Differently Abled

A "Sinister" Tale of Accessible Design
--Sherry Lindquist, Ed. D.

Click the picture for slide narration

Hello. Welcome to *Differently Abled: A "Sinister" Tale of Accessible Design.* Wherever you see my photo, you can click for an audio narration or refer to the speaker's notes for a transcript. There is also a more detailed "how to" handout entitled *Accessible Design ABCs* if you'd like to know more about accessibility basics. No trees were harmed in the making of this presentation.

As you view the images on this slide, consider what it's like to be "differently abled." Being left handed used to be considered a definite liability, just ask those of us who suffered through "right is for writing" sessions in elementary school and were always told our check marks were backwards and our handwriting was "weird." While this "different" ability is minor compared to a visual, hearing, mobility, or cognitive impairment, it served as a wakeup call for me as I considered the impact of accessible design.

I'm Sherry Lindquist, from Northland Community and Technical College in East Grand Forks, Minnesota. We're about 75 miles south of the Canadian border. If you're in the neighborhood, drop in! If not, visit us on the web. I teach English and work with faculty on instructional design and technology infusion.

The "Right" World?

90/10 (BBC News) Rifles
Golf Clubs   Stick Shifts
Notebooks   What else?
Potato Peelers
Guitars
Chainsaws
Lawnmowers
Sewing Machines
Scalpels

According to the BBC News, 90 percent of the world is right handed. In addition to the examples we saw earlier, consider the following:

Golf Clubs, Notebooks, Potato Peelers, Guitars, Chainsaws, Lawnmowers, Sewing Machines, Scalpels, Rifles, Stick Shifts.

Is it "ok" for a logger, a tailor, a hunter, or a doctor to have to adapt to a right-handed world, or could we find a way to design for the needs of both groups simultaneously? We can't all be Jimi Hendrix, but just think of what else he might have accomplished with a left-handed guitar!

Who's "Average"?

- Average height
- Average weight
- Average age
- Average IQ
- Average driver
- Average looking
- Average salary
- Average online user

Where do you fit in these categories? Are you average height, average weight, or average age? Are you finding that the world is not designed with you in mind, or may even be deliberately designed to exclude or inconvenience you in some way? Would you want to be considered someone with average IQ or be an average driver? Would you want to be average looking or draw an average salary?

Do we design our virtual worlds for the average online user? Who is that person? What kind of world is that? Would we want to learn there?

Your first assignment

This is the interactive part of the presentation, so please complete this assignment using the note card and pencil you were given at the beginning. It should take about a minute.

Better?

- Grasp the side of your chair with your right hand
- Use your left hand to write your signature on the note card
- Flip the card over and use your left hand to write your birth date
- So what?

Ok, that wasn't fair, was it? White lettering on a white background is an extreme example, but we may be putting similar roadblocks in our online spaces every day, often without being aware of it. Try the exercise now:

Grasp the side of your chair with your right hand

Use your left hand to write your signature on the note card

Flip the card over and use your left hand to write your birth date

So what?

Consider the words of Tim Berners-Lee, the inventor of the World Wide Web and the Director of the World Wide Web Consortium, featured on the Web Accessibility Initiative (WAI) home page:

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

Besides being the right thing to do, designing accessible content and courses will benefit all users. Accessible design focuses our attention on how someone on the other side of the screen responds to the environment we've created. The tools used in accessible design—like headings, alt tags, and captioned links—make life easier for us as designers as well, especially if we want to create a linked table of contents or remind ourselves what website we are sending people to in an otherwise indecipherable URL address.

When we include captions for a video, we are not only providing information for people with visual impairments, we are also providing a transcript for sighted users who may be auditory-visual learners. When we use headings, we also create a document map that end users can refer to as an outline, to help them categorize and classify information.

As more people begin to access online content through mobile devices, using accessibility tools will also improve the likelihood that our content will render faster and more effectively than content from non-accessible sites.

Finally, considering accessible design at the front end is far more likely to put us ahead of the regulatory curve. Section 508 is currently a voluntary standard for colleges and universities, although many states have either adopted or are considering adopting similar standards for their state agencies, including state colleges and universities. Illinois, for example, enacted the Illinois Information Technology Accessibility Act (IITAA) in 2007, widely considered to be one of the best examples of statewide regulation. At the federal level, Section 508 and Section 255 (regarding telecommunications for people with disabilities) will soon be merged, with the public comment period ending in June of this year. The proposed Information and Communication Technology Standards and Guidelines will have a profound affect nationwide. And while the United Nations' statement on the Rights of Persons with Disabilities does not have the force of law, it is certainly the recognition of a moral imperative.

The ABC's of Accessible Design

Always choose a style
- Word processors or HTML editors
  - Novice? Word processor and PDF
  - Word 2007 bookmarks transfer
  - Can create table of contents, document maps
  - Make PDFs searchable ("OCR")
  - More advanced? HTML all the way!
- Drill Down and How To
  - See the handout for details

Always choose a style. Designers can create content in word processors or HTML editors. For those new to instructional design, word processors might be the best bet, converting the finished document to PDF format. Options in Word 2007 allow headings to be converted to bookmarks, useful for navigating in PDF readers such as Adobe® Acrobat. Headings can also be used to create table of contents pages and document maps for easier navigation. If designers are using a scanned document to create PDFs, it is important to apply Optical Character Recognition options so the PDF will be searchable and able to be read by a screen reader.

More advanced designers will want to consider using HTML editors to create web content with easy-to-use WYSIWYG screen interfaces. HTML editors allow designers to include more accessibility features and other tools that increase the interactivity and usefulness of the content. For more details about styles and HTML editors, please refer to the handout.

The ABC's of Accessible Design

B

Be careful with lists and tables
- Use the list option in styles
  - Change spacing options rather than entering blank spaces
- Use tables for data, not design
  - Consider Word Smart Art, text boxes, page/paragraph borders
- Drill Down and How To
  - See the handout for details

Be careful with lists and tables. These are common features that can cause accessibility problems. The most common problem with lists is the practice of adding a blank line between items in a list for readability. For a person using a screen reader, this means each line is read as a separate list, with a blank line, and then a new list. This could cause problems with comprehension of important information as well. Rather than using a blank line, designers using word processors can change the spacing options in the *Paragraph* dialog box.

Tables should be used for data, not for design purposes. Consider other options to add design elements to content, such as SmartArt, text boxes, and paragraph/page border choices available in Microsoft® Word 2007. For more details about lists and tables, please refer to the handout.

The ABC's of Accessible Design

Caption and Check Content
- Contextual Captions for hyperlinks and graphics
  - Provide a list of URLs for print versions
- Check Content—"Walk a Mile"
  - Free screen reader and websites to check accessibility, see handout
- Drill Down and How To
  - See handout for details

While it's a simple process to copy and paste a web address into a document, it can create headaches for people using screen readers and be confusing for other readers as well. A link that's labeled IRS Withholding Calculator is far more useful for any reader than one pasted in as http://www.irs.gov/individuals/article/0,,id=96196,00.html

As a note, labeling a link as "Click Here" is not any more useful than inserting a URL address directly. Someone attempting to navigate to a specific link in a document would find it difficult to find the right one. Captions are also important for graphics. If a graphic is purely decorative, labeling it with a "skip tag" can save a lot of time. If interpreting the graphic is integral to understand the content, captions are essential. For people using printed copies of documents, URLs and graphic captions can be provided in footnotes or in appendices.

Finally, it's not enough to design accessible content. It's also important to experience the content as the end user will. To that end, designers should check the content they create with available accessibility tools, such as screen readers and accessibility checkers. For details, please refer to the handout, and walk a mile in your virtual world in someone else's shoes

Useful Resources

- Illinois Information Technology Accessibility Act
- Free HTML Editors
- Using Styles in Microsoft® Word 2007
- Adobe® Acrobat Accessibility Training Resources
- The United Nation's Statement on Human Rights
- Federal Section 508 (Web)
- ICT Standards and Guidelines (Draft)
- Web Accessibility in Mind
- Web Accessibility Initiative

The links here are only a few of the vast resources available on the whys and hows of accessible design, but they are a good place to start.

Useful Downloads

Non-Visual Desktop Access
- Free screen reader, synthetic speech/Braille

Audacity
- Free digital recorder/editor with MP3 and Ogg Vorbis exports

LAME
- Free Audacity add on to create podcasts

Voki
- Free and fee avatar software for audio narrations

SoftChalk™
- HTML editor, free 30-day fully functional trial

Again, there are many free or low-cost resources available. I have used all of these resources and found them to be reliable and intuitive, with good end-user documentation.

Graphics Credits

Digital Camera (Creative Commons):
http://www.flickr.com/photos/artysmokes/3270294787/
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I include this information on graphics credits to stress the importance of respecting intellectual property rights, just as we respect the rights of people to navigate and comprehend our online environment regardless of ability. This information could have been included in the alt tags for each graphic, but since it is not possible to caption information in alt tags at present, this format allowed for the inclusion of the complete web addresses as requested by the creators.