



Introduction to ARIA

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▶ **The Session begins at 1:00 pm CST**

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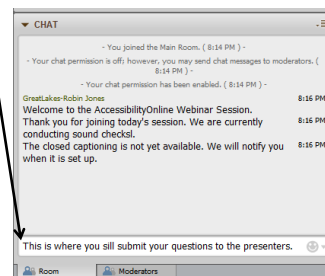
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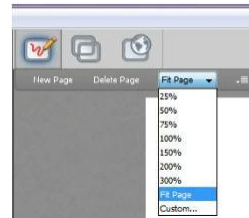
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 - For Screen Reader User – Set preferences through the setting options within the Activity Window (Ctrl+slash opens the activity window)



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Background Basics

- ▶ Part of the Web Accessibility Initiative (WAI) at the W3C.
- ▶ ARIA stands for **Accessible Rich Internet Applications**
- ▶ ARIA has been around for several years and works in HTML4, XHTML and HTML5
- ▶ Sometimes referred to as WAI-ARIA, sometimes just ARIA.



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The Purpose of ARIA

- ▶ To make web content and web applications more accessible
- ▶ On the application side, ARIA helps users manage interactive content such as widgets, drop down menus, events, drag and drop.
- ▶ On the content side, ARIA describes navigation techniques to mark regions and common web structures such as menus, primary content, secondary content, and banner information.



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ARIA in Browsers

- ▶ Older browsers that do not recognize ARIA simply ignore it. The content renders without it.
- ▶ All current major browsers recognize ARIA.
- ▶ ARIA is supported on current versions of iOS, Opera Mini, Android, Blackberry, Opera Mobile, Chrome for Android, Firefox for Android, and IE Mobile.



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ARIA in screen readers

- ▶ JAWS 8 and Window-Eyes 5.5+ partially support WAI-ARIA.
- ▶ Jaws 10+ supports WAI-ARIA.
- ▶ FireVox, a self-voicing extension to Firefox, also supports WAI-ARIA via direct DOM access.
- ▶ NVDA partially supports WAI-ARIA.



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Roles

- ▶ The W3C taxonomy for ARIA uses the word Role.
- ▶ ARIA roles define what an element is or does.



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Example ARIA Roles

- ▶ Roles that act as standalone user interface widgets or as part of larger, composite widgets: alert, progressbar, timer
- ▶ Roles that act as composite user interface widgets. These roles typically act as containers that manage other, contained widgets: listbox, radiogroup
- ▶ Roles that describe document structures that organize content in a page: article, img, listitem



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The Landmark Roles

- ▶ Roles that act as navigational landmarks
 - [application](#)
 - [banner](#)
 - [complementary](#)
 - [contentinfo](#)
 - [form](#)
 - [main](#)
 - [navigation](#)
 - [search](#)



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Landmark Roles Defined

- ▶ **Application:** A region declared as a web application, as opposed to a web document. Assistive devices have different browsing modes for applications. Set the role of application on the element that encompasses the entire application.
- ▶ **Banner:** Site identity such as the logo or site search. The banner role can only be used once per page.



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Landmark Roles Defined

- ▶ **Complementary**: supporting information relevant to the main topic, but still meaningful when separated from the main content. This role can be used multiple times on a page.
- ▶ **Contentinfo**: a region that contains information about the parent document, usually in a footer element. Contentinfo can only be used once on a page.



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Landmark Roles Defined

- ▶ **Form**: contains a collection of items and objects that, as a whole, combine to create a form. Can be used more than once per page.
- ▶ **Main**: the main content of a document. Can only be used once per page.



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Landmark Roles Defined

- ▶ **Navigation**: a collection of navigation elements, usually links. Can be used more than once per page.
- ▶ **Search**: a search element. Can be used more than once.



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ARIA Roles and HTML Elements

- ▶ According to [Using WAI-ARIA in HTML](#),
- ▶ An ARIA role overrides HTML semantics. For example:
 - ▶ `<h1 role=button>text</h1 >`
 - ▶ Becomes this in the [accessibility tree](#):
 - ▶ `<button>text</button>`



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ARIA Roles and HTML Elements

- ▶ On the other hand, ARIA roles do not change function
- ▶ This:
- ▶ `<button role=heading>text</button>`
- ▶ Becomes this in the accessibility tree:
- ▶ `<heading>text</heading>`
- ▶ **But** it is can still be pressed



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ARIA Roles and HTML5 Elements

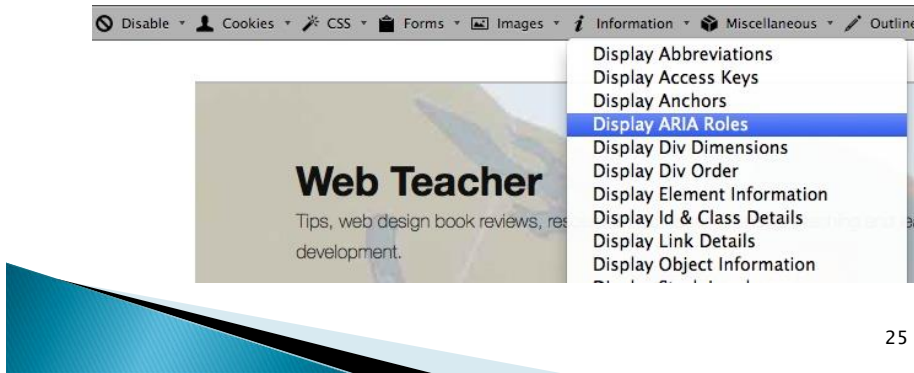
- ▶ Some HTML5 elements are semantic matchups for ARIA roles, for example the nav element should be used with the **navigation** role
- ▶ The header element in HTML5 can be used multiple times on a page, but the role **banner** can only be used to identify the header element containing the site identification



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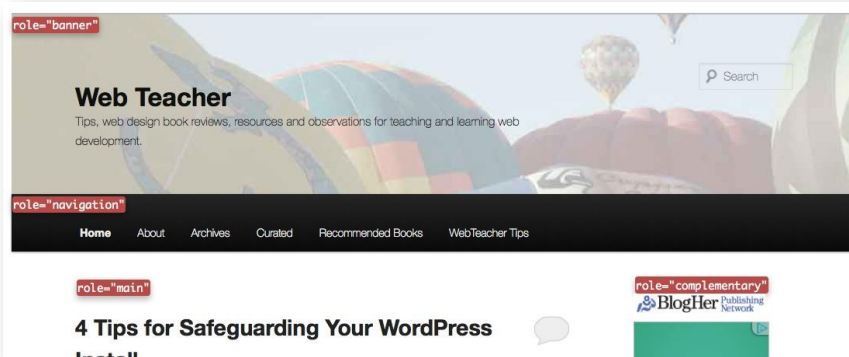
Seeing or Hearing ARIA in Action

- ▶ Tools exist for developers who don't have access to a screen reader.
- ▶ [Web Developer Toolbar](#) for Firefox, Opera and Chrome



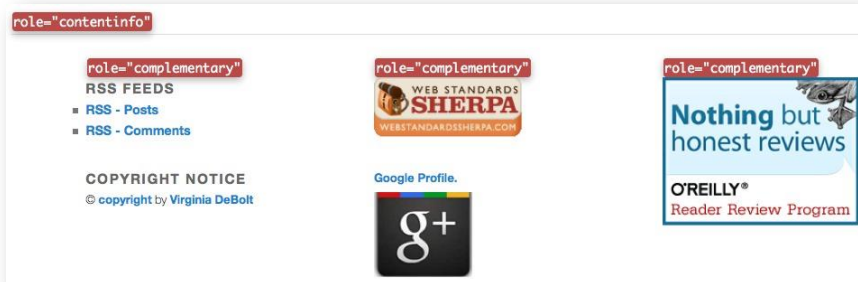
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Web Developer Toolbar Display



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More Web Developer Toolbar Display



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With JAWS screen reader

- ▶ Here's a quick video from Nomensa demonstrating how JAWS reads landmark ARIA roles on their home page.
- ▶ http://youtu.be/IhWMou12_Vk

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It's One Little Attribute

- ▶ Adding ARIA landmark roles to standard HTML pages is easy!
- ▶ When working in any text editor, or in a WYSIWYG tool such as Dreamweaver, you simply add a role attribute to the appropriate element and you're done.



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Add ARIA Roles to Your Work

- ▶ In a WYSIWYG tool like Dreamweaver, add it Code View.

```

32 <div class="container">
33 <header role="banner"><a href=
34 "index.html"><img src=
"images/masthead.jpg" alt="Virginia
DeBolt" width="100%"></a>
35 <!-- end header --></header>
36 <nav role="navigation">
37 <ul>
38 <li><a href="index.html">Home</a></li>
39 <li><a href="ht/htmlbooks.html">HTML
Books</a></li>

```



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A Closer Look

```
<header role="banner"><a href=
"index.html"><img src=
"images/masthead.jpg" alt="Virginia
DeBolt" width="100%"></a>
<!-- end header --></header>
<nav role="navigation">
  <ul>
    <li><a href="index.html">Home</a></li>
  </ul>
</nav>
```

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Another Example

```
</nav>
<div class="content" role="main">
  <article>
    <h1>What I'm Doing</h1>
    <p>This website is intended to
```

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More Examples

```

</div>
<aside role="complementary">
  <article>
    <h2>The Daily Feed</h2>
    <p><a href=
"http://twitter.com/vdeholt" rel="me"><img

```

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One More Example

```

<footer role="contentinfo">
  <p><span class="vcard"><span class=
"fn">Virginia DeBolt</span>, also on the
web as <a href="http://www.webteacher.ws/"
rel="me" class="url">Web Teacher</a>, <a

```

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A Search Landmark

The search role typically goes on the form element or a div surrounding the search form.

```
<form role="search">  
<label for="search">search</label>  
<input id="search" type="text" size="20">  
...  
</form>
```

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In WordPress

- ▶ Most modern themes will have the ARIA roles baked in.
- ▶ Easy to check with the Web Developer Toolbar.
- ▶ With older themes you can add them easily by using a [child theme](#).
- ▶ Most of the time, all you put in the folder for a child theme is a style.css file, BUT . . .

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WordPress Child Themes

- ▶ You can modify the PHP pages in a theme to include ARIA roles.

▼	oxygen-child	
	favicon.ico	2KB
	footer.php	2KB
	functions.php	1KB
	header.php	3KB
	sidebar-secon...	1KB
	style.css	2KB

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Header.php

- ▶ In my theme, I found the header.php file, saved a copy in the child theme folder, with this addition.

```

<div id="container">
  <div class="wrap">
    <?php do_atomic( 'before_header' ); // oxygen_before_header ?>
    <div id="header" role="banner">
      <?php do_atomic( 'open_header' ); // oxygen_open_header ?>
      <div id="branding">
        <?php oxygen_site_title(); ?>
  
```

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Footer.php and Sidebar.php

- ▶ Did a similar thing to the footer.php file and sidebar.php and suddenly the out-of-date WordPress theme was an up-to-date theme.

```
<div id="footer" role="contentinfo">
  <?php do_atomic( 'open_footer' ); // oxygen_open_footer ?>
  <div id="footer-content" class="footer-content">
    <?php echo apply_atomic_shortcode( 'footer_content', hybrid_get_setting
  </div>
```

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Beyond Landmarks: Other ARIA techniques

- ▶ Also useful to front-end developers
- ▶ **aria-required="true"** in required form input fields.
- ▶ `<label for="username">User name: </label>`
`<input type="text" name="username"`
`id="username" aria-required="true">[*]`

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With the HTML5 Required Attribute

- ▶ `<label for="username">User name: </label>`
`<input type="text" name="username"`
`id="username" required aria-`
`required="true">[*]`



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aria-label identifies objects

- ▶ Provides a label that can be read by assistive technology.
- ▶ Useful in labeling landmark roles that might be used more than once on a page.
- ▶ `<nav role="navigation" aria-label="primary">`
`</nav>`
- ▶ `<nav role="navigation" aria-`
`label="secondary"> </nav>`
- ▶ Use any text or phrase you need in aria-label



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More on aria-label

- ▶ Useful when there can be no text label attached to an object, for example, the red X that closes a browser window or other close buttons using an X
- ▶ Useful for things like identifying multiple input fields for phone numbers.



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aria-labeledby

- ▶ This attribute connects a link to a heading or some text related to it. The heading or text needs an id.
- ▶ `<h2 id="headline">Hunger Games Tops Box Office</h2>`
- ▶ `<p>The Hunger Games topped all other releases in this weekend's box office.Read more...</p>`



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More aria-labeledby

```
<p role="complementary" aria-  
  labelledby="hdr1">  
<h1 id="hdr1"> Top News Stories </h1>  
</p>
```



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aria-describedby

- ▶ aria-describedby can be applied to an image to provide a long description, where that text description is on the same page as the image.

```

```

```
<p id="p1">This man in full scuba gear shows  
  each piece of gear with a label. The gear  
  includes...</p>
```



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Questions

You may type and submit questions in the Chat Area Text Box or press Control-M and enter text in the Chat Area



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Resources

- ▶ [WAI-ARIA 1.0 Authoring Practices](#)
- ▶ [ARIA Techniques for WCAG 2.0](#)



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Thank you for participating!

NEXT SESSION IS MAY 22, 2014

Web Accessibility Analytics and Open Source Tools for
Inspecting and Auditing Web Resources for Accessibility

The session today was recorded
and will be archived at

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