

SEARCH ENGINE OPTIMIZATION TOOLS AND TECHNIQUES

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Abstract

Because of the exponential development of the internet, search engines have the difficult task of sorting through billions of pages and displaying only the relevant pages for the submitted search information. Search Engine Optimizers ought to actively learn the techniques that guests to their website. Looking through online becomes a piece of regular day to day existences of the vast majority. Due to this explanation, web search tools possess “a vital position in the online world”; they have made it simpler for the individuals to discover the information among the large number of website pages on the internet. Due to the large number of websites, search engines have the difficult task of sorting through the large number of pages and showing only the most relevant pages. This research paper gives the analysis of Search Engine Optimization techniques that can assist and improve the positioning of a website or to get large number of watchers or to amplify visibility of a site.

Keywords: SEO; Search Engine; Search Engine Result Page; Google; Ranking.

I. INTRODUCTION

SEO or Search Engine Optimization helps to improve the quality and quantity of website traffic. SEO is a method for:

- Designing a site to rank the resultant pages in a search engine.
- Improving the volume and nature of traffic to a site from search engines.

- Marketing by seeing how search algorithms work and what human visitors might search.

There are billions of website pages accessible on the internet. If the user looks for specific data, at that point there are billions of web pages related to that specific information. So, it is difficult to understand that which web page is more apt and which is less relevant. Sorting through billions of sites and showing just the relevant web pages are difficult tasks. There are billions of sites available on the internet and every one of the sites needs to get searched or needs to be highlighted in the resultant page.

II. HOW SEO WORKS

Search engines[1] have several primary functions are as follows:

- Crawling -Crawling essentially implies following way. In the SEO world, crawling methods are following connections and “Crawling” around site. It is also called as SPIDER BOT OR GOOGLE BOT.
- Indexing - .Indexing is the way including site pages into Google search. The filed page is put away in the database.
- Processing -When a search demand comes, the web crawler forms it; for example it thinks about the search string in the detection process with the indexed pages in the database.
- Calculating Relevancy - There might be more than a huge number of site pages that contain the input string, the web crawler computes the pertinence of all the listed site pages.

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- Retrieving Results - The last development in web index exercises is getting better coordinated endings. The retrieved results are shown in the browser.

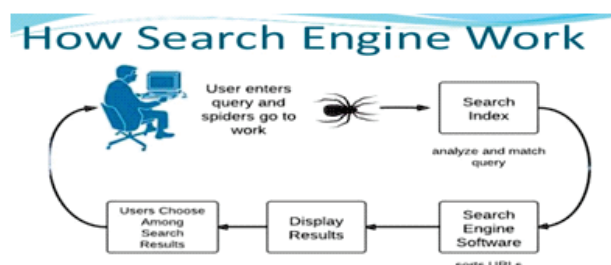


Fig. 1. How Search Engine Works

III. TECHNIQUES OF SEARCH ENGINE OPTIMIZATION

The various categories of SEO techniques-

1. On-Page Optimization
2. Off-Page Optimization

1. ON-PAGE OPTIMIZATION:

On-page SEO is the process of improving the rank of singular pages so as to rank higher and get increasingly quality of traffic in web indexes. On-page alludes to both the substance and HTML source code[2]. This astounding choice of catchphrases, giving an appropriate output to each site page.

a. TECHNICAL OPTIMIZATION

There are three primary specialized parts of a site that can be upgraded:

Server speed: As site load times are considered via web indexes as a feature of their assessment for positioning purposes, accelerating server reaction time is a significant piece of on page enhancement.

Source code: A productive source code can add to improved site execution. It very well may be solidified to make it simpler for the Google bot to record the site.

IP addresses: These can be utilized to see whether, for instance, researchers have a Bad Neighbourhood issue. In a perfect world, people ought to consistently have a one of a kind IP address for each web venture[3]. This signs to Google and other web crawlers that the site is one of a kind.

b. CONTENT

Content, in this specific situation, does not just allude to unmistakable on-screen components like messages and pictures. It additionally incorporates components that are at first imperceptible, for example, alt-labels or Metadata.

Text: Text enhancement was led based on keyword density.

Graphics: All pictures are significant substance components that can be enhanced. Simultaneously, they can build how attractive a site appears to clients. Engaging picture exhibitions can likewise expand the time clients spend on the site.

Videos: SEOs and website admins should give specific consideration to guaranteeing that various media content offered on their pages can really be seen by clients.

Meta-tags: Meta keyword gives the data about the substance of the site page to the web search tool. Not many web indexes like, yahoo and ask.com consistently focus on the keyword's labels while Google web search tool is perplexing and needs to think about heaps of things.

Example: Model: `<Meta name="keyword" Content="men, kids"/>`

c. INTERNAL LINKS AND STRUCTURE

Inside connecting can be utilized to control a bot's visit to space and furthermore to enhance route for genuine clients.

Logical structure and crawl depth: The point here is to painstakingly structure menus and to guarantee that a site chain of importance contains close to four levels. The fewer

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levels there are, the more rapidly a google bot can reach and crawl all sub-pages.

Internal linking: This decides how connect juice is overseen and circulated around a space and can help increment the significance of a sub-page with respect to a specific catchphrase.

Canonization: Methods for staying away from copy content incorporate the fitting utilization of existing accepted labels and additionally doling out pages with a no index quality.

URL structure: This perspective includes checking whether web index cordial URLs are being utilized and whether the current URLs are sensibly identified with each other[5]. URL's length can likewise be taken a gander at as a feature of on page enhancement.

d. DESIGN

Mobile optimization: This implies adjusting a site's work area content with the goal that it very well may be effectively gotten and seen on cell phones like cell phones or tablet PCs.

File sizes: Pictures or designs that are too enormous can radically build the heap time of a page. As a feature of their on-page enhancement, SEOs and visual architects should keep record measures as little as would be prudent.

2. OFF-PAGE OPTIMIZATION

Off page optimization refers to all the measures that can be taken external to the genuine website in order to improve its position in search rankings. These help to generate as many superior back links (incoming links) as possible.

Search Ranking: Rankings in SEO allude to a site's situation of how the resultant page looks like. There are different positioning variables that effect whether a site seems higher on the inquiry term or the nature of back lines highlighting the page.

Backlines: Backlines are significant for Search Engines and clients the same. From a client's point of view[4], back lines give an approach to individuals to discover different wellsprings of data on the equivalent or related themes.

Link Building: It is a way to get different sites to connect to website.

Social Networking: Commonly used networking sites like, Facebook and Twitter can be linked on site. Additionally, make page or connections on these long-range informal communication destinations by utilize site substance and connections. This will assist with visiting more clients on to site and presumably increment the positioning of site.



Fig. 2. On-Off Pages

IV. TECHNIQUES in SEO

SEO can be classified into four main types:

- White Hat
- Black Hat
- Grey Hat
- Negative SEO

White Hat SEO: In website streamlining (SEO) wording, white hat SEO alludes to the utilization of advancement procedures, systems and strategies that emphasis on a human crowd contradicted to web crawlers and totally adheres to web index rules and arrangements.

Black Hat SEO: Black Hat SEO utilizes procedures which conflict with the principles of web crawlers. They misuse shortcoming on the web index calculations to get high positioning in search result. It alludes to a lot of practices that

are utilized to build a website or page's position in web crawlers through implies that damage the web indexes' terms of administration.

Grey hat SEO: Gray Hat SEO is the act of utilizing actually legitimate techniques to improve site rankings, yet which are morally questionable and would one be able to day become Black Hat. Consider it like legitimate highs.

Negative SEO: It is the act which utilizes black or gray hat SEO systems on another person's site by way of hurting others. Hurting rivals prepares for people to climb in query items.

V. GOOGLE SEO TOOLS

GOOGLE PAGESPEED INSIGHTS: Page Speed Insights is an online device which helps in recognizing best practices on some random site, gives recommendations on a site page's improvements and proposes by and large thoughts of how to make a site quicker. This device can be gotten to straightforwardly in any program.

GOOGLE ANALYTICS: This is one of the utmost renowned electronic investigation software developments. Developed by Google, it helps to examine top to bottom insight concerning the guests on site. Google Analytics helps to improve the understanding that can contribute to shape the achievement system of the business.

GOOGLE SEARCH CONSOLE: This is a web administration by Google, which permits to check ordering status and streamline receivability of their sites.

VI. CONCLUSION

At last, the researcher might want to presume that Search Engine Optimization is a significant web advertising procedure that is the essential need of each organization now daily. The advanced site shows up at the better position of the web index result. This exploration paper depends on

surveying the accessible SEO systems, for example On-page and Off-Page procedures to streamline the site to make the site web crawler inviting. These procedures can assist with improving the positioning of a site.



Fig. 3. The Complete SEO Process

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