Accessibility Testing in the Enterprise

The Accessible Technology Webinar Series is sponsored by the Great Lakes ADA Center and the Pacific ADA Center, both members of the ADA National Network.

The Session is Scheduled to begin at 1:00 pm CT

We will be testing sound quality periodically.

Accessibility Testing in the Enterprise


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Webinar Features

- **Closed captioning** – click CC icon (located in the Audio/Video Panel) or control-F8 (command-F8) and adjust your screen.

- **Questions** - Highlight "Great Lakes" in the participant list and "right click" on your mouse to send a private message. Type your message into the chat area that appears. The question will be viewed by all moderators. (Keyboard - F6, Arrow up or down to locate "Great Lakes" and select to send a message)

- **Customize your view** – You can change the size and location of any of the panels (Chat, etc.) by hovering your mouse over the icon at the right of each panel and select "Detach Panel". Each panel can be repositioned and resized.

- Please do not use emoticons or hand-raising features during this session.

This training is funded under award #H133A060097 from the U.S. Department of Education through the auspices of the National Institute on Disability and Rehabilitation Research (NIDRR) For permission to use training content or obtain copies of materials used as part of this program please contact us by email at adata@greatlakes.org or toll free (800) 949-4232 (V/TTY) in IL, IN, MI, MN, OH, and WI. For other all other states call (312) 413-1407.
Accessibility Overview

• Section 508
  – Part of the Rehabilitation Act of 1973
  – Amended in 1998
  – Required Federal IT to be accessible starting June 2001
  – There is a refresh coming (we hope)

Accessibility Overview

• Web Content Accessibility Guidelines (WCAG) 2.0
  – Internationally accepted guidelines
  – Just accepted by International Organization for Standardization as a standard

WCAG 2.0

• Four Basic Principles of Accessibility
  – Perceivable - Information and user interface components must be presentable to users in ways they can perceive.
  – Operable - User interface components and navigation must be operable.
  – Understandable - Information and the operation of user interface must be understandable.
  – Robust - Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies.
• 12 Guidelines
• 61 Success Criteria
What is Disability?

People with disabilities are first

PEOPLE

What is Disability?

...but is a disability strictly a personal characteristic of the body?

What is Disability?

...or do we create disabling environments?
Disabling Environments

- **Buildings** without elevators (disabling for wheelchair users)
- **Desks and water fountains** with no room underneath (disabling for wheelchair users)
- **Microwaves and other appliances** with only touch screens (disabling for blind people)
- **Theaters, concerts, speeches, sports, and other live events** without interpretation or captions (disabling for deaf people)

Digital Technology can be an accessibility barrier...

**But it is also one of the best solutions ever invented.**

How can a Blind Person Read a Newspaper?
How can a Person with Very Little Mobility Go Shopping?

Our Responsibility

As Digital Content Providers is to ensure that our content is available to EVERYONE

Our Responsibility

Screenreader

Speech

Keyboard Only

News Captions
Testing for Accessibility

With 61 Success Criteria, how on Earth do we test for accessibility?

• System Wide “Enterprise” Testing and Monitoring

• Local browser based page by page testing

Accessibility is like a Cookie Recipe

WEB ACCESSIBILITY TESTING RECIPE
Web development process

Accessible web development

Accessibility Testing is NOT Icing
Cost to Fix Accessibility Defects

Cost Factor

<table>
<thead>
<tr>
<th>Cost Factor</th>
<th>Design</th>
<th>Code</th>
<th>Test</th>
<th>Maintain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>10</td>
</tr>
</tbody>
</table>

Web Development Process Phase

Practical Accessibility Testing

The Right Mix
High Tech
High Touch

The Right Mix
Accessibility Testing Methods

High Tech
High Touch
Enterprise Accessibility Testing Tools

Automatic Testing

- Use of a desktop or web-based application, IDE plugin or browser plugin to look for potential accessibility problems
- May or may not involve the use of spiders to crawl multiple pages
- May or may not involve the ability to schedule repeat tests and/or automate reports

Benefits of Automated Tools

- Ability to scan large volumes of code – on a single page, site wide and anything in between
- Ability to automatically generate reports
- Ability to catch errors which do not need humans to review
- Configurable to include / exclude specific guidelines and checking methods
Issues with automated tools

• Passing items which should fail
• Failing items which should pass
• Difficulties with content dependent on user interaction with forms

Issues with automated tools (con't)

• Difficulties with pages that utilize JavaScript to render content
• Questionable checking rules “failing” a document for items which have no real-world impact on access.
• The tools test markup, but not non-text formats
• Tools often test only the markup itself without assessing DOM structure

Issues with automated tools (con't)

• Security restrictions may not allow the automated tool to access the site
• Security restrictions may disallow installation of the automated tool on the client system
• Many accessibility compliance requirements are things which cannot definitively be tested for via automatic means
Enterprise tools are designed to have you set up scans for an entire organization. You enter the starting URL(s), tell it the depth to crawl and test. And the Accessibility Standard you want to have tested - WCAG 2.0 AA, maybe you only need to test to single level A, perhaps you still want the old 508 standard. And tell how frequently you want to have it run, just this once, or are you ready for monthly or weekly scans?


**Manual testing techniques:**
- Code-level review of the generated HTML/CSS markup
- Browser / Hardware Manipulation
- Assistive Technology Testing

**Benefits of Manual Testing**
- High level of accuracy
- Errors are not just flagged but repairs can be suggested
Issues with manual testing

• Outcome reliant on skillset and experience of reviewer
• Very time intensive
• Increased code complexity = increased likelihood of mistakes

Issues with manual testing (con’t)

• Code inspection limited mostly to markup
• Some issues should be tested by machine
• Some issues cannot be found by automatic no manual means

High TechTouch Testing

www.verybestbaking.com

Wave
  • www.webaim.org
Jim Thatcher’s Favelet’s
  • jimthatcher.com/favelets
Web Developer (Firefox Extension)
  • addons.mozilla.org/en-US/firefox/addon/60
Accessibility Evaluator
  • addons.mozilla.org/en-US/firefox/addon/accessibility-evaluation-toolbox
Juicy Studio Accessibility Toolbar
  • addons.mozilla.org/en-US/firefox/addon/juicy-studio-accessibility-toolbar
Headings Map
  • addons.mozilla.org/en-US/firefox/addon/headingsmap/
FireEyes
  • www.deque.com/deque-fireeyes
Smoke Test

Does this page have OBVIOUS Accessibility Issues?

WAVE

- Go to http://wave.webaim.org/
- Type in URL to test
- Press “WAVE this page” button
Meaningful Alt

Images & Jim Thatcher's Favelets

- Install Jim Thatcher’s Favelet's in Firefox
  - jimthatcher.com/favelets/
- Find “Images” menu on JT Favelets and select “Active Images”
Reviewing Alt Text for Active Images

Web Developer Toolbar
- Install Web Developer Toolbar in Firefox
- Open Firefox and Select “Replace Images with ALT Attributes”
- Check Home Page with Images Replaced by ALT
Color Contrast

FAE & Color Contrast

- Install Functional Accessibility Evaluator (FAE) in Firefox
  addons.mozilla.org/en-US/firefox/addon/accessibility-evaluation-tool/
- Select “Color Contrast” from Style (on FAE toolbar)

FAE Color Contrast Issues
Meaningful Link Text

FAE & Link Text
Accessibility Evaluator in FireFox
Select "Links " from Navigation (on FAE toolbar)

FAE & Link Text
**Heading Structure**

**Headings Map**

- Install Heading Map plugin in Firefox
  - addons.mozilla.org/en-us/firefox/addon/headingsmap
- Select “Headings Map” from the Tools menu
ARIA Landmarks

Juicy Studios Accessibility Toolbar
- Install Juicy Studios Accessibility Toolbar plugin in Firefox
  - addons.mozilla.org/en-US/firefox/addon/juicy-studio-accessibility-too
- Select "Document Landmarks" from the ARIA menu
FireEyes Color Contrast Results

Your FireEyes Toolset

The Right Mix

Accessibility Testing Methods

High Tech

High Touch

The Right Mix
Shoestring Testing Plan

1. Home Page
   - Smoke Test

2. Representative Pages
   - Page by Page Testing Tools
   - Expert Functionality Testing
     - No Eyes – Screenreader
     - No Ears – No Sound
     - No Hands – Keyboard Only

Practical Testing

1. Comprehensive Testing
   - High Tech
     - Enterprise Accessibility Scans

2. Representative Pages
   - High Touch Tech
   - High Touch
     - Expert Functionality Testing
       - Screenreader
       - No Sound
       - Keyboard Only

3. Key User Paths
   - High Touch
     - Hands-on Accessibility Testing

No Sight
No Sound
No Mouse

No Problem
Equal Access for All
Resources

Enterprise:
• Accenture Digital Diagnostics Engine (ADDE) - http://www.accenture.com/us-en
• Worldspace from Deque Systems – http://worldspace.deque.com

Resources

Local to your computer
Wave
• wave.webaim.org
Jim Thatcher's Favelet's
• jimthatcher.com/favelets
Web Developer (Firefox Extension)
• addons.mozilla.org/en-US/firefox/addon/90
Accessibility Evaluator
• addons.mozilla.org/en-US/firefox/addon/accessibility-evaluation-tool/
Juicy Studio Accessibility Toolbar
• addons.mozilla.org/en-US/firefox/addon/juicy-studio-accessibility-too
Headings Map
• addons.mozilla.org/en-US/firefox/addon/headingsmap/
FireEyes
• www.deque.com/deque-freeeyes

Questions?

• Thank you for coming today
• Are there any questions?
Thank you for participating!

Next session is May 23, 2013
Accessibility with WordPress

This session was recorded and will be archived in two days at
http://www.ada-audio.org/Webinar/AccessibleTechnology/

www.ada-audio.org 877-232-1990 (TTY)