Search Engine Optimization

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Abstract- *Search engine optimisation is at the major face of search strategies employed by various search engines and in the current scenario of the developments based on the same, it's the functioning of this optimisation which keeps the results pertinent to what's searched for and which provides for faster computation of results in the browser. And it's the same along the lines of which this project has been devised.*

Keywords*- Engine, Web, Organic, Editorial, result, natural, Top, Organization, Google, page, rank, Indian, website, Internet, products, traffic, original, content, SEO, tools, user, channel, client, economic, algorithm, Adobe, social, media, Bing, Yahoo, commercial, Introduction, people, software, hardware, cost, original, scientific, question, solution, product head, laptop, device, page, online, HTML, Project, data, title, guide, Twitter, Facebook, science, medicine*

I. INTRODUCTION

SEO stands for "search engine optimization." It is the process of getting traffic from the "free," "organic," "editorial" or "natural" search results on search engines.

Search engine optimization (SEO) is the process of affecting the visibility of a website or a web page in a web search engine's unpaid result. It is the process of getting traffic from the "free," "organic," "editorial" or "natural" search results on search engines. Search engine optimization is a strategic technique to take a web document in top search results of a search engine. Online presence of an organization is not only an easy way to reach among the target users but it may be profitable too if optimization is done keeping in view of the target users as of the reason that most of the time users search out with the keywords of their use rather than searching the organization name, and if the page link comes in the top positions then the page turns out to be profitable. This work describes the tweaks of taking the page on top position in Google by increasing the Page rank which may result in the improved visibility and profitable deal for an organization. Google is most user-friendly search engine proved for the Indian users, which gives user-oriented results. In addition, most of other search engines use Google search patterns; so, we have concentrated on it. So, if a page is optimized in Google it is optimized for most of the search engines.

II. NEED FOR AN SEO

The majority of web traffic is driven by the major commercial search engines, Google, Bing, and Yahoo!. Although social media and other types of traffic can generate visits to your website, search engines are the primary method of navigation for most Internet users. This is true whether your site provides content, services, products, information, or just about anything else.

Search engines are unique in that they provide targeted traffic—people looking for what you offer. Search engines are the roadways that make this happen. If search engines cannot find your site, or add your content to their databases, you miss out on incredible opportunities to drive traffic to your site.

Search queries—the words that users type into the search box—carry extraordinary value. Experience has shown that search engine traffic can make (or break) an organization's success. Targeted traffic to a website can provide publicity, revenue, and exposure like no other channel of marketing. Investing in SEO can have an exceptional rate of return compared to other types of marketing and promotion.

A websites SEO result is based upon relevance and authority. To construct this relevance original content needs to be created in an ongoing capacity to enable the development of communities who seek and share the content with others. The more relevant and authentic content a website has, the better search engines will rank it for specific matching keywords. Implementing strong SEO tools will radically enhance the quality and quantity of traffic to a website. It will additionally boost a business's visibility and credibility on the web. SEO is tedious and time consuming and it is continually changing. Web Analytic tools gather data for the intention of understanding and optimizing website usage. Analysts utilize this data to supply clients with the right information about their website to improve their business.

If we are able to screen only the needed results and reduce the time during the search, instead of scouring through the whole of the web, it would save a lot of time, space and also prove to be efficient esp. when the case is scientific evidencing.

This is the major need and use of SEO as it's purported to be so.

A further and deeper dive in into the topic per se is followed below.

III. WORKING STRATEGY

Users use search engines for most of their queries but they only prefer the results available on first page and 2-3% of users go on further pages (except Researchers). Now imagine if the page of an organization is on 2-3 or 4 page then the business which can be generated from that page has a very less change to return and user will prefer the page coming on the 1 page. Trillions of web pages are indexed per day in a search engine There are millions of searches per day Most of the visitor's visit the website by hitting the links available in search engines and believe that companies found on the top results are the best brand in their product service and category. These changes make it very clear that if an organization wants to go on top in their sales then they should concentrate in getting their page widely available in the search engines. And so SEO a must. For example, if someone wants to we cab services and is unknown to the place where he is now, normal if he she is a techie searches for cab services with the name of city and hit the top 10 Inks and use one of these Getting a very good response in very short span of time in this particular case is very necessary for the customer and to be on top results of a search engine is necessary for a website so that the customer can easily access it and ultimately let it make profits.

3.1 Domain Analysis

A. Technical Analysis

Technical Feasibility assesses the current resources and technology, which are required to accomplish the goals within the allocated time and for this, the team as certain criteria whether the current resources and technology can be upgraded or added to accomplish species requirements.

Technical feasibility of the product has been studied under following heads:

3.1.1 Hardware availability - This project requires a device with internet connection. (Here we will be using laptops for testing purpose)
3.1.2 Platform Independence - This project will be platform Independent since its website can be accessed with the help of internet on any platform.
3.1.3 User friendly - As the website's interface will be built on wordpress which has riche midface took and is SEO, Google

analytics which is a free service provided by the Google will be used this system will definitely be user friendly As hardware availability and user friendly nature of this project is possible to achieve this system is technically feasible.

3.2 Economic Feasibility

This project requires a domain name and web hosting for constructing the website and further deploying

3.2.1 Hardware cost-There is o hardware cost associated with this. However, a domain ma and web hosting is needed to host the website. So, it will result into some minimal charges.
3.2.2 Software cost - Software needed for development of this website are open source software Le. wordpress Hence, there is a cost associated with them As hardware cost are very low and as software are freely available, this system is economic feasible.

3.2 Operational Feasibility

Operational feasibility is a measure of how well a proposed system solves the problems. We know SEO where a website willing and after SEO how much its usability will increase Thus the system is operational feasible.

In today's competitive market SEO is more important than ever. Search engines serve millions of users per day looking for answers to their questions or for solutions to their problems. If there is a web site, blog or online store, SEO can help the business grow and meet the business objectives. Search engine optimization is essential because: The majority of search engines users are more likely to choose one of the top 5 suggestions in the results page so to take advantage of this and gain visitors to your website or customers to your online store you need to rank as higher as possible; SEO is not only about search engines but good SEO practices improve the user experience and usability of a web site; Users trust search engines and having a presence in the top positions for the keywords the user is searching increases the web site's trust. In this process the website undergoes redevelopment to make our keywords effectively communicate with major search engines. This work is done by SEO (Search engine optimizers), it targets image search, academic search, local search, video search. Optimizing a page involves editing contents & HTML codes in order to increase its relevance to specific keywords and proper indexing in search engines. The contents and coding are edited keeping in view of the indexing pattern of the search engines which are done by a crawler named Googlebot in Google. It is the most powerful way to reach to reach the customer as we meet them when they are in

need. Most of the users find the target websites during their search.

A websites SEO result is based upon relevance and authority. To construct this relevance original content needs to be created in an ongoing capacity to enable the development of communities who seek and shar e the content with others. The more relevant and authentic content a website has, the better search engines will rank it for specific matching keywords. Implementing strong SEO tools will radically enhance the quality and quantity of traffic to a website. It will additionally boost a business's visibility and credibility on the web. SEO is tedious and time consuming and it is continually changing. Web Analytic tools gather data for the intention of understanding and optimizing website usage. Analysts utilize this data to supply clients with the right information about their website to improve their business.

3.3 TRIVIA ABOUT GOOGLE ANALYTICS

Google Analytics is among the top three took in web analytics: the other two being: Adobe (Omniture) SiteCatalyst and IBM Digital Analytics. It allows us to observe the comparison between the took price, features and rating Users don't require ore tool for analytics, a different for keyword optimization and a further for pay-per-click (PPC) management. ahead of the extra manual activities they perform These top web optimization tools allow for a complete analysis. The most complete SEO software provides: Tips and customized intelligence for optimizing the website for higher search rankings Keyword mining to help find the best keywords Search engine submissions Linking optimization solutions Paid search management (Google Adwords) Visitor analysis Site maintenance tools to diagnose broken links, unresponsive pages and other issues Comprehensive, detailed and customizable reporting Users wish to identify measurable results, with increased leads and improved asks. Intended for the top SEO tools reviewed in the table, the criterion is based on the average SEO features, and essentials that make each one stands out from the others. The functionality of the help and support for each tool. is furthermore assessed.

Order of the process is more or less the following:

1. Keyword identification
2. Situation analysis
3. Competitor analysis
4. Recommendation report
5. Implement recommendations

6. Evaluate impact and this process continues in a cycle manner to ensure that the website maintains and/or improves its position.

3.4 Methodology

• If we are able to screen only the needed results and reduce the time during the search, instead of scouring through the whole of the web, it would save a lot of time, space and also prove to be efficient esp. when the case is scientific evidencing.

• Thus, the method being proposed is a small-scale minor implementation by taking inputs from an excel sheet and also storing them in another one. A database for the details that have been derived and a list for ignoring the unnecessary words and phrases.

3.5 Algorithm explanation

• First, the execution is initiated and the code is run.
• The specified links in the input excel sheet are foraged and the words in the ignore list are ignored
• The results are decided based on the frequency of the words.
• Ultimately the results are store in the output excel sheet and represented on a graph if necessary. And all other inferences are made from there.

IV. DRAWBACKS OF EXISTING SYSTEM

Google Trends

• Google trends- One of the biggest issues with Google Trends is that there is a minimum traffic requirement to be featured on the web site. If your site doesn't have a high enough rate of traffic, Google Trends for web sites is fairly useless.

• It takes a lot of time for SEO to show results
• Long wait to get ROI
• To be competitive, it requires a lot of investment
• There's no assurance that it will work for sure
• Left at the mercy of an algorithm

• No Transparency on how the calculation happens at the back end and the numbers are arrived in Google Trends.

• Data is aggregated so therefore does not provide detail on the actual volume of search activity online

- Some of the industry segmentation could be improved to provider great insight on specific markets

- Mainly just offers one service

- Data measured against an index - not a real number

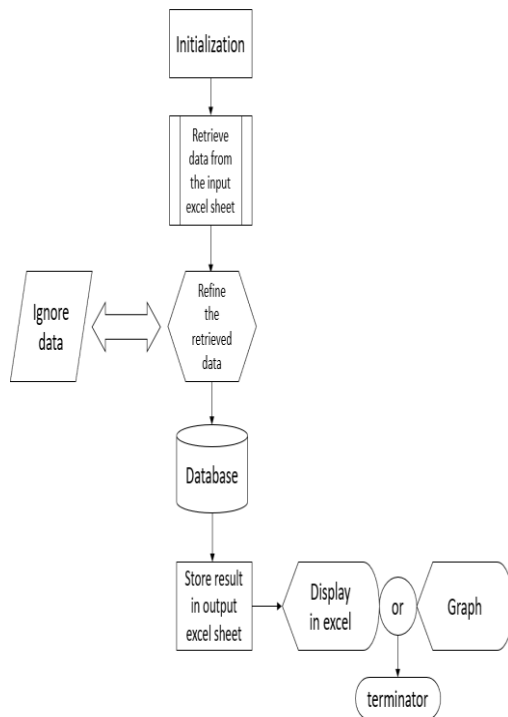- News articles only given some of the time

Fig1.Correlation flow figure

IV. IMPACT OF SOCIAL MEDIA

How does Social Media impact SEO results?

Social media activities make a significant impact on SEO rankings. A websites SEO result is based upon relevance and authority. To construct this relevance original content needs to be created in an ongoing capacity to enable the development of communities who seek and share the content with others. The more relevant and authentic content a website has, the better search engines will rank it for specific matching keywords. Adding social media sharing buttons to a website is an easy method to enhance the likelihood of users sharing great content. Whenever the content is shared, it gains another inbound link to your website. This is great for SEO and furthermore increases the chance of bringing products/services to the attention of new users. The release of Google+ and 'Search Plus Your World' has caused social messaging to encompass an increasingly large impact on a user's search results. Google collects all social data (tweets, comments,

likes, +'s), and consequently they observe the current trends of what people want – thereby presenting relevant search results.

For a business to keep their website on top with these new realities, we suggest creating a Google+ profile. "Considering that the new Google 'Search Plus Your World' does not include Twitter or Facebook, it looks like if you want to be considered by Google, you'll have to set one up – and start being included in some influential circles while you're at it" (Kandola, 2012).

The impact of social media on SEO is only going to increase. Attaining the top spots in the search engine results page, recognition, support and the backing of others is required.

Page load time []

Page load time can be defined as a number of seconds the page needs to load all its elements in a browser. The influence of page load time on search engine ranking is not as great as other elements, but is significant. Google PageRank algorithm also considers page load time in its calculations. On the other hand, slow page load time (some say over two seconds) creates difficulties for users to effectively browse a website.

V. SYSTEM REQUIREMENTS ANALYSIS

5.1 Platform specification

This project will be platform independent since its website can be accessed with the help of internet on any platform Bu to deliver high levels of reliability availability and serviceability the configuration needed is as follows:

Hardware Specification: Any device with internet connectivity is required.

Software Specification: The above-mentioned device must contain a well updated web browser to run the website and implement the SEO techniques and software.

5.2 Functional requirements

Project shall have a website on travel blog which appears among the top searches of a search engine whenever a person searches something related to this stuff

1.   Website shall live only original content from the authenticated users and reviewers

2.   The website once deployed shall maintain its ranking in the SERP with the help of SEO techniques.

3.   Website shall have its content as per the Google algorithms so that web crawlers can display this website on the necessary searches.

5.3 Business end requirements

1. Website should recover its ranking in case of any failure.
2. Website shall have an option of including new techniques so as to maintain its ranking

5.4 Non-functional requirements

This section specifies the required system quality factors that are not related to the specific functional requirements. These requirements are always required to be fulfilled.

5.5 Safety and Security: The admin will keep a check on the original content being posted by the reviewers and also has to ensure that this does not get copied. There will a method to conform to the copywriting issues of the content

5.6 Performance: This subsection checks the fact that our interface must perform in a way user expects. It is also associated with the speed with which the system shall function.

5.7 Reliability: The target audience must rely on the miter displayed on the site as the content won't be plagiarized and will the reviewer will rely on the website so as not to disclose their identity on any other platform without the its consent.

5.8 Reusability: Since the content posted on the website is original in nature: each time anybody Visit the site would get the idea about the particular experience. Hence the content never gets outdated. Also, in case of any changes to the fact mentioned in the post the admin will make sure to have as title a difference in the description and reality as possible.

VI. RISK ANALYSIS

An engineering project is expected to produce a reusable product, within a limited time using limited resources. Any project however runs the risk of not producing the desired project overspending is allotted resource budget or overrunning its allotted time.

Although there has been considerable debate about the proper definition for the software risk there is general agreement that risk always has two characteristics:

1. Uncertainty: The event that characterises the risk may or not happen i.e. there is no 100% guarantee that risk will occur. And in our project, we may suffer from the risk of not getting the top ranking in the SERP some technique goes wrong
i.e. we might end up landing on the last search pages if the content or the technique is not right

2. Loss: If the risk becomes a reality, unwanted consequence or losses will occur i.e. we might not get the top listing

VII. RESULT AND METRICS

With the help of keyword mining while the optimisation takes place with a separate list for the words or characters to be ignored, the result is that follows.

Libraries incorporated:

- BeautifulSoup
- Matplotlib
- Pandas
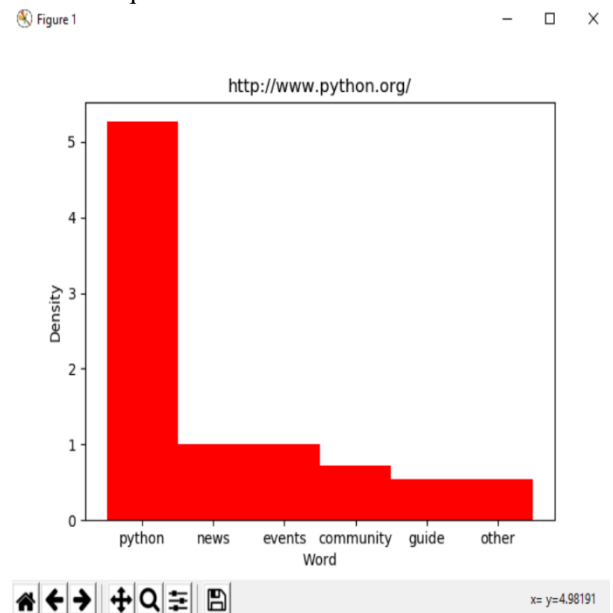- Database used:
- Sqlite3

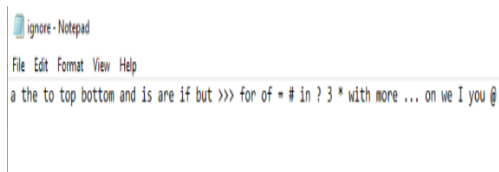Fig 2. View of the final implementation
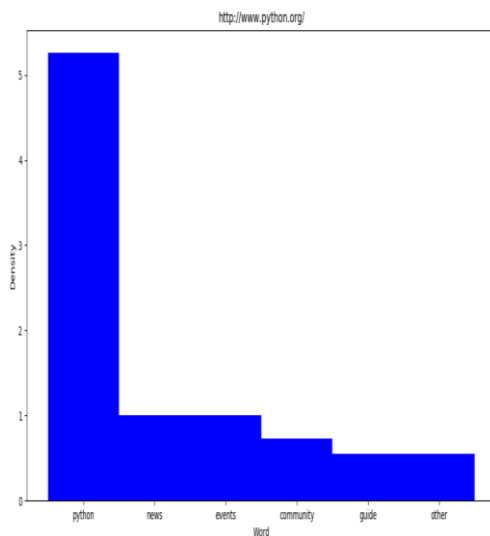
Fig 3. Ignore list of words

Fig.4 Output (Graphical representation of density)

VII. CONCLUSION AND FUTURE WORK

• The result is an efficient and hassle-free implementation of the optimization and the representation of the same.

• The frequency of the words that are occurring is depicted on the graph and the results appearing first can be inferred from the graph while the result is also stored in the output excel sheet. And this can be used for domain specific searches and probes to be carried out in various fields like science, medicine and lots of others too.

As a future work, we would like to develop a mechanism such that a site gets added when the user searches for something aberrant to what generally is searched for and the user can easily ward off unnecessary words and sites more efficiently. And also make a rough depiction of how it ultimately turns out to be with the help of a manually-fed search engine which takes input from the user regarding the sites to scour through and the results to display mainly to make coherent inferences.

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