Is Your A-Z List Functionally Accessible?

Steps toward Making It More So

E. Paige Weston
Library Systems Coordinator

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What is functional accessibility?

- People with disabilities can functionally use the resources.
- Resources adapt to user needs and preferences.
- Resources adapt to a wide variety of technologies including PDAs, cell phones and high pixel density graphical displays.

http://cita.disability.uiuc.edu/presentations/fae/slide9.html
What is functional accessibility?

“Functional accessibility means looking at web accessibility not from just the guidelines, but from a functional perspective. For example, a cluttered web page might meet all of the accessibility guidelines, but the cluttered nature might be overwhelming to a person who’s visually impaired or has a cognitive disability.”

http://www.functionalaccessibility.com/philosophy/
Why does functional accessibility matter?

“Following the best practices [for functional accessibility] in developing web resources not only improves accessibility for people with disabilities, but also improves interoperability, giving everyone the benefit of having more options for accessing and using those resources.”

http://fae.cita.uiuc.edu/about/
How do I test for functional accessibility?

- Try your web service from a wide variety of devices.
- Turn off graphics, “linearize” the text of your display, and see how well it works for you.
  - Opera: View > Style > Disable tables
  - Firefox: Accessibility Extension > styling options
  - IE: Web Accessibility Toolbar > Linearize
- Ask a blind user.
- Test with the Functional Accessibility Evaluator.
So, is the SFX A-Z functionally accessible?
So, is the SFX A-Z functionally accessible?

Nope.
So, is the SFX A-Z functionally accessible?

Nope.

<table>
<thead>
<tr>
<th>Category</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Navigation &amp; Orientation</td>
<td>Partially Implemented</td>
</tr>
<tr>
<td>Text Equivalents</td>
<td>Almost Complete</td>
</tr>
<tr>
<td>Scripting</td>
<td>Almost Complete</td>
</tr>
<tr>
<td>Styling</td>
<td>Partially Implemented</td>
</tr>
<tr>
<td>HTML Standards</td>
<td>Complete</td>
</tr>
</tbody>
</table>

Note: % Pass includes N/A results.
What does a screen reader see?

http://www.carli.illinois.edu/mem-prod/sfx/az-linearized.txt
Is it worth making the ver3 A-Z functionally accessible?

“In the first 2 releases of version 4 we are not changing the SFX Interfaces so in general most customers will use this list for a while longer.” — Christine Stohn, January 2010

Do you have any differently abled users?

Have you been meaning to re-style your A-Z list anyway?
What would I have to do to improve the A-Z’s FAE score?

- **Easy**
  - Quick template edits
  - Configuration decisions

- **More involved**
  - JavaScript edits
  - Design overhaul to make better use of CSS
How many pages do I have to test with the FAE?

This presentation will concentrate on the out-of-the-box search form and the results display from the default search executed from the default tab.

Tested URLs:

- http://sfx.carli.illinois.edu/sfxtst3/az
  (equivalent to .../a-z and .../azlist on our server)
- http://sfx.carli.illinois.edu/sfxtst3/az?
  param_perform_save=searchTitle&param_type_value=textSearch
  &param_pattern_value=journal&param_textSearchType_value=startsWith
  (a much-pruned URL)
“Navigation & Orientation” score

Search page:

<table>
<thead>
<tr>
<th>% Pass</th>
<th>% Warn</th>
<th>% Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>69</td>
<td>11</td>
<td>19</td>
</tr>
</tbody>
</table>

- Missing <h1>
- Missing lang attribute on <html> element
- Missing title or label on language selector dropdown

Results page:

- No additional warnings or failures

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The page must contain at least one h1 element.

Fail: No h1 elements were found.

Best practice: Using the h1 element:

- Makes it easier for keyboard users, including people with physical disabilities and screen reader users, to navigate using keyboard commands in some browsers
- Means users can easily identify the purposes of web resources
- Allows developers to create and maintain a consistent look to the web site
Edit templates/azlist_ver3/head.tmpl

Before:
<div class="PageTitle">
<TMPL_VAR NAME='MESSAGE("AZ Main","PageTitle")' ESCAPE=HTML>
</div>

After:
<h1>
<TMPL_VAR NAME='MESSAGE("AZ Main","PageTitle")' ESCAPE=HTML>
</h1>

Optionally, edit templates/css/public/style.css to affect the look of <h1> headings in general, or of your A-Z’s <h1>’s class in particular.
Each input element with type=text | password | checkbox | radio | file and each select and textarea element must either be referenced by the for attribute of a label element via its id attribute, or have a title attribute.

- Fail: 1 out of 3 form controls does not meet the criteria.

Best practice: Properly labeled form controls help people:

- Understand the purpose of a form control
- Identify and understand instructions about the form control
- Identify and then correct form controls with invalid or incomplete content, when they receive an error message
Navigation & Orientation fix #2

- Edit templates/azlist_ver3/head.tmpl
  - Before:
    `<select class=replace id=lang name=lang onchange="change_language()"`
  - After:
    `<select class=replace id=lang name=lang onchange="change_language()"
    title="Select interface language."`
Each page must have a lang attribute on its html element whose value or initial subtag is a valid two-character language code.

Fail: The lang attribute was not specified.

Best practice: The lang attribute matters because:

- Screen readers can select the correct pronunciation standard and deliver the content intelligibly.
- Users receive better search results of web resources since search engines will know what language web resources are in.
- The ranking of web resources improves [says the FAE] when search engines know what language web resources are in.
If you present your A-Z list in one language only, edit templates/azlist_ver3/head.tmpl to add that language’s code. For instance:

Before:  <html>
After:   <html lang="en">

If you offer the language selector dropdown, use JavaScript to set the lang attribute dynamically.

Note that codes passed by the language_select_box.js are not valid as attributes of the html element (“eng” ≠ “en”).
“Text Equivalents” score

Search page:

<table>
<thead>
<tr>
<th>% Pass</th>
<th>% Warn</th>
<th>% Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>50</td>
<td>0</td>
</tr>
</tbody>
</table>

Form contains cosmetic images like `navigation_on_corner_after.gif`, with empty “alt” attributes

Results page:

No additional warnings or failures

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Text Equivalents warnings

- Each img element with an empty alt attribute should be removed; CSS techniques should be used instead.
  - Warn: 7 img elements have an empty alt attribute.

- Each img element with width or height less than 8 pixels should be removed; CSS techniques should be used instead.
  - Warn: 5 images appear to be decorative based on their dimensions; 8 out of 8 images were retrieved and analyzed.
Text Equivalents warnings

- Best practice: The use of CSS increases the interoperability of web resources, supporting a wider range of technologies for rendering web content, including cell phone and PDA browsers.
  - Screen reader users do not have to determine if a decorative image is adding content to a web page.
  - Cell phone, PDA devices and text-only browsers can ignore images from a stylesheet, since they know these images are used for styling and do not contain significant content. This improves the download time of the primary content.
Text Equivalents fix

- Bundled with the Styling fixes, discussed later.
- If you don’t know CSS well yourself, find someone who does.
“Scripting” score

Search page:

<table>
<thead>
<tr>
<th>% Pass</th>
<th>% Warn</th>
<th>% Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>75</td>
<td>25</td>
<td>0</td>
</tr>
</tbody>
</table>

onclick attribute used on language selector dropdown, which cannot accept keyboard focus

Results page:

No additional warnings or failures
Scripting fix

Edit templates/azlist_ver3/head.tmpl

Before:
<body <TMPL_VAR NAME=onload_clause> <TMPL_IF 'multiple_ui_languages'>onclick="try{if(isIE6 == false) {selectMe(getSelected(document.getElementById('lang_replaced')));}} catch(err) {selectMe(getSelected(document.getElementById('lang_replaced')));} "</TMPL_IF>>

After:
<body>
“Styling” score

Search page:

<table>
<thead>
<tr>
<th>% Pass</th>
<th>% Warn</th>
<th>% Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>83</td>
<td>0</td>
<td>16</td>
</tr>
</tbody>
</table>

Nested tables used for layout, instead of CSS.

Results page:

<table>
<thead>
<tr>
<th>% Pass</th>
<th>% Warn</th>
<th>% Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>66</td>
<td>0</td>
<td>33</td>
</tr>
</tbody>
</table>

More nested tables `<u>...</u>` used.
Styling fix (easy)

- Edit templates/azlist_ver3/set_detail.tmpl and browse_detail.tmpl
  - Before:
    ```html
    <p class="LabelBold"><A HREF="#Top"><u><TMPL_VAR NAME='MESSAGE("AZ Main","Result->BackToTop")' ESCAPE=HTML></u></A></p>
    ```
  - After:
    ```html
    <p class="LabelBold"><A HREF="#Top"><TMPL_VAR NAME='MESSAGE("AZ Main","Result->BackToTop")' ESCAPE=HTML></A></p>
    ```
- Optionally, edit templates/css/public/style.css to affect the look of linking text in general, or of this linking text’s class in particular.
Styling fix (more involved)
“HTML Standards” score

- Search page:
  - % Pass: 100
  - % Warn: 0
  - % Fail: 0

- Results page:
  - No additional warnings or failures
Comments from a blind user

- “Are these the same developers who worked so hard to make WebVoyage accessible?!”
- “I feel sad for the students who have to use this.”
For more information

- About screen readers:
  http://video.yahoo.com/watch/514676/2686894
- About DHTML:
  http://dev.aol.com/dhtml_style_guide
- About ARIA (Accessible Rich Interface Applications Suite):
  http://www.w3.org/WAI/intro/aria
Questions?

- Ask now . . .

- Or ask later:
  - weston1@uillinois.edu
  - http://fae.cita.uiuc.edu/about/