



Research Paper

CONCEPT OF SEARCH ENGINE OPTIMIZATION IN WEB SEARCH ENGINE

Dr. Khanna SamratVivekanand Omprakash

Address for Correspondence

Information Technology Dept, ISTAR, Sardar Patel University, VVNagar, India

ABSTRACT

This paper represents how an optimization problem consists of maximizing or minimizing a real function by systematically choosing input values from within an allowed set and computing the value of the function can be solved. A program that searches documents for specified keywords and returns a list of the documents where the keywords were found. It uses a proprietary algorithm to create its indices such that, ideally, only meaningful results are returned for each query. A program that automatically fetches Web pages. They are used to feed pages to search engines. It crawls over the web and starts with a list of URLs to visit, called the seeds. As the crawler visits these URLs, it identifies all the hyperlinks in the page and adds them to the list of URLs to visit, called the crawl frontier. URLs from the frontier are recursively visited according to a set of policies. The large volume implies that the crawler can only download a fraction of the Web pages within a given time, so it needs to prioritize its downloads. The high rate of change implies that the pages might have already been updated or even deleted. The information may consist of web pages, images, information and other types of files. Some search engines also mine data available in databases or open directories. Whenever you enter a query in a search engine and hit 'enter' you get a list of web results that contain that query term. Users normally tend to visit websites that are at the top of this list as they perceive those to be more relevant to the query. SEO is a technique which helps search engines find and rank your site higher than the millions of other sites in response to a search query. SEO thus helps you get traffic from search engines. Although the basic principle of operation of all search engines is the same, the minor differences between them lead to major changes in results relevancy. Choosing the right keywords to optimize for is thus the first and most crucial step to a successful SEO campaign. In the context of search engine optimization keyword density can be used as a factor in determining whether a web page is relevant to a specified keyword or keyword phrase.

KEY WORDS SEO, Crawling, Web Crawler, Key Density, Links

I. INTRODUCTION

In mathematics, computational science, or management science, mathematical optimization (alternatively, optimization or mathematical programming) refers to the selection of a best element from some set of available alternatives is referred as optimization. Search engine is really a general class of programs, the term is often used to specifically describe systems like Google, Alta Vista and Excite that enable users to search for documents on the World Wide Web and USENET newsgroups. A worldwide bulletin board system that can be accessed through the Internet or through many online services. The USENET contains more than 14,000 forums, called newsgroups, that cover every imaginable interest group. It is used daily by millions of people around the world. An online discussion group. Online services and bulletin board services (BBS's) provide a variety of forums, in which participants with common interests can exchange open messages. Forums are sometimes called newsgroups (in the Internet world) or conferences. A search engine works by sending out a spider to fetch as many documents as possible. A program that automatically fetches Web pages. Spiders are used to feed pages to search engines. It's called a spider because it crawls over the Web. Another term for these programs is webcrawler. A Web crawler is one type of bot, or software agent. In general, it starts with a list of URLs to visit, called the seeds. Web crawlers are mainly used to create a copy of all the visited pages for later processing by a search engine that will index the downloaded pages to provide fast searches. crawlers

can be used to gather specific types of information from Web pages, such as harvesting e-mail addresses. It is a computer program that browses the World Wide Web in a methodical, automated manner or in an orderly fashion. A web search engine is designed to search for information on the World Wide Web and FTP servers. The search results are generally presented in a list of results often referred to as SERPS, or "search engine results pages". FOAF (an acronym of Friend of a friend) is a machine-readable ontology describing persons, their activities and their relations to other people and objects.

II. OBJECTIVE

With the help **SEO tool on Web Search Engine** we can find

- Track Ranking
- Track Page Rank
- Estimate Traffic
- Directory Submission
- Use G Analytics
- Main Referrers

Promoting Your Site to Increase Traffic

- Submitting Your Site to Search
- Directories, forums and special sites
- Specialized Search Engines
- Paid Ads and Submissions

Anyone can use FOAF to describe him or herself. FOAF allows groups of people to describe social networks without the need for a centralized database.



Figure represents different objectives of SEO tool on Web Search Engine

III. DESIGN & EXPLANATION

Search engines perform several activities in order to deliver search results – crawling, indexing, processing, calculating relevancy, retrieving.

Crawling

First, search engines crawl the Web to see what is there. This task is performed by a piece of software, called a crawler or a spider (or Googlebot, as is the case with Google).

Spiders follow links from one page to another and index everything they find on their way. Having in mind the number of pages on the Web (over 20 billion), it is impossible for a spider to visit a site daily just to see if a new page has appeared or if an existing page has been modified, sometimes crawlers may not end up visiting your site for a month or two.

What you can do is to check what a crawler sees from your site.

Crawlers are not humans and they do not see images, Flash movies, JavaScript, frames, password-protected pages and directories, so if you have tons of these on your site, you'd better run the Spider Simulator below to see if these goodies are viewable by the spider. If they are not viewable, they will not be spidered, not indexed, not processed, etc. - in a word they will be non-existent for search engines.

Indexing

After a page is crawled, the next step is to index its content. The indexed page is stored in a giant database, from where it can later be retrieved. Essentially, the process of indexing is identifying the words and expressions that best describe the page and assigning the page to particular keywords. For a human it will not be possible to process such amounts of information but generally search engines deal just fine with this task. Sometimes they might not get the meaning of a page right but if you help them by optimizing it, it will be easier for them to classify your pages correctly and for you – to get higher rankings

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. Since it is likely that more than one page (practically it is millions of pages) contains the search string, the search engine starts calculating the relevancy of each of the pages in its index with the search string. There are various algorithms to calculate relevancy. Each of these algorithms has different **relative weights** for common factors like **keyword density, links, or metatags**

Retrieving

The last step in search engines' activity is retrieving the results. Basically, it is nothing more than simply displaying them in the browser – i.e. the endless pages of search results that are sorted from the most relevant to the least relevant sites.

IV. SOLUTION

Factors which depends for SEO

Keywords, Links Metatags, Visual Extras, Domains, URLs, Web Mastery

Keywords

Keyword density is the percentage of times a keyword or phrase appears on a web page compared to the total number of words on the page. In the context of search engine optimization keyword density can be used as a factor in determining whether a web page is relevant to a specified keyword or keyword phrase. In the early days of search engines, keyword density was an important factor in how a page was ranked. However, as webmasters discovered this and the implementation of optimum keyword density became widespread, it became a minor factor in the rankings. Search engines began giving priority to other factors that are beyond the direct control of webmasters.

Choosing the Right Keywords to Optimize For Keyword Density

Keywords in Special Places

- Keywords in URLs and File Names
- Keywords in Page Titles
- Keywords in Headings

(Required some knowledge of HTML Coding)

Today, the overuse of keywords, a practice called keyword stuffing, will because a web page to be penalized.

Links

Always add a trailing slash to subfolder references. If you link like this:

href="http://www.sonukhanna.com/html", you will generate two requests to the server, the server will first add a slash to the address, and then create a new request like this: href="http://www.sonukhanna.com/html/"

Tip: Named anchors are often used to create "table of contents" at the beginning of a large document. Each chapter within the document is given a named anchor, and links to each of these anchors are put at the top of the document

V. CONCLUSION

You can access the data that is being collected by tool using XML. You can embed in your application by using XML API. Track your ranking on different web search engine can be done. One of the key factors of ranking algorithm is Page Rank. Estimate the potential traffic and the value you can get from ranking from the organic search. Data can be imported from organic ranking to see actual traffic. It gathers the list of site's main referring links. Submission of sites to a multiple web directories. Another the key indication used by search engines to determine what a web is all about to analyze the keyword density. Find relevant blocks for your site and automates the communication. Depending upon on number of Index pages on search engine your site appears into the search results, Promotion of your site can be done. Track Activity like Track mention, shares and comments can be done on your site using facebook .Shows number of blank links to your site. This indication is useful & valuable in determining your page rank. Usually an bidding type of setting Called Pay per click can be introduced on your site because you don't pay until somebody clicks on your ad. The process of gaining search engine rankings by paid listings

VI. ACKNOWLEDGEMENT

Authors acknowledge the financial support by Institute Of Science & Technology for Advanced Studies & Research (ISTAR) V.V.Nagar for this work. I would like to thank Dr.Vipul Desai for his support.

VII. REFERENCES

- Ben Forta,Dyan Bromby, Rohan Mandel, Paul Fonte, Keith Lauver &Robert Juncker., "Wap Development with WML and WMLScript," PUBLISHED BY SAMS; BK&CD-ROM EDITION., ISBN NO 81-7635-480, 0-5,SEPTEMBER 2000
- D. Eastlake, "Secure Domain Name System Dynamic Update", "Request For Comments No. 2137", 04/21/1997.
- Gargano, K. Weiss, "Whois and Network
- Information Lookup Service Whois+", "Request For Comments No. 1834", 08/16/1995.
- Gerry O'Brien , "Microsoft IIS 5 Administration," PUBLISHED BY C.G.JAIN FOR TECHMEDIA., ISBN NO 81-7635-480-5,January 2000
- IESG, "IPv6 Address Allocation Management", 12/26/1995," "RequestFor Comments No. 1881" International Journal of Advanced Engineering Technology E-ISSN 0976-3945 IJAET/Vol.II/ Issue IV/October-December, 2011
- J. Postel, J. Reynolds, "Domain requirements", "Request For Comments No. 0920", 10/01/1984
- J. Veizades, E. Guttman, C. Perkins, S. Kaplan, "Service Location Protocol", "Request For Comments No. 2165", 06/20/1997.
- Khanna Samratvivekanand Omprakash: Mobile computing With Scripting Language, Proceeding of The 2008 International Conference on Wireless Network ICWN2008, Las Vegas Nevada, USA, CSREA PRESS, WORLCOMP'08,ISBN NO :1-60132-091-4
- Noel Jerke And Michael Hatmaker. "Vbscript Interactive Course". Published by Techmedia, ISBN NO 81-87105-55, January 1997.
- Scott Hawkins, "Apache Web Server Administration & E-commerce Handbook," PUBLISHED EDITION WESLEY LONGMAN (SINGAPORE) PTE LTD., ISBN NO 81-7808-278-0, January 2001