

Accessibility and UX/UI in Web Design and Development

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Accessibility and UI/UX Are Frequently Afterthoughts

01

The world wasn't built with accessibility for everyone. Accessibility has had to be built in to pre-existing foundations that only serve a very specific type of user profile.

02

Look around the room, you can likely identify something that is not accessible.



ADA and WCAG

- "The Americans with Disabilities Act (ADA) prohibits discrimination against people with disabilities in several areas, including employment, transportation, public accommodations, communications and access to state and local government' programs and services." ^1
- Digital space = Wild West.
- A similar guide to the ADA is the WCAG, but the guidelines are often not followed whether due to lack of knowledge or other factors such as budgeting, deadlines, etc.
- Neglecting these guidelines can often make a digital space completely inaccessible.

WCAG and WAI-ARIA



WCAG is the principle
WAI-ARIA is the application



WAI-ARIA added to HTML markup makes semantics more relevant to those using alternative methods of interaction, typically by making assistive technology better able to interact with JavaScript controls.

Ex. tabindex="-1" so JavaScript can use element.focus() to open a hamburger menu using keys on the keyboard instead of a mouse.

WCAG and WAI-ARIA tend to be very technical and are not simple to navigate, making it more likely that websites won't comply.

What Is This Costing Your Business?

- Today, it's estimated that companies without accessible sites are losing \$6.9 billion a year to competitors whose sites are accessible.^{^4}
- New predictions indicate that tech companies committing to accessibility will reap a total of \$10 billion to \$16 billion in annual design spending across the U.S. and Canada.^{^5}
- The cost of noncompliance is about three times higher than that of complying.^{^6}



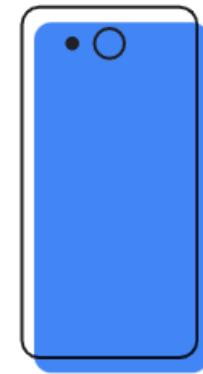


UI/UX in Web Design

- Are JS code snippets bulky and affecting performance?
- How easy are buttons to touch?
- Is it easy to navigate the site and is it cohesive?
- Is text in px, ems, or rem?
- Are colors contrasting?
- Do all images have ALT text?

Specific examples:

- Labeling html tags accurately - nesting everything in `<div>` tags doesn't allow screen readers much context and makes navigation more difficult. Using a `<form>` or `<article>` tags better expresses what is being nested in the `<div>`.
- Misusing `<h1,h2,h3>` tags.



The probability of bounce increases 32% as page load time goes from 1 second to 3 seconds.

Google/SOASTA Research, 2017.



Examples of Good and Bad Websites

01

The Good

- ASOS - clear visual hierarchy, easy to navigate: <https://www.asos.com/us/>
- Calm - literally calm branding i.e. visuals, and a simple interface to lower stressful interactions with website: <https://www.calm.com/>

02

The Bad

- Ebay - really messy site: <https://www.ebay.com/>
- CNN - slow load time: <https://www.cnn.com/>



Useful Tools and Resources

- Lighthouse for Google Chrome in the dev tools section - it can quickly tell you everything about your website from performance to accessibility to SEO, and gives you quick tips on fixing it.
- Courses in UI/UX if you're doing any sort of web development.
- Accessibility should be an HR training course so everyone is more aware of how someone with a disability may experience certain elements of life a lot differently.



Citations

U.S Department of Labor. "Americans with Disabilities Act".

<https://www.dol.gov/general/topic/disability/ada>. Accessed Nov 16, 2022.

Andrew Perrin And Sara Atske [Pew Research Center]. "Americans with disabilities less likely than those without to own some digital devices".

<https://www.pewresearch.org/fact-tank/2021/09/10/americans-with-disabilities-less-likely-than-those-without-to-own-some-digital-devices/>. Accessed Nov 16, 2022.

Google. "Think With Google". <https://www.thinkwithgoogle.com/marketing-strategies/app-and-mobile/page-load-time-statistics/>. Accessed Nov 16, 2022.

Monsido. "33 Accessibility Statistics You Need to Know in 2023".

<https://monsido.com/blog/accessibilitystatistics#:~:text=Today%2C%20it's%20estimated%20that%20companies,competitors%20whose%20sites%20are%20accessible>.

TechCrunch. "The real ROI of making your products more accessible".

<https://techcrunch.com/2021/07/21/the-real-roi-of-making-your-products-more-accessible/>

Resource Links

MDN developer guide:

https://developer.mozilla.org/en-US/docs/Learn/Accessibility/WAI-ARIA_basics

W3C:

<https://www.w3.org/WAI/standards-guidelines/wcag/>