

Accessibility Inspection

[Name of city] District Library
www.[initials of city]dl.org

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Table of Contents

Executive Summary	3
Terminology and Conventions Used	5
Priority Levels	6
Methodology Used	7
Accessibility Guidelines	8
Simplicity and Clarity	8
Supporting Visual and Non-Visual Navigation	9
Proper Text Markup and Phrasing	10
Proper Structural Markup	12
Providing Content and Context	13
Device Independence	14
Graceful Degradation	15
Allowing User Control	16
Respecting the User	17
Additional Accessibility Issues	18

Executive Summary

An accessibility inspection was conducted of the [Name of city] District Library's web site, aadl.org. The inspection focused on identifying accessibility issues with a negative impact on the experience of users with special needs, due to circumstances such as vision and hearing problems or the inability to use a mouse. Other accessibility issues related to technology were also studied, such as use of the site with CSS, scripts, applets and images turned off, possibly to aid screen readers or other adaptive devices. The inspection also is intended to point out strengths that should be maintained.

The most significant usability issues identified in this inspection include:

Expand and refine use of "Alt" text. Alt text appears for most images, but is not always descriptive of the images.

Reword text links in content. Links in content follow certain patterns that become obvious after using the site for some time. Often, links in content are ambiguously worded or are quite long. Particularly using a screen reader emulator such as Fangs for Firefox, the most verbose links appeared likely to cause confusion. Conversely, some links didn't provide enough contextual information.

Consistently label fields so the required information is spoken by the screen reader. When a visually impaired user tabs across the page, it's not always clear what information should be entered, what selection to make or what box to be checked.

Increase users' ability to tab through content. Tabbing through global navigation, local navigation and forms was possible, but not through main content or content in the right column. Some mousing has to be done to navigate to all content on pages.

Add tab index order to code. The forms currently in use are generally simple and require few fields, but adding tab indexing to the site's code will ensure logical tabbing order.

Include a descriptive page-name link for each page so the screen reader can announce the page name.

While these issues are among the most pressing usability concerns for the aadl.org web site, a number of additional usability issues that also deserve attention are detailed in the analysis, with recommended solutions.

The best practices should continue to include:

Consistent three-column layout. Pages across the site have a masthead with global navigation, local navigation in the left column, a wide, fluid main content area in the middle and a right hand column that contains upcoming events and featured services.

Text is written in clear, simple language. This is particularly appropriate for a public library's web site, as its clientele range from elementary school students to college-educated adults.

Use of XHTML and CSS. This is the surest way of ensuring the best rendering of pages for users with adaptive technologies as well as the widest possible range of browsers.

Good page labeling on the Research page. The name of the page is Research/ Research blog, so users know the Research blog is located at the end of the Research page.

A number of additional useful features issues that also deserve attention are detailed in the analysis.

Terminology and Conventions Used

Various terms often are used when referring to web pages and applications. To help with this analysis, specific terms were used for evaluating the web site. They include:

Global navigation: This refers to links and/or buttons that are available on every page. They are designed to lead users to major sections of the web site.

Local navigation: This refers to links and/or buttons that appear on pages within sections of the web site and are designed to help users move through pages with certain sections.

HTML and XHTML: Hypertext Markup Language and Extensible Hypertext Markup Language. Languages used to create web pages by defining the structure of documents using tags that distinguish headers, body content, links and other non-presentational components.

CSS: Cascading Style Sheets, coding that is added to HTML to control presentational aspects of a web site, such as sizes and fonts for headers and body text, positioning of content into columns, etc. The term "cascading" refers to the fact that more than one style sheet can be applied to the same web page.

JavaScript: A scripting language used to add interactive functions to HTML pages.

Screen reader: Software that converts the text on a computer screen into speech. For this project, the screen reader was the Macintosh VoiceOver Utility.

Priority Levels

Issues identified in this accessibility inspection are grouped into three levels of priority.

High priority: These issues likely will affect a large number of users with accessibility problems. They should be resolved as quickly as resources will allow.

Medium priority: Issues that also are likely to affect a significant number of users with accessibility problems, but which generally are considered less disruptive to the user experience than those listed as high priority. If resources are available to address these issues, they should be addressed.

Low priority: These issues typically affect only a small number of users with accessibility problems, or have very little overall impact on the user experience even if a large number of users experience them. Low-priority issues are generally easy to resolve, and do not need to be addressed as soon as medium- or high-priority issues.

Methodology Used

To get a more complete picture of ways in which the site may be used, the sections of the site were randomly divided up and evaluated using different browsers, emulators and universal access utilities.

The home page, catalog, services, and contact us sections were evaluated using Internet Explorer 7 and Firefox 1.0.2 with the Fangs add-on to emulate a screen reader,

The search the site, about us, events, research, and my account sections were evaluated using Macintosh Safari 3.1.1 with tabbing enabled, Mac OS X VoiceOver utility, and Firefox 2.0.0.14.

Some findings may seem contradictory but that is because a solution that works for one modality may not be the best fit for another.

Accessibility Guidelines

Simplicity and Clarity

A web site's layout should be easy to understand and follow, without extraneous or distracting elements. Visual focus should be placed on important areas of a page.

Practices to Continue

Consistent three-column layout. Pages across the site have a masthead with global navigation, local navigation in the left column (with only a few exceptions such as the home page, in which case the left column is empty), a wide, fluid main content area in the middle and a right hand column that contains much the same content, generally upcoming events and featured services, across most pages in the site. Gestalt principles of alignment and proximity are used along with color to define navigation bars, columns and different blocks of content.

Text is written in clear, simple language. This is particularly appropriate for a public library's web site, as its clientele range from elementary school students to college-educated adults.

Supporting Visual and Non-Visual Navigation

Navigation should be clear and efficient for users with visual problems, as well as those without visual problems.

Practices to Continue

Prevent screen reader from speaking passwords aloud. When creating a password for My Account, the screen reader speaks letters typed in for the user name but stays silent when the password is entered. This would make it difficult for visually impaired users to correctly enter the same password twice when setting up the account, but if the user were in a public place, it would keep the password from being overheard.

Suggested Changes

High Priority

Allow visually impaired users to set up account without reading Captcha letters.

The program requires users setting up accounts to enter Captcha letters to ensure users are not spam bots. However, this means visually impaired users must call the library to set up their account. The screen reader announces it is Captcha text but offers no further assistance.

Consistently label fields so the required information is spoken aloud by the screen reader. When a visually impaired user tabs across the page, it's not always clear what information should be entered, what selection to make or what box to be checked. For example, on the "Search the Site" page, some fields have labels that are marked to be spoken aloud, while others don't. The drop-down menu isn't narrated either.

Add "Alt" text or a label to the library logo so the screen reader will reveal that clicking the logo returns the user to the home page. If a visually impaired user accidentally clicked the logo, he/she could get confused about why he/she was suddenly back on the home page. The link should say "Return to home page" instead.

Medium Priority

When search results are returned display the number of items found and the number of items displayed per page. When a search returns multiple pages of results, the number of pages of findings is displayed but not how many items were found or the number of items displayed per page. Having this information on a page makes navigation easier for everyone.

Low Priority

Provide crosslink to My Account login page when user must login to use a site's feature. To renew an item or check the status of a request the user is told to login, but it's not immediately apparent where to do this. A link for logging in should be displayed in close proximity to the message, so a visually impaired user does not have to hunt for it.

Proper Text Markup and Phrasing

Logical document structure helps adaptive technologies such as screen readers interpret a document and convey that information to the user.

Suggested Changes

High Priority

Reword text links in content. Links in content follow certain patterns that become obvious after some time. Book titles and author's names typically are links, and though the use of titles often produces sentence-long links, their use is consistent. Ambiguously worded links pop up in some content. On the Services page, one link consisted of the words "Read more" followed by a non-linked description of the information. At the other extreme another link on the same page is a whole sentence: "Read more about scheduling library tours." Linking one or two words that label the information is suggested in such cases. In a third instance, when users are prompted to sign in to comment on a blog, "HYPERLINK "http://www.[initials of city]dl.org/user/login?destination=comment/reply/10261%2523comment_form"login or HYPERLINK "http://www.[initials of city]dl.org/user/register?destination=comment/reply/10261%2523comment_form"register to post comments" only the words "login" and "register" are linked but if a user is tabbing through the screen it may not be obvious where the user needs to login or register.

Expand and refine use of "Alt" text. Alt text appears for most images, particularly those in the content areas. Though it's generally understandable when alt text is not used for purely decorative images such as those in mastheads, they are not used for some standing photos in the right sidebar, or in some cases don't relate to the image. One photo of [Name of city]'s [Name of park] Park Band Shell that appears with the feature "Picture [Name of city]" has no alt text. On the events page, 16 thumbnail images appeared in the main content area, nine had alt text. Most of the other seven were rotating generic images, but one was a book cover and other book covers featured alt text. Also, the alt text that appeared with the two other book covers read "Click here for availability" without mentioning the books' titles. Another image lacking alt text was a photo of a particular performing group, rather than a generic image.

Medium Priority

Use "abbreviation" and "acronym" tags in code. None were found in the source code on the pages inspected, although abbreviations and acronyms were used in text in content areas.

Code links so each listing is separate. On the Events page, the links under "By Location...", "By Series...", "By Categories...", and "By Age Group..." don't display properly on the page when CSS is removed.

Ensure links return to proper page. From a database research site, text that appears to be a link back to the library goes to the Gale site instead. The "Return to Library" link returns the user to the home page instead of the Research page. Also, two links that supposedly return to the Library site are placed next to each other. It looks like they go to different places on the site, but they go to the same place.

Low Priority

Change the Global Navigation buttons from all upper case to both upper and lower case. The Macintosh Voice Over Utility read “ABOUT US” as “About U.S.” instead of “About Us”.

Remove vestigial second link to “my account”. There’s an extra link to the “my account” page that is only visible when CSS is turned off.

Remove link to Ancestry Library Edition. On the Research page, the text states the Ancestry Library Edition is only available at a branch location, but “Ancestry Library Edition” is a link to a separate site that requires a name and password different from the user name and password used to access the site.

Simplify link categories. On the Locations & Hours page, links to existing libraries appear in bold orange text while links to planned branches appear in bold orange underlined text. This differentiation is just unnecessary. The link leads to an information page that clearly states the library is in progress, so the link text should be consistent with other links on the page.

Proper Structural Markup

Practices to Continue

Use of XHTML and CSS. This is the surest way of ensuring the best rendering of pages for users with adaptive technologies as well as the widest possible range of browsers. No deprecated tags were found, even when HTML failed to validate. Groups of information are divided into manageable and well-labeled DIVs.

Suggested Changes

Medium Priority

Edit/improve HTML code so it validates. The source code for every page in the site generated multiple errors in the W3C HTML Validator. For example, the site's home page generated 84 errors. Most appeared to be coding mistakes, such as end tags for elements that had no opening tags, use of ampersands instead of the character entities for them. Though no accessibility problems were apparent in this inspection that could be tied to the validation errors, it seems certain that coding mistakes can set the stage for glitches in the future, as more devices, adaptive technologies and even new browsers become available and rely on HTML coding to work properly.

Providing Content and Context

Users with visual problems, and some with other accessibility problems, experience a web site's content in non-visual ways. It is important that they have a proper context for interpreting the content as well as having access to it.

Practices to Continue

Frames are not used for layout. Both reading the source code and using the Firefox Web developer toolbar, no frames were found in the site.

Flash elements are not used. Flash animations often serve as little more than "eye candy" and do little to enhance the delivery of information on a web site. In addition, such elements often thwart adaptive technologies such as screen readers.

Good explanatory message is displayed when user tries to access a WiFi account information without first logging in.

Good page header information on the Research page. The name of the page is Research/Research blog, so the user knows the Research blog is located at the end of the Research page. Not all pages with blogs are labeled so clearly.

Suggested Changes

High Priority

Replace error message with instructions for logging in if a user tries to access account information without logging in. The message should advise the user to login to see account information instead of stating that user is "...not authorized to access this page." Getting that message could cause the user to think he/she is in the wrong part of the site. A friendlier message would tell the user he/she is on the right page but just needs to log in. For low vision users, it might also be good to put a link to the My Account page in the body, near the message so the user doesn't have to go hunting for the link.

Label fields for logging into databases using "Alt" text or labels so visually impaired users know what information is required to login. On the login page for the databases, the Macintosh Voice Over utility did not find any text to read to describe the user name and password fields.

Label blogs more clearly so users know they are continuing down the page into a blog for that page. The Catalog, Events, Services and Research pages all have blogs below their pages' introductory or descriptive text. When a user tabs through the page, he/she tabs through all the blog links before getting to information in the third column of the page. The blogs are quite lengthy so a lot of tabbing is required and the user may not be able to perceive where he/she is going.

Device Independence

Requiring users to have a particular input device to use a web site ignores the fact that not all users will be able to use it.

Practices to Continue

The drop-down menus work with the arrow keys. This allows users to make selections with only the keyboard instead of relying on the mouse.

Suggested Changes

High Priority

Increase users' ability to tab through content. Tabbing through global navigation, local navigation and forms was possible, but not through main content or content in the right column. Some mousing has to be done to navigate to all content on pages.

Add tab index order to code. Tabbing through navigation and forms appeared to follow logical sequences, but tab indexing was not found in the site's coding. The forms currently in use are generally simple and require few fields, but adding tab indexing to the site's code will ensure logical tabbing order, help expand tabbing throughout all the content for users who don't have or use a mouse, and enhance the site's forward compatibility if longer, more complicated forms are added in the future.

Add headings to the tab order or at least code them with labels or "Alt" text. Headings on most pages were skipped when using only the keyboard to tab through pages. Without headings the user does not always know what page he/she is on.

Include a descriptive page name for each page. The Macintosh Voice Over Utility announces the page name when it is part of the breadcrumb trail or other HTML text.

Graceful Degradation

Graceful degradation refers to how well the user experience is maintained when some technologies are disabled, as well as when adaptive technologies are used.

Suggested Changes

High Priority

Rephrase content links to make them shorter and more understandable for screen readers. Using Firefox's Fangs add-on to emulate a screen reader, some long, confusing content links were discovered. The word "link" appeared at the beginning or in the middle of a long sentence.

Medium Priority

Separate “By Location”, “By Series”, “By Categories”, “By Age Group” listing links on Events page. When CSS is removed the links run together so they are hard to read.

Revamp the screen layout to rely less on tables. When CSS is removed and the user tabs through the buttons, the cursor moves farther down the right side, causing the screen to scroll down and up again, before focusing on the main text in the center of the page. This could be disconcerting for a user with low vision.

Allowing User Control

Control over the interface is crucial for users with accessibility problems. Aspects of the web site that are out of their control may be more than just annoying; they may derail the whole user experience.

Practices to Continue

Internal links do not open new pages. This does happen with links to outside web sites, but that is understandable, and though it may confuse a few users, should help enforce the realization that the user has left the site.

Suggested Changes

High Priority

Stabilize local navigation bars. On many pages, when the user makes a selection, he/she finds himself/herself in another part of the site, with a different breadcrumb trail at the top of the page and no apparent way to get back to the previous section of the site. This is especially apparent in the Research section. When a user chooses “Browse Select Sites” the breadcrumb trail disappears completely or changes to another path (Home: Art & Art Museums). On the other hand, the local navigation bar disappears when the user selects a link to “Select Sites” from the Research blog. However, when the user selects “Select Sites” from the local navigation bar on the Research page, the local navigation bar remains static. This also happens when the user chooses “Request ILL” or “Circulation Policies” from the “My Account” page. The “Request ILL” button takes users to the “Catalog” page. The “Circulation Policies” button takes the user to the “Policies” page under “About Us”.

Respecting the User

Are there practices that convey a sense of disrespect, even abuse, to users with or without accessibility problems? If so, users will most likely not return.

Suggested Changes

High Priority

Provide a quick way to start a new site search. On the advanced “Search The Site” page, there is no one-click way to clear a search or start a new one. This feature is important to people with low vision who may not get the information they need because unseen parameters from a previous search may interfere with a new search.

Medium Priority

Develop and add an accessibility statement to the site. This would be dependent on first making other changes recommended, then combining those improvements with practices that already enhance accessibility and presenting them on a sub-page within the site. In addition, a contact form or contact information should be provided and users invited to report accessibility issues or ask questions. Such communications should be promptly acknowledged and answered or addressed if possible. A link to this statement/page would fit well in the utility navigation atop each page that includes links to the site's different language versions.

Low Priority

A general statement that all library branches have the same hours should be posted on the About Us: Locations & Hours page. The posted hours apply to all branches and the hours are listed again on each branch's information page, but there should be a heading stating that the hours apply to all branches except where noted.

Additional Accessibility Issues

Suggested Changes

Medium Priority

Create a page that lists all the blogs available on the site. The numerous blogs each have unique information, but the user stumbles onto some of them depending on where he/she is in the site, and it's not obvious how to find all of the different blogs.