Search Engine Optimization(SEO)
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Introduction

- Search Engine Optimization (SEO) is the activity of optimizing web pages or whole sites in order to make them search engine friendly, thus getting higher positions in search results.

Introduction

SEO is a technique for:

- designing and developing a website to rank well in search engine results.

- improving the volume and quality of traffic to a website from search engines.

- marketing by understanding how search algorithms work, and what human visitors might search.

How Search Engine Works?

- Search engines perform several activities in order to deliver search results.

- **Crawling** - Process of fetching all the web pages linked to a website. This task is performed by a software, called a **crawler** or a **spider** (or Googlebot, in case of Google).

- **Indexing** - Process of creating index for all the fetched web pages and keeping them into a giant database from where it can later be retrieved.

- **Processing** - When a search request comes, the search engine processes it, i.e. it compares the search string in the search request with the indexed pages in the database.

- **Calculating Relevancy** - It is likely that more than one page contains the search string, so the search engine starts calculating the relevancy of each of the pages in its index to the search string.

- **Retrieving Results** - The last step in search engine activities is retrieving the best matched results. Basically, it is nothing more than simply displaying them in the browser.

Search engines such as Google and Yahoo! often update their relevancy algorithm dozens of times per month. When you see changes in your rankings it is due to an algorithmic shift or something else outside of your control.

What is Search Engine Rank?

- When you search any keyword using a search engine, it displays thousands of results found in its database.

- A page ranking is measured by the position of web pages displayed in the search engine results.

- If a search engine is putting your web page on the first position, then your web page rank will be number 1 and it will be assumed as the page with the highest rank.

- SEO is the process of designing and developing a website to attain a high rank in search engine results.

What is On-Page and Off-page SEO?

- Conceptually, there are two ways of optimization:

- **On-Page SEO** - It includes providing good content, good keywords selection, putting keywords on correct places, giving appropriate title to every page, etc.

- **Off-Page SEO** - It includes link building, increasing link popularity by submitting open directories, search engines, link exchange, etc.

SEO - Tactics & Methods

- SEO techniques are classified into two broad categories:

- **White Hat SEO** - Techniques that search engines recommend as part of a good design.

- **Black Hat SEO** - Techniques that search engines do not approve and attempt to minimize the effect of. These techniques are also known as spamdexing.

White Hat SEO

- An SEO tactic is considered as White Hat if it has the following features:

- It conforms to the search engine's guidelines.

- It does not involve in any deception.

- It ensures that the content a search engine indexes, and subsequently ranks, is the same content a user will see.

- It ensures that a web page content should have been created for the users and not just for the search engines.

- It ensures good quality of the web pages.

- Always follow a White Hat SEO tactic and do not try to fool your site visitors. Be honest and you will definitely get something more.

Black Hat or Spamdexing

- An SEO tactic, is considered as Black Hat or Spamdexing if it has the following features:

- Attempting ranking improvements that are disapproved by the search engines and/or involve deception.

- Redirecting users to a page that was different from the page the search engine ranked.

- Serving one version of a page to search engine spiders/bots and another version to human visitors. This is called **Cloaking** SEO tactic.

- Using hidden or invisible text or with the page background color, using a tiny font size or hiding them within the HTML code such as "no frame" sections.

- Repeating keywords in the meta-tags, and using keywords that are unrelated to the website content. This is called **meta-tag stuffing**.

- Calculated placement of keywords within a page to raise the keyword count, variety, and density of the page. This is called **keyword stuffing**.

- Creating low-quality web pages that contain very little content but are instead stuffed with very similar keywords and phrases. These pages are called **Doorway or Gateway Pages**.

- Mirror websites by hosting multiple websites - all with conceptually similar content but using different URLs.

- Always stay away from any of the above Black Hat tactics to improve the rank of your site. Search engines are smart enough to identify all the above properties of your site and ultimately you are not going to get anything.

SEO - Relevant Filenames

- One of the simplest methods to improve your search engine optimization is to look at the way you name your files.

- Google gives too much importance to file names.

- You should think what you want to put in your web page and then give a relevant file name to this page.

File Naming Style

- The filename should preferably be short and descriptive.
- It is always good to use same keywords in a filename as well as in page title.
- Do not use filenames such as *service.htm* or *job.htm* as they are generic. Use actual service name in your file name such as *computer-repairing.htm*.
- Do not use more than 3-4 words in file names.
- Separate the keywords with hyphens rather than underscores.
- Try to use 2 keywords if possible.

File Name Example

- Listed below are some filenames which would be ideal from the users' point of view as well as SEO.

- slazenger-brand-balls.html

  wimbledon-brand-balls.html

  wilson-brand-balls.html

Notice that the keywords are separated by hyphens rather than underscores.

Google sees good filenames as follows:

- seo-relevant-filename as seo relevant filename(good)

- Filenames with underscores are not a good option.

- seo_relevant_filename as seorelevantfilename (not good)

- Keep the following points in mind before naming your files:

- Keep the web page filename short, simple, descriptive, and relevant to the page content.

- Try to use a maximum of 3-4 keywords in your filename, and these keywords should appear on your web page title as well.

- Separate all keywords with hyphen rather than with underscore.

- Restrict the file size to less than 101K because Google chops almost everything above that.

SEO - Design & Layout

- The website design and layout gives the first impression about your site.

- You do not have to make your site too fancy, in order to rank higher in the search results.

- Although, Search engines are very smart, but If you make your site too complicated, then the search engine would not be able to parse the content of your site properly, and finally indexing would not be efficient, which results in a low rank.

- The actual page content should have a keyword density of about 10% and should weigh in at about 200.

- Here are a few guidelines that you should keep in mind while designing a web page:

- You should have more text content than HTML elements.

- Avoid using frames. They are the enemies of search engines, and search engines are enemies of frames.

- No ads if possible. Because most of the ads use Java-Script which is not advised to be used.

- No JavaScript. If you need JavaScript, call it from an external file rather than dumping the code in the HTML file. JavaScript drop-down menus prevent spiders from crawling beyond your homepage

- Do not put anything in the page topic that does not fit perfectly.

- No unnecessary directories. Keep your files as close to the root as possible.

- No fancy stuff (Flash, Splash, Animated Gifs, Rollovers, etc.) unless absolutely necessary.

SEO - Optimized Keywords

- A keyword is a term that is used to match with the query a person enters into a search engine to find specific information.

- Most people enter search phrases that consist of two to five words. Such phrases may be called search phrases, keyword phrases, query phrases, or just keywords. Good keyword phrases are specific and descriptive.

- The following concepts related to keywords, help in optimizing the keywords on a web page.

- **Keyword Frequency**
- This is calculated as how often does a keyword appear in a website title or description. You do not want to go overboard with frequency, however, since on some engines if you repeat a word too many times, you are be penalized for "spamming" or keyword stuffing.

- **Keyword Weight**

- It refers to the number of keywords appearing on your web page compared to the total number of words appearing on that same page. Some search engines consider this while determining the rank of your website for a particular keyword search.

- One technique that often works well is to create some smaller pages, generally just a paragraph long that emphasizes a particular keyword. By keeping the overall number of words to a minimum, you can increase the "weight" of the keyword you are emphasizing.

- **Keyword Proximity**
- It refers to the placement of keywords on a web page in relation to each other or, in some cases, in relation to other words with a similar meaning as the queried keyword.

- **Keyword Prominence**
- It is a measure of how early or high up on a page, the keywords are found. Having keywords in the first heading and in the first paragraph (first 20 words or so) on a page are best.

- **Keyword Placement**
- Where your keywords are placed on a page is very important. For example, in most engines, placing the keywords in the Title of the page, or in the Heading tags will give it more relevancy

- **Best Places to Put Keywords**
- Here is a list of places where you should try to use your main keywords.
- Keywords in the <title> tag(s).
- Keywords in the <meta name="description">.
- Keywords in the <meta name="keyword">.
- Keywords in <h1> or other headline tags.
- Keywords in the keywords link tags.
- Keywords in alt tags.
- Keywords in <!-- insert comments here> comments tags.
- Keywords in the URL or website address.

- **Finding Keywords**
- There are many different ways to find keywords for your website. Some good keyword ideas are:
- The potential words, people would use to find your product or service.
- The problems that your prospective customers may try to solve with your product or service.
- Related search suggestions on top search engines.
- By analyzing your website carefully and finding out proper keywords.
- You can do brainstorming to identify correct keywords for your site.

- **What is Word Stemming?**

- Google uses a feature called **word stemming** that allows all forms of the word - singular, plural, verb form as well as similar words to be returned for a given search query.

- So if someone types in "house plans", not only the pages that are optimized for that phrase but the pages that contain all variations of that phrase are returned. For example, "house plan", "house planning", "house planner".

SEO - Optimized Metatags

- There are two important meta tags:

- Meta description tags

- Meta keyword tags

- For Google, adding the description meta tag does not result in a boost in the Search Engine Results Pages (SERPs)

- Yahoo! says, they use the Keyword Meta Tag when it ranks a page. Hence it makes sense to add one for Yahoo! and any other minor search engines that still use.

- **What Do the Metatags Look Like?**
- You can add the following in the head section of the web page:

- <meta name="keywords" content="KEYWORD1 KEYWORD2 KEYPHRASE1 etc. about 30 to 40 unique words">

- <meta name="description" content="An accurate, keyword-rich description about 150 characters">

- **Meta Description Tag Tips**

- Important tips for good Meta description tags:

- Use keywords in your meta description tag.

- Try not to repeat the words overly often, but try to use multiple syntaxes of your key words.

- There should not be more than 150 characters in a description metatag of a single web page.

- Use a different meta description tag for each page, as each page is different and stands a better chance of being found if you place a good title and description on it.

- **Meta Keywords Tag Tips**
- Use synonyms.
- Use unique keywords.
- No need to repeat any given phrase.
- You can repeat a word any number of time, as long as each time it is part of a different phrase.

- **Robots Meta Tag**
- The important metatag that you may need sometime is the Robots Metatag which looks like this:

- <meta name="robots" content="noindex,nofollow">
- Using the above metatag, you can tell a spider or a robot that you do not want some of your pages indexed, or that you do not want your links followed.

SEO - Title Optimization

- An *HTML TITLE* tag is put inside the head tag. The page title (not to be confused with the heading for a page) is what is displayed in the title bar of your browser window, and is also what is displayed when you bookmark a page or add it to your browser Favorites.

- This is the one place on a webpage where your keywords MUST be present. Correct use of keywords in the title of every page of your website is extremely important to Google - particularly for the homepage. If you do nothing else to optimize your site, remember to do this!

- Here are some considerations while designing the title of a webpage:
- The title shouldn't consist of more than about 9 words or 60 characters.
- Use keywords at the very beginning of the title.
- Do not include your company name in the title unless your company name is very well known.
- Improper or nonexistent use of titles in webpages keeps more websites out of top rankings on Google than any other factor except perhaps for a lack of relevant content on a page or a lack of quality links from other websites that point to your site.

- **Best Practices for Creating Titles**

- Here are some best practices you should follow for creating titles on pages:

- Each page should have a unique title.

- If practical, try to include your Primary Keyword Phrase in every title of every page.

- Begin the title of your home page with your Primary Keyword Phrase, followed by your best Secondary Keyword Phrases.

- Use more specific variations to your Primary Keyword Phrase on your specific product, service, or content pages.

- If you must include your company name, put it at the end of the title.

- Use the best form, plural or singular, for your keywords based on what WordTracker says is searched on more often.

- Do not overdo it - do not repeat your keywords more than 2 to 3 times in the title.

- Make sure the <title> tag is the first element in the <head> section of your page - this makes it easier for Google to find the page.