Designing your Website for Usability and Accessibility

About this Module:
Goal: In this module we will identify the importance of web accessibility for individuals with disabilities. We will talk about the overarching principles of web accessibility and provide a tool for participants to check their web site.
Format: PowerPoint presentation and activity
Time: About 20 Minutes
Potential Audience: Employers/business people; web and IT professionals, managers and supervisors, higher education administration
Materials needed: Hard copy of presentation optional, internet access if possible.

Facilitator’s Notes for this Module
This module reviews critical issues around accessibility for people with disabilities and is designed for people who develop web sites. Internet access in the training room will allow you to make this presentation interactive and potentially more meaningful for participants. Placeholder slides that illustrate key points are embedded in the presentation if internet access is not an option.

Facilitators Notes (Slide 1)
This module is designed for people who develop websites. It highlights critical issues around accessibility for people with disabilities.
Disclaimer

Information, materials, and/or technical assistance are intended solely as informal guidance, and are neither a determination of your legal rights or responsibilities under the ADA, nor binding on any agency with enforcement responsibility under the ADA.

The Northeast ADA Center is authorized by the National Institute on Disability and Rehabilitation Research (NIDRR) to provide information, materials, and technical assistance to individuals and entities that are covered by the ADA. The contents of this document were developed under a grant from the Department of Education, NIDRR grant number H133 A110020. However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government.

Facilitator’s Notes (Slide 2)

Change this slide to reflect your regional information.

Trainers, be sure to advise participants that this training is not intended as legal advice.
Facilitator’s Notes (Slide 3)

An accessible Web means unprecedented access to information for people with disabilities. The internet is displacing traditional sources of information and interaction: Schools, libraries, print materials, discourse of the workplace; some of the traditional resources were accessible; some not.

If you want your site to be valuable to people with disabilities it must be accessible and user friendly! The core of your web design philosophy must be a site that will work for everyone, regardless of who they are or how they use the web.
Principles of Accessibility

- Perceivable
- Operable
- Understandable
- Robust

Facilitator’s Notes (Slide 4)

These four principles lay the foundation for web developers to design web content that anyone can access and use. They call for web developers to embrace principles of universal design (accessible to most) and also incorporate the needed functionality so that the elements of the web page can interact with assistive technology.

**Perceivable:** The information must be clearly available to users when they want it, in a way that they can effectively use it. (i.e. if they cannot see something on the screen, they must be able to hear it).

**Operable:** Users must be able to interact with the elements of the information in a way that works for them. This means that the users must be able to use all links, navigation, user controls, and page features in a way that works for them. Most importantly, all of these items should be accessible through the keyboard and using a pointing device like a mouse. This topic also addresses things like the flicker rate of the screen and the importance of good structure on the page for screen reader users.

**Understandable:** Information must be presented to users in a way that they can understand. Web developers should not use language that is too advanced for the average person (reading levels from 7th to 9th grade recommended) or many people will not be able to comprehend the message of the site.
**Robust:** This principle contains only one guideline. Users must be able to access the content of the page as technology changes and with assistive technologies such as JAWS.

Failing to deliver on any of these elements will mean that your site is not accessible to people with disabilities. The W3C web site lists success criteria under each principle. Checklists are available to help you critically evaluate your site.

Additional information and guidance is available here: [http://www.w3.org/TR/WCAG20/#perceivable](http://www.w3.org/TR/WCAG20/#perceivable)

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**Creating Structure for your web pages**

- Separate styling from content using cascading style sheets
- Navigation should be simple to use and readily available on the page
- Provide Skip to Main Content Links

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**WebAIM, 2011**

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**Facilitator’s Notes (Slide 5)**

Cascading Style Sheets (CSS) allow you to structure your page in a coherent way. They allow web designers to separate content from presentation (styling / how the content looks) and to allow for more precise control over layout. Guidance on creating style sheets is available at [http://webaim.org/techniques/css/](http://webaim.org/techniques/css/)


Remember, navigation should be clear and easy!

*Skip to Main Content* link is an accessibility statement in and of itself. Without this link, people who use screen readers are forced to listen to all navigation links before getting to content.
Headings are Critical to Structure

- Headings are key to accessibility as they allow the user to navigate directly to each major section of the page and search for specific sections.

Facilitator’s Notes (Slide 6)

Developers must use true and proper headings (e.g. `<h1>`, `<h2>`, `<h3>`, `<h4>`, `<h5>`, `<h6>`), do not use text formatting to give the visual appearance of headings – it will not aid in navigation as they will not be interpreted as structural elements by assistive technology or by browsers (WebAIM, 2011).

The size, color and other presentation attributes of these tags can be changed in your style sheet just as you would change your text. When you use the heading tag it will automatically add space above and below the text within the heading tags and automatically start your text on the next available line.

Headings are Key to accessibility as they allow the user to navigate directly to each major section of the page and search for specific sections.

- H1: Page Title or Heading
- H2: Major section headings
- H3: Sub Sections of the Major section Headings

All browsers support heading tags and each displays the headings in slightly different sizes.
Example: Usability Testing

- Incorporation of Universal Design Principles,
- Compliance with Section 508 of the Rehabilitation Act;
- Adherence to all W3C WCAG 2.0 Guidelines, Level AA recommended
- Conducting repeated accessibility and usability testing to ensure compatibility with common assistive website technologies

Cornell University, 2011

Facilitator’s Notes (Slide 7)

Example Web Testing Policy:

EDI policy on Web Accessibility and Usability Testing:
- Incorporation of Universal Design Principles, which means having a website that is usable by people with the widest possible range of abilities in the widest possible range of situations;
- Compliance with Section 508 of the Rehabilitation Act (checklist available here: http://www.hhs.gov/web/policies/hhs_wcd_508checklist.html);
- Adherence to the World Wide Web Consortium (W3C) Web Content Accessibility Guidelines (WCAG) 2.0; A site must be Level A compliant to be minimally accessible. At least Level AA compliance is recommended. (Helpful checklist: http://webaim.org/standards/wcag/checklist)
- Conducting iterative accessibility and usability testing to ensure compatibility with common assistive website technologies (e.g., screen magnifiers (ZoomText), screen readers (JAWS and Window-Eyes), and text browsers (Lynx)); and (vi) provision of alternative formats for all downloadable documents (e.g., ASCII text, HTML, PDF, and/or accessible PDF formats).

What matters to users with disabilities in Web Site Usability:
- Study conducted in the UK by User Vision – surveyed 208 people with disabilities about usability of information from websites.
- 88 percent rated the use of straightforward language with a clear simple layout as “very important”
• Use of good navigation – 65 percent very important
• Use of meaningful and clear hyperlinks – 63 percent

People did not like:
1. No in-site search
2. No sitemap
3. No internal page navigation/skip to content/back to top links
4. Pop-up ads
5. Inability to change font size/color contrast

To understand why web accessibility is important, it is important to understand how people with different types of disabilities experience the web. This understanding also helps people who design web sites develop a better interpretation and implementation of the web accessibility standards when designing new content. (Out-Law News, 2005)

Want to test your site?

• WAVE (Web Accessibility Evaluation Tool) by WebAIM
  – http://wave.webaim.org/
• WAVE indicates errors
  – green means an element is accessible, red is inaccessible, yellow indicates a warning
• Results are meant to be reviewed by a human...a computer cannot test accessibility

Facilitator’s Notes (Slide 8)

This tool allows you to enter a web site address, upload a file for sites that are not publicly available yet, or to paste HTML code into a text box. It will highlight potential issues on your site. **NOTE:** a human must go in and review the results!

If you have web site access in your training room – ask the audience for a page to evaluate. It does not have to be their business/organization site, just one they commonly use. If you do not have web site access – use the samples provided.
Direct participants to WebAIM Checklists for Web Accessibility to use in designing web pages.
- WebAIM’s WCAG 2.0 Checklist: http://webaim.org/standards/wcag/checklist
- WebAIM’s Section 508 Checklist: http://webaim.org/standards/508/checklist
- Another Helpful document is the Quick Reference for Testing Web Accessibility Content: http://webaim.org/resources/evalquickref/; it is included as a handout on page …

The next two slides are provided as discussion points in the event that internet access is not available in the training room. If internet access is available, it can be very helpful for audience members to suggest sites for the group to evaluate using WAVE. This can provide participants with an idea of the accessibility of their organizations sites or the sites they use every day. If you use a participant’s site, remember the idea is to brainstorm how they could improve usability in a helpful way – even the most careful organization can make mistakes. The goal is not to make the feel bad because their site is not as accessible as it could be.

Facilitator’s Notes (Slide 9)

WAVE detected no errors on the Appalachian State University page. However, a web designer should check the yellow labeled items to be sure that they can be properly used by someone with a disability.
Facilitator’s Notes (Slide 10)

Wave identified 38 errors including missing alt text, inappropriate use of headings that would make it difficult for someone using a screen reader to navigate, missing form labels (where a blank entry form has no text associated), and unlabeled links.

Keep in mind, the web developer will have to hand check for items the automatic diagnosis does not cover.
Facilitator’s Notes (Slide 11)

National Network: Please insert your center’s contact information into this slide.

Conclude by reminding participants that the training materials were produced by the Northeast ADA Center in collaboration with the ADA National Network. Remind them of the free and confidential technical assistance and other services available from your local ADA Center and from the ADA Centers throughout the country. Mention the ADA TA line at 800-949-4232.