DIY Accessibility Testing & Auditing

Cornell DrupalCamp 2019

MESSAGE S AGENCY

Hi, there!

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Accessibility Advocate





Outline

- 1. Level setting ourselves
- 2. Building your toolset
- 3. Defining the scope
- 4. Using automated tools
- 5. Keyboard and manually testing your site
- 6. Determining next steps



"Disability is not just a health problem. It is a complex

phenomenon, reflecting the interaction between features of a person's body and features of the society in which he or she lives."

- World Health Organization



1. Level setting ourselves

Before we begin, let's cover some ground rules to set our expectations.

1. Very familiar with HTML and CSS basics.



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- 2. Very familiar with your site's architecture and functionality.



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- 3. Automated tools pick up > 40% errors.¹ You must manually test.
- 4. Compliance does not equal a truly accessible site.
- 5. This is not a guide for a full or comprehensive accessibility audit.



1. Are you redesigning your site?



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- 2. Are you doing considerable development work?



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- 3. Are you being sued? Are you afraid of being sued?

- 1. Are you redesigning your site?
- 2. Are you doing considerable development work?
- 3. Are you being sued? Are you afraid of being sued?
- 4. Are you just trying to make your website better?



What's your bandwidth?

1. Do you have the in-house capacity to confidently identify errors?



What's your bandwidth?

- 1. Do you have the in-house capacity to confidently identify errors?
- 2. Do you have the in-house capacity to confidently fix errors?



What's your bandwidth?

- 1. Do you have the in-house capacity to confidently identify errors?
- 2. Do you have the in-house capacity to confidently fix errors?

If you answer no to either of these questions...

Contact a vendor.



1. Standardize your interpretation, goals, and tools.



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 - a. Are we working toward a minimum, optimized, or idealized solution?



- 1. Standardize your interpretation, goals, and tools.
 - a. Are we working toward a minimum, optimized, or idealized solution?
 - b. Are we using the same tools?



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 - a. Are we working toward a minimum, optimized, or idealized solution?
 - b. Are we using the same tools?
- 2. Identify your Achilles' heel.



- 1. Standardize your interpretation, goals, and tools
 - a. Are we working toward a minimum, optimized, or idealized solution?
 - b. Are we using the same tools?
- 2. Identify your Achilles' heel.
- 3. Share knowledge (and responsibility).



Automated tools pick up different errors.² Standardizing your toolset is a must.

Automated tools



Siteimprove browser extension



O Siteimprove

×

Headings are not nested properly

AAA 2.4.10 Section Headings

<

The headings on the page must be hierarchically organized.

Think of headings as sign posts providing users context.

Screen readers often use a shortcut allowing users to view a list of all headings found on the page. The screen reader uses the heading code (H1-H6 and WAI-ARIA headings and their 'arialevel') to create this list. Some users also tab through the headings of a page.

Heading codes used in the proper order will give an accurate 'picture' of what is on the web page.

Headings must not skip levels.

There must be at least one top level heading (H1 or WAI-ARIA role="heading" with a arialevel="1") present on the page and sub headings for this must be H2 or WAI-ARIA role="heading" aria-level="2" and so on.

Instances on this page

<h4></h4>	Siteimprove transforms the way y	~
<h4></h4>	Know Everything	~
<h4></h4>	Small & Medium Businesses	^
	Open DevTools to view code snipper	Ę.
<h4></h4>	Create an account now and be on	~



Small & Medium Businesses

When time and resources are limited, our content and analytics packages become your one-stop-shop to managing your growing digital presence.

Find Your Solution

Large Businesses

It's never been easier to get a true overview of your digital presence, prove ROI, and maintain consistency and brand integrity across hundreds of pages and contributors.

Public Org

Ensure transpare tasks across your living up to moun

Plans & Pricing

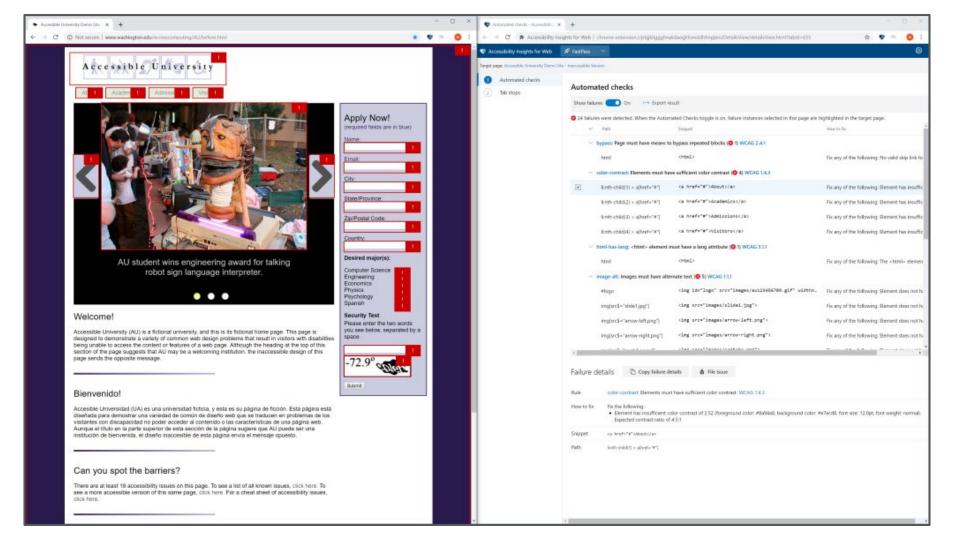
Automated tools





Siteimprove browser extension Microsoft Accessibility Insights





Automated tools





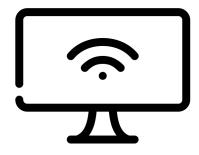


Siteimprove browser extension Microsoft Accessibility Insights WAVE browser extension





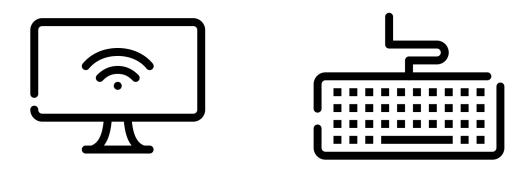
Other tools



Web browser



Other tools

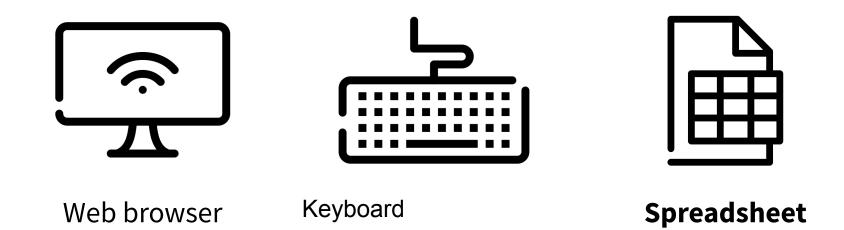


Web browser

Keyboard



Other tools

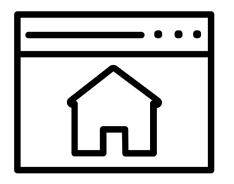




3. Defining the scope

Document what you are and are not evaluating.

What pages should you test?







Homepage

Contact page(s)

Top-visited pages



Out of a million homepages...

98%

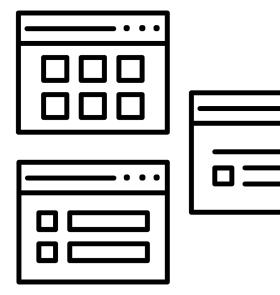
had detectable WCAG 2 failures.³

Users with disabilities would expect to encounter detectable errors on

1 in every 13

elements with which they engage.⁴

What pages should you test?



The best representation of each **type of page**

Example: landing page, blog post, search results page



What pages should you test?

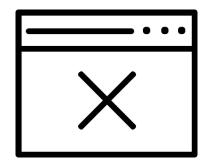


The best representation of each **type of process**

Example: multi-step form, checkout, registration form, status messaging



What else should you include?



A list of the areas you're **NOT** testing





1. Only achieved if the full Web page is in compliance.



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- 2. All web pages in the process must conform.



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- 3. All information, content, and functionality must be provided in a way that is supported by assistive technology.



- 1. Only achieved if the full Web page is in compliance.
- 2. All web pages in the process must conform.
- 3. All information, content, and functionality must be provided in a way that is supported by assistive technology.
- 4. Non-conforming parts can't block the user's ability to access the rest of the page.



4. Using automated tools

Find the most common accessibility errors.

4. Using automated tools

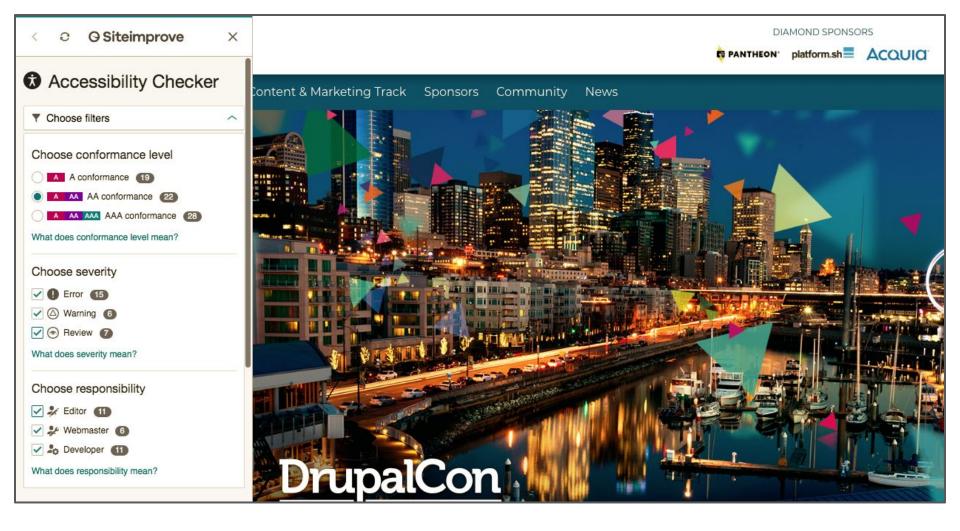
Setting up

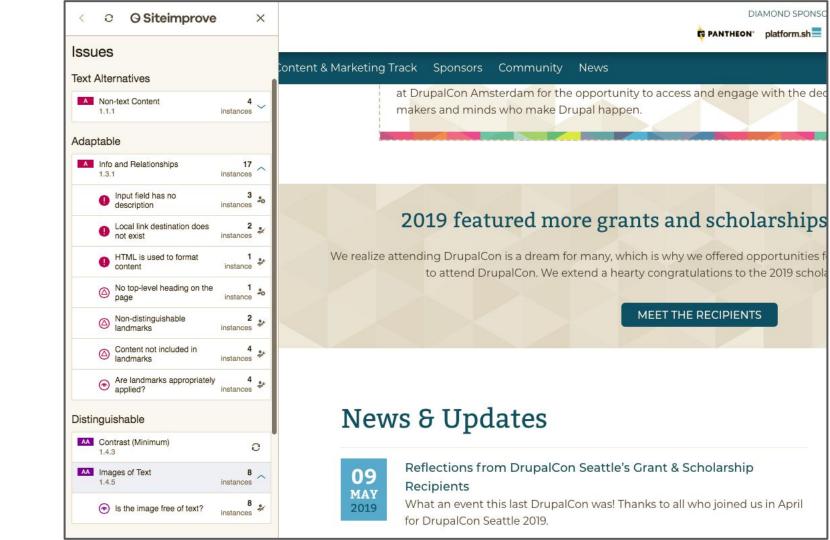


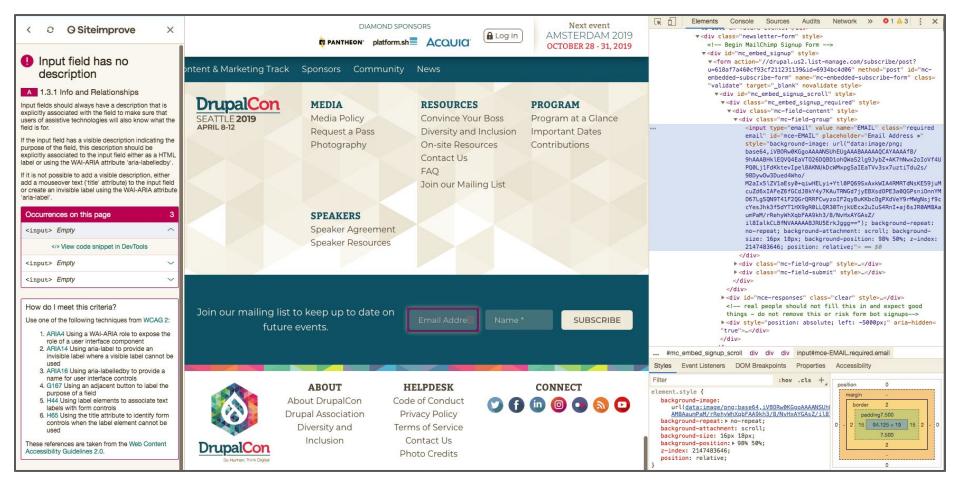
Spreadsheet

Automated tools



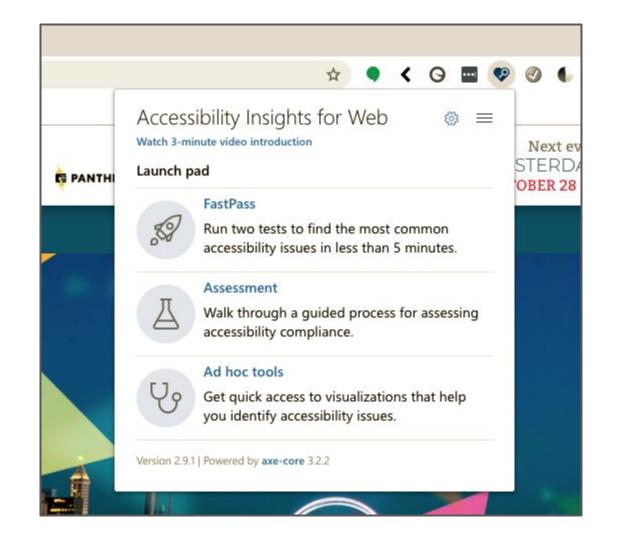




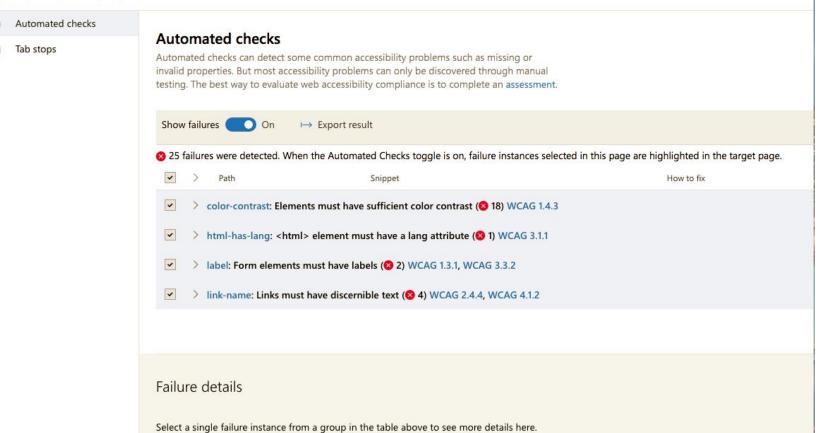


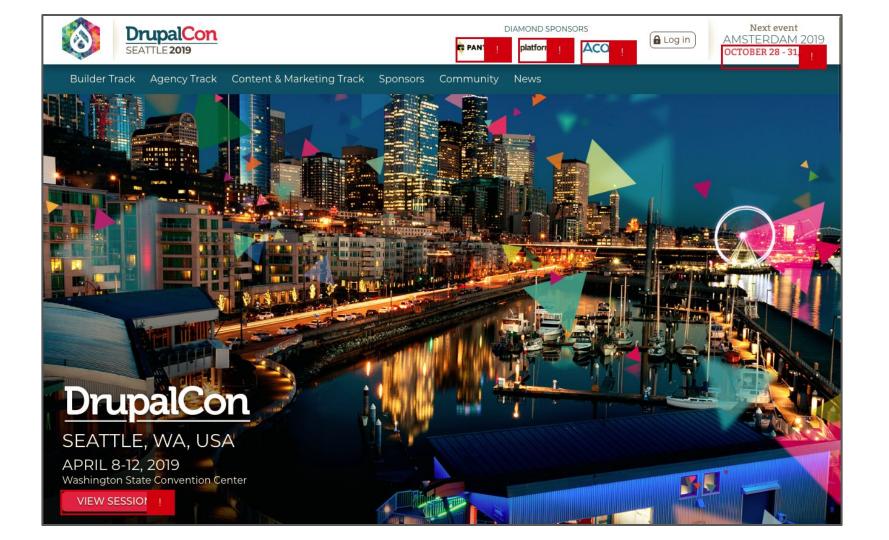






Target page: Seattle 2019 | DrupalCon

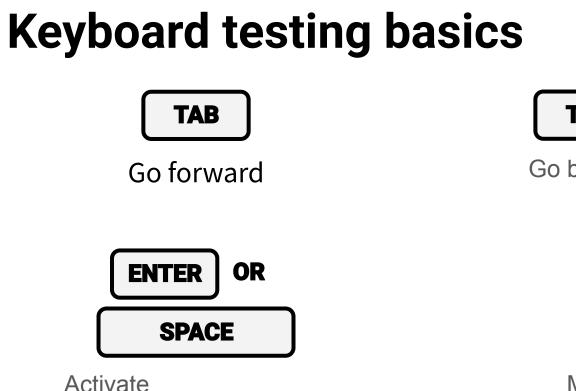




Automated checks results	
Summary	
25 Failed 20 Passed 23 Not applicable	
	v 🛿 18) color-contrast: Ensures the contrast between foreground and background colors meets WCAG 2 AA contrast ratio thresholds
Scan details the https://events.drupal.org/seattle2019 2019-09-09 5:52 PM UTC	Resources for this rule More information about color-contrast WCAG 1.4.3
	Path .date
Failed instances (3 ²⁵)	Snippet <div class="date">October 28 - 31, 2019</div>
> (218) color-contrast: Ensures the contrast between foreground and background colors meets WCAG 2 AA contr	 How to fix Fix the following: Element has insufficient color contrast of 4.48 (foreground color: ##e22b4a, background color: ##ffffff, font size: 1 1.3pt, font weight: normal). Expected contrast ratio of 4.5:1
> 🛐 html-has-lang: Ensures every HTML document has a lang attribute	
> 22) label: Ensures every form element has a label	Path .field-name-field-link > .field-items > .even.field-item > a
> 🛛 Iink-name: Ensures links have discernible text	Snippet View Sessions
> Passed checks 20)	 How to fix Fix the following: Element has insufficient color contrast of 4.48 (foreground color: ##ffffff, background color: ##e22b4a, font size: 1 2.0pt, font weight: normal). Expected contrast ratio of 4.5:1
> Not applicable checks 23)	Path .group-right.field-group-div > .field-name-field-cta.field-type-link-field.field-label-hidden > .field-items > .even.field-item > a
	Snippet Learn more
	 How to fix Fix the following: Element has insufficient color contrast of 4.48 (foreground color: ##ffffff, background color: ##e22b4a, font size: 1 2.0pt, font weight: normal). Expected contrast ratio of 4.5:1

5. Keyboard and manually testing your site

Evaluate your site's functionality.





Go backward



Move around



1. Visible focus

When we navigate to an interactive component, it is visually apparent.



1. Visible focus

When we navigate to an interactive component, it is visually apparent.

2. Keyboard navigation

We can navigate **to** all interactive components.



1. Visible focus

When we navigate to an interactive component, it is visually apparent.

2. Keyboard navigation

We can navigate **to** all interactive components.

3. No keyboard traps

We can navigate **away** from all interactive components.



4. **On focus**

Navigating to a component does not cause a change of context, like opening a new browser window.



4. **On focus**

Navigating to a component does not cause a change of context, like opening a new browser window.

5. On input

Changing a component's settings does not cause a change of context, like submitting a form when the user leaves the last input field on the form.



4. **On focus**

Navigating to a component does not cause a change of context, like opening a new browser window.

5. On input

Changing a component's settings does not cause a change of context, like submitting a form when the user leaves the last input field on the form.

6. No keystroke timing

No components require specific keystroke timing, like an app only loading if we hold down a key for 5 seconds.



Keyboard ①

> Getting Started

Requirements

1 Keyboard navigation. Users must be able to *navigate* to all interactive interface components using a keyboard.

0

0

0

0

0

0

2 No keyboard traps. Users must be able to *navigate away* from all components using a keyboard.

3 On focus. Navigating to a component must not trigger any unexpected change of context.

4 On input. Changing a component's settings must not trigger any unexpected change of context.

5 No keystroke timing. Components must not require specific timings for individual keystrokes.

6 Character key shortcuts. Users must be able to turn off or remap character key shortcuts.

Keyboard navigation	(i)	Info & examples
Visual helper Off		
✓ How to test		
The visual helper for this requirement records elements in the target page that receive the input foc	us.	
1. Use the keyboard to navigate through all the interactive interface components in the target page		
a. Use Tab and Shift+Tab to navigate between widgets both forwards and backwards.		
b. Use the arrow keys to navigate between the focusable elements within a composite widget.		
2. If a "keyboard trap" prevents the focus from leaving a widget:		
a. Use your mouse to move the focus to the next widget.		
b. Resume testing.		
3. If you encounter any trigger component that reveals hidden content:		
a. Activate the trigger.		
b. Navigate through the revealed content.		
c. Close the revealed content.		
d. Resume navigating the page.		
4. Verify that you can navigate to all interactive components using the keyboard.		
5. Record your results:		
a. If you find any failures, select Fail, then add them as failure instances.		
b. Otherwise, select Pass.		
Pass Fail 2		
U Pass U Pall /		

Healthcare

This Summit aims to help connect you with Drupal users in the industry - be it pharma, scientific, or medical, to learn from each other about best practices, new trends, and generate ideas.

LEARN MORE

Libraries

This Summit is a one-day event for anyone using Drupal at a library who is looking to connect with other library users through presentations, peer networking, and collaborative round table discussions.

LEARN MORE

Nonprofit

The Nonprofit Summit aims to help connect you with other nonprofit Drupal users, to learn from each other about best practices, new trends, and generate ideas in a day that includes collaborative peer discussion and networking.

LEARN MORE









Builder Track	>
Agency Track	
Content & Marketing Track	
Sponsors	>
Community	>
News	

6. Determining next steps

What now?

1. Basic tasks

Example: creating an account, logging in, buying a product



1. Basic tasks

Example: creating an account, logging in, buying a product

2. Navigation issues

Example: skipped heading levels, no skip links, focus order



1. Basic tasks

Example: creating an account, logging in, buying a product

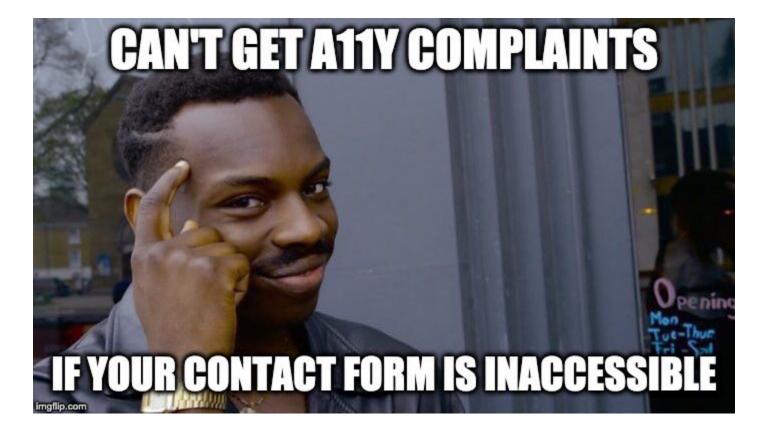
2. Navigation issues

Example: skipped heading levels, no skip links, focus order

3. Form submissions

Example: contact form, feedback form, surveys, donation form







4. Pages with legal implications

Example: privacy policy, nutritional information, GDRP pages



Prioritizing defects in-house

4. Pages with legal implications

Example: privacy policy, nutritional information, GDRP pages

5. High traffic pages

Example: homepage, landing pages, campaign pages



Prioritizing defects in-house

4. Pages with legal implications

Example: privacy policy, nutritional information, GDRP pages

5. High traffic pages

Example: homepage, landing pages, campaign pages

6. Issues picked up by free crawlers

Example: the issues found by using automated tools



1. Measures your organization takes to support accessibility



ACME Inc. takes the following measures to ensure accessibility of the ACME Inc. website:

- Include accessibility as part of our mission statement.
- Integrate accessibility into our procurement practices.
- Appoint an accessibility officer and/or ombudsperson.
- Provide continual accessibility training for our staff.
- Include people with disabilities in our design personas.



- 1. Measures your organization takes to support accessibility
- 2. Which accessibility standard your site follows



To help make the ACME Inc. website a positive experience for everyone, we have been using the <u>Web Content Accessibility Guidelines (WCAG)</u> <u>2.1</u>, which explain how to make web content more accessible for people with disabilities and user-friendly for everyone.

The guidelines have three levels of accessibility (A, AA and AAA). We've chosen Level AA as the target for the ACME Inc. website.



- 1. Measures your organization takes to support accessibility
- 2. Which accessibility standard your site follows
- 3. Contact information for issues or feedback



If you enjoyed using the ACME Inc. website, or if you had trouble with any part of it, please get in touch. We'd love to hear from you in any of the following ways:

E-mail: <u>AnActualPerson@example.com</u> Phone: (555) 867-5309

We aim to respond to feedback within 1-3 business days.



- 1. Measures your organization takes to support accessibility
- 2. Which accessibility standard your site follows
- 3. Contact information for issues or feedback
- 4. Accessibility features your site has



Accessibility features on the ACME Inc. website:

- Invisible skip links that lead screen reader users directly to the main content on a page
- Headers that help define page organization
- Videos that are captioned and include transcripts
- Color contrast that assists reading for people who are color blind or have vision impairments



- 1. Measure your organization takes to support accessibility
- 2. Which accessibility standard your site follows
- 3. Contact information for issues or feedback
- 4. Accessibility features your site has
- 5. Known areas that have limitation or are non-compliant



As we continue to move our old content over to our new site, we will be reviewing all non-text content on a case-by-case basis to ensure that items have the proper text alternative.

1.2.3: Audio Description or Media Alternative (Prerecorded)

We are reviewing our video content and will be making captioning and transcripts available as they are completed. Should you need an audio description or media alternative before it is available, please reach out to us at <u>AnActualPerson@example.com</u> and we will work to get it to you as soon as possible.



- 1. Measure your organization takes to support accessibility
- 2. Which accessibility standard your site follows
- 3. Contact information for issues or feedback
- 4. Accessibility features your site has
- 5. Known areas that have limitation or are non-compliant
- 6. Time frame of when you expect to reach accessibility milestones



April 2020

We plan to have rectified all keyboard navigation errors by this time.

December 2020

While new video content posted on this site have both transcripts and captions, videos posted to this site prior to 2014 might lack them. By this time, all video content on our site will have transcripts and captions.



1. Minimal example:

https://www.w3.org/WAI/planning/statements/minimal-example/

2. Complete example:

https://www.w3.org/WAI/planning/statements/complete-example/

3. Accessibility statement generator:

https://www.accessibilitystatementgenerator.com/



Resources

- 1. <u>http://bit.ly/a11y-testing-sheet</u>
- 2. <u>https://accessibilityinsights.io/</u>
- 3. <u>https://wave.webaim.org/extension/</u>
- 4. <u>https://siteimprove.com/en-us/core-platform/integrations/browser-extensions/</u>
- 5. Code Academy: Learn HTML and Learn CSS
- 6. HTML Dog: <u>HTML Beginner Tutorial</u> and <u>CSS Beginner Tutorial</u>

Sources

- 1. <u>https://alphagov.github.io/accessibility-tool-audit/</u>
- 2. <u>https://alphagov.github.io/accessibility-tool-audit/results.html</u>
- 3. <u>https://webaim.org/projects/million/update</u> under "WCAG Conformance"
- 4. <u>https://webaim.org/projects/million/</u> under "Errors and Error Density"

