Keeping Accessibility in Mind When Developing

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Presenters

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Overview

- This presentation will overview the importance of web accessible software for a number of types of disabilities and will give you an overview of coding techniques and testing tools that developers and analysts can use to make sure their products are accessible to as many people as possible.

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What is web accessibility?
- Common types of disabilities to be aware of when developing software and web sites
- Demo the use of a screen reader being used with inaccessible software
- Development tips for web accessible software
- Overview main accessibility technologies and tools
Overview the accessibility audit that we did on our PeopleSoft CS product
Overview our new accessibility wording in our vendor contracts
Overview resources
About Northwestern University

Northwestern University is a private institution founded in 1851. We have 18,000 students, 7,000 employees and campuses in Evanston, Chicago, and Doha, Qatar.
Northwestern University
Schools & Colleges

Weinberg College of Arts and Sciences
Communication
Education and Social Policy
Engineering and Applied Science
Medill School of Journalism
School of Music
Graduate School
Kellogg School of Management
School of Law
Feinberg School of Medicine
Continuing Education
Applications in use

Initial Implementations:
HR – 1997: currently using 9.1
Student Administration – 1998-2000: 7.6 – current version is 9.0
Financials 2008, 8.9
HR and CS are on separate databases

Our Campus Solutions Modules:
Academic Advisement
Admissions
Campus Community
Financial Aid
Self Service
Student Financials
Student Records
Campus Solutions Environment

PeopleTools 8.52.05
Campus Solution 9.0 - Bundle 28
PeopleSoft Application Portal
Oracle 11g
Oracle Grid
F5 Load balancer
Three WEB Servers
Twelve Application Servers
Databases – prod, test, report, QA, fix, dev.
What is Web Accessibility

- Being web accessible means that people with and without disabilities can easily understand, navigate, and contribute to your website or software.
- Having a disability should not impair your ability to use or interact with any website or software.
- Web accessibility is important for both disabled and non-disabled users of your websites and software.
Common Types of Disabilities that should be accounted for when developing

- Blind
- Visually impaired
- Color Blind
- Deaf/hard of hearing
- Mobility Impaired
Short clip of Northwestern University student using a screen reader to do an accessibility audit

- Use video clips from 3:10-5:45 and 7:00 – 10:15
Things to Keep in Mind When Developing Accessible Websites and Software

- Markup pages as much as possible with headings
  - Make it very clear what information is under what heading
  - For easy understanding by screen reader, top level headings should always be HTML heading level 1
  - The use of HTML heading syntax throughout the page to break up navigation areas is very important
Things to Keep in Mind When Developing Accessible Websites and Software

- Nothing on your sites or in your software should be dependent on the use of the mouse
  - Flash and JavaScript is bad for accessibility
  - A good practice is to NOT make drop-down navigation dependent on using the mouse
Things to Keep in Mind When Developing Accessible Websites and Software

- Use plain links
  - Some developers and designers find plain links to be ugly, however the use of plain links (blue highlight and underline) is helpful for screen readers to interpret as a hyperlink and also easy for any user to see and understand quickly where on the page the links are.
Things to Keep in Mind When Developing Accessible Websites and Software

- Naming Links

  - Try to make the link name informative so that someone searching the page just by link names could readily identify the desired link.

  - Avoid naming links “click here,” “click this,” “click the image,” etc.
Things to Keep in Mind When Developing Accessible Websites and Software

- Naming Links

  - Forewarn the user that s/he’ll be visiting an external website, opening a document, and, if you must set up a link this way, opening a new browser window.

  - Include “(Word doc),” “(pdf doc),” etc. or “(external site)” in the link unless it’s obviously an external site (e.g., Google).
Things to Keep in Mind When Developing Accessible Websites and Software

- Always use ALT tags on images
  - Always ensure that your ALT tags are descriptive and to the point
    - Long ALT tags can confuse screen readers and make it difficult for the user to get a quick feeling of what the image depicts
  - If the picture is linked, are the picture and link logically related?
    - Indicate “click to enlarge” in the alt text if appropriate
Things to Keep in Mind When Developing Accessible Websites and Software

- **Images**
  - Images should not contain any information that you want a person to know or be able to read
  - Use plain text to present information to users
  - Ask yourself, does the picture belong on the page?
Things to Keep in Mind When Developing Accessible Websites and Software

- Keep a constant and consistent architecture throughout your websites and software
- Most people who use screen readers memorize the layout of website and software that they commonly use in order to quickly navigate
- Continuously changing the structure of pages or not being consistent in structure between pages causes the user to take more time with the page during repeat visits
Things to Keep in Mind When Developing Accessible Websites and Software

- Use true search or submit buttons
  - Make sure that any search or submit buttons are real buttons and are clearly labeled search or submit
  - Always place search or submit buttons below where any related text is being entered by the user and verify that the tab commands honor this as well
Things to Keep in Mind When Developing Accessible Websites and Software

- Be careful of where you represent errors on your page
- Never have errors appear above where the error occurred. Screen readers read from top to bottom and the error will not be seen.
Things to Keep in Mind When Developing Accessible Websites and Software

- Make sure that you are not using colors as identifiers for anything within your website or software
- Nothing on your website or in your software should rely on someone being able to see a specific color
- Choose background colors that work well with all text colors and are not difficult to read
NU website as seen by non-color blind individual
NU website as seen by color blind individual with Protanopia visual impairment (Red/Green color blindness)
NU website as seen by color blind individual with achromatopsia (This is a greyscale quick check for all types of color blindness)
Things to Keep in Mind When Developing Accessible Websites and Software

- Keep text sizes consistent and relative
  - It is important to not use very small text to support readability for users who have impaired vision.
Accessibility Technologies (Main Products)

- Screen readers
  - JAWS
  - VoiceOver (apple built-in)
- Low vision screen aids
  - Zoom Text
How SES Evaluated CAESAR Accessibility

- Met with a blind Northwestern and walked through CAESAR (PeopleSoft Campus Solutions) using JAWS (a screen reader)
- Met with a low vision student using Zoom-Text
What SES Found during JAWS (blind) audit

- For the most part CAESAR (PeopleSoft) is easy to use with JAWS
  - The student felt that navigating CAESAR using JAWS was relatively easy
  - The main page that students see (The student Center) was not clear and organized
    - Organize information clearly by section and use descriptive headers and header tags
What SES Found during Zoom Text (low vision) audit

- For the most part CAESAR (PeopleSoft) is easy to use with Zoom Text
  - The low vision student felt that navigating CAESAR using Zoom Text was relatively easy
  - Radio buttons on the ‘View my Grades’ page were hard to see as they did not enlarge with the rest of the screen and they were white on a light background
  - Check boxes also did not enlarge with the screen and had bad color contrast with the background.
What SES Found during Zoom Text (low vision) audit

- For the most part CAESAR (PeopleSoft) is easy to use with Zoom Text
  - Student commented that scrolling up and down is alright, but scrolling left to right makes navigating difficult
  - Student mentioned that grids are difficult to read if they do not alternate colors by row.
- Minimize and refresh buttons on pagelets were not noticed by the student as they did not enlarge with the rest of the page
What SES is Doing

- For our release of Tools 8.52 in October 2012 we completely restructured the student landing page
- Students will no longer be redirected to the Student Center. The new landing page is organized with clear sections and relevant and descriptive titles. We use pagelets to do this.
What SES is Doing

- We will be looking into changing grids and tables in major traffic areas to have alternating colors by row and also do this for any customizations going forward.
- We will be looking into modifying the CSS so that the background color behind the offending radio buttons and check boxes is darker so that they will be easier to see even if they do not enlarge with the screen.
What SES is Doing

- Going forward for all customizations we have been and will be keeping accessibility in mind.
- We will pay close attention to:
  - ALT tags
  - Text size
  - Font
  - Colors
  - Layout/organization
  - Headers
Web Accessibility

Bidder shall indicate whether the product or solution they are proposing meets the applicable accessibility standards of 36 CFR 1194. The 36 CFR 1194 implements Section 508 of the Rehabilitation Act of 1973, as amended, and is viewable at the following URL:

http://www.section508.gov

The following Section 508 technical standards are applicable to this ITB: at a minimum, and vendors shall indicate their level of compliance to these applicable sections:

- Software Applications and Operating Systems (1194-21)
- Web-based Intranet and Internet Information and Applications (1194-22)
- Video or Multimedia Products (1194.24) C.4

-OR-

To ensure the procurement of Section 508 compliant products and services, bidders shall indicate whether the product or solution they will be providing is Section 508 compliant, and if so, can the bidder provide Section 508 compliance audit or test results that document the testing methodology utilized to determine the product or solution's compliance and the results of the accessibility audit? Was the testing conducted by the vendor or an independent third party auditor? Finalists may be expected to let Northwestern also test their product and assess their compliance with Section 508.
External Resources

- **W3C**
  - [http://www.w3.org/standards/webdesign/accessibility](http://www.w3.org/standards/webdesign/accessibility)
- **Colorblind Web Page Viewer**
  - [http://colorfilter.wickline.org](http://colorfilter.wickline.org)
- **Webaim**
  - [http://webaim.org/](http://webaim.org/)
- **Understanding Section 508 of the Rehabilitation act of 1973**
  - [http://www.section508.gov/](http://www.section508.gov/)
Questions?
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