A Survey Report on Search Engine Optimization and Network Security

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ABSTRACT: Search engine optimization is a strategically technique to take a web document in top search results of a search engine Online presence of an organisation 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 reasonthat most of the time users search out withthe keywords of their use rather th an searching the organisation name, and if the page link coms in the top positions then the page may be profitable.

Security incidents are rising at an alarming rate every year. As the complexity of the threats increases, so do the security measures required to protect networks. Network security has become more important to personal computer users, organizations, and the military. With the advent of the internet, security became a major concern and the history of security allows a better understanding of the emergence of security technology. Data centre operators, network administrators, and other data centre professionals Need to comprehend the basics of security in order to safely deploy and manage networks today. The fundamentals of secure networking systems, including firewalls, network topology and secure protocols. One of the important tools used in seo is data clustering.

KEYWORDS: SEO, Network Security

I. INTRODUCTION

Networks can interconnect with other networks and contain sub networks. The most common topology or general configurations of networks include the bus, star, token ring, and mesh topologies. Networks can also be characterized in terms of spatial distance as local area networks (LANs) , metropolitan area networks (MANs), and wide area networks (WANs). A given network can also be characterized by the type of data transmission technology in use on it (for example, a TCP/IP or Systems Network Architecture network); by whether it carries voice, data, or both kinds of signals; by who can use the network (public or private); by the usual nature of its connections (dial-up or switched, dedicated or non-switched, or virtual connections); and by the types of physical links (for example, optical fiber, coaxial cable, and Unshielded Twisted Pair). Large telephone networks and networks using their infrastructure (such as the Internet) have sharing and exchange arrangements with other companies so that larger networks are created.

SEO is the process of affecting the visibility of a website or a web page in a web search engine's unpaid results — often referred to as "natural," "organic," or "earned" results. In general, the earlier or higher ranked on the search results page and more frequently a site appears in the search results list, the more visitors it will receive from the search engine's users, and these visitors can be converted into customers. A san Internet marketing strategy, SEO considers how search engines work, what people search for, the actual search.

The working of search engine involves 'spider' which would "crawl" that page, extract inks to other pages from it, and return information found on the page to be indexed. The process involves a search engine spider downloading a page and storing it on the search engine's own server, where a second program known as an indexer, extracts various information about the page, such as the words it contains and where these are located, as well as any weight for specific words, and all links the page contains, which are then placed into a scheduler for crawling at a later date. It was often seen in earlier days that Page ranking were easily manipulated by web master because of shortcoming in search engines algorithm.

II. SURVEY

People are truly the weakest link in any security schema. Most people are not careful about keeping secrets such as passwords and access codes that form the basis for most secure systems. All security systems rely on a set of measures employed to control access, verify identity and protect disclosure of sensitive information. These measures usually involve one or more "secrets". Should a secret be revealed or stolen then the systems that are protected b these secrets can be compromised.

[1] Miss. GayatriVivekraoKpase and Dr. V.M.Thakreworked on Search Engine Optimization with Efficient Page Ranking Algorithm

Where they have explored how SEO techniques increase website visibility. For that Web mining technique is used which classify the web pages and internet users by taking into consideration the contents of the page and behaviour of internet user Web mining helps the internet user about the web pages to be viewed in future. Web mining is made of three branches i.e. web content mining, web structure miningand web usage mining. WCM is responsible for exploring the proper and relevant information from the contents of web Data security is the aspect of is intercepted, a key is needed to decode them message. This method of security is effective to a certain degree. Strong cryptography in the past can be easily broken today. Cryptographic methods have to continue to advance when transferring cipher text over a network, it is helpful to have a secure network. This will allow for the cipher text to be protected, so that it is less likely for many people to even attempt to break the code. A secure network will also prevent someone from inserting unauthorized messages into the network.

VIRUSES

Viruses are self replication programs that use files to infect and propagate. Once a file is opened, the virus will activate within the system.

[2] MKarthikeyan, K Sangeetha have explored the different modern technique that are being used by web masters for better results and they have also covered the influence of SEO on Internet Banking. They have taken up two specific cases one of online SIM and another of Insurance company and they succeeded in creating a much better rank over their period of study. They worked mainly on three propositions. Therefore the traffic amounts that were measured using Google Analytics were compared with those in Clicky. The results showed corresponding trends in both web analytic tools, which means that it is safe to draw conclusions based on those figures.

[3] Punit R Patel has used datamining techniques for better Search Engine Optimisation in Googles Page Rank the Page Ranking algorithms which are an application of web mining play a vital role to easier navigation for users. In this literature review we have discussed about Web Mining and itscategorization, beside this we have explained page rank algorithm and how it employ with different concept such as number of users that visit the web pages.

WORMS

A worm is similar to a virus because they both are self- replicating, but the worm does not require a file to allow it topropagate.
There are two main types of worms, mass mailing worms and network aware worms.
Mass mailing worms
Use email as a means to infect other computers.
Network aware worms
Network aware worms are a major problem for them Internet.
A network aware worm selects a target and once then worm accesses the target host.

[4] PriyaVaijayanthi, Xin-She Yang, Natarajan A M and RajaMurugadoss have made an attempt to use Cuckoo Search Optimization (CSO) algorithm to solve the problem of clustering.
The CSOalgorithm isexperimented with standard benchmark dataset, Classic4dataset. The quality of solutions generated by CSOalgorithm in terms of DB Index was compared with K-means algorithm and Ant Colony Optimization (ACO)algorithm. The results reveal that CSO algorithm is available to achieve world class solutions to

high dimensionaldata clustering. Nature inspired Meta heuristic approachesare proved to be dominant techniques to attackcombinatorial optimization problems in generating nearoptimal solutions.

TROJAN

Trojans appear to be benign programs to the user, but will
Actually have some malicious purpose. Trojans usually carry some payload such as a virus.
[5] Ashish Kumar Kushwaha1, Nitin Chopde have discussed in Hybrid Approach for Optimizing the Search Engine Result have proposed a hybrid model which is the hybrid of Query Recommendation and document clustering, genetic algorithm, model consists of Query Recommendation system in paper learning from historical query logs . This proposed system calculate user's information requirements in a better way by performing query clustering to find the similarities between the two queries, which is based on user query keywords and clicked URLs. After that Generalized Sequential Patterns algorithm is used to generate the frequent sequential pattern of web pages visited by user in each cluster then previously assigned rank scoreof the web page arem odified to re-rank the search result list by using the discovered sequential patterns.

PHISHING

Phishing is an attempt to obtain confidential information from an individual, group, or organization.
Panorama Images consist photometric inconsistency problem

[6] Priya I. Borkarand Leena H. Patil presents a model of hybrid Genetic Algorithm -Particle Swarm Optimization (HGAPSO) for Web Information Retrieval. Here HGAPSO expands the keywords to produce the new keywords that are related to the user search. PSO is an evolutionary computation method, which is clearly different from other evolutionary-type methods that does not use the filtering operation (such as crossover and/or mutation) and the members of the whole population are maintained through the search procedure. In order to find an optimal or near-optimal solution to the problem, PSO updates the current generation

of particles (each particle is a candidate solution to the problem) using the information about the best solution obtained by each particle and the entire population. Another component is Information Retrieval System (IRS), that is, a system used to store items of information that need to be processed, searched and retrieved corresponding to a user's query. Most IRSs use keywords to retrieve documents.

EAVESDROPPING

Interception of communications by an unauthorized party iscalled eaves dropping. Passive eavesdropping is when the persononly secretly listens to the networked messages. On the otherhand, active Eaves dropping is when the intruder listens andinserts something into the communication stream. This can leadto the messages being distorted. Sensitive information can bestolen this way.

NAMED DATA NETWORKING (NDN)

The current Internet Protocol (IP) was designed to create communications between a source and a destination that are identified by IP addresses. However, it is not applicable to highly distributed networks. What users really care about is what they get rather than where it is from. Therefore, theNDN
project was proposed to overcome the weakness of the Internet's current communication architecture and accommodate emerging patterns of communications, which shifts its point from where- the host to what- the content. Similar to current IP architecture, the NDN has its own narrow waist design. But it uses data names instead of IP addresses for delivery, which removes the restriction of the length of IP addresses and enables scalable communications.
In this section, we give a brief description of its architecture and introduce the solutions proposed by the NDN to full-fill its specified security requirements.

NDN ARCHITECTURE

The NDN is a new architecture, grounded in current practice.Some basic architectural principles are described asfollows:-

Hourglass Architecture: The NDN remains thehourglass-shaped architecture of IP architecture, butmakes some revisions. Specially, it replaces IP packetswith content chunks.

Security: Decoupling data from how or where it isobtained and signing all Data packets provide effectiveways to ensure data trust [36]. The signature also guarantees data integrity and enables verification on dataprovenance.

End-to-End Principle: The NDN keeps this principlebecause of its good performance to enable developmentof robust applications in the face of networkfailures.

Self-Regulating Network Traffic: To make the Internetstable, the NDN incorporates traffic flow-balance.

Routing and Forwarding Plane Separation: the NDNadopts this principle to allow its deployment with thebest available forwarding technology while carrying outnew routing system research in parallel.

In the NDN, the receiving endpoint, i.e., a data consumerdrives communications. Two kinds of packets are transmittedthrough the Internet: Interest and Data. A consumer sendsan Interest packet indicating its desired data with a nameto the network, and then routers forward the Interest packettowards any producers (i.e., data sources). If the Interestpacket reaches a node that has the desired data, the nodethen returns a Data packet containing both the same name as specified in the Interest packet and the required content. TheData packet needs to be signed to enhance security. This Datapacket follows in reverse the path to get back to the requestingconsumer.

III. CONCLUSION

In the proposed work the complexity of the threats decreases, so do the security measures required to protect networks. In the rear future, the fundamentals of network security like firewalls, security protocols for better security purposes can be used in it. The basic practices such as periodic software can be update, locking down all devices and using authentication and secure access methods can go long to reduce risks by using security, SSL and TLS protocols. The Internet was designed some 40 years ago and has been successful beyond even the most optimistic expectations.

However, it is facing many challenges, including scalability, mobility, availability and security. The diverse services especially economic activities and the dominant use of the Internet as distributed networks call for a clean slate design of new Internet architecture, which embeds security as an intrinsic feature. So far, many research efforts have been carried out all over the world on the research of the Future Internet. In this survey, we looked at NDN, We presented their motivations and architecture designs, analysed their security goals and techniques.

Finally, we mentioned the main security issues that must be kept in mind during the Internet architecture design and proposed a number of open issues for future research.

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