

A Review Paper on Search Engine Optimization

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Abstract: Due to the presence of a vast number of websites, the Search Engine has a crucial job of providing the relevant pages to the user. Search Engines such as Google, use Page Ranking Algorithm to rank web pages according to the quality of their content and their presence over the world wide web. Search Engine Optimization is a process of increasing the chances of a webpage to appear in the first page of the search result. Since, whenever the consumer searches for information, they provide a particular phrase or a keyword instead of the complete web address, then the search engine use that keyword to find the relevant web pages and show it in a list with the most relevant page at the top. So, an organization could use Search Engine Optimization techniques to reach up to its potential consumer by appearing at the top of the search results. In this paper, we will be classifying and reviewing different technologies for search engine optimization based on their importance and their usage.

Keywords: Seo Techniques, Types of SEO, Page Ranking.

I. INTRODUCTION

The web search tool assumes a significant part in getting data from the web and it gives applicable data or then again result as indicated by the clients. A web crawler comprises of a tracker, indexer, searcher, and client [4]. To get designated data rapidly and a precisely proficient web search tool is required [4]. The web index performs five essential tasks to convey query items. Slithering is the main movement of web search tool, crawler or insect brings all the web pages connected to a site. Ordering is the following movement of the internet searcher. Ordering all got website pages and put away them into a huge information base from where it very well may be recovered later [3]. At the point when we look for something in a web crawler like Google, Yahoo, and so forth it contrasts the inquiry string and the listed page in the information base [5]. After this activity, the web crawler works out the importance of each page as indicated by the hunt string. The last activity of the pursuit.

Motor is recovering the best coordinated. The internet searcher just measures quality and blunder and doesn't notice it straightforwardly [8]. As indicated by work, there are three kinds of web search tools. They are a crawler-based web index, human power indexes, and crossover internet searcher [11]. At the point when we look for data or watchword in the web search tool then, at that point, the web search tool gives the most applicable data as indicated by the watchword in a rundown. We by and large see the top hardly any pages in the web index's outcome. Normally, the web index ascertains page rank to gauge the nature of the page. Numerous site advancement methods are utilized to get a higher position in web index results. Web index improvement (SEO) is an interaction by which a site can get a higher position in regular web index results and increment.



Figure 1: Structure of SE

The quantity of guests [10]. Site design improvement (SEO) is a significant piece of web showcasing. Site designer utilizes SEO to get higher position of a site in web crawler result. A significant benefit of SEO is making our site straightforward with great substance. . Compelling SEO requires fundamentally significant time, appropriate watchword determination, continue following the refreshing of the web index's calculation, and so on Each web crawler has its importance calculation and this calculation gets refreshed as often as possible. The internet searcher positioning will be changed for refreshing the significance calculation. Internet searcher like Google decides webpage's position utilizing quality and greatest bid indicated for the watchword [9]. Site design improvement relies upon certain variables they are grouped into two different ways: on-page SEO and off-page SEO. On-page SEO incorporates great watchword choice, place the catchphrase in the legitimate position, outer connections, watchword thickness, and so on, which are constrained by the actual site. Off-page SEO incorporates external link establishment, interface trade, connect ubiquity, and so forth.

1.1. SEO Techniques

There are various procedures for website improvement like white-cap SEO, dark cap SEO, and dim ca Website design enhancement. White-cap SEO procedure alludes to the technique or methodology which keeps the web crawler's guidelines rules [7]. Search motors don't rebuff sites in the event that we utilize the white-cap SEO procedure for further developing page positions. White-cap SEO.



Figure 2: Various Search Engines

Strategy gives great quality and amount of site. White-cap SEO is valuable for the two clients as well as the hunt motor. Dark cap SEO is the opposite course of white-cap SEO. The Black-cap SEO method doesn't follow web search tool rules and guidelines. Dark cap SEO tempts the web search tool for which an inferior quality site gets a higher position in web crawler results. This strategy is dangerous for web search tool positioning [18]. Which are utilized dark cap SEO they are called spammers. Some dark cap SEO methods are: Keyword stuffing is one of the dark cap SEO strategies. In watchword stuffing, extra watchwords are embedded into web content [1]. Spammers rehash watchword in various HTML label like <title>, <Meta>, <h1>, <alt>, <a> and so on These catchphrases are inconsequential to the site yet well known. For which the web index tracks down it as an important site. Another strategy is imperceptible text. To expand watchword thickness spammers, utilize disconnected catchphrases on the website page. Spammers utilize this sort of catchphrases which are habitually search in the internet searcher however not connected with that site. This kind of watchwords is stowed away from the clients however the web crawler sees this catchphrase [25].

Spammers stow away these watchwords with a similar foundation shade of that website page. A connection ranch is the most famous dark cap SEO strategy. A connection ranch is a gathering of sites that all sites interface. to each and every site in the gathering through hyperlink [23]. Spammers utilize the connection ranch method for expanding join prevalence. Some connection homesteads can be made manually and others are made consequently. In connect trading spammer makes a gathering of sites and every site highlight one another. Interface trade increments interface fame. URL sending is the way by which a site gets a higher position. Along these lines, the spammer diverts the program to the URL when the page is stacked to conceal the spam pages [2]. Spam pages are stowed away from the client yet not the web search tool. Entryway pages are made for spamdexing. These are inferior quality and amount of pages that are useless for the client. The spammer utilizes programming to create countless pages and afterward naturally turns these pages to the home page [17]. Entryway pages comprise of various irrelevant well-known catchphrases to get higher positioning in web crawler results. Spammer use shrouding procedures for confusion. In this procedure one variant of shrouded pages is gotten back to the client another adaptation gets back to the internet searcher crawler. Crawlers view its HTML label field just [14]. Some web crawler analysers utilize a consolidated procedure which is called dim cap SEO. Dim cap SEO procedure is comprising of certain elements of white-cap SEO and dark cap SEO. This is the better method for getting a higher position in search motor

outcomes however it will be not acknowledged by the web crawler. This strategy isn't so much for extensive stretch in internet searcher results [24]. Some dark cap SEO procedures that are utilized by most web search tool enhancers are shrouding, copy content, old area, social media mechanization, and purchasing devotees, and so on.



Figure 2: Types of soe

On-page SEO improves your site such that it can rank better in web crawlers and increment the quantity of guests. On-page SEO relies upon various elements. The variables are catchphrase choice, watchword thickness, watchword in the title tag, catchphrase in the alt tag, watchword in the URL, catchphrase in the anchor tag, active connection, and so on Watchword choice is a significant piece of SEO on the grounds that the client manages the catchphrase. Suitable watchword determination makes a site the best advance in SEO [12]. Catchphrase thickness alludes to the quantity of watchwords present on the site page contrasting with the all-out number of words on the page. The quantity of watchwords present in a website page is a significant component of SEO. For further developing a page watchword thickness ought to be inside 5% to 7% or 7% to 8% [3]. A title tag is the main variable to improve a site. A title tag characterizes the title of the site page. The most internet searcher utilizes the site's title tag as the fundamental element. The watchword should introduce in the title tag. Assuming that a catchphrase is remembered for the title label then the website page will be handily found by the internet searcher's crawler. A title tag contains 50 to 80 characters is more helpful for a web index to observe the page [3]. The meta tag contains the general depiction of the website page. The site will be listed assuming the catchphrase is available in the meta tag. The watchword is remembered for the anchor tag. Pages utilizing join text in view of search watchwords regularly rank higher. On-page Search engine optimization relies upon page size. It is the amount of the record size.

Page size assumes a crucial part in website streamlining inside limits. One fifty (150) kilobytes page size is compelling for SEO [22]. URL addresses the location of the website on the web. The watchword should show up in the URL. If a connected catchphrase present in the URL, the internet searcher effectively observes the site page. The web crawler inclines toward short length URL. The robot.txt tells the web crawler whether or not slither your site and what areas ought not get to. The robot.txt record should exist in the root registry of the webserver and the document name should be robot.txt [7]. The site page contains other site joins which are known as the active connection of a site. This site should be connected to the website page [12]. The greatest active connection increment site positioning.

Off-page SEO utilized for connecting method and it isn't connected with adjustment content [19]. It incorporates backlinks, interface trade, inbound connections, and web-based media promoting. More backlinks further develop connect ubiquity [13]. For which site page or site gets a higher position. It is a significant variable in off-page SEO. Backlinks should be great quality and it additionally comprises of the connected catchphrase. The connection trade is a well known element of off-page SEO. The connection trade implies a trade connection of one site to another as well as the other way around [6].

Interface trade should be possible in various ways. One way is to trade joins with other related sites that have great page rank. Site traffic can be supported by connect trade from clients click on your site interface, as well as they further develop positioning in web index. This interaction is expensive and tedious [6]. Inbound connection alludes to the outer connections that pointing a site. Inbound connections should have better calibre. The greatest number of inbound connections further develop positioning in web index. The quality and number of outside joins are distinguished as the main consideration to advance a site in the highest-level rundown [2]. Informal communication is the main element today. For, we set long range informal communication sites on our site [20].

II. PAGE RANKING

Google keeps up with undeniably more data about web records than ordinary web indexes. Each hitlist incorporates position, textual style, and capitalization data. Also, we ponder hits from anchor text and subsequently the PageRank of the

report. Joining all of this data into a position is troublesome. We planned our positioning capacity all together that no specific element can have an inordinate measure of impact. In the first place, consider the as it were case - - single word question. To rank a report with single word question, Google sees that archive's rundown for that word. Google believes each hit to be one of a few contrasting sorts (title, anchor, URL, plain text huge textual style, plain text little textual style, ...), every one of which has its own type weight. The sort load's structure a vector listed by type. Google counts how much hits of each kind inside the rundown. Then, at that point, each count is changed over into a count-weight. Count-loads increment directly with counts at first however as soon as possible tighten all together that a seriously specific count won't help. We take the scalar result of the vector of count-loads with the vector of type-loads to process an IR score for the archive. At last, the IR score is joined with PageRank to offer a last position to the report.

For a multi-word search, things is more muddled. Presently various hit records should be looked over straightforwardly all together that hits happening inexact during a report are weighted above hits happening far separated. The hits from the numerous hit records are matched up all together that close by hits are matched together. For each paired arrangement of hits, a closeness is figured. The closeness is predicated on how far separated the hits are inside the report (or anchor) however is evaluated into 10 different worth "receptacles" going from a express match to "off by a long shot". Counts are figured not only for each kind of hit aside from each sort and nearness. Each type and nearness pair has a sort proxweight. The counts are changed over into count-loads and that we take the scalar result of the count-loads and along these lines the sort prox-loads to register an IR score. All of those numbers and networks can be in every way shown with the list items utilizing a unique troubleshoot mode. These shows are extremely useful in fostering the positioning framework.

III. CONCLUSION

Website streamlining depends on mostly three methodologies White, dark, and dim cap SEO. The benefit of white-cap SEO is the life span of a page positioning concerning internet searcher results. The dark cap SEO has the benefit of fast positioning. The dark cap method isn't suggested by the engineers as it has an unfriendly impact over the long haul of a page. We observe dim cap SEO is a fascinating way to deal with get a decent position of a specific page. We attempted to sum up the idea and analyse the vast majority of the kinds, procedures utilized via web crawlers now a day. This work will give an applicable idea about SEO succinctly to the engineers and specialists for future work. New factors can be presented by the engineers and the investigators to improve output to advance their sites.

REFERENCES

- [1] JOHN B. KILLORAN "Tutorial How to Use Search Engine Optimization Techniques to Increase Website Visibility" IEEE Transactions On Professional Communication, Vol. 56, No. 1, March 2013
- [2] Patil Swati P, Pawar B.V. and Patil Ajay S. "Search Engine Optimization: A Study" Research Journal of Computer and Information Technology Sciences Vol. 1(1), 10-13, February (2013)
- [3] Nursel Yalçın Yalç "What is search engine optimization: SEO?" Procedia Social and Behavioral Sciences 9(2010) 487-493
- [4] Meng Cui, Songyun Hu "Search engine optimization research for website promotion" 2011 International Conference of Information Technology, Computer Engineering and Management Sciences
- [5] Dr. Khanna SamratVivekan and Omprakash "Concept Of Search Engine Optimization In Web Search Engine" International Journal of Advanced Engineering Research and Studies EISSN2249-8974
- [6] Muhammad Akram, Imran Sohail, Sikandar Hayat, M. Imran Shafi, and Umer Saeed "Search Engine Optimization Techniques Practiced in Organizations: A Study of Four Organizations" Journal Of Computing, Volume 2, Issue 6, June 2010, ISSN 2151-9617
- [7] Edgar Damian Ochoa "An Analysis Of The Application Of Selected Search Engine Optimization (Seo) Techniques And Their Effectiveness On Google'ssearch Ranking Algorithm" A thesis submitted in partial fulfillment of the requirements For the degree of Master of Science In Computer Science
- [8] Ron Berman and Zsolt Katona "The Role of Search Engine Optimization in Search Marketing"
- [9] Michael R. Baye, Babur De los Santos, Matthijs R. Wildenbeest "Search Engine Optimization: What Drives Organic Traffic to Retail Sites?*"

- [10] Moreno, Lourdes “Overlapping factors in search engine optimization and web accessibility” Universidad Carlos III de Madrid Repositorio institucional e-Archivo Online Information Review 37 (2013) 4, pp. 564-580
- [11] Harsha Sharma “Viability of Search Engine Optimization (SEO) Techniques” International Journal of Advanced Research in Computer and Communication Engineering Vol. 5, Issue 1, January 2016 ISSN (Online) 2278-1021 ISSN (Print) 2319 5940
- [12] Michael David, Cristie Cassar and Itwik Joshi “Search Engine Optimization in 2013” Internetrix Research Level 4, 85 Smith Street, Wollongong NSW, 2500
- [13] Adithya Sangaraju “Google Algorithms” International Journal of Recent Research in Mathematics Computer Science and Information Technology Vol. 2, Issue 1, pp: (122-126), Month: April 2015 – September 2015, ISSN 2350-1022
- [14] Sakshi, Saurabh Charaya ”Comparative Analysis of Google Panda and Penguin SEO algorithms on Blogs” International Journal of Innovative Research in Science, Engineering and Technology Vol. 5, Issue 5, May 2016 ISSN(Online) : 2319-8753 ISSN (Print): 2347-6710[15] <https://www.Searchengineland.com>