How is digital accessibility measured?

- Introduction to accessibility testing
- Web Content Accessibility Guidelines (WCAG) {:#wcag}
- Accessibility principles

Digital accessibility means designing and building your digital offerings so that, regardless of a person's mental or physical ability, they can still interact with your website, app, or other digital product in a meaningful and equal way.

But how do you measure the accessibility of a digital product? How do you know when something is accessible?

Introduction to accessibility testing

There are many ways to test a digital product for accessibility. One fundamental approach is to evaluate it against a set of accessibility standards.

There are many types of accessibility standards. Typically, your industry, product type, local/country laws and policies, or overall accessibility goals will dictate which set of guidelines to follow and levels to meet. If no specific standard is required for your project, the standard recommendation is to follow the latest version of the Web Content Accessibility Guidelines (WCAG).

Testing your digital product against an accessibility standard and conformance level is commonly referred to as an *accessibility audit*. An accessibility audit uses various methodologies, techniques, and tools, including design, automated, manual, and assistive technology (AT) testing.

Perform an accessibility audit to capture the baseline accessibility compliance of a digital product. But, running it once at the start of a project is not enough to determine if a product is accessible. You should run this audit multiple times throughout the software product lifecycle to check for changes in the level of conformance, against a set of pre-determined accessibility checkpoints or

guidelines.

Web Content Accessibility Guidelines (WCAG) {:#wcag}

The Web Content Accessibility Guidelines (WCAG) are an international set of accessibility standards developed through the W3C, in cooperation with individuals and organizations. The goal of WCAG is to provide a single shared standard for digital accessibility that meets the needs of individuals, organizations, and governments worldwide.

WCAG is primarily intended for web-based and native mobile app designers and developers. However, many others, including software developers, content creators/editors, and all levels of management, benefit from understanding and applying WCAG-based techniques to their process. Additional W3C standards may apply to your role, including the Authoring Tool Accessibility Guidelines (ATAG) and User Agent Accessibility Guidelines (UAAG), so make sure you review the W3C list of standards and use the one(s) most applicable to your role and project.

In terms of accessibility, WCAG is considered the "gold standard" for conformance testing. The first draft of WCAG was released in 1999. The current version is WCAG 2.1, released in June 2018, while WCAG 2.2 is scheduled for 2023. A completely revamped version of the guidelines, WCAG 3.0, is being drafted for a future release, but is not expected to be a completed W3C standard for a few more years.

The WCAG guidelines have three levels of success criteria: A, AA, and AAA. The success criteria determine conformance to WCAG. To meet WCAG conformance, the digital product you are testing needs to meet the success criteria for your target level.

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A success criteria

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AA success criteria

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AAA success criteria

For the current standard (WCAG 2.1), there are 78 success criteria in total, split across each level. It is important to note that each level is progressive, meaning if your accessibility goal is AA, you must pass the success criteria for both A and AA to achieve this level of conformance.

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Pass A level

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Pass A + AA level

78

Pass A + AA + AAA level

Accessibility principles

The WCAG success criteria are a very important set of detailed guidelines that inform designers and developers how to create accessible websites and apps. Understanding these guidelines is critical to address issues that arise in accessibility compliance testing, but the guidelines quickly become very technical.

If you are new to this field, start with the principles of WCAG—Perceivable, Operable, Understandable, and Robust (POUR). By applying POUR principles to your digital products, you can focus on how your products are used by real humans, including people with disabilities.

> *Perceivable, Operable, Understandable, and Robust all connect to one another.*

Perceivable

> *Perceivable is represented by glasses, but multiple sesnes are used to understand content on a screen.*

The first category in POUR is Perceivable. This principle states that users must be able to perceive all essential information on the screen, and it must be conveyed to multiple senses.

Ask yourself: Is there any content or functionality in your digital product that a person with a specific disability would not be able to perceive? Be sure to consider all the different types of disabilities—visual, mobility, hearing, cognitive, and speech impairments, vestibular and seizure disorders, and more.

Examples of Perceivable:

- Adding text alternatives to all non-decorative images and essential icons.
- Adding captions, transcripts, and audio descriptions to videos.
- Ensuring color is not the only method of conveying meaning.

Operable

> *Operable is represented by a keyboard, but there are a number of interfaces and softwares one may use to interact.*

The second category is Operable. For this principle, users must be able to operate the digital product's interface. The interface cannot require interaction that a user cannot perform.

Ask yourself: Can users control the interactive elements of your digital product? Are there any focus order issues or keyboard traps? How are touch interfaces handled?

Examples of Operable:

- Adding keyboard and touchscreen support to all active elements.
- Ensuring slideshows and videos have all of the necessary controls available.
- Giving users enough time to fill out a form or a method to extend the time.

Understandable

> *Understandable is represented by a head with colorful connected dots.*

The third category of POUR is Understandable. For this principle, users must understand the information and the operation of the user interface.

Ask yourself: Is all of the content clearly written? Are all of the interactions easy to understand? Does the order of the page make sense—to sighted users, keyboard-only users, screen reader users?

Examples of Understandable:

- Writing simply—don't use a complex word when a simple one will do.
- Ensuring your digital product has predictable navigation.
- Ensuring error messages are clear and easy to resolve.

Robust

> *Robust*

The last category is Robust. This principle focuses on supporting assistive technologies and ensuring that, as devices and user agents evolve, the digital product remains accessible.

Ask yourself: What types of assistive technology are you supporting? Does your digital product only work on the newest browsers or operating systems? Does it work at all breakpoints and in different device orientations?

Examples of Robust:

- Testing keyboard-only navigation.
- Testing with different screen reader technologies.
- Ensuring all of the content and functionality can be accessed, regardless of device size or orientation.

Remember—the whole point of POUR is not about rigidly adhering to hard and fast rules. Instead, it is a way to help you understand and meet the diverse needs of your users.

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