and completely unsubtle? Why have we not seen the same radical changes in the appearance of wheelchairs as we have in the appearance of most all other furniture and appliances? Why have aesthetics been nearly completely ignored? It is true that designers have paid attention to the functionality of the product, adding new features and innovations, as they become technologically feasible. But what about the overall presentation? Why don't wheelchairs come in as many different shapes and colors as any other consumer product, be it sunglasses or shoes, skateboards or automobiles?

Barthes wrote, “use never does anything but shelter meaning.” Designers view the wheelchair a product whose value lies solely in its functionality; aesthetic qualities seem to count for nil. If the “meaning” of an object is the significance it holds in the public eye, then in the case of the wheelchair, its “use” certainly does “shelter” its meaning, and in a most sinister fashion: the sterility of wheelchair design is a clear reflection of our attitude towards human disability.

What do the current designs imply about the way society views the handicapped? What meaning is “sheltered” by the appalling lack of aesthetic innovation in wheelchair design? When we begin to consider the matter, the implications are grim. It is as though we are telling the handicapped, “Look at the mobility this wheelchair affords you! You should be grateful that you could now reclaim some independence. The fact that this chair, which will be your constant companion anytime you wish to go anywhere, is gray, sterile, and institutional-looking, should not be an issue. You should



*Figure 4
In the 1980s, Drew Browning designed the “Legged Electromechanical Multiple-Gaited Superchair.”*

The sterility of wheelchair design is a clear reflection of our attitude towards human disability.



*Figure 5
The Jazzy 1100 Electric Wheelchair by Pride is reminiscent of a padded chair one might find in a car.*

be grateful for everything it does for you and not worry about what it is doing to you and to society's image of you.”

In the 1980s, the desire to boost the self-sufficiency of wheelchair users compelled industrial designer Drew Browning and his team to design the “Legged Electromechanical Multiple-Gaited Superchair,” (Figure 4), a contraption that would leave the public speechless were it ever to enjoy mainstream use among the disabled. Aesthetic appeal was clearly not the group's main concern. In answer to anxieties over public receptivity, not to mention the average person's fear of spiders, Browning wrote, “It is hoped that any reservations about the appearance will be dispelled by LEGS' wide range of capabilities.” These hopes were not widely sustained, and the project was not funded beyond the prototype stage.ⁱⁱ

Is there anything that designers can do to lessen that initial negative impact, that red-flag quality, of the typical modern wheelchair? Form may have to follow function, but this is no excuse for accepting any form that does in fact function. Is there any way to redesign the wheelchair so that it is fully functional but less threatening and more inviting? Figure 5 shows the Jazzy 1100 Electric Wheelchair by Pride. This designer has obviously put some thought into this model – the shape of the seat is reminiscent of a padded chair one might find in a car, rather than a metal chair one might find in a school auditorium. The designer has clearly started to break out of the utility-driven rut in which most wheelchair designers seem to be stuck, and has begun to treat wheelchair design in the same manner as regular chair design – with some thought towards aesthetics and form, as well as to function. However, Pride (let alone other wheelchair companies) has not bothered to pay similar attention to the design of its manual wheelchairs, and with a price tag of \$5,420, it's no wonder these new electric models haven't been flooding the streets.

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A Few Notes on Buying a Computer

By Curtis Chong, Director of Technology
National Federation of the Blind

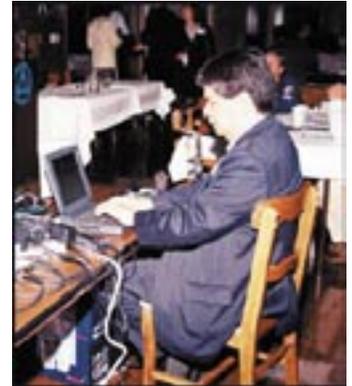
From the Editor: Every year thousands of people ask the staff of the NFB Technology Department for advice in buying just the right computer. Recently Curtis Chong, NFB Director of Technology, compiled his advice into one short handout. We thought that everyone would be interested in reading it. Here it is:

The International Braille and Technology Center for the Blind (IBTC), which is operated by the National Federation of the Blind, receives thousands of calls each year from blind people who want to buy a computer. Most of our callers want a computer to write letters, keep records, send and receive e-mail, and surf the Web. Some people want to use their computers as reading machines, which can scan and speak printed material. While most people want voice output from their computers, others prefer screen magnification. People who need to read highly technical material or who are deaf-blind might prefer reading their computer screens using refreshable-Braille technology. As a totally blind computer user I find that voice output works well for me. Many of my friends with enough vision to read print prefer to have both voice output (to save on eyestrain and dramatically increase reading speed) and screen magnification (to provide visual verification when desired).

If you cannot read your computer screen because of your vision, in addition to the basic computer you will need to add software called screen-access technology. You should start by purchasing a computer that runs the Windows operating system. The following specifications can be used as a guide to determine which built-in features

you should get for your new system: at least 128 megabytes of RAM (random access memory), at least 8 gigabytes of hard-disk space, an internal 56K modem with V.90 capability, no less than a 500-megahertz processor speed (nothing slower is sold these days), and a Creative Labs Sound Blaster Live card. While almost any video card will work with screen-access technology for the blind, the blind person using speech output should bear in mind that the more sophisticated, three-dimensional card used for video games is not necessary.

Why do you need the Sound Blaster Live? You will need a multi-channel sound card that allows screen-access technology and other Windows applications to generate sounds at the same time. Without a multi-



Curtis Chong of the National Federation of the Blind demonstrates refreshable-Braille technology.

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Wheelchairs

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For those who depend on a wheelchair for their day-to-day mobility, the way their chair is designed and its style reflect on them for as long as they are using it. Wheelchair designers should, therefore, take this into consideration and place more emphasis on the aesthetic quality of the chair. It hardly matters if the chair is needed only temporarily or if the wheelchair is a person's lifetime companion, although people in the latter category certainly deserve wheelchairs that are both fully functional and aesthetically appealing. When Barthes wrote, "use never does anything but shelter meaning," perhaps he was not thinking of wheelchairs. But had he thought of them, he might have grimaced at the thought that we, as designers, are projecting our own

prejudice and discomfort towards human disability on the very objects that are supposed to be helping the disabled to overcome their handicap.

Betsy Fields can be reached at Stanford University at: bfields@stanford.edu

ⁱ Sources: www.dsa.org.au/life_site/text/tech/ and www.geocities.com/bwhendrickson/history.html

ⁱⁱ Sources: <http://bucky.aa.uic.edu/DVL/drew> and

<http://bucky.aa.uic.edu/DVL/drew/leggs.html> 

UPA Members Advise Air Travelers About Usability

By Usability Professionals' Association

When Sky Radio and Forbes wanted information on usability for its new "ROI Report," they turned to members of the Usability Professionals' Association (UPA). Two interviews on the value of usability to business are featured in the February edition of the American Airlines inflight audio program.

Bill Killam, President of User-Centered Design, and Aaron Marcus, Founder and President of AM+A, both felt that this was an opportunity to spread the word about usability and to make the case for the services of their own companies. According to Marcus, "I thought making a statement on an airline inflight audio program would be a good opportunity to go directly nation-wide and world-wide to air travelling business leaders and managers. My hope was that listeners might benefit from understanding more about usability issues of user-interface design." Killam added that the professionalism of the Sky Radio staff in producing the interviews also made the experience "a lot of fun."

For the UPA, promoting usability as a way of improving product design is a key mission. "I was very excited to see usability and user-centered design presented as a critical aspect of return on investment for businesses," said Elizabeth Rozensweig, president of UPA. "Usability professionals are part of every kind of company, from the largest corporations to government agencies to small product development groups. This is just another way for us to let people know what we can do for their bottom line."



Was it worth it? In the end, Killam felt that, "All in all, it was a great opportunity for the industry (and not bad promotional material for my company)."

- The interviews are available on the Sky Radio Web site at: www.skyradionet.com/americanbiz.html
- AM+A – Aaron Marcus and Associates: www.AMandA.com
- User-Centered Design: www.user-centereddesign.com

The Usability Professionals' Association is an international, non-profit, professional association with more than 1,700 members in the U.S. and 35 other countries. Members are specialists in evaluating and designing products that are easy to learn and use. Many usability professionals hold advanced degrees or training in psychology and related fields. The organization provides its members with a wide variety of professional services. Via outreach, the UPA:

- Communicates and shares information about skills and skill development, methodology used and/or proposed in the profession, tools, technology, and organizational issues.
- Presents the viewpoints of the profession to the public and other interested parties.
- Educates the general public about the profession.

For more information, contact:

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Web: www.upassoc.org 



Buying a Computer

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channel sound card, sounds generated by Real Audio or by Windows often conflict with your screen-access program's ability to talk to you through your computer's speakers, and one or the other will generate an error message. In our experience the Sound Blaster Live works well as a multi-channel sound card. However, you can acquire another multi-channel sound card if you wish.

As for software, I would first recommend the Windows 98 Second Edition operating system and (some months after it has been released) Windows Millennium. E-mail and Web-browsing software (Outlook Express and Internet Explorer, respectively) come free with the Windows operating system, but you get only a fairly simplified free word processor (WordPad for Windows). While you can use WordPad to write letters and other simple documents, you may want to consider buying Microsoft Office if you are interested in spell-checking your material. A word processor that works fairly well with screen-access technology is Microsoft Word. Some computer dealers will try to bundle a package called Microsoft Works with your system. While we cannot say for certain that Microsoft Works is not compatible with screen-access technology for the blind, we can say that our experience with it is limited and that we are more confident in the ability of Microsoft Office to work with access technology than Microsoft Works.

The next software item that must be given serious consideration is a screen-access program. Most blind people would prefer to acquire one which converts the information on the screen into speech. Others will want screen-magnification software, and many will want a combination of speech output and screen magnification. See the last page of this article for information about how to contact the appropriate screen-access technology vendor.

If you want your computer to be able to read and speak printed material, you will need to buy a piece of hardware called a scanner (for about \$200) and a software product which actually speaks the text on the page. You should be prepared to spend at least a thousand dollars to acquire the blind-friendly systems—especially if you do not consider

yourself a relatively sophisticated user of Windows. There are two noteworthy products to consider: Open Book from Freedom Scientific and Kurzweil 1000 from the Kurzweil Educational Group of Lernout and Hauspie. Both of these programs come with their own speech and can thus operate without screen-access technology.

In addition to the staff of the International Braille and Technology Center, the National Federation of the Blind has thousands of members willing and able to answer your questions. I urge you to call the president of the NFB affiliate in your state and introduce yourself to him or her. If you do not know how to reach your NFB state affiliate president, call the NFB's general information staff in Baltimore at (410) 659-9314 (8:00 a.m. to 5:00 p.m. Eastern Time).



Twin Cities man Curtis Chong, president of the National Federation of the Blind in Computing Science, is spearheading a drive to keep computer operating systems and the Internet accessible to the visually impaired.

Now for those who want large print. We are not experts on low-vision software but have heard good things about Zoomtext from a company called AI Squared. This software is particularly helpful if you want to use screen magnification as your primary means of reading information displayed on the computer screen. For those who want speech output most of the time but need some visual verification every once in a while, the combination of JAWS for Windows and the MAGic magnification software (available from Freedom Scientific) seems to work well. There are

many other possibilities, so you would be wise to start networking with other blind people. Again, call our NFB state presidents to meet people already using computer systems you'd like to have yourself.

Sometimes people new to using computers hire someone to build them a computer. This can include lessons which teach the buyer how to get started once the computer is assembled and ready for use. Such experts often know how to buy good basic equipment during sales or at a reduced rate on Internet Web sites. If you know some blind computer experts, I would suggest you ask what fee they would charge for assembling a system in addition to the cost of the computer parts. Remember that sighted experts may help to build a computer but are unlikely to know how

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Buying a Computer

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to instruct you to use keyboard commands instead of the mouse. Again, I highly recommend locating local blind computer users to help you through the frustrating early days of learning to use your new system.

At present the average cost for a full system can be broken down like this:

- \$1,200 Intel-based computer with Windows OS
- \$1,000 Reading Software (Optical Character Recognition software) will let you use your commercial scanner. First, it scans any typeset print you've placed on the scanner; then it will recognize the document and read it aloud to you.
- \$ 800 Screen-Access Technology, such as Jaws for Windows, Window-Eyes, Window Bridge 2000, or outSPOKEN for Windows will see your computer screen and articulate what is there.
- \$ 200 A typical commercial scanner.
- \$ 200 A typical commercial color printer.
- \$ 300 Estimated: state tax, an electrical power surge protector, computer supplies (printer paper, disks, and computer application programs), computer user manuals in Braille or on cassette, Internet service provider fees, (\$100 to \$200 per year), and other such incidentals.
- \$3,500 Best estimate

Screen Access Technology Top 4 Vendors

While JAWS for Windows from Freedom Scientific appears to be the best known screen access program for the blind, we should call to your attention three other programs. Each program has its own unique set of features. The decision as to which screen-access program to buy is based partly on the features which are important to you and partly on the amount of money you have to spend. You should consult with the screen-access vendor to obtain the most current information about features and prices.

JAWS for Windows by Henter-Joyce, a division of Freedom Scientific, 11800 31st Court North, St. Petersburg, Florida 33716-1805. Telephone: (800) 444-4443, (727) 803-8000; Fax: (727) 803-8001; e-mail: info@hj.com; Web site: <http://www.freedomscientific.com>. JAWS for Windows provides

speech and Braille access. JAWS for Windows is shipped with the Eloquence software speech synthesizer, meaning that it can generate speech through your computer's sound card.

Window-Eyes by GW Micro, 725 Airport North Office Park, Fort Wayne, Indiana 46825. Telephone (219) 489-3671. Fax: (219) 489-2608. BBS: (219) 489-5281. Web site: <http://www.gwmicro.com>. Window-Eyes provides speech and Braille access.

Window Bridge 2000 by Syntha-Voice Computers, Inc., 800 Queenston Road, Suite 304, Stoney Creek, Ontario L8G 1A7, CANADA. Telephone: (905) 662-0565. Fax: (905) 662-0568. BBS: (905) 662-0569. Web site: <http://www.synthavoice.on.ca>. Window Bridge provides speech and Braille access .

OutSPOKEN for Windows by the Alva Access Group, Inc., 5801 Christie Avenue, Suite 475, Emeryville, California 94608. Telephone: (510) 923-6280. Web site: <http://www.aagi.com>. OutSPOKEN (\$595) provides speech and Braille-access. 

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