Designing for accessibility: Improving UX for everyone

Produced in partnership between <u>O3 World</u> and <u>Seer Interactive</u>.

Contents

Introduction

Seer Interactive & O3 World are teaming up to discuss why accessibility matters in time for the 10th anniversary of Global Accessibility Awareness Day on May 20, 2021.

In this resource, we'll explore the relationship between accessibility and SEO (Search Engine Optimization) to help companies better understand the positive impact accessibility considerations have when websites and digital experiences are designed to be accessible to ALL users – including the 15% with disabilities.

What do we mean when we say "accessibility"?

Digital accessibility focuses on making the web and digital products easier to use for everyone. These improvements are particularly impactful for those with visual, speech, auditory, cognitive, or motor disabilities, however everybody can benefit in some way.

For example, thinking about a permanent disability such as being blind, there are certain accessibility considerations that could improve the experience for this person. Keeping up with the theme of vision, disabilities can also be temporary, such as having cataracts, or situational, such as looking at your phone in the bright sunlight.

The needs of each individual are slightly different, but they all benefit from an improved experience by taking accessibility considerations related to vision into account.

Fortunately, accessibility support often overlaps with many other best practices you should be taking into account in your digital products, including improved semantic content, usability, mobile optimization, and SEO which is ultimately our focus here.

Considerations for good SEO and accessibility

Although SEO and accessibility aren't one in the same, as we've mentioned, they do have overlap in quite a few places. What proceeds is by no means an exhaustive list of accessibility considerations, but rather, serves as a springboard to make your site more accessible while having a positive impact on SEO as well.

Design and UX (User Experience)

Provide a clear and consistent site navigation and page structure

When the navigation of a website is consistent across pages it makes it much easier for users with various disabilities to find things – particularly if they rely on a screen reader or screen magnifier.

Make sure to position your site navigation in the same location on all pages and maintain the same order of links within the navigation so users are able to accomplish what they need more quickly and confidently.

Bad
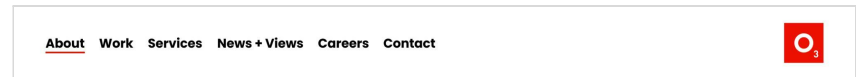
Good

Success criteria

- 3.2.3: Consistent Navigation
- 3.2.4: Consistent Identification

Use word breaks in URLs

Consider using hyphens to break up the words in URLs. Search engines scan URLs for keywords, but they need help knowing how to break up the words. This helps users easily understand the structure of your URLs as well.

There are many types of word breaks, but Google specifically recommends using hyphens (-).

For example

- Humans struggle to break up the keywords in https://www.mysite.com/disciplinesexecutionachieving wildlyimportant
- It's easier when hyphens break up keywords in https://www.mysite.com/disciplines-execution-achieving-wildly-important

Search engines can match keywords like "4 disciplines of execution achieving wildly important goals" when the URL uses hyphens to clearly break up the words. URLs are also a factor in the algorithms used to rank pages in search engine results pages.

Please note that new URLs means updating all canonical tags, internal links, XML Sitemaps and adding 301 redirects from old to new URLs. This makes it clear to search engines where to find the new URLs and to pass link value from old to new URLs. Since this can require a lot of development effort, a discussion should be had on the benefits vs. effort of implementing sitewide.

Use subfolders to create hierarchy

Search engines rely on a clear hierarchical structure for websites in the form of URLs, navigation, breadcrumbs and links to better understand how parent pages are associated with child pages.

Humans and search bots won't understand how content is organized if all URLs are non-hierarchical in manner. For example, if every page is found in the root directory (e.g. http://www.site.com/every-page-of-the-site.html).

Evaluate the URLs on your site and consider placing them into logical groupings according to a content strategy.

Ideally, the most useful navigation for humans would be mirrored in the URLs of the site.

Sample hierarchy

http://www.site.com/parent-category-keyword/child-category-keyword/grandchild-category-keyword/detail-keyword-page.html

http://www.site.com
      ↳ /parent-category-keyword
          ↳ /child-category-keyword
              ↳ /grandchild-category-keyword
                 ↳ /detail-keyword-page.html

Create HTML sitemaps

Different from a XML sitemap – consider creating an HTML sitemap page for your site that users can easily navigate to and link to it from the site footer.

This gives users a clearer indication of the structure of your site from a high level as well as a more concise experience for finding the content they seek with fewer distractions. It can also help search engines find links to important pages.

There are plugins available in most CMS (Content Management Systems) platforms that will generate an HTML sitemap for you. Some 3rd party services can generate it too.

For example

Apple Site Map

About Apple
Apple Leadership
Career Opportunities
Investors
Contact Apple
Legal
Ethics & Compliance
Choose Your Country or Region
Product Feedback

Apple Values
Environment
Supplier Responsibility
Accessibility
Privacy
Racial Equity and Justice
Inclusion and Diversity

News and Events
Newsroom
Apple TV+ Press
RSS Feeds
Apple Events

Where to Buy
Find an Apple Store
Shop Online
Find a Reseller
Why Buy iPhone from Apple
Apple Store for Government
Apple Financial Services
Rebates
Refurbished and Clearance

Store Services
Today at Apple
Apple Camp
Genius Bar
Order Status
Financing
Apple Trade In
Gift Cards
Apple Store pickup
Online Personal Session
Apple Store App
Shopping Help

Services
Apple Music
Apple TV+
Apple Fitness+
Apple News+
Apple Arcade
iCloud
Apple One
Apple Card
Apple Books
Apple Podcasts
App Store

Account
Manage Your Apple ID
Apple Store Account
iCloud.com

For Education
Apple and Education
Shop for K-12
Shop for College

Success criteria

- 2.4.5: Multiple Ways

Technical

Ensure you're using a semantic markup structure

Creating a website with proper semantic Hypertext Markup Language (HTML) can have a dramatic impact on accessibility and SEO.

When built properly, a content structure that defines navigation, headings, paragraphs, lists, links, etc. helps search engines and assistive technologies like screen readers to better understand what elements are on a page.

The order of the HTML is also important for users to be able to easily navigate through content with a keyboard in the correct order. Content can be reordered visually via CSS (Cascading Style Sheet), but a keyboard will still tab through the page in the order it is defined in the HTML.

Bad

```
<div>Welcome to my website</div>

This is some introductory page content in a paragraph.

<br>

<br>

Just one more paragraph. It can introduce our list below.

<div>

1.The first item in the list<br>

2.Another list item<br>

3.The last list item

</div>

<div>A second heading</div>

<div>Now this is another paragraph but it's below our second

heading which helps provide some structure to our

content.</div>

<button>Learn more about our website</button>
```

Good

```
<h1>Welcome to my website</h1>

<p>This is some introductory page content in a paragraph.</p>

<p>Just one more paragraph. It can introduce our list

below.</p>

<ol>

  <li>The first item in the list</li>

  <li>Another list item</li>

  <li>The last list item</li>

</ol>

<h2>A second heading</h2>

<p>Now this is another paragraph but it's below our second

heading which helps provide some structure to our

content.</p>

<a href="another-page.html">Learn more about our website</a>
```

Identify the language of the page

Screen readers are able to "speak" various languages – as long as the language of the content is properly defined. When given a value that identifies the natural language of the page, it can also help with displaying proper text characters and punctuation on screen.

```
<html lang="en">
```

Google supports the hreflang tag to identify international content and specify which version of the site is most relevant to a user based on their language and/or location.

Hreflang tags also prevent duplication when different countries speak the same language. This improves crawling as search engines find more URLs on the site in different languages.

Ideally, you would add hreflang to the website in one of the following ways:

1. On-page
2. XML sitemaps
3. HTTP headers

See Hreflang Implementation Types table on next page for more information.

Success criteria

- 3.1.1: Language of Page

Hreflang implementation types

	On-page	XML sitemaps	HTTP headers
Difficulty	Low-medium	Low-medium	Medium
Best for	Most sites; it can be placed in the head section of the HTML.	Sites that may not have control over individual pages.	Any site with cluttered <head> sections. Non-HTML files such as PDFs.
Requires Developer?	Most likely	Depends on the CMS	Most likely
Pros	Easy to upload	Easy to upload	Unlike XML sitemaps the HTTP header is processed every time the page is crawled. Bots always receive the hreflang information associated with a page as soon as it visits.
Cons	Could create a lot of HTML overhead for large amounts of URLs.	Debugging may be difficult for websites with thousands or millions of URLs. The sitemaps don't get crawled as often as the HTML link and Header options. Lots of URLs in sitemaps cause issues with size limitations.	Difficult to debug as some SEO tools don't pull header information reliably.

Apply captions (closed captions) and transcripts to audio and video content

Creating an accessible video experience means providing alternatives to visual and auditory content. The addition of captions and transcripts can be beneficial in helping people better comprehend complex content, or allowing someone to watch a video when they're in a noisy environment, or can't enable audio.

Prerecorded audio should be paired with captions that include spoken words, identify speakers and caption non-speech information such as sounds.

Text transcripts should also be provided as a second alternative for video content and should include all information in the video, including visual cues, dialogue and non-speech sounds. This allows users who are deaf, hard of hearing, or have difficulty watching moving images, etc. to perceive the content. Captioning and transcription of audio and video can be more involved than other actions we're

sharing – consider specialized services that are cost-effective such as 3Play Media.

Although video content is highly relevant and useful for users, it is still difficult for search bots to crawl. Adding video transcripts directly to the page provides content that is easy for search bots to crawl. Always use human-edited transcripts because auto-transcriptions are error prone.

To make the experience more usable for humans, consider using show/hide tabs, collapsible accordion sections, modal popups, or something similar. The base requirement is that the transcript is visible when JavaScript and CSS are disabled. This guarantees that the video transcript will be easily found by search bots.

Success criteria
- 1.2.1: Audio-only and Video-only (Prerecorded)
- 1.2.2: Captions (Prerecorded)
- 1.2.3: Audio Description or Media Alternative (Prerecorded)

Content

Write a meaningful page title

Each page of your website should have a unique page title that makes it easy for the user to identify the purpose of the page. Since screen readers identify this text when a page is first loaded, the most pertinent information should be at the start with less specific information – like the name of your company – appearing towards the end.

Page titles are important because search engines use them to rank pages and people read them in search engine results pages.

```
<script async src="https://www.google-analytics.com/analytics.js"></script>
▶<script type="text/javascript">…</script>
<title>Seer Interactive: A Big Data Digital Marketing Agency</title>
<meta name="description" content="At Seer, we power your digital marketing with data-informed decision making to
drive tangible business outcomes. See why 94% of clients surveyed feel we meet or exceed expectations for data-dr
iven consulting here.">
<link rel="canonical" href="https://www.seerinteractive.com/">
```

https://www.seerinteractive.com   ⋮

Seer Interactive: A Big Data Digital Marketing Agency

At **Seer**, we power your digital marketing with data-informed decision making to drive tangible business outcomes. See why 94% of clients surveyed feel we ...

Seer Interactive: A Big Data Di×   +

← → C   🔒 seerinteractive.com
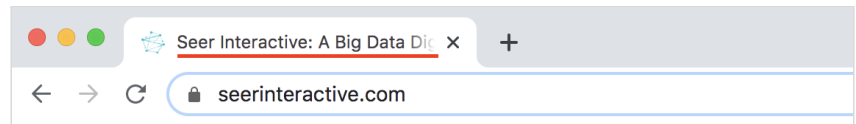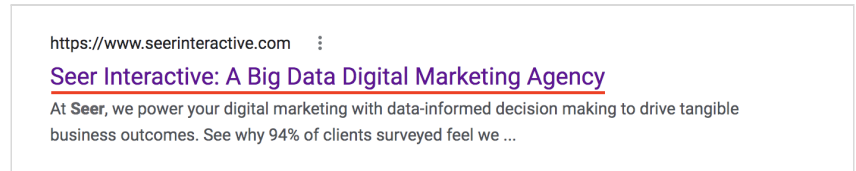
It's important to:

- Write highly relevant, descriptive and unique titles for each page.
- Ensure that titles are different from the meta description, but still complement it.
- Include the most important keywords for each page at the beginning of the title.
- Strengthen branding by including the name of the site at the end of the title.
- Be clear and concise. Since search engines only show roughly the first 50-70 characters, it is important to keep the titles under that maximum length.

Bad

```
<title>Company, Inc. | The Name of Our Blog Post</title>
```

Good

```
<title>The Name of Our Blog Post | Blog | Company,
Inc.</title>
```

Success criteria

- [2.4.2: Page Titled](#)

Use headings to organize and clearly outline your content

Use headings (H1-H6) to create an accurate document hierarchy, to convey relationships between content and to visually break up blocks of text.

Since screen reader users have the ability to navigate by headings, it can be very challenging if there are no headings, they are in an improper order, or are skipped.

Headings also allow readers to browse content by topical groups and provides context for users working through lengthy content. Users are more likely to discover topics of interest if they contain sectioned headings.

Similar to users and screen readers, heading tags give search engines an outline of the main headings and subheadings on the page. They examine heading tags more closely than regular body copy. Search engines read <h1> as the most important, while an <h6> is the least important.

Usage of heading tags should pass the logical test, "If I were to only read the <h#> tags, what is this page about?"

Bad

```
<h1>The Best SEO Tactics for Accessibility</h1>

<h1>2021 Accessibility Checklist</h1>

<h1>Adding Alt Tags to Links and Images</h1>

<h3>Markup Headings</h3>
```

Good

```
<h1>The Best SEO Tactics for Accessibility</h1>

<h2>2021 Accessibility Checklist</h2>

<h3>Adding Alt Tags to Links and Images</h3>

<h3>Markup Headings</h3>
```

Where to find headings within the HTML source code

- CTRL + F > Search "<h1>" or "<h2>" etc

Success criteria

- <u>1.3.1: Info and Relationships</u>
- <u>2.4.6: Headings and Labels</u>
- <u>2.4.10: Section Headings</u>

Define abbreviations and acronyms

When using abbreviations and acronyms in text, define each acronym after using it throughout the text. For those with a learning or cognitive disability, non-native language speakers or individuals using screen readers, having abbreviations and acronyms spelled out greatly improves understanding and flow of the content.

When using an acronym for the first time, spell it out in parentheses after the term. After the first instance, it is appropriate to use the acronym on it's own.

```
<p><abbr>A11y</abbr> (Accessibility) and <abbr>SEO</abbr>
(Search Engine Optimization) are important considerations for
your website.</p>
```

Success criteria

- 3.1.4: Abbreviations

Write a meaningful sentence for alternative text on images

Adding descriptive and meaningful alternative text to your images is key. Users who are blind or have low vision navigate digital content with screen readers, which then output an audio version of the alternative text, so you want to describe the image so they can visualize it's content. When writing your alternative text, you can omit words like, "photo of" or "image of" since screen readers will automatically add that.

You should also end the text with a period so it adds a natural pause at the end of the output from screen readers.

It may be tempting to post images of text or screenshots from print resources or PDFs to your site but this is almost impossible for screen readers and search engines to read and understand. Make sure that the text on your site is in plain HTML and is visible in the source code of your webpage.

Coincidentally search engine bots can't "see" your images as a website user would so alternative text can help search engines provide contextual relevance to these images. Refrain from any spammy tactics like keyword stuffing but do consider naturally using a keyword within the alternative text as long as it's relevant to the image itself.

Below is an example of alternative text on an image from the Seer homepage:

Bad

```
<img src="https://www.seerinteractive.com/wp-content/
uploads/2020/05/20191003-1E8A9003-e1582929146484.jpg"
alt="guy talking">
```

Good

```
<img src="https://www.seerinteractive.com/wp-content/
uploads/2020/05/20191003-1E8A9003-e1582929146484.jpg"
alt="Wil Reynolds Seer CEO speaking at a conference.">
```

Note

Image-based content that is used purely for decorative purposes does not need alternative text and can be left empty.

```
<img src="my-image.jpg" alt="">
```

Where to find alt images tags within the HTML source code:

- CTRL + I and inspect a particular image by searching "<img

Success criteria

- 1.1.1: Non-text Content
- 1.4.5: Images of Text

Provide descriptive link text

Gone are the days of spammy or generic link text. Links should be descriptive, unique and make sense out of context to give users and search engines a better idea of their intent. Since screen reader users can generate a list of links and navigate them alphabetically, redundant or ambiguous link text such as "Learn More" or "Click Here" is ultimately meaningless in this context and should be avoided.

Bad

```
<a
href="https://www.seerinteractive.com/blog/introduction-to-
digital-maturity/">Click Here</a>
```

Good

```
<a
href="https://www.seerinteractive.com/blog/introduction-to-
digital-maturity/">digital maturity blog post</a>
```

Where to find link text within the HTML source code

- CTRL + I > search for "<a href

Success criteria

- 2.4.4: Link Purpose (In Context)
- 2.4.9: Link Purpose (Link Only)

Write at as low a reading level as is appropriate for your content

Users can benefit from content being written at as low a reading level as is appropriate for your content. This can assist users with cognitive disabilities, users who are not fluent in English and those who can easily get distracted.

To achieve this, try writing your content at a high school grade level, avoid words that can come off as jargon-y and minimize complex language where possible. You can also use a tool such as the Hemingway Editor to get feedback on your content.

Design/UX and technical audit tools

If you're trying to figure out where to start, performing an audit to identify usability, accessibility and conversion optimization issues is your best bet. There are several different methods for identifying accessibility and SEO issues depending on your resources and comfort with various auditing tools and technology.

Crawling tools

Some of your existing SEO tools actually can help you identify accessibility issues. Using a tool like Screaming Frog for instance, you can find all of the pages on your site through Internal Links and view a dashboard of the results where you can then export a file outlining issues with headers, page titles, alternative text or link text to name a few.

Example of a Screaming Frog missing alternative text report

Multiple	167	95.43%
▼ Images		
All	0	0%
Over 100 KB	0	0%
Missing Alt Text	0	0%
Missing Alt Attribute	0	0%
Alt Text Over 100 Characters	0	0%
▼ Canonicals		

Example of a Screaming Frog missing header text report

▼ H1		
All	175	100%
Missing	11	6.29%
Duplicate	159	90.86%
Over 70 Characters	4	2.29%
Multiple	30	17.14%
▼ H2		

Another tool SEO professionals may be familiar with is Google Lighthouse. This is built directly into the Google Chrome Browser and can be used to check numerous metrics Google finds important for ranking consideration on a page-by-page basis. These include: Performance, Best Practices, SEO and Accessibility.

3rd party browser tools

Because of how specialized accessibility considerations can be, there are specific tools that can be run on webpages to help surface issues. Two such tools are the Deque Axe and WebAIM WAVE browser plugins. Both of these are available for Chrome and Firefox and allow you to evaluate webpages for accessibility issues on a page-by-page basis, directly in the browser. These tools reference the latest version (as of this writing) of the Web Content Accessibility Guidelines (WCAG) 2.1.

The WCAG is the most recent and relevant accessibility standard for digital products and aims to establish a shared standard for making web content more accessible by providing guidance on things such as:

- Color contrast
- Button size and placement
- Forms
- Typography
- Navigation
- Rich media content (video, audio, images, PDFs)

While not all of these accessibility considerations have a direct impact on SEO, using these tools, brands can develop a better understanding of the overlap between SEO and accessibility which can help teams optimize for both.

Auditing and prioritizing updates

Prioritizing issues

Once your site has been audited for potential issues, it's time to rank them based on level of effort and impact – this can change from project to project. While you're encouraged to tackle all accessibility concerns identified, we understand the level of effort can be high depending on the number of issues flagged. As such, we recommend assigning the following prioritization to each issue:

1. **Critical:** Areas of opportunity on the site that do not meet accessibility standards and prevent users from taking specific actions on your site.
2. **Highly Recommended:** Adding visual hierarchy and clarity to existing elements and components that may not necessarily prevent users from taking specific actions on your site but would improve their experience.

3. **Nice to Have:** Minor site tweaks that better align your brand to increased user experience through content and imagery selections.

Remediation

Once you've prioritized the issues you've identified, it's time to act on them. Rather than execute on all issues at once, it's best to take an incremental approach to tackling updates. Start with the ones that will have the greatest positive impact on the site and for your users. As you complete updates, it's highly recommended to continue to test using automated and manual tools to validate the improvements but also to test with actual users throughout the process. This will ensure your optimizations are having the desired effect.

It's important to remember, accessibility and SEO don't happen overnight – it takes time to achieve an optimal experience.

Contact us

O3 World

Whether you're starting a project from scratch or looking to improve the accessibility of an existing online experience, O3 can help. Learn more about our work at www.o3world.com.

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