Accessibility Guidelines

1. Introduction

The following are HTML accessibility guidelines or suggestions that can be incorporated to ensure that LSC websites are accessible to blind or visually impaired users.

2. Quick HTML Guidelines

Images must have a corresponding ALT attribute.

Screen readers cannot read images. It is always a good practice to place alternate text for each image.

Example:

```
<img src="someimage.jpg" alt="Text that describes the image"/>
```

Forms fields must have a corresponding label.

Example:

```
<label for="searchBox">Search the website</label>
<input id="searchBox" type="text"/>
```

PDF Text

It is best to avoid links to PDF in general because most screen readers have trouble reading PDF documents. However if one must be placed, then place the text (PDF) after the text when a link goes to a PDF file. Doing this gives notice that a link will be opening a PDF file, not going to another Web page.

Example:

```
<a href="document.pdf">Document (PDF)</a>
```

Specify the language on each page.

Screen readers such as JAWS can read out in different languages. Specifying each language explicitly helps the screen readers determine which language to use.

Example:

```
<html lang="en"/>
```

Do not skip headings

Any heading tags (h1, h2, h3, etc) must have an associated parent heading tag. For example, an <h3> tag must have a parent <h2> tag. An <h2> tag must have a parent <h1> tag.

Example:

(Good)
```
<h1>
    <h2>
        <h3>Heading 3</h3>
    </h2>
</h1>
```

(Bad)
```
<h1>
    <h3>Heading 3</h3>
</h1>
```

Put a <title> on the page

Putting a title on the page will help screen readers determine the overall content.

Example:

```
<title>This is the content of the page</title>
```

Links should make sense out of context

It should be clear what links should do even if they are taken out of context. That is, if someone were to look at a link without reading anything else, they should be able to tell what that link does. Make sure that links contain text.

Example:

```
<a href="somepage.html">Click here to go to the amendment page</a>
```
(GOOD)

```
<a href="somepage.html">Click here</a> to go to the amendment page
```
 (BAD)

```
<a href="somepage.html"><br/></a>
```
(BAD)

Don't use tabindexes unnecessarily

There is no need to add a tab order for a link if the page already follows a natural tab order.

Example:

```
<a href="#" tabindex="0">Link 1</a>
```

```
<a href="#" tabindex="0">Link 2</a>
```

```
<a href="#" tabindex="0">Link 3</a>
```

Don't make attribute text the same as the title text.

Example:

This link goes to some page (NO)

Avoid onchange

Do not use "onchange" on drop-downs to change HTML pages layout. This makes navigation confusing. Have a button next to the select drop-down.

Avoid using text to separate or highlight items

Screen readers will read a | characters out as "pipe" and a * character as "star". This could make navigating the site very confusing. Avoid using | to separate links. Use borders instead.

Avoid underlining text that is not a link

When a text is underlined on a website it usually means that the text is a link. Unless absolutely necessary, do not underline text unless it is a link.

3. Design Considerations

The following are considerations that one could make while designing a website that is accessible to blind or visually impaired users.

Navigation without a Mouse

Ensure that the website can be navigated without the use of a mouse. Most screen readers assume that the user will use the TAB, arrow or space bar keys to navigate through the website.

Colors

Colors are important because there are website visitors with vision impairment or color blindness. The following guidelines will help minimize confusion for these users as they navigate a website:

1. Do not distinguish items by colors alone. Place labels on everything.

2. Remove unnecessary images from the background that could clutter a website.

3. Use a color contrast evaluator to make sure that the foreground text color and the background text color are not the same hue. For example, the following image shows how a text can have poor color contrast. The foreground text color or hue is very similar to the background text color or hue:

Bad color contrast	Good color contrast
color contrast example	color contrast example

4. Do not put both red and green on the site. Most color blind users cannot distinguish between red and green. Since ASG uses green for most of its websites, we would most likely avoid a lot of red colors.

This is an example of how the FAR web application website would look like if it was viewed by individuals with different color-blindness.

Normal	Protanopia	Deuteranopia	Tritanopia

Zoom-In Website
Text on website should be visible even after it is zoomed in.

Table Layouts
Do not use tables to layout the text on the page. Some screen readers will say the table name and number of columns before actually going into and reading the table. Example: "table with 4 columns and 6 rows"

Single Sign-On
Passwords are read out loud.

4. WAI-ARIA
The WAI-ARIA is a standard for developing rich internet web technologies that are accessible. The W3C has more information about WAI-ARIA. The following are some of the tags for WAI-ARIA:

aria-expanded: Marks collapsible and expandable regions.

Example:

```
<div id="topic1" role="region" tabindex="-1" aria-expanded="false">
   Some text related to topic 1.
</div>
```

aria-hidden: Hides content from screen readers.

Example:

```
<p aria-hidden="true">This content is hidden.</p>

<p aria-hidden="false">This content is not hidden.</p>
```

aria-label: Provides a label for images or buttons that have no associated labels.

Example:

```
<button aria-label="Close" onclick="myDialog.close()">X</button>
```

aria-required: Indicates to screen readers that a particular input is required.

Example:

```
<label for="lastName">Last name:</label>
<input id="lastName" type="text" aria-required="true" />
```

aria-labelledby: This attribute is used to describe a label for screen readers. It can be used together with <label> HTML tag to provide assistance to screen readers that do not support WAI-ARIA technology.

Example:

```
<input type="text" aria-labelledby="address"/>

The following links have for more information about WAI-ARIA:
```

- http://www.w3.org/WAI/intro/aria
- https://developer.mozilla.org/en-US/docs/Web/Accessibility/ARIA/ARIA_Techniques

4. Accessibility Validators

Webaim
Link: http://wave.webaim.org/

A very powerful site that puts inline the changes that needs to be made to the site. It even shows a link to the standards that the website does not follow. Highly recommended.

aChecker
Link: http://achecker.ca/checker/index.php

aChecker is a good tool to use for website accessibility. It allows you to paste in HTML or upload an HTML file. It also seems to catch more accessibility issues than Webaim.

5. Screen Readers Used

The following screen readers are used to evaluate how the visually impaired use different screen readers to view the websites that LSC maintains.

JAWS

http://www.freedomscientific.com/products/fs/jaws-product-page.asp

Windows-Eyes

http://www.gwmicro.com/Window-Eyes/Demo/index.php