

ADA Compliance Documentation for DEV/QA (6/1/2022)

#1 Focus Indicators (focus marker) usage

What is the focus Indicator (marker)?

<https://www.deque.com/blog/give-site-focus-tips-designing-usable-focus-indicators/>

- Visual markers which show (indicate) which element on a web page is focused
- Only one element on a page can be focused at a time, and it should be obvious
- Most all focusable elements are interactive – form fields, links, buttons, tooltips, etc.
- If you can interact with an element with the mouse, you should also be able to use the keyboard to perform the same actions
- If you are using a keyboard, anything you interact with should have visible focus.

Example

Sightline Legal Hold

Domain: Domain UAT1

Employees ?

Last Refreshed 03/03/2022 05:03 PM

Manage Users & Groups Manage Employee

Employee ID	Last Name	Middle Name	First Name	Email Address	Employment Status	Job Title	Department	Hire Date	Termination Date	
Employee ID I	Last Name	Middle Nan	First Name	Email Address Filte	Employment Sts	Job Title Fi	Department Filtr	Hire Date Fi	Termination Da	Filter
12345671	John	Y	Doe	john.doe1@mail.com	Terminated	UX Designer	Product Management	03/03/2020	03/03/2022	
12345671	John	Y	Doe3	john.doe3@mail.com	Terminated	UX Designer	Product Management	03/03/2020	03/03/2022	

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Employee ID I	Last Name	Middle Nan	First Name	Email Address Filte	Employment Sts	Job Title Fi	Department Filtr	Hire Date Fi	Termination Da	Filter
12345671	John	Y	Doe	john.doe1@mail.com	Terminated	UX Designer	Product Management	03/03/2020	03/03/2022	

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12345671	John	Y	Doe	john.doe1@mail.com	Terminated	UX Designer	Product Management	03/03/2020	03/03/2022	

Add Employee

Employee ID: Enter Employee ID

Guild: Enter Guild

Full Name: Enter Full Name

Last Name *: Enter Last Name
This value is required.

First Name *: Enter First Name
This value is required.

Middle Name: Enter Middle Name

Also Known As: Enter Also Known As

Email *: Enter Email
This value is required.

Title: Enter Title

Department: Enter Department

Location: Enter Location

Hire Date: Enter Hire Date

Termination Date: Enter Termination Date

Employment Status: Please choose

Manager Name: Enter Manager Name

Select Group(s)

☐ Executive Group

☐ HR Group

☐ IT Group

Cancel Submit

How to test?

- Using the keyboard (by Tab key) or mouse (left click), a Focus Indicator (marker) should be visible on the actionable HTML components such as form fields, links, buttons, tooltips, etc.
- In a page, any actionable HTML components/elements should not be skipped by Keyboard Tab.

Implementation:

- Implement CSS classes like below
- Add Anchor elements (<a> tag) and role="button" tabindex="0" for non-native HTML clickable object
 - Do not use without adding role="button" tabindex="0" or <a> tag
 - Do not use <ul class="nav menu"> meun1 without adding role="button" tabindex="0" or <a> tag

```
body *:focus {
  outline: 2px dotted red;
  outline-offset: 1px;
  border-radius: 1px 1px 1px 1px;
}
```

```
.page-link:focus {
  outline-offset: 2px;
  border-radius: 1px 1px 1px 1px;
  box-shadow: 0 0 5px rgb(52 143 226 / 70%);
}
```

```
.form-control:focus {
  outline: 2px dotted red;
```

```

outline-offset: 2px;
box-shadow: 0 0 0.25rem rgb(52 143 226 / 15%);
}

.btn-check:focus+.btn-default,
.btn-default:focus {
outline: 2px dotted red;
outline-offset: 2px;
box-shadow: 0 0 0.25rem rgb(203 206 209 / 15%);
}

```

Problems:

<https://dev.to/tylerjdev/when-role-button-is-not-enough-dac>



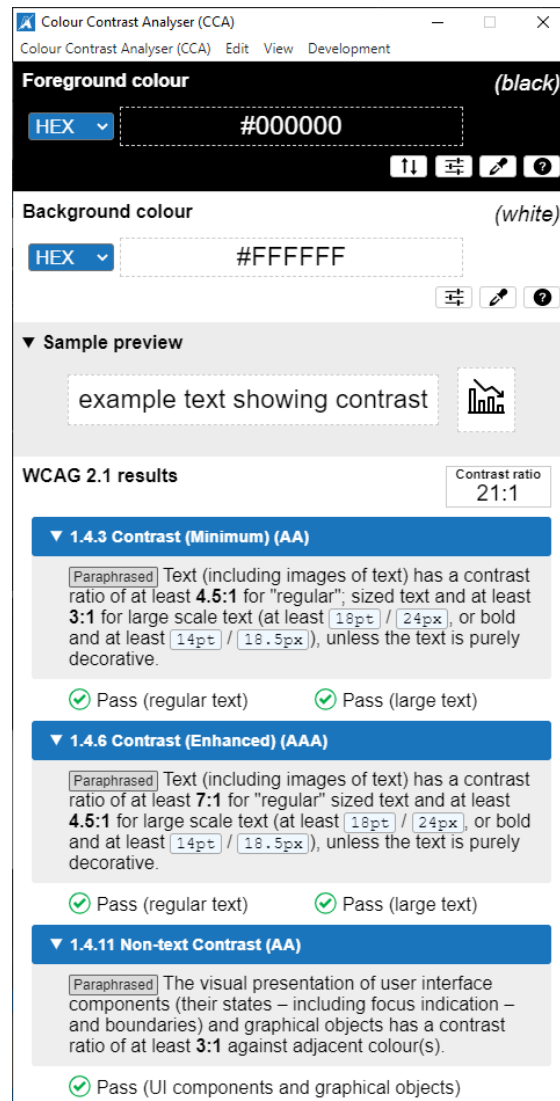
#2. Color contrast for image and text

What does color contrast mean?

- Throughout the application, there are uses of color in the text, links, background, menus, etc. These colors need contrast to be visible to people with low visibility or other ADA needs.
 - WCAG 2.0 level AA requires a contrast ratio of at least 4.5:1 for normal text and 3:1 for large text.
 - WCAG 2.1 requires a contrast ratio of at least 3:1 for graphics and user interface components.
 - WCAG Level AAA requires a contrast ratio of at least 7:1 for normal text and 4.5:1 for large text.

How to test?

- Use Color Contrast Analyzer software to determine whether or not colors and/or backgrounds are compliant with **WCAG 2.1 AA Level**.
- Get it from <https://www.tpgi.com/color-contrast-checker/>



Implementation

- Text (including images of text) should have a contrast ratio at least 4.5:1. Implementation should be done by global css file. Do not update font color/size in local HTML file.
- Meaningful Images (including icon buttons) should be treated like Text, so they need a contrast ratio at least 4.5:1.
- Decorative images should have a null (empty) alt text (alt="") so that they can be ignored by assistive technologies, such as screen readers.

Problems

The screenshot shows a web application interface with a dark header bar. The header contains a back arrow, the text "PROJECT: Combat Arms ...", and a dropdown arrow. Below the header is a sidebar with icons for "DOC EXPLO", "DATASETS", "MANAGE", "SEARCH", and "REPORTS". The main content area is divided into two sections. The left section, titled "Doc Explorer", shows a list of documents with names and counts, such as "Abens, Daniel (10)", "Abney, Chris (590)", "Abshier, Jonathan (117)", and "Acevedo, Manuel (139)". The right section, titled "FILTER DOCUMENTS BY", shows filter buttons for "IngestionName", "EmailRecipientDomain", and "Comments". Below the filters is an "ACTIVE FILTERS:" section with a table showing columns "DOCID", "FAMILY", and "CUSTODIANNAME". The table has a row with values "ID00000001", "S", and "Tharpe, Herman". At the bottom of the page is a pagination bar with links for "Previous", "1", "2", "3", "4", "5", "...", "4035", and "Next".

Not enough Contrast (Text)

Not enough Contrast (Image/icon)

Due to small font size and color, this pagination cannot pass WCAG 2.1

#3. Screen Reader Compliance

What is a screen reader?

- For the low visibility, dyslexic, etc. needs the computer to read elements of the website/application out loud to them so they can understand the content.
- The requirement is **not** for the screen reader to be able to read every single aspect of the application

How to test?

- Run the screen reader extension to see if the application is being read reasonably and in a way that makes sense.
- Chrome extension (Screen Reader) - <https://chrome.google.com/webstore/detail/screen-reader/kgeiglhpjiefppelpmljglcjboiplfn>
- NV Access (Screen Reader) - <https://www.nvaccess.org/download/>
- Or any other reader

Implementation:

- Use ARIA tags, alt tags, roles, labels, etc. in HTML files
- These ARIA tags, alt tags, roles, & labels, will be used for explaining contents of the page.

1. Image, button, <a> à use one of these; alt, title, or aria-label

- `<button aria-label="Close" aria-describedby="descriptionClose" onclick="myDialog.close()">X</button>`
- ``
- `<a aria-label="Assistive tech users can only perceive the contents of this aria-label, not the link text">Link Text</a>`

2. Required field (example below)

- `<p>Note: [*]denotes mandatory field</p>`
- `<input type="text" id="lname" aria-required="true" /> [required]`
- `<input type="text" name="email" id="email" class="error" aria-invalid="true" aria-describedby="err_1" />`

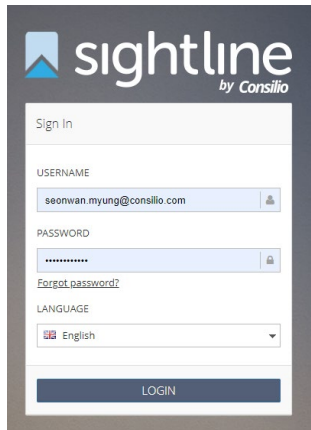
3. Main Menu (navigation) à Role & aria-label

- `<div role="navigation" aria-label="Primary">`
- `<div role="heading">Global News items</div>`
- `<div role="heading" aria-level="7">Jonagold</div>`
- `<div role="alertdialog" aria-labelledby="alertHeading" aria-describedby="alertText">`

4. Drag & Drop, Tree, toggle button, slider (<https://www.w3.org/TR/WCAG20-TECHS/ARIA5.html>) à No Need (SLH doesn't have the component)

5. The use of `tabindex="-1"` on the `span` element is **not** meant to support focusing by scripts

Login code Sample for Screen Reader



```
<body>
  <div id="main" role="main">
    <div id="content" class="container">
      <div class="row">
        <div id="browserWarn" class="alert alert-warning fade in" style="display:none">
          <i class="fa-fw fa fa-warning"></i>
          <strong>Warning</strong> &nbsp;&nbsp;&nbsp; @UserManagement.BrowserNotSupported
        </div>
        <div class="col-md-4 col-md-offset-4" style="margin-left:32%;">
          
        </div>
        @* @Html.DropDownListFor(model => model.Locale, new List<SelectListItem>
          {
            new SelectListItem{ Text="English", Value = "en-US" },
            new SelectListItem{ Text="German", Value = "de-DE" }
          }, new { @class = "form-control input-sm valid", @id = "ddlLocale", onchange = "ChangeCulture()" }) *@
      </div>
      <div class="row">
        <div class="col-md-4 col-md-offset-4">
          <div class="well no-padding">
            <header aria-label="Sign In Form">
              @UserManagement.SignIn
            </header>
            <fieldset>
              <section aria-disabled="true">
                <label class="label" style="padding-left:0px;" aria-label="Username label">@UserManagement.Username*</label>
                <label class="input" aria-label="Username field is required">
                  <i class="icon-append fa fa-user"></i>
                  @Html.TextBoxFor(Model => Model.UserId, new { id = "txtBxUserID", type = "password" })
                  @Html.ValidationMessageFor(Model => Model.UserId, "", new { @style = "color:red!important" })
                  <b class="tooltip tooltip-top-right"><i class="fa fa-user txt-color-teal"></i> Please enter email address/username</b>
                </label>
              </section>
              <section>
                <label class="label" style="padding-left:0px;" aria-label="Password label">@UserManagement.Password*</label>
                <label class="input" aria-label="Password field is required">
                  <i class="icon-append fa fa-lock" id="lockChange"></i>
                  @Html.PasswordFor(Model => Model.UserPassword, new { id = "txtBxUserPass" })
                  @Html.ValidationMessageFor(Model => Model.UserPassword, "", new { @style = "color:red!important" })
                  @Html.ValidationSummary(true, "", new { @style = "color:red!important;" })
                  <b class="tooltip tooltip-top-right"><i class="fa fa-lock txt-color-teal"></i> Enter your password</b>
                </label>
              </section>
            </fieldset>
          </div>
        </div>
      </div>
    </div>
  </div>
```

```
<div class="note">
  <a href="@url">@UserManagement.ForgotYourPassword</a>
</div>
</section>
<section>
  <label class="label" style="padding-left:0px;" aria-label="Language selection label">@UserManagement.Language</label>
  <div>
    <!-- Language Drop Down Start -->
    <dl id="languageSelect" class="dropdown" aria-label="Language selection dropdown">
      <dt><a href="#"><span class="en"><span class="flag"></span> English</span></a></dt>
      <dd>
        <ul>
          .....
        </ul>
      </dd>
    </dl>
    <!-- Language Drop Down End -->
  </div>
</section>
</fieldset>
<footer>
  <button type="submit" value="submit" name="submit" class="btn btn-primary btn-lg btn-block" aria-label="Login button">
    @UserManagement.Login
  </button>
</footer>
</div>
</div>
</div> <!-- END ROW -->
</div>
</body>
</html>
```

QA Test Suggestions for ADA Compliance

#1. Ensure all the below objects have tooltips. WCAG 1.4.13 Content on Hover or Focus.
(Recommended tool/method: Manual)

- Verify that all the images have tooltips
- Verify that all the icons have tooltips
- Verify that all the buttons have tooltips
- Verify that all the shortened Text (such as "word...") have tooltips

#2. Ensure interactive HTML elements (actionable HTML objects) can be visually distinguished from non-actionable ones. (Recommended tool/method: Manual with mouse/keyboard)

- Verify that all the HTML links have proper styles
 - Underlines or Proper color (should be consistent across all the pages)
 - Color highlights (Hover effect: optional)
 - Weight variants (Hover effect: optional)
- Verify that all clickable elements have proper visual styles
 - Icon buttons – cursor, tooltip and button like look & feel (distinguished from pure images)
 - Image map – cursor & tooltip
 - Heat map- cursor & tooltip
 - Clickable Chart & Graph – cursor & tooltip
 - Tabs & Accordions – cursor & tooltip

#3. Ensure that visual focus is indicated for all components that receive focus when using the keyboard (Recommended tool/method: Manual by Screen Reader & Keyboard TAB key)

- Activate a screen reader
- Verify that the actionable items can be visually distinguished from non-actionable ones
- Verify that the actionable status is indicated by a screen reader (Focus Marker/Indicator)
- Verify that each actionable element can be navigated to using the keyboard only

#4. Color Contrast for Text and Non-Text (text replaceable) elements

- Verify a contrast ratio of at least 4.5:1 for normal text and 3:1 for large text (**WCAG 2.0 level AA**) by sampling of background & foreground colors
- Verify a contrast ratio of at least 3:1 for graphics and user interface components (WCAG 2.1) by sampling of background & foreground colors

