

Web Accessibility Guidelines For Content Owners

Enhancing Inclusivity and the
Understanding of Content with
Text to Speech





More than perhaps any other invention in human history, the Internet is a worldwide entity. This diverse user base is an important part of what makes the Internet so powerful, but it also presents unique challenges. People of all types access online content every day. All of these people have their preferred methods of consuming content, and many users also face accessibility challenges like learning disabilities, sensory impairments, second-language learning, illiteracy, and more.

As a natural consequence of the web's diverse user base, web accessibility standards have been developed. These standards apply to websites, apps, content creation tools, browsers, and nearly every other aspect of the web.

The goal of accessibility standards is to ensure that all users regardless of ability can access the same content as everyone else, and that all web users are able to use content in an effective, efficient manner.

This white paper summarizes the main categories that content owners need to be aware of in order to make web content more accessible as well as highlights how text to speech can not only provide a more inclusive user experience but also helps with the understanding of content.

WCAG 2.1

Accessibility Principles (based on WCAG 2.1)

The Web Content Accessibility Guidelines (WCAG) 2.1 accessibility guidelines defined by the W3C are broken down into four key categories, each with subcategories.

1. First, the information and user interface of a website must be **perceivable** to all users. Not every user can see, hear, or read, so content and UI features need to be presented with alternative means for consumption. This includes adding text-based alternatives that accurately describe any non-text UI features or content.

For users with visual impairments or reading challenges, these text-based alternatives can then be read aloud by, for example, text-to-speech software. Alternatives for video and audio content are also important in order to accommodate users who cannot see or hear. These alternatives can include captions and transcripts for audio content, and audio-based descriptions for video content. Common-sense features also apply, such as making text size easily adjustable, using colors that contrast well, and allowing background audio to be adjusted, paused, or turned off.

2. Next, websites must have an **operable** user interface and navigation features. Since there are many web users who navigate using a keyboard instead of a mouse, websites, browsers, and content creation tools should all be accessible by keyboard. Navigation is also important, in that users should be able to move from page to page easily, and always have a clear idea of where they are and how to get where they want to go on a given website. This can be achieved by having clear page titles, sensible, straightforward navigation features, clearly labeled links, and by ensuring that there is more than one way to access a given page. In addition, users should be given enough time to use content, without distracting audio, or unreasonable time limits when applicable. Content that may cause seizures should also be avoided.

3. The third key standard details the ways in which the user interface and information of a website need to be **understandable**. This includes making clear the primary language of a web page, and of any quoted content, while using clear, simple language and providing definitions for unusual words, phrases, or jargon. These steps give the user a better idea of what each page contains and make it easier for technology like text-to-speech software to identify and read back information in an understandable manner.

4. Finally, web content must be **robust**. This means that a website should function well on any browser, and that it can be navigated and understood by diverse user groups. In addition, web pages and content should be designed in a way that is compatible with assistive technologies. Much of the direction given regarding the first three key concepts also relates directly to creating a robust website.






- Perceivable
- Operable
- Understandable
- Robust

Text to Speech to Support an Inclusive Web Experience

Guideline 3.1.5 of the WCAG standards refers to reading, and is explained as such, “When text requires reading ability more advanced than the lower secondary education level after removal of proper names and titles, supplemental content, or a version that does not require reading ability more advanced than the lower secondary education level, is available.” Supplemental content is defined as “additional content that illustrates or clarifies the primary content” including “an audio version of a web page”.

This guideline fits with the overall concept of providing users with alternative means for consuming content. In the case, for example, of users who have not developed reading skills to the level necessary for understanding complex content or have learning disability like dyslexia or ADHD, audio technology becomes increasingly important. Text to speech provides a consumer-friendly tool for the enhancement of reading and understanding content. Users can listen to text-based content aloud, avoiding the need to struggle through the difficult, or sometimes impossible, task of reading.

Other important instances where text to speech can increase inclusivity and be a viable alternative to text-based content include:

-  Those visual impairments who would benefit from have text read aloud
-  Someone learning English as a second language and would like to listen to online courses to improve his or her skills or listen to content in their native tongue
-  Someone who is a more effective learner when hearing content
-  Someone with a mobile device for who it just might be more convenient to listen to content rather than to read it on a smaller screen
-  The multitasker who can listen to content while working on something else will also benefit from text to speech

This temporary type of usage will not need the investment – sometimes costly – in assistive technologies. In this case, it is the content owner’s responsibility to find solutions that will easily benefit their users’ needs.

At ReadSpeaker, we believe that web content owners should provide an inclusive experience that allow their users to customize their reading experience in a way that aligns to their abilities. This includes offering users the ability to not only hear content as its being read, but also provide additional tools that help to ensure the understanding of content.



Have the words and sentences read out loud while they are highlighted in separate colors, making it easy to read along as you listen. Bimodal content delivery has been shown to improve comprehension and information recall



Decide what part(s) of a web page should be read and choose multiple listen buttons on a web page



Listen to content in multiple languages and/or voices



Translate a selected text to a preferred language



Personalize reading speed, highlighting colors, font size, and more to fit user preferences and abilities



Select a word and find its definition in a dictionary



View a clutter-free version of the web page with text with images and extraneous features removed, helping users to focus



Use a page mask that can be moved along with the reading to showcase the lines being read while shading the rest of the screen



Download an audio version of content for convenient and portable offline listening

Text to speech is a cost-effective, easy-to-use, highly-functional way to offer an alternative means of accessing content. In addition, speech-enabled content allows content providers to reach a new, larger audience who would have been unreachable with purely text-based content. As noted, the benefits of text to speech reach beyond users with accessibility challenges. Some users are perfectly capable of reading and understanding text-based content without difficulty, but simply don't have the time to sit down and read. These users can use text to speech to listen to text content at their convenience while commuting, working out, or going any other place where they can bring a mobile device.



With ReadSpeaker, content owners can easily integrate text to speech into their digital content, allowing users to interact with content in a way that fits their abilities and preferences, enabling inclusivity and understanding of information. Our text-to-speech player tool conforms to the latest web standards (HTML5/CSS3), which means fewer images and a user-friendly design, and it is a technically accessible application, satisfying all Level A and Level AA success criteria of the WCAG 2.1 specification.






ReadSpeaker

pioneering voice technology

Read our accessibility audit



ReadSpeaker is a global voice specialist providing dozens of languages and lifelike voices. Using its own industry-leading technology, the company delivers some of the most natural-sounding synthesized voices on the market. ReadSpeaker uses next-generation Deep Neural Network (DNN) technology to structurally improve voice quality at all levels. ReadSpeaker is a subsidiary of the Memory Disk Division (MD) of the HOYA Corporation, with offices in 15 countries, and over 10,000 customers in 65 countries, providing a complete text-to-speech (TTS) offering, both as Software-as-a-Service (SaaS) and as licensed solutions. A fully integrated TTS provider, ReadSpeaker encompasses all of HOYA's state-of-the-art technologies (NeoSpeech, Voiceware, VoiceText and rSpeak), providing a wide variety of applications for varying channels and devices in multiple industries. ReadSpeaker gives a voice to businesses and organizations for online, embedded, server or desktop needs, apps, speech production, custom voices and more. With more than 20 years' experience, the ReadSpeaker team of experts is leading the way in text to speech. ReadSpeaker is "Pioneering Voice Technology".

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