

Opening Thought

“As we come to realize anew each day, the pace of technological change is amazing; what appeared impossible just months or years ago is now commonplace. Advancing technology can open doors for people with disabilities and provide the means for them to have full, equal, and integrated access to American life. But technological advances will leave people with disabilities behind if technology developers and manufacturers do not make their new products accessible...

We must avoid the travesty that would occur if the doors that are opening to Americans from advancing technologies were closed for individuals with disabilities because we were not vigilant.”

April 22, 2010 Samuel R. Bagenstos testimony before House Sub-committee

Web and Document Accessibility Techniques

Gabriel Merrell – Interim Assoc Director for Accessibility
Office of Equity & Inclusion

A word cloud on a black background featuring various terms related to accessibility and inclusion. The words are in different colors (white, yellow, and blue) and orientations (horizontal and vertical). The terms include: activism, accessible, able-bodied, ableism, devaluation, discrimination, disabilities, advocacy, communication, language, person, understanding, inclusion, dream, life, first, success, change, and diversity. The words are arranged in a way that they overlap and flow together, creating a visual representation of the concepts.

Web and Document Accessibility Techniques

- Legal Environment
- User Perspective
- Document Accessibility
- Website Accessibility
- Testing for Accessibility
- Resources

Legal Environment

Making our publications work for the widest possible audience

Unprecedented Possibilities

IT becoming integrated into societal life

What is “Ableism?”

Ableism refers to discrimination, devaluation, misconceptions, stereotypes, and prejudice—conscious or unconscious—of and against people with disabilities, the chronically ill, and people with chronic health conditions.

Disability Rights Movement 1960s-Present

Some of the major gains in the movement through legislation:

The Architectural Barriers Act (1968)

The Rehabilitation Act of 1973

Education for All Handicapped Children Act of 1975 (later renamed in 1990 to the Individuals with Disabilities Education Act (IDEA))

The Americans With Disabilities Act (1990) ; Standards/Regulations Updated 2010

Section 508 of the Rehab Act (1998); Revision currently in Final Draft

Americans with Disabilities Amendments Act of 2008 (ADAAA)

DOJ ANPRM Accessibility of Web Info & Services (Comment period closed Jan 2011)

Legal Environment

Laws that mandate equal access

ADA, Rehabilitation Act (504, 508)

Remember, the ADA is a Civil Rights Law and is enforced as such

Currently 504/ADA do not talk about technology but they both include the requirements for accessibility

A recipient of federal financial assistance must make its programs and activities accessible to people with disabilities as one form of preventing discrimination

Access and accommodations must be provided in the most integrated setting appropriate

Important Addition to ADA not included in 504

Title II says that “communications with [people with] disabilities [must be] as effective as communication with others” – communication specifically called out in the ADA, very important provision for this conversation (Title II Subpart E – Communications 35.160 General (a) (1))



User Perspective – Assistive Technology (AT)



Visual disabilities

Screen Readers
Magnifiers
Speech Recognition
Increased contrast



Mobility disabilities

Speech Recognition
Keyboards
Headsticks
Mouthwands



Hearing disabilities

Captions/Transcripts



Cognitive/mental disabilities

Speech Recognition
E-text/e-books
Content most important

User Perspective: Screen Reader Demo

Introduction to screen readers



User Perspective – Benefits for All

Electronic “Curb Cuts”

Already seen with captioning on TV

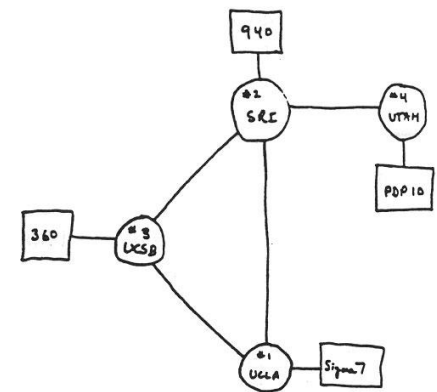
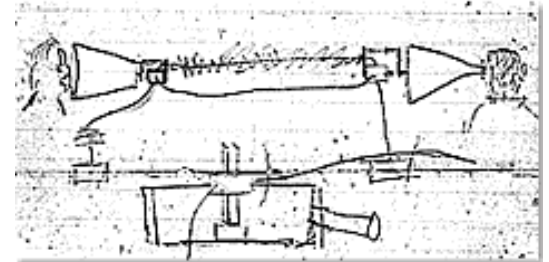
Many other instances of technology built for those with disabilities that we all use daily

Typewriters – Pellegrino Turri created for a friend who was blind

Telephone – A.G. Bell created through his work to support children who were deaf

Email – Vinton Cerf, hard of hearing since birth, is thought to have included email in ARPANet as a result of his creation of electronic texts as a way to talk with his wife – who was deaf.

Accessible documents and websites lead to better organization and cleaner code



THE ARPA NETWORK

DEC 1969

4 Nodes

User Perspective – Stats



Almost 55 million individuals in the U.S. have a disability (19%)

Compared to the general pop:
6.4% (14.7 million) have a visual, hearing, or speech impairment

11.9% (27.4 million) have a mobility impairment

7% (16.1 million) have a cognitive and/or mental difficulty

Source: Brault, Matthew, *Americans With Disabilities: 2005, Current Population Reports*, P70-117, U.S. Census Bureau, Washington, DC, 2008.

A little over 2 million college students have a disability (11%)

Compared to all college students:

1% (194,000) have a visual, hearing, or speech impairment

1.6% (300,000) have a mobility impairment

5.4% (1,040,000) have a cognitive and/or mental difficulty

Source: National Postsecondary Student Aid Study: 2008

User Perspective

Who is affected by
inaccessibility? People with...

- visual disabilities
- hearing disabilities
- mobility impairments
- cognitive limitations

...but also

- people who browse non-graphically
- those with older machines, older browsers, lower bandwidth
- smart phone users



If an individual can't
access content how can
we expect that person
to learn?

How do we reach the
desired audience?

How do we collaborate?

Document Accessibility

Important Items to Consider in Creation

1. Use of Styles, Structure, and Tags
2. Color
3. Images
4. Descriptive Links
5. Fonts
6. Layout & Reading Order
7. Navigation
8. Set the Language

Document Accessibility

Use of Styles, Structure, and Tags

When thinking of styles/structure, think outline.

How do you organize a document – Headings usually.

Don't use bold/underline/font size to create this structure.

Headings should be properly “nested”

Document Accessibility

Use of Styles, Structure, and Tags

Headings should be properly “nested”

Heading One (usually your title)

Heading Two

Heading Three

Heading Three

Heading Two

Document Accessibility

Use of Styles, Structure, and Tags

If the software has build in styles, use those to create structure

EXAMPLE: Microsoft Word 2007/PC

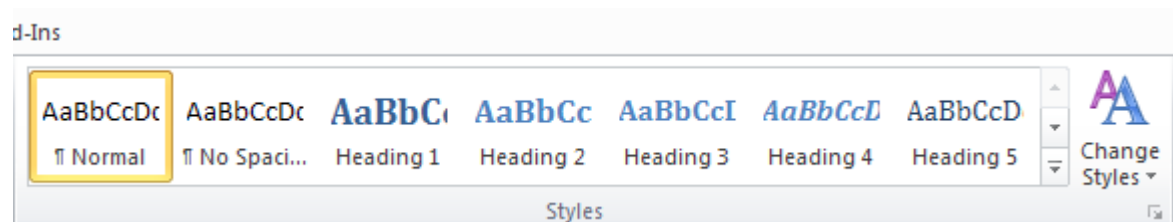
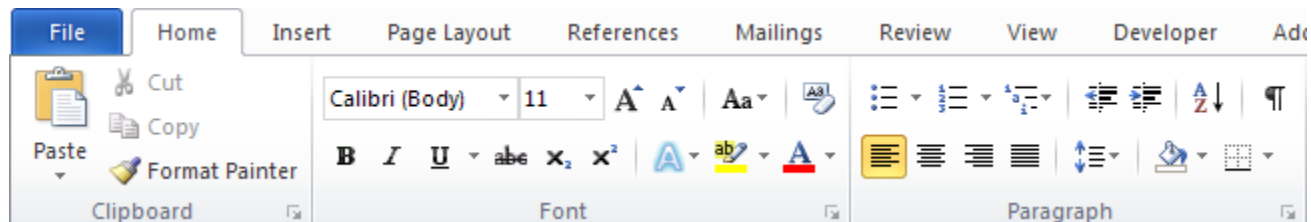


Document Accessibility

Use of Styles, Structure, and Tags

If the software has build in styles, use those to create structure

EXAMPLE: Microsoft Word 2010/PC

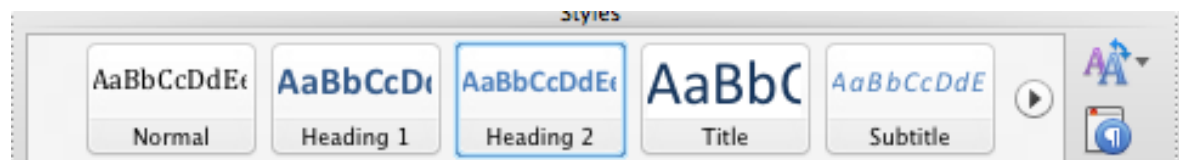
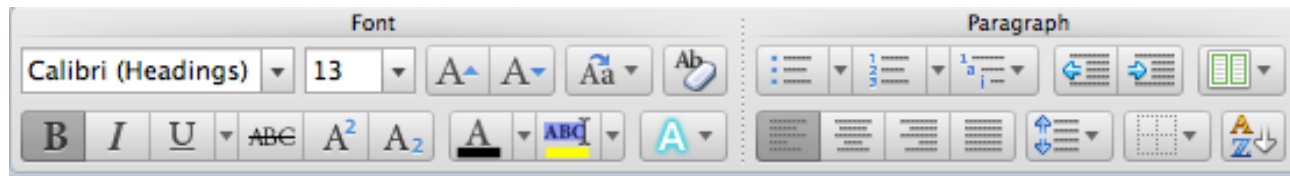


Document Accessibility

Use of Styles, Structure, and Tags

If the software has build in styles, use those to create structure

EXAMPLE: Microsoft Word 2011/Mac



Document Accessibility

Use of Styles, Structure, and Tags

PDFs

If the software does not have build in styles, use Tags (Adobe).

Acrobat 9 Pro – Advanced > Accessibility > Add Tags to Document.

A quick way to check to see if a PDF is not accessible is to try and select some text. If you cannot, then the document is likely not accessible.

Document Accessibility

Color Combinations or: Is this hard to read?

Don't rely on color alone to convey meaning.

Personal Info

Required

Full Name

ID Number

Email

Phone

Personal Info

* Required

Full Name

* ID Number

* Email

Phone

1 in 10 men in the US has some form of colorblindness

Document Accessibility

Color Combinations or: Is this hard to read?

Use sufficient contrast

WCAG 2.0 Guideline 1.4.3 recommends at least 4.5:1 contrast ratio

But how do you check for that without doing math?

My Favorite: Web Accessibility Toolbar from Paciello

For Mac Users: Paciello Contrast Analyzer for Mac

Others: Snook.ca, WebAIM, Juice Studio (Firefox add-on)

Learn more about color, and simulate colorblindness, at Vischeck.

Document Accessibility

Images

Alternative text provides AT users the ability to interact with images.
Context matters most when deciding what to write

- What are you trying to convey?
- Is it decorative only?
- Microsoft Word 2007 - find the alt text entry location by right-clicking on the image and select > Format Picture > Alt Text tab > replace that filename with an appropriate alt text or add in description field.
- Word 2010 – same, except just add language in description field.
- Acrobat 9 Pro – Tools > Advanced Editing > TouchUp Object Tool > Select Image > right click > Properties > Tag (tab) > Alt Text.

Document Accessibility

Images



Document Accessibility

Descriptive Links

Use descriptive link text, don't use things like "click here"

Use this: Visit the Disability Access Services website.

Instead of: To visit the Disability Access Services website click here.

In documents, it might be best to use descriptive links and post the URL afterwards.

This could help: Disability Access Services (<http://ds.oregonstate.edu/home/>)

Document Accessibility

Fonts

Real text instead of pictures of words is always preferred.

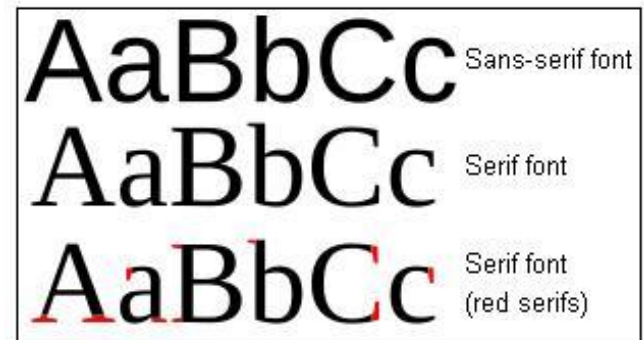
Size – larger font size enhances accessibility, some fonts are larger by default (Verdana)

Ease of Reading – fonts without much embellishment/with clean lines are generally thought to be easier to read (sans-serif – without “details”)

Serif vs. Sans-Serif fonts

Georgia is a serif font

Tahoma is a sans-serif font



Document Accessibility

Layout & Reading Order

Reading Order refers to how the document will be read by a screen reader.

In documents with a lot of design and potentially non-linearized text boxes, check to see that reading order is correct.

In Acrobat Pro 9 view the reading order by: Tools > Advanced Editing > TouchUp Reading Order Tool

Document Accessibility

Navigation

If all else is done well – navigation should be created by Headings and the document structure. So, check your structure, adjust if needed.

If you have a large document, consider using a Table of Contents (TOC). Easy to add in Word (2007 example) – References > TOC. If headings are done well, TOC will automatically populate!

The TOC will carry over in PDF conversion and be usable in PDF docs!

Document Accessibility

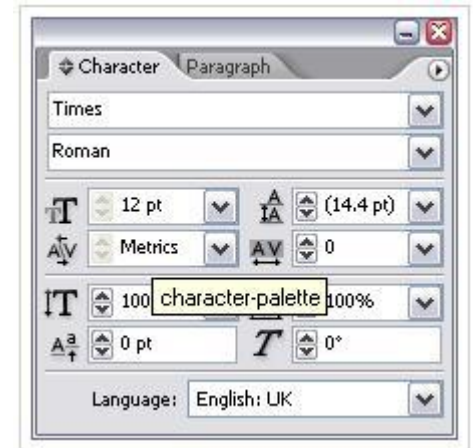
Set the Language

It is always a good idea to set the language of the document/website so that assistive technology knows what language to speak.

How to do this varies by software, some are EN by default, here are a few examples:

- InDesign: Find the language options in the Character Panel
- Word: Office Button > Word Options > Lang Settings
- Acrobat: File > Properties > Language

Sometimes information gets stripped out when converting to PDF. Always use Acrobat Pro to check.



Website Accessibility

All of the items we've talked about so far are the same (or very close) when talking about website accessibility.

Additional Items to consider on websites:

- Link Focus – what does it look like when you hover vs tab to a link
- Reading Order
- Tables
- Forms & Form Labels
- Lists
- Keyboard Accessible
- Flash Content
- The benefits of CSS

Testing for Document Accessibility

Nothing can replace a human checking, but there are a few built in tools that can help.

- Acrobat Pro 9 (and 10)

- Built in "Accessibility Checker"
- Advanced Tools: Tools > Advanced Editing > TouchUp Reading Order OR Touch Up Object

- Listen to your PDF in Acrobat or Reader

- In Adobe Reader (the most common PDF software), and in Acrobat Pro there is a built in screen reader called Read Out Loud that will read a document. Get to it through View > Read Out Loud > Activate. Listen to your document and notice if it makes sense to you, if the reading order is correct, if images have alt text, etc.

- Microsoft Word/Excel/PowerPoint 2010 "Accessibility Checker"

Resources

Laws, Standards & Guidelines:

- Section 508 (Draft Update currently in process)
- Web Content Accessibility Guidelines (WCAG 2.0)

Vendor Documents:

- InDesign Accessibility
- Microsoft Accessibility
- Adobe Acrobat Accessibility
 - Acrobat Guides in PDF Format
 - Adobe Accessibility Quick Reference Card for Word to PDF Conversion (PDF)

Articles & Other Resources:

- WebAIM – Word Access
- WebAIM – PDF Access
- GOALS – Creating Accessible Documents
- Australian Gov’t PDF Access Study
- San Jose State InDesign Accessibility (PDF)

Multimedia Resources:

- MAGpie (free captioning tool)
- YouTube captioning
- WebAIM - Captioning