itAccessibility Program and HiSoftware Website Accessibility Validation Software

Presenters:
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Jeff Bishop, DRC
Ben Emmons, UITS
Agenda

Big Picture – itAccessibility Program:
   – UA Obligation & Commitment to Electronic and Information Technology (EIT) Access
   – YOUR Role
   – DRC Resources to Assist You

HiSoftware Website Accessibility Validation Software
   – Discussion of new tool to assist in creating accessible Websites

Questions & Discussion
UNIVERSITY OBLIGATION

Access to ALL Programs, Services and Activities

– Non-discrimination on the Basis of Disability
– Availability of Reasonable Accommodations

– Rehabilitation Act of 1973
– American’s with Disabilities- 1990 (Amended 2008)
Dear Colleague Letter

– U.S. Department of Justice &
– U.S. Education Department, Office of Civil Rights

“Requiring the use of emerging technology... that is inaccessible to students with disabilities constitutes discrimination under the ADA”
NATIONAL ACTION:
Litigation, Agreements & Statements

• Arizona State University and others - Kindle Lawsuit - 2009
• Law School Admissions Council – 2009
• Penn State University – 2010
• University of Montana - 2012
• Educause E-Text Pilot - 2012
• Louisiana Tech University – 2013
• University of California – 2013
UA’s itAccessibility Program

• The University of Arizona is committed to realizing a barrier-free electronic information and technology (EIT) environment.

• Goals:
  – Promote the integration of universal usability in the procurement, development and deployment of campus-wide IT resources.
  – Provide leadership, resources and recommendations for ensuring accessibility in all of the University’s technology-rich environments.
ELECTRONIC AND INFORMATION (EIT) ACCESS

Equitable, equivalent access for all users

Technology intersects across all areas:

– Websites
– Email
– Event/Training Registration
– Presentations
– Work Environment
– Classrooms
Captioning/Transcription

• May be required by federal law
• Materials requiring captioning
  – Mandatory content for UA community
  – Training and Course materials when a deaf individual is participating
  – Public facing content (Big news items, President Messages, etc.)
• DRC is your resource and can assist with:
  – Recognizing when materials MUST be captioned
  – Locating and/or creating captioned media

• UA Commitment to Captioning Access: http://drc.arizona.edu/outreach-education/captioning-commitment
itAccessibility Program worked with UA Procurement and Contracting Services Office to create a policy

- Requests for Bids/Proposals for technology-related purchases include:
  - a request for Voluntary Product Accessibility Template (VPAT) from vendor
  - DRC’s involvement in verifying accessibility of product
  - Possible negotiations between the UA and vendor to address accessibility concerns
YOUR Role

1. Consider access in ALL electronic and information technologies you:
   • Purchase
   • Develop
   • Deploy

2. Contact DRC
   • Consultation
   • Training
   • Resources
Accessibility

Technical Discussion
Why is Accessibility so hard?

http://www.pinterest.com/independence1st/accessibility-fail/
What’s the big deal? How about safety...
What’s the big deal? How about safety...
...or usability

Google Analytics

Google Analytics is a free website statistics service by Google that generates detailed stats about the visitors to a website.
...or profits

Source: HiSoftware training video

http://24ways.org/2012/colour-accessibility/
...or reputation?

Accessibility (a11y)

When you design an extension, try to make it as accessible as possible to people with disabilities such as visual impairment, hearing loss, and limited dexterity.

Everyone — not just people with special needs — can benefit from the alternative access modes that accessible extensions provide. For example, keyboard shortcuts are important for blind people and people with limited dexterity, but they also help power users get things done more quickly without using a mouse. Captions and transcripts give deaf people access to audio content, but they are also useful to language learners.

People can interact with your extension in a variety of ways. They might use a standard monitor, keyboard, and mouse, or they might use a screen magnifier and just a keyboard. Another possibility is a screen reader, an assistive application tool that interprets what's displayed on-screen for a blind or visually impaired user. A screen reader might speak out loud or produce Braille output.

Examples

For an example that implements keyboard navigation and ARIA properties, see `examples/extensions/news_a11y` (compare it to `examples/extensions/news`). For more examples and for help in viewing the source code, see `Examples`.

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Trivia time... who’s as guilty as the rest?

http://wearecolorblind.com/example/trivial-pursuit/
Yep, you guessed it…us!
Don’t give up!

"Don't give up, don't ever give up." - Jim Valvano. #BearDown #HardEdge #CALvsAZ

https://twitter.com/ArizonaFBall
...unless you’re Casey Skowron

http://espn.go.com/video/clip?id=11687548

...but I digress
Again, why is Accessibility so hard?

• **Ignorance** – “Keyboard shortcuts? Just use your mouse.”
  - Just as security must be embedded in the developer mindset, accessibility training and awareness should likewise be a top priority.

• **Busy / Lazy / Complex** – “WCAG, ATAG, ARIA, Oh my!”
  - We improved a random UA site from a score of 69% to 95% with 4 lines of code.

• **Perceived ROI** – “we can’t boil the ocean; let’s allocate developer resources for the ‘greatest good’”
  - Just over 1 in 4 of today's 20 year-olds will become disabled before they retire.  
  {source: U.S. Social Security Administration, Fact Sheet February 7, 2013}
  - Over 37 million Americans are classified as disabled; about 12% of the total population. More than 50% of those disabled Americans are in their working years, from 18-64.  
  {source: U.S. Census Bureau, American Community Survey, 2011}

... P.S. It’s the law
Drupal to the rescue!

Accessibility statement

As an inclusive community, we are committed to making sure that Drupal is an accessible tool for building websites that can also be accessed by people with disabilities.

This initiative started with advancements with Drupal 7 accessibility. We have committed to ensuring that all features of Drupal core conform with the World Wide Web Consortium (W3C) guidelines: WCAG 2.0 and ATAG 2.0. Where possible, we will also update the previous version of Drupal core, version 6, to enhance its accessibility.
Raise your hand if you only host vanilla, unaltered Drupal sites with no content...

Okay, so now what do we do?!

http://melaniescrafting.blogspot.com/2013/02/wow-been-months-since-i-posted-anything.html
HiSoftware Compliance Sheriff

States by Region Scorecard > Compliance Insight > Compliance Insight - Privacy

Results as of: 10/8/2010

<table>
<thead>
<tr>
<th>States by Region</th>
<th>Data Collection</th>
<th>Visitor Tracking</th>
<th>Policy Compliance</th>
<th>P3P Usage</th>
<th>3rd Party Linking</th>
<th>PII</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeastern</td>
<td>40%</td>
<td>35%</td>
<td>15%</td>
<td>40%</td>
<td>40%</td>
<td>79%</td>
</tr>
<tr>
<td>Southern States</td>
<td>74%</td>
<td>54%</td>
<td>53%</td>
<td>47%</td>
<td>47%</td>
<td>83%</td>
</tr>
<tr>
<td>Western States</td>
<td>70%</td>
<td>87%</td>
<td>15%</td>
<td>40%</td>
<td>40%</td>
<td>79%</td>
</tr>
<tr>
<td>Midwestern States</td>
<td>48%</td>
<td>35%</td>
<td>83%</td>
<td>83%</td>
<td>84%</td>
<td>82%</td>
</tr>
</tbody>
</table>

**Results**

- **2028 (65.5%)**
- **200 (4.4%)**
- **1409 (32.4%)**

**Top 10 Issues**

<table>
<thead>
<tr>
<th>Result</th>
<th>Page Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control has no LABEL and no TITLE attribute.</td>
<td>6</td>
</tr>
<tr>
<td>Page does not use headers according to specification.</td>
<td>6</td>
</tr>
<tr>
<td>Form does not provide submit button</td>
<td>1</td>
</tr>
<tr>
<td>Data table must have caption to identify table</td>
<td>1</td>
</tr>
<tr>
<td>IMG element contains no ALT attribute.</td>
<td>1</td>
</tr>
<tr>
<td>No summary provided for data table.</td>
<td>1</td>
</tr>
<tr>
<td>Non-decorative IMG element contains empty ALT attribute.</td>
<td>1</td>
</tr>
<tr>
<td>TH elements must specify scope attribute</td>
<td>1</td>
</tr>
<tr>
<td>Specifying width with px instead of % or em</td>
<td>6</td>
</tr>
<tr>
<td>This checkpoint failed due to the use of px/px to specify font size; %, em should be used instead.</td>
<td>5</td>
</tr>
</tbody>
</table>

**Element specifies background color but not specify foreground (text) color**
Create Scan Profile:

1. Display Name: headsup.arizona.edu
   Base URL: http://headsup.arizona.edu/

2. Checkpoint Groups
   - Accessibility Statistics
   - Alt Text Quality Report
   - AZ - WCAG 2.0 AA (checkpoints)
   - AZ - WCAG 2.0 AA (checkpoints) - C12 removed
   - Compliance Insight - Accessibility
   - Compliance Insight - SEO
   - Compliance Insight - Site Quality

3. Start page
   - /

4. Levels
   - 7

5. Retest All Pages
   - Additional Domains:

6. Include URLs matching:
   - Include Microsoft Office documents
   - Include PDF files
C12 Removal Explanation

Using percent for font sizes (http://www.w3.org/TR/WCAG20-TECHS/C12.html): content should scale to 200% without affecting usability.

"The author cannot rely on the [browser] to satisfy this Success Criterion for HTML content if users do not have access to a [browser] with zoom support. For example, if they work in an environment that requires them to use IE 6."

- http://www.w3.org/TR/UNDERSTANDING-WCAG20/visual-audio-contrast-scale.html

IE 6 support? Seriously?

Reality: most existing website themes include at least one instance of px/pt font sizes and converting them all to %/em/rem would require a sizeable effort with minimal accessibility gain since all modern browsers natively support magnification (http://www.w3.org/WAI/users/browsing.html#text)

Best practice: when you redesign or launch a new site, 1) use responsive web design with 2) body font size equivalent to 16px [or larger] and 3) allow pinch-to-zoom:

- http://css-tricks.com/rems-ems/#comment-1541213
- https://www.mobify.com/blog/the-right-to-zoom/
- https://xkcd.com/1174/
Run Scan

HiSoftware Compliance Sheriff®

Dashboard | Scans | Monitors | Checkpoints | Views | Notifications | Reports | Settings | Admin

Signed in as 'Administrator'

Groups | Scans

New | Delete | Toggle Filter

<table>
<thead>
<tr>
<th>Scan</th>
<th>Base URL</th>
<th>Last Finished</th>
<th>Pages</th>
<th>Status</th>
<th>Health</th>
<th>Scheduled</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pending</td>
<td></td>
<td>Schedule</td>
</tr>
</tbody>
</table>

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<tr>
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<th>Status</th>
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</tr>
</thead>
<tbody>
<tr>
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<td>Pending</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Pages</th>
<th>Status</th>
<th>Health</th>
<th>Scheduled</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Running</td>
<td></td>
<td>Schedule</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pages</th>
<th>Status</th>
<th>Health</th>
<th>Scheduled</th>
</tr>
</thead>
<tbody>
<tr>
<td>54</td>
<td>Completed</td>
<td>69%</td>
<td>Run</td>
</tr>
</tbody>
</table>
## Analyze Scan Results

### Top 10 Checkpoints

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>F24</td>
<td>Failure of Success Criterion 1.4.3, 1.4.6 and 1.4.8 due to specifying foreground (text) colors without specifying background colors or vice versa</td>
<td>2693</td>
</tr>
<tr>
<td>G18</td>
<td>Ensuring that a contrast ratio of at least 4.5:1 exists between text (and images of text) and background behind the text</td>
<td>199</td>
</tr>
</tbody>
</table>

Module: Accessibility 20

Number: G18

Priority: 3

URL for further information:
[http://www.w3.org/TR/WCAG20-TECHS/G18.html](http://www.w3.org/TR/WCAG20-TECHS/G18.html)

Short Description:
Ensuring that a contrast ratio of at least 4.5:1 exists between text (and images of text) and background behind the text.

Long Description:
The objective of this technique is to make sure that users can read text that is presented over a background. For Success Criterion 1.4.3, this technique describes the minimum contrast ratio for text that is less than 18 point (if not bold) and less than 14 point (if bold). For Success Criterion 1.4.5, this technique relaxes the 7:1 contrast ratio requirement for text that is at least 18 point (if not bold) or at least 14 point (if bold).
### Top 10 Issues

<table>
<thead>
<tr>
<th>Result</th>
<th>Page Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Element specifies background color but not specify foreground (text) color</td>
<td>33</td>
</tr>
<tr>
<td>Content has invalid contrast ratio</td>
<td>33</td>
</tr>
<tr>
<td>If language can change on webpage ensure areas of content are marked up.</td>
<td>54</td>
</tr>
<tr>
<td>Ensure functionality is referred to with identical text alternatives on each page</td>
<td>54</td>
</tr>
</tbody>
</table>
Analyze Scan Results (cont.)

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Element specifies background color but not specify foreground (text) color</td>
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</tbody>
</table>
G18: Ensuring that a contrast ratio of at least 4.5:1 exists between text (and images of text) and background behind the text

Important Information about Techniques

See Understanding Techniques for WCAG Success Criteria for important information about the purpose of these informative techniques and how they relate to the normative WCAG 2.0 success criteria. The Applicability section explains the scope of the technique, and the presence of techniques for a specific technology does not imply that the technique should be used in all situations to create content that meets WCAG 2.0.

Applicability

Any technology that produces visual content.

This technique relates to:

- Success Criterion 1.4.3 (Contrast (Minimum))
  - How to Meet 1.4.3 (Contrast (Minimum))
  - Understanding Success Criterion 1.4.3 (Contrast (Minimum))
- Success Criterion 1.4.6 (Contrast (Enhanced))
  - How to Meet 1.4.6 (Contrast (Enhanced))
  - Understanding Success Criterion 1.4.6 (Contrast (Enhanced))

Description

The objective of this technique is to make sure that users can read text that is presented over a background. For Success Criterion 1.4.3, this technique describes the minimum contrast ratio for text that is less than 18 point (if not bold) and less than 14 point (if bold). For Success Criterion 1.4.5, this technique relaxes the 7:1 contrast ratio requirement for text that is at least 18 point (if not bold) or at least 14 point (if bold).

If the background is a solid color (or all black or all white) then the relative luminance of the text can be maintained by making sure that each of the text letters have 4.5:1 contrast ratio with the background.

If the background or the letters vary in relative luminance (or are patterned) then the background around the letters can be chosen or shaded so that the letters maintain a 4.5:1 contrast ratio with the background behind them even if they do not have that contrast ratio with the entire background.

For example, if a letter is lighter at the top than it is at the bottom, it may be difficult to maintain the contrast ratio between the letter and the background over the full height of the letter.
Fix Issues (cont.)

Accessibility Developer Tools

http://goo.gl/KUZDzs
Fix Issues (cont.)

Fix Issues (cont.)
Fix Issues (cont.)

Element specifies background color but not specify foreground (text) color

sites/default/themes/headsup/layout.css

```css
/** body **/
body {
  background-color: #FFFFFF;
}
```

```css
+ { background-color: #FFFFFF; color: black; }
```
Fix Issues (cont.)

```css
sites/default/themes/headsup/headsup.css

```background-image: url(images/footer_bg.jpg);}}
291
291
292
292
292
292
293
293
293
294
294
295
295
296
296
297
297
298
298
299
299
300

```block-cas {

```sites/default/themes/headsup/layout.css

```/** body **/
body
22
22
22
22
23
23
24
24
25
25

```padding: 10px;
}

```

<table>
<thead>
<tr>
<th>Last Finished</th>
<th>Status</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/18/2014 5:43:46 PM</td>
<td>Completed</td>
<td>95%</td>
</tr>
<tr>
<td>9/18/2014 5:10:40 PM</td>
<td>Completed</td>
<td>69%</td>
</tr>
</tbody>
</table>

4 lines of code later...
Other options...

Drupal 6
https://www.drupal.org/project/accessible_content

Drupal 7 & 8
https://www.drupal.org/project/accessibility

Wave
http://wave.webaim.org/

Google
https://webaccessibility.withgoogle.com/course

Quail
http://quailjs.org/

Color Oracle
http://colororacle.org/

http://www.dasplankton.de/ContrastA/
Ready to get started?

Must be on UA network and use username “Guest” (no password)

Questions?

http://brailleworks.com/braille-fails/