Is Your A-Z List Functionally Accessible?

Steps toward Making It More So

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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.h

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What is functional accessibility?

n "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/

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Why does functional accessibility matter?

n "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/

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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.

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So, is the SFX A-Z functionally accessible?

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So, is the SFX A-Z functionally accessible?

- Nope.

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So, is the SFX A-Z functionally accessible?

n Nope.

Evaluation Results by Best Practices Main Category

Category	Status [1]
Navigation & Orientation	Partially Implemented
Text Equivalents	Almost Complete
Scripting	Almost Complete
Styling	Partially Implemented
HTML Standards	Complete

Note: % Pass includes N/A results.

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What does a screen reader see?

n http://www.carli.illinois.edu/mem-prod/sfx/az-linearize

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?

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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

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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)

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"Navigation & Orientation" score

n Search page:

% Pass	% Warn	% Fail
69	11	19

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

n Results page:
   n No additional warnings or failures

Navigation & Orientation failure #1

- 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

Navigation & Orientation fix #1

- n Edit templates/azlist_ver3/head.tmpl
  - n Before:
    <div class="PageTitle">
    <TMPL_VAR NAME='MESSAGE("AZ Main","PageTitle")' ESCAPE=HTML>
    </div>
  - n After:
    <h1>
    <TMPL_VAR NAME='MESSAGE("AZ Main","PageTitle")' ESCAPE=HTML>
    </h1>
- n 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.

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Navigation & Orientation failure #2

- 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

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Navigation & Orientation fix #2

- n Edit templates/azlist_ver3/head.tmpl
  - n Before:
    <select class=replace id=lang name=lang onchange="change_language()">
  - n After:
    <select class=replace id=lang name=lang onchange="change_language()" title="Select interface language.">

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Navigation & Orientation failure #3

- 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.
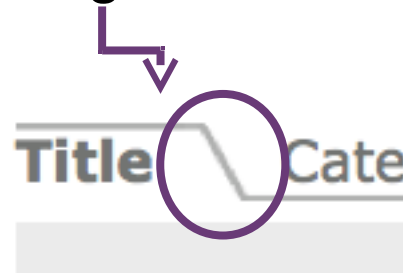
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Navigation & Orientation fix #3

n 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:

  n Before: <html>

  n After: <html lang="en">

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

  n Note that codes passed by the language_select_box.js are not valid as attributes of the html element ("eng" ≠ "en").

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"Text Equivalents" score

n Search page:

% Pass	% Warn	% Fail
50	50	0

   n Form contains cosmetic images like navigation_on_corner_after.gif, with empty "alt" attributes

n Results page:
   n 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.

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Text Equivalents fix

- Bundled with the Styling fixes, discussed later.
- If you don't know CSS well yourself, find someone who does.

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"Scripting" score

- Search page:

% Pass	% Warn	% Fail
75	25	0

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

- Results page:
   - No additional warnings or failures

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Scripting fix

n Edit templates/azlist_ver3/head.tmpl

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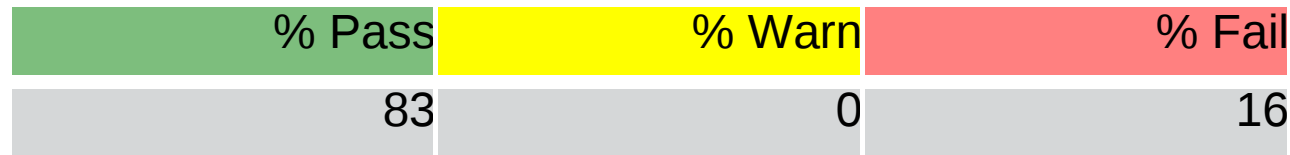 'multiple_ui_languages'>onclick="try{if(isIE6 == false)
  {selectMe(getSelected(document.getElementById('lang_replaced')));}} catch(err)
  {selectMe(getSelected(document.getElementById('lang_replaced')));} "
  </TMPL_IF>>

  n After:
  <body>

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"Styling" score

n Search page:

% Pass	% Warn	% Fail
83	0	16

n Nested tables used for layout, instead of CSS.

n Results page:

% Pass	% Warn	% Fail
66	0	33

n More nested tables

n `<u>...</u>` used.

Styling fix (easy)

- Edit templates/azlist_ver3/set_detail.tmpl and browse_detail.tmpl

  - Before:
    `<p class="LabelBold"><A HREF="#Top"><u><TMPL_VAR NAME='MESSAGE("AZ Main","Result->BackToTop")' ESCAPE=HTML></u></A></p>`

  - After:
    `<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.

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Styling fix (more involved)

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"HTML Standards" score

n Search page:

% Pass	% Warn	% Fail
100	0	0

n Results page:

n No additional warnings or failures

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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."

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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

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Questions?

- Ask now . . .

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

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