Google is Blind: How Accessibility Improves Searchability

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May 2, 2018

"I Googled it," has become a ubiquitous phrase used by almost every person who has accessed the internet. It's estimated that almost a third of adults automatically Google the answer to a question without trying to answer it themselves, so it is to a web designer's benefit to encourage a wide range of people, including those with disabilities, to find, access, and understand their website's content.[1] But what exactly is Google, and how does it find all of our answers? Google is a search engine utilizing a program called a "web crawler" that probes the content of websites, mobile apps, and even gaming systems for answers to questions users type into a search field. Results are typically near instantaneous, and a person can search to find images, maps, music, video, and more.[2] Google also ranks results based on what it considers information most relevant to the user's query. The process for making pages "search engine friendly" is referred to as search engine optimization, or SEO. But even with the ability to crawl billions of web pages worldwide in fractions of a second and return immediate, ranked results, Google shares a disability with roughly 36 million people worldwide: it's blind.[3]

Google cannot make use of visual cues, colors, charts, graphs, or images. Nor can it "watch" videos. It instead relies on words and content structure, specifically keywords and metadata added by content contributors and web designers, to read the content of a webpage. Coincidentally, this is the same process by which a visually-impaired person listens to a website read through screen reader software which uses "text to speech" or TTS, to translate text into speech. Therefore, when a content writer employs accessibility best practices, they are also

[1] Sarah Griffiths, "Is Google Rotting Your Brain?" dailymail.co.uk, (accessed April 20,2018), http://www.dailymail.co.uk/sciencetech/article-3263670/Is-Google-rotting-BRAIN-adults-search-answers-without-trying-remember-25-immediately-forget-ve-out.html.
[2] Wikipedia contributors, "Google," Wikipedia, The Free Encyclopedia, (accessed April 9, 2018), https://en.wikipedia.org/wiki/Google .
[3] World health organization.org, November 11, 2017, (accessed April 10, 2018), http://www.who.int/mediacentre/factsheets/fs282/en/.

making their site SEO-friendly. WebAIM writer Jared Smith echoes this theory by stating, "There is much evidence that suggests that accessibility not only supports high search engine rankings, but that Google may actually favor pages that have strong implementations of accessibility."[4] Despite the lure of their web pages ranking higher in search results, some technical communicators may cringe at the idea of adding additional work for themselves by ensuring their content is accessible. However, it is not a process to be ignored. In fact, it's the law. The Americans with Disabilities Act (ADA) says, "state and local governments provide qualified individuals with disabilities equal access to their programs, services, or activities unless doing so would fundamentally alter the nature of their programs, services, or activities or would impose an undue burden."[5] Thankfully, there are several ways a non-technically savvy content owner can improve the quality of their content, and in this essay, I will describe three manageable best practices that will improve both SEO and accessibility.

First, let's take a closer look at the differences in how sighted and visually-impaired people access online materials, and how proper site architecture positively impacts both SEO and accessibility. Sighted website visitors typically scan web pages looking for visual cues to indicate content structure. Bigger, bolder text is often broken into "what's important" (heading), and "supportive" (body copy). Visually-impaired visitors (and Google) scan websites in a similar way, however, they cannot rely on visual cues such as **bold** or colors to understand context. Instead Google and screen readers look for H (or heading) tags (which appear like <h1>, <h2>, <h3> etc., in HTML code) to understand how the web author is organizing the content.[6] Screen

[4] Jared Smith, "Web Accessibility and SEO", Blog WebAim.org, July 28, 2011, (accessed April 20, 2018), .https://webaim.org/blog/web-accessibility-and-seo/.

[5] ADA.gov, "Website Accessibility Under Title II of the ADA", (accessed April 25, 2018), https://www.ada.gov/pcatoolkit/chap5toolkit.htm.

[6] WebAim.org, "Semantic Structure", October 25, 2013, (accessed April 20, 2018), https://webaim.org/techniques/semanticstructure/.

reader users can also skip from H tag to H tag to "scan" the elements of the page the same way a

sighted person skims the page looking for headings[7]. Also, both screen readers and Google read

the HTML code on a webpage in sequential order starting from the top left and moving down the

page to the bottom right. If H tags are displayed out of order, it signals to both programs that the

page is disorganized (and confusing to visually-impaired visitors), and in response, Google may

lower the site's ranking. In general, there are three important heading tag rules for website

owners[8]:

1. **Every page should have an <h1> tag**. If the content owner doesn't use an H tag

   (and is, for instance, only using font styling such as bold to indicate headings),

   there is no simple way for Google or visually-impaired visitors using screen

   readers to discern what the page is about.

2. **H tags should not be skipped or displayed out of order**. Similar to how a

   student organizes a research paper, each web page should have a clear, easy to

   follow structure. h1 is the primary topic, h2 is the second most important topic,

   and so on. If an h3 tag appears before an h1 tag, or if an h2 tag is skipped

   altogether, not only is that confusing for visually-impaired readers, but it tells

   Google that even the site writer isn't sure how the content should be organized[9].

3. **H tags should be used for semantic meaning, not styling.** It is fine for a

   developer to add styling elements such as bold or larger fonts for an h1 tag.

   However, a writer should not use an h1 tag to style a word in the middle of a

   paragraph for emphasis as it confuses screen readers and Google on what the page

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[7] Katie Cunningham, *Accessibility Handbook: Making 508 Websites for Everyone* (California: O'Reilly Media, 2012) 5.
[8] Drupal.org, "Using Headings to Improve Accessibility", September 8, 2016, (accessed April 20, 2018), https://www.drupal.org/docs/7/creating-accessible-themes/using-headings-to-improve-accessibility.
[9] WebAim.org, "Semantic Structure".

focus should be.[10] There are other semantic tags such as <em> that indicate stronger meaning, and employing the proper use of semantic markup is key in a successfully rendered accessible and SEO-friendly website.

By following proper semantic heading guidelines for heading tags, technical communicators have the ability to convey meaning behind their content to both Google and visually-impaired visitors.

Another best practice content writers can follow is adding text-based descriptions to their images. Online photos are used for a variety of purposes, such as triggering emotion, relaying experiences, illustrating data, or giving instructions. If important contextual information lies solely in an image without a text-based reference, Google cannot properly index the content, and screen readers cannot translate the photo or illustration to visually-impaired visitors[11]. When a person performs a Google search for "tractor plowing a field," ideally the search results will include images which are described using one or more of those specific keywords. Unfortunately, many online images are without descriptive (or alternate "alt") text. This issue can be easily remedied by writers in two ways:

1. Adding an image description in the "alt attribute" HTML code that screen readers can access, but sighted visitors cannot.

2. Add insightful text or a caption near the image that describes the photo (i.e. "The image at left shows how a tractor plows a field during springtime planting.")

According to Google, either of these processes will greatly increase Google's ability to index that image when a person is looking for a specific photo in an image search.[12] If the content on

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[10] Cunningham, 4.
[11] Cunningham, 8.
[12] Google Search Console, "Image publishing Guidelines", (accessed April 20, 2018), https://support.google.com/webmasters/answer/114016?hl=en.

the page (including heading tags) and photos mirror specific keywords, the likelihood of the page ranking well also increases significantly.[13] While image optimization can be time-consuming, it requires little technical skill and, more importantly, is a requirement for ADA compliance.[14] Additionally, the overall user experience for both sighted and visually-impaired individuals is improved and ultimately, that is reward in itself.

Much like font styling and images, videos too, are unable to be accessed by Google or visually-impaired visitors without proper text-based descriptions. This is important for technical communicators to understand, as, according to Lisa McMichael of Perficient Digital, videos will account for 82% of all consumer internet traffic by 2020, and without contextual verbiage, these videos may not be indexed properly.[15] Most people think of hearing-impaired users when implementing transcripts for videos. However, while visually-impaired site visitors *can* listen to a video's audio track, this advantage only helps if the video contains descriptive or insightful sound. For example, an instructional video with background music and "captions only" content remains opaque to Google or a screen reader. In this situation, technical communicators have three options for relaying information to disabled visitors:[16]

1. **Transcriptions** - Transcriptions are especially SEO-friendly as they provide a way for users who cannot access web audio or video to read a transcript instead. A transcript is often presented as a Word or PDF document linked near the video. Google is able to index this keyword-rich content which improves a site's opportunity for ranking higher for specific terms.

[13] Ryan Clutter, "14 Important Image SEO Tips You Need to Know", Search Engine Journal, August 16, 2017, (accessed April 20, 2018), https://www.searchenginejournal.com/image-optimization/207416/.

[14] John Leo Weber,, "A Beginner's Guide to ADA Compliance for Websites", Search Engine Journal, August 12, 2017, (accessed April 20, 2018), https://www.searchenginejournal.com/ada-compliant-website/200106/.

[15] Lisa McMichael, "Does Website Accessibility Benefit SEO?", *Perficient Digital,* January 12, 2018, (accessed April 20, 2018), https://blogs.perficient.com/perficientdigital/2018/01/12/website-accessibility-benefit-seo/.

[16] Webaim.org, "Captions, Transcripts, and Audio Descriptions", August 29, 2013, (accessed April 25, 2018), https://webaim.org/techniques/captions/.

2. **Closed captions** - There are two primary types of captions: open and closed. Open captions are embedded in the video itself and are unable to be turned off by the visitor, nor are they indexable by Google or readable by screen readers. Closed captions are a separate stream and can be turned off by the visitor and can be indexed by Google. They also increase watch time and, according to a recent study, 85% of Facebook videos are watched without sound, which indicates audiences rely more on the visuals in a video than the sound.[17]

3. **Audio descriptions** - these descriptions are specifically targeted to visually-impaired site visitors and act similarly to an image description by providing contextual information about what is visible on the screen.

In order for a video to be fully accessible, however, both closed captions *and* a transcript should be provided to allow access to the widest possible audience.[18] Through the proper implementation of closed captioning, transcriptions, and audio descriptions, content owners have more SEO-friendly content to guide traffic to their website using methods which support both ADA compliance and Google's expectations for quality webpages.

In this essay, I have outlined three visually-based elements difficult to access by visually-impaired visitors--both the human and the electronic kind: font styling, images, and videos. However, I have also described how making that content accessible also improves a site's position in Google since, ultimately, web accessibility and search engine optimization are two sides of the same coin: getting relevant content to users.[19] Unfortunately, research has shown that businesses often ignore website accessibility to their own detriment, since people with

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[17] Ibid.

[18] Ibid..

[19] Smith, "Web Accessibility and SEO".

disabilities control over $1 trillion in disposable income.[20] What content writers should bear in mind is that making a website accessible is not only what's financially right, it is what's legally right, particularly for government and publicly-funded websites which can be sued for non-accessibility compliance.[21] Aside from following the law, websites that are both accessible and SEO-friendly benefit from faster download speeds, which improve usability for visitors who may have situational limitations such as slow connection speeds in rural or underserved areas. And as stated earlier, Google itself may also reward fully-accessible websites by offering them up as higher ranking results in search returns.

I have only explored three accessibility guidelines that positively impact SEO, but there are many others, including proper use of link anchor text, CSS structure, and mobile design just to name a few. But implementing proper use of heading tags, adding alternative text to images, and transcribing videos are three of the "low hanging fruits" of accessibility that non-technically savvy content contributors can employ. By following these guidelines, technical communicators can ensure they create a website that is usable and friendly for visually-impaired audiences and Google alike.

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[20] Fifth Quarter Analytics, "What is the Disability Market", (accessed April 25, 2018), http://returnondisability.com/disability-market/.

[21] Minh N. Vu and Susan Ryan, "2017 Website Accessibility Lawsuit Recap: A Tough Year for Businesses", *Seyfarth Shaw*, January 2, 2018, (accessed April 20, 2018), https://www.adatitleiii.com/2018/01/2017-website-accessibility-lawsuit-recap-a-tough-year-for-businesses/.

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