



# WEB CONTENT ACCESSIBILITY CHECKLIST:

## WCAG 2.2 A/AA Compliance

The final version of the Web Content Accessibility Guidelines (WCAG) 2.2, currently in draft mode, is expected to be published by the end of the year. While some details may change and will be updated accordingly, this in-depth checklist will help you comply with current WCAG 2.1 A/AA checkpoints and expected WCAG 2.2 A/AA checkpoints.

Successfully meeting these criteria is easier when these guidelines are considered during a website's design process; however, even if you did not account for accessibility measures while developing your site, you can still make changes that will increase overall usability of your digital presence and make it available to a larger audience.

## Guideline 1.1: Provide alternative text for all content that is not text.

For content that isn't digital text, such as images or videos, a text alternative (or "alt text") needs to be available for individuals who require or prefer alternative or supplemental forms of the original content.

For instance, "alt" attributes for images that adequately describe images and their meaning, context, or purpose are sufficient. There are other criteria to take into account for non-text content compliance:

- Non-text content that responds to user input:** If the text alternatives can't serve the same purpose and present the same information as non-text content, then it should at minimum, identify the purpose of the non-text content.
- Multimedia and live content (including live audio-only and video-only formats):** Text alternatives need to, at the very least, use descriptive labels for the non-text content. Guideline 1.2 provides more clarification for multimedia and live media.
- Content intended for confirmation that it is being operated by a person and not a computer:** Different forms of confirmation must be provided to accommodate multiple disabilities and corresponding assistive technologies.
- Content purely for decoration or visual formatting, or otherwise not presented to users:** Decorative-only content should be implemented so assistive technology can ignore it.

## Guideline 1.2: For multimedia, live or pre-recorded, provide synchronized alternatives such as captions.

Guidelines for pre-recorded multimedia:

- Captions must be provided.**
- Audio descriptions of video or a full text transcript including any interaction, must be provided.**

Guideline for live multimedia:

- Captions must be provided.**

## **Guideline 1.3: Information and structure must be separable from the way the information is visually presented.**

Everyone uses websites differently. For example, some people, including some assistive technology users, will find it easier to use a website without a lot of complexity. However, the information on that website should be the same for everyone, adaptable to the different ways they might view or use it.

- Information conveyed through presentation, such as through the layout or notification of any changes, must be programmatically determined to be accessible with assistive technology.
- When the sequence of content affects its meaning, the programmatically-determined reading order should match the visual presentation.
- Information required to understand and operate content does not rely on shape, size, visual location, or orientation of components.
- Content should be able to be displayed in both portrait and landscape views, unless adapting the orientation is not possible while retaining the core functionality.
- Input fields must contain metadata that identify their purpose so that assistive technologies can apply familiar icons or labels next to the fields if necessary.

## Guideline 1.4: Make information in the foreground easily distinguishable from its background.

- Color alone is not sufficient for conveying meaning. Any information conveyed by color needs another visual cue to be evident without color.
- Most text, diagrams, and other meaningful content should have a contrast ratio of at least 4.5:1. Large text is acceptable with a minimum contrast ratio of 3:1. Use a color contrast checker to easily test this.
- Graphical objects and user interface components must have a contrast ratio of at least 3:1.
- Whenever possible, use real digital text and not images of text.
- At bare minimum, there should be a mechanism to turn off background audio that plays automatically and without the user having to completely turn off all audio.
- Content can be presented without loss of information or function, and without requiring scrolling in two directions, for vertical content at a width equivalent to 320 CSS pixels and horizontal content at a width equivalent to 256 CSS pixels. Typically, this means content should still work as expected at 400% browser zoom.
- Users must be able to set line height to 1.5 times, paragraph spacing to 2 times, letter spacing to 0.12 times, and word spacing to 0.16 times the default sizes without loss of functionality or content.
- Hover and focus events should not obscure content and should be dismissible.

## Guideline 2.1: All functionality should be operable through a keyboard interface.

- The functionality of content should be operable through the keyboard, without discouraging the use of a mouse, should not be time-dependent (such as a lockout screen for browsing sensitive data like online banking). The only exception is when the task specifically requires time-dependent input.
- Check ability for user to remap or disable basic keyboard shortcuts.

## Guideline 2.2: The user must have control of time limits on reading or interaction.

Time limits on content can cause unintended issues. For example, consider the frustration of trying to fill out a lengthy form and having the session expire before you could finish, requiring you to start over from the beginning.

Sometimes time-outs are necessary, such as in real-time gaming or time-based tests. In that case, certain essential time-outs are permitted under WCAG but the time-out also must be in the context of the time limit not being extended without invalidating the activity.

- Content should not blink, move, or animate for more than five seconds, or there is a means in which the user can stop all blinking content.
- There should be a means in which the user can pause content, unless that timing or movement is considered an essential part of the activity, such as competitive real-time gaming.
- If the timing is not essential to the activity presented by the content, then at least one of the next five must be true:
  - The user can deactivate the time-out.
  - Users can adjust time-outs over a wide time span at least ten times longer than the default time-out.
  - Users are warned before the time expires and given at least 20 seconds to extend the time-out with a simple action, such as hitting any key or giving a voice command, AND be able to perform this extension at least 10 times.
  - The time-out is part of a real-time event and there is absolutely no other alternative, such as an auction.
  - The time-out is part of an activity where timing is essential (such as time-based testing) and time limits cannot be extended further without invalidating the activity.

## **Guideline 2.3: You must allow users to avoid content that may cause seizures or physical harm due to sensitivity to light and flashing content.**

Users with conditions such as photosensitive epilepsy can be put in serious danger if content blinks, strobos, or employs effects that otherwise cause seizures.

To meet this success criterion, content shouldn't violate the general flash or red flash thresholds.

- There is nothing on the site that flashes more than three times within any one-second period, and any flashing is below 50 hertz.

## **Guideline 2.4: Users should have mechanisms to assist them in finding content, orienting themselves within it, and navigating throughout it.**

Being able to navigate a website should not be difficult, but sometimes unnecessary additions or omissions make it so. By implementing the following criteria to successfully make content easily navigable and straightforward for users, they can orient themselves and find what they are looking for thanks to a more sequential format, including with various assistive technologies.

- There is a mechanism so users can bypass blocks of content that get repeated on multiple web pages.
- Users can find web pages within a set of web pages in more than one way, although this isn't necessary if a page is part of a particular process or sequence.
- All web pages have descriptive titles.
- Headings used to organize content are visually and programmatically determined to be available to everyone.
- Indicators or markers for a publication, such as an ebook based on a print edition, must be available for all users to find and operate. If a specific page or location marker is pertinent or expected, it should maintain its relative positioning among different formatting or platform changes.
- Active elements and interface components that receive keyboard focus display a visual focus indicator with a color contrast ratio of at least 3:1 against its unfocused state.
- Every link's purpose can be determined by its hyperlinked text and/or its and its programmatically-determined context, in order to be equally clear to users of assistive technology.

## Guideline 2.5: Allow users to navigate and operate controls through various input devices, not just a keyboard.

The traditional mouse and keyboard are no longer the only ways people navigate and input content. Now to make sure web content is fully accessible, developers need to be sure web content is functional using input devices like a mouse pointer, a finger interacting with a touchscreen, an electronic pencil or stylus, or a laser pointer.

- If functionality uses gestures that are multipoint (such as two-finger pinch zoom) or path-based (such as having a starting point, intermediate point, and end point), it should also be operable with a single pointer and without a path-based gesture.
- If functionality uses a dragging movement, it should also be operable with a single-pointer gesture without dragging.
- If functionality uses one point of contact with the screen (single pointer), then one of the following must be true:
  - The depression of the pointer (down event) does not trigger an action.
  - The action is triggered or completed when the pointer is released (up event).
  - The action is reversed by the up event.
  - The down event is the only way the action or functionality can be achieved.
- Ensure assistive technology or software can identify a control by the same text displayed visually for that control.
- If functionality is triggered by shaking, tilting, or otherwise moving a device, there should be options available to operate it by more typical interface components, unless the motion is the only way the action can be achieved.
- The pointer target region of active elements must have a width and height of at least 24 pixels and should not include any other targets, unless the element is in a sentence or block of text, or unless the element cannot be presented any other way.

### **Guideline 3.1: Text content must be readable and understandable.**

Understandable text pertains primarily to the default language and its quality rather than technical attributes like typefaces and layouts. While different websites use language differently than others depending on their core demographics, there are certain standards to be taken into account when it comes to website accessibility.

- The web unit's natural language (or languages) should be programmatically determined at the page level and, if necessary, at the component level. The word choice, grammar, and syntax should be readable enough for most browsers to understand the languages used throughout the page.

### **Guideline 3.2: Placement and functionality of content needs to be predictable.**

In keeping web content easily navigable, designers need to be careful when considering changes of context. A change of context isn't always necessarily a change of content: small changes like expanding outlines don't actually change the content. However, what does change the context are changes in user agents (including assistive technologies), the viewport, focal point, or content that changes a web page's meaning. Additionally, consistency and predictability between components and pages help users stay oriented and confident.

- Changes of context should not occur when any component receives keyboard or mouse focus.
- Changes of context also should not result from changing the setting of any form control or field, unless there are instructions before that control that describe its behavior.
- Navigational mechanisms that are repeated on multiple pages within a website or other primary resources occur in the same relative order each time they are repeated, unless a change is initiated by the user.
- Components are consistently identified if they have the same functionality.
- If additional controls or components are made visible by keyboard focus or mouse hover, sufficient information to identify that the components are visible needs to be presented.
- At least one contact or help option is available on each page and, when applicable, presented in the same relative order.

### **Guideline 3.3: Help users avoid mistakes, but if errors are made, make clear how they can easily correct them.**

Everyone makes the periodic mistake when providing input in web elements, like forms or text fields; but, some design decisions can increase the likelihood of errors for some or all users. Reducing the probability of mistakes should be prioritized, but it should also be easy to find and correct mistakes.

- If input errors are detected, the error should be clearly-identified and described to the user in text, ensuring that any secure information is not jeopardized.
- For input concerning legal or financial transactions, modification or deletion of data in data storage systems, or submitting test responses, at least one of the following criteria needs to be met:
  - Actions can be reversed.
  - Actions are checked for input errors prior to moving onto the next step of the process.
  - The user can review and confirm the information prior to submitting it, giving them a chance to correct it.
- Any part of an authentication process that requires a cognitive function test, where the user has to remember, change, or write information, has an alternative option available that doesn't depend on cognitive function or recall.
  - Examples include identifying patterns or images; transcribing characters; correct spelling; calculations or equations; and puzzles.
  - Exceptions include name, email address, and phone number.
- If possible and appropriate, any information already entered previously in a process or set of related steps should populate automatically or be presented as an option to select in later steps so the user does not need to duplicate efforts and rely on cognitive recall.

## **Guideline 4.1: Compatibility with current and future user agents (namely, assistive technologies) should be supported.**

User agent is another term for software that retrieves and renders web content for end users, such as browsers, plug-ins, media players, apps, and other programs. Assistive technologies, like screen readers, are examples of user agents.

- Websites should be compatible with most browsers, but also as many assistive technologies as feasibly possible. They should be parsed unambiguously (parsed into a single data structure), ensuring that elements are nested properly and any IDs are unique.
- All user interface components' names and roles must be programmatically determined. Their values must be able to be programmatically set by the user with notifications of these changes available to all user agents.
- All status messages (such as the number of results returned in an on-page query) must be available to assistive technology without automatically moving focus to it in a way that would interrupt or override the user's actions or preferences.



## Accessibility is an important investment. The Bureau of Internet Accessibility can help you make the most of it.

Website accessibility is an important investment in your infrastructure and brand. Setting and adhering to accessibility guidelines and policies can help your organization create inclusive experiences and environments. The WCAG guidelines outlined on this checklist, when followed, can provide a baseline for making your content more accessible to users with disabilities. Users who do not have disabilities will also benefit from the changes in design that provide a better user experience and give them more options for navigating the website and accessing content.

User testing with different user agents and assistive technologies can provide additional insight on what level of success you can achieve for each guideline. The Bureau of Internet Accessibility can assist by testing your digital presences and making recommendations to help you become compliant, often without having to sacrifice the experience initially envisioned for your website.

# LET'S CONTINUE YOUR ACCESSIBILITY JOURNEY TOGETHER!

Schedule a free and confidential 30-minute consultation.



The Bureau of Internet Accessibility has helped over 75,000 companies achieve, maintain and prove digital compliance for over 20 years, including:



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