conductor

An In-Depth Guide to
Technical SEO Optimization

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What is technical SEO?

Technical SEO refers to any behind-the-scenes website optimizations that make it easier for search engines to discover, crawl, index, and render pages on your website more effectively.

Like any other website optimization, the goal of these optimizations is to improve your organic search rankings and increase organic traffic. While on-page SEO and content optimization focus on the front end, technical SEO is all about what's happening on the back end that affects website health and performance.

Optimizing your technical SEO isn't a one-off effort. It's a continuous process of making your site easier to navigate and your pages more likely to appear on SERPs and rank well. With this goal in mind, it helps to break technical SEO optimization down into four buckets: discoverability, crawlability, indexability, and user experience.

How to optimize for discoverability

Optimizing for discoverability is the process of improving certain aspects and signals on your pages to increase the likelihood of your pages being discovered quickly by search engines. Once your page is discovered, a search engine can crawl the page and add it to its index of content. If a search engine can't discover your content, it won't appear on SERPs or drive organic traffic to your site.

Discoverability is the first core pillar to optimizing your technical SEO.

Discoverability checklist

1. Optimize your site architecture

Your site structure, or information architecture, helps search engine bots make sense of your site and understand what your most important content is. The more logical your site structure, the easier it becomes for search engine bots to find and understand what your content is trying to answer.

Topic clusters and pillar pages are an important aspect of your site architecture. Grouping related pages together via clusters, pillar pages, or subfolders helps bots understand the relationship between your pages and how they work together.

2. Improve your internal link structure

An internal link points to another page on your website. Search engine bots rely on links to discover new content, using links from previously indexed pages to find new or updated pages. Improving your link structure helps these bots find your pages and updates more efficiently.

That said, it's important to think of your link structure through the eyes of a user. What is the best way you can structure your site so that users can logically and quickly find the information they need? If the structure is optimal for users, it will be optimal for search engines, too.

It's also important to keep in mind that not all internal links carry equal value. For instance, links at the top of a piece of content are viewed as more impactful and important by Google because users are more likely to click them.

Specifically, focus on the following areas to improve your internal link structure:

- **Primary navigation:** Primary navigation refers to links that direct to the most important pages on your site. These can usually be found at the top of each page of a website, so users can easily navigate to your homepage and product pages. From an SEO perspective, these pages pack quite the punch and make it easy for search engines to understand your content.

- **Secondary navigation:** Secondary navigation includes links to content that is still important and relevant to your audience, just not to the same extent as primary navigation. Think of these as Privacy Policy or FAQ pages. They are content that you want your audience to be able to find quickly, but they aren't as important to your site as your homepage or product pages.

- **Implement breadcrumbs:** Breadcrumbs are tied to a clickable link, and they show a trail of what specific folder a page is housed under, making it easier for search engines to understand what the page is related to and what questions it answers.

- **Sidebar navigation:** Your sidebar navigation will highlight content and pages that are relevant to a specific topic, have recently been published, or speak to a particularly trendy issue. Sidebar navigation links signal to search engines that this content is important to your audience.

- **Footer navigation:** Footer navigation will direct users to content, events, and pages that are related to the page they sit on. Because these links are at the bottom of a page, they'll get fewer clicks than your primary and secondary navigation, but they make it easier for users to find related content than if they'd had to look on their own.

- **Pagination:** Scrolling through a particularly long page of content quickly becomes overwhelming, and it's unlikely users will stick around for that long. Implementing pagination and splitting content across multiple pages improves the user experience by breaking your content down into more digestible chunks.

- **Conditional footer and sidebar navigations for specific site sections:** You can implement specific footer and sidebar navigations based on the part of the site a user is on. Some pieces of content may be more relevant in certain sections than others, and having conditional navigations will signal to the search engine that the linked content is related and important.

3. Create an XML sitemap

Even now, Google needs an **XML sitemap** to find your site's URLs. Create a clean, up-to-date, and optimized sitemap so that Google can quickly navigate to your pages, and implement regular audits to ensure new pages are getting indexed.

4. Request indexing through IndexNow

At its core, **IndexNow** is a solution that notifies a search engine when you add, update, or delete one of your pages so the search engine can reflect that on SERPs. While Google doesn't participate in IndexNow, several other search engines do, including Bing and Yandex.

Conductor Website Monitoring (powered by ContentKing) also **integrates with IndexNow**, so any changes to your site are automatically tracked and submitted to Bing and Yandex.

5. Leverage Google's Indexing API

Google's Indexing API allows site owners to notify Google directly of any updates or additions to their website. Google then schedules a fresh crawl of the page, which, in some instances, can lead to traffic improvements. Currently, this function can only be used for certain content types (Job postings, events, etc.) but it gives site owners an opportunity to get pages discovered more quickly.

How to optimize for crawlability

Crawlability is the second pillar of technical SEO optimization. Optimizing for crawlability is about answering the question: How easy is it for Google to crawl your website?

If you can make the crawling process more efficient, your pages will get indexed faster. If your pages can be crawled quickly, that likely means that your site has a solid technical foundation, which increases the likelihood that you'll rank well on SERPs.

Crawlability checklist

1. Create an SEO-friendly URL structure

SEO-friendly URLs are URLs that make sense to both visitors and search engines. Creating a clear URL structure is important for your site's **information architecture**, which defines, among other things, the accessibility of your content to visitors and search engines. It defines how pages relate to each other and what URLs and directories to use.

To ensure that your pages are easily accessible for users and crawlable for search engines, it's important to create short, descriptive, readable, and consistent URLs. Long and convoluted URLs make it difficult for a search engine to understand what a page is covering. By optimizing your URLs, you're making it easier for search engines and users to make sense of your content and ensure they're in the right place.

2. Optimize your crawl budget

Crawl budget refers to the number of pages search engines will crawl on your website within a certain timeframe. Search engines calculate crawl budget based on crawl limit (how often they can crawl without causing issues) and crawl demand (how often they'd like to crawl a site).

If your crawl budget isn't optimized, then search engines won't be able to crawl your site efficiently, and your new and updated pages won't be indexed quickly, causing a domino effect on your entire SEO performance.

Several factors can lead to a wasted crawl budget, and they're generally factors that also hamper your SEO strategy. Be on the lookout for issues like:

- **Duplicate content**

- **Low-quality content**

- Poor **internal link structure**

- A large number of **non-indexable pages**

- **Slow-loading pages**

- **Broken/redirecting links**

- Incorrect URLs in your **XML sitemap**

- **Accessible links that contain parameters**

Each of these issues will eat into your crawl budget and make your website's crawling and indexing less efficient, delaying the impact of your SEO efforts.

3. Avoid crawler traps

Crawler traps—AKA spider traps—refer to a structural issue within a website that results in crawlers finding a virtually infinite number of irrelevant URLs. Due to this issue, crawler traps can seriously hurt your SEO performance by wasting your crawl budget and generating duplicate content.

To avoid creating crawler traps, you need to ensure sound technical SEO and that you're using proper solutions, like **Conductor Website Monitoring** (powered by ContentKing), to detect them quickly.

Best practices for avoiding crawler traps include:

- Monitoring your website for duplicate content and sudden increases in pages and redirects.

- Making sure that pages that don't exist return an HTTP status code 404.

- Disallowing URLs that search engines shouldn't crawl.

- Adding the nofollow attribute to links that search engines shouldn't crawl.

- Avoiding dynamically inserting content.

4. Avoid duplicate content

Duplicate content makes for poor SEO, and not just because of the role it can play in creating crawler traps. Put simply, duplicate content is confusing for Google.

On principle, Google indexes only one URL for each unique set of content. But it's hard for the search engine to determine which version to index, sometimes leading both to appear on SERPS.

From an SEO perspective, duplicate content will lead to keyword cannibalization, where both pages compete with each other for clicks and traffic, lowering the performance of both pages.

5. Improve site speed

Site speed is a significant factor when optimizing your technical SEO and improving your rankings on SERPs. For starters, your audience doesn't want to use a slow website. They want answers fast and will gladly leave your site to find a faster option if yours takes too long.

According to a **study by Amazon**, every 100ms in added page load time costs 1% in revenue. In addition, search engines understand that fast sites make for an improved user experience, so faster sites will generally appear higher on SERPs.

You can optimize your site speed by doing many of the tasks we've already mentioned, like removing duplicate content and minimizing redirects. You can also improve **page speed** by optimizing your images and implementing website caching. Test your page speed with **Google PageSpeed Insights** to get a baseline of your site speed and find opportunities to improve.

How to optimize for indexability

Optimizing for indexability means making sure that search engines can digest, understand, and add your content to their backlog. While many of the actions to make indexing more efficient are handled when optimizing discoverability and crawlability, there's still a huge opportunity to maximize your pages' potential to get indexed.

Indexability checklist

1. Implement Schema

Schema is a structured markup that helps you to specify the type of content you have on your website.

Correct Schema implementation allows you to tell search engines that you are referring to a person, event, product, new job position, or other category. This makes it easier for machines and search engines to understand the content, which also makes it more likely that your content will appear in different result types, like featured snippets.

2. Optimize your JavaScript SEO

JavaScript SEO refers to how search engines interact with, crawl, and index sites that use JavaScript in essential parts of their website, such as their main navigation.

Let's explore an example. When you navigate to a URL, your browser requests the URL's content from the server. If the request is successful, the server responds with the HTML document for that URL. This HTML document contains the page's text, with references to external files such as images, CSS, and JavaScript if these are present. If they are, your browser creates additional, separate requests for these files, too.

The next step is for your browser to compile everything and render the web page. Part of this process is executing the JavaScript code, which modifies the web page. These can be small modifications (e.g. loading support chat) or big ones (e.g. loading all of the page's content).

During the JavaScript code execution, the page already appears in your browser, and you can interact with it. But, JavaScript rendering that heavily modifies the web page can add seconds to the time it takes for the page to become interactive for visitors.

Search engines, like Google, mimic this process. That means that a heavily modified web page takes Google more time and resources to fully render and subsequently "understand." Technical SEO aims to make Google's job as easy and smooth as possible, but mixing in lots of JavaScript does the exact opposite. So, if your website uses Javascript heavily in essential elements of the page, it's unlikely to reach its full potential and achieve high rankings.

3. Implement the hreflang attribute

The hreflang attribute indicates what language your content is in and what geographical region it is meant for. This ensures that your audience is shown the correct content based on the region they're in and the language they're searching in.

You can implement the hreflang attribute using one of the following methods to define audience targeting and let search engines know who and what region a piece of content is for:

- The link element in HTML

- The HTTP header

- The XML sitemap

Best practices for hreflang implementation:

- Reference both the page itself and its translated variants.

- Make sure to have bidirectional hreflang attribute references.

- Correctly define language and region combinations.

- Always set hreflang="x-default".

- The hreflang attribute and the canonical URL must match.

- Use absolute URLs when defining the hreflang attribute.

- Use only one method to implement the hreflang attribute.

4. Optimize your heading structure

The **heading structure** you implement in your content sends a signal to a search engine about the importance of the content on your page and also lets users know what content is most relevant to them.

The most important information on a page should have an H1 or H2 heading, while less critical information should be denoted with smaller headings and should ideally be grouped under a more important topic that's highly relevant.

In addition, an optimized heading structure can lead to your content appearing more in 'People also ask' and other result types. By structuring your headers as specific questions and answering those questions within the copy, you're making it easier for users and search engines to see a clear, logical answer to their questions. This makes it more likely that a search engine will highlight the answer and your content in different result types, like' People also ask questions.

5. Canonicalization

Canonical tags help you specify to search engines which version of a piece of content should be indexed. This is helpful when you have multiple pages offering the same or similar content, as it allows you to reduce the risks of keyword cannibalization and duplicate content.

There are four known ways to specify canonical URLs, called canonicalization signals:

• Canonical URL

• XML Sitemap

• Internal links

• External links

Each one of these helps signal to a search engine what version of a page it should index, what version should rank for specific queries, and what kind of link equity a version of a page should carry.

How to optimize for UX

User experience is a ranking factor for Google, but that shouldn't be your sole motivation to optimize it. SEO is all about providing the best content possible to your audience, and part of that is providing them with high-quality content quickly and on pages that operate smoothly.

If your site doesn't provide a strong user experience, it will not only rank poorly, but you'll likely sacrifice brand reputation, as well as traffic, engagement, and conversions.

Optimize your Core Web Vitals

Core Web Vitals are a way to measure the user experience of a page, and **as of 2021**, Google has used it as a ranking factor on SERPs. Core Web Vitals consist of three aspects:

1. **Largest Contentful Paint (LCP):** Refers to the amount of time, in seconds, it takes from when a page starts loading to when the largest element on the page has rendered.

   • *Ideal Time = <2.5 seconds*

2. **Interaction to Next Paint (INP):** Refers to the measurement, in milliseconds, of a page's responsiveness. INP is measured from when a user first interacts with your site (i.e., when they click a link, tap a button, or press a key) to when the browser begins providing visual feedback to the request.

   • *Ideal Time = <200 milliseconds*

3. **Cumulative Layout Shift (CLS):** Refers to a page's "visual stability" and seeks to measure the cumulative score of all unexpected layout shifts within the viewport that occur during a page's entire lifecycle.

   • *Ideal Score = <0.1*

The good news is that there's a lot you can do to improve your **Core Web Vitals**. To optimize your LCP, you can do things like optimizing your rendering path, CSS, and images.

You can improve your INP by reducing JavaScript execution time, minimizing work done in the main thread, and reducing the impact of third-party code. You can prevent unexpected layoff shifts to improve your CLS by always including size attributes for your images and videos and by not inserting content above other content that's already loaded.

Improve your site's accessibility

Your site's accessibility refers to how well it operates on different devices, in different regions, and when used by certain users. Essentially, you want any visitor to be able to use your site regardless of their specific needs. For example, implementing alt tags on the images or transcripts for videos throughout your content makes your site more accessible for blind or visually impaired users by providing written descriptions of a visual.

This makes it easier for any user to access and use your website, enhancing the user experience. This will help improve your brand's reputation and help you rank well on SERPs.

Tool & process implementation

As we mentioned at the start, technical SEO optimization is not a one-off task. It's a continuous effort that you need to fold into your existing processes. Here are some processes and tools and solutions that will help you seamlessly integrate technical SEO into your existing workflows.

Monitor your site's health & performance

You need to keep an eye on your website and its pages in real-time, or you'll risk missing crucial issues, allowing them to continue to damage your website until you identify and address the problem. Conductor Website Monitoring audits your website 24/7, removing the need for tedious manual crawls and immediately notifying you of any issues that are present on any of your pages so you can prioritize and take action to resolve them quickly.

Recommended technical SEO tools

You can't optimize anything on your site if you don't have the right solutions at your disposal. In a market that's flooded with different solutions, here are a few of the ones we feel really move the needle.

- **Conductor Website Monitoring** (powered by ContentKing): The only 24/7 website monitoring solution. Immediately get notified of any changes or issues on any of your website's pages.

- **Google Search Console:** The freshest keyword, page, and SEO data there is. Use Google Search Console to understand how your pages are performing compared to expectations, and also check to see if your pages are indexed or have **Google Manual Actions** against them.

- **Conductor for Chrome:** Get instant content, SEO, and technical website insights into any of your pages for free, right from your browser. The click of a button gives you access to recommendations to boost your content and technical health.

- **Chrome DevTools:** Allows users to interact with and investigate to diagnose issues within pages and make immediate edits.

- **Pagespeed Insights** Reports on the quality of the user experience on a page for both mobile and desktop. It gives you an understanding of your UX's strengths and areas for improvement..

Summarizing technical SEO optimization

Technical SEO is the unsung hero of your entire website strategy. While on-page SEO, like content, gets most of the spotlight, your website's technical health and performance are just as important. You need to provide users with a fast, smoothly operating site, or else they're likely to use another site to find their answers.

From an SEO perspective, your site needs to be technically sound in order for search engines to discover, crawl, and index your site efficiently. If search engines can't do that, you're risking losing significant traffic, engagement, and conversions—if your pages get indexed at all. In order to maximize your site and brand's growth potential, you need to optimize your technical SEO.