Chapter 89
Search Engines and Meta Search Engines for Effective Information Retrieval and Scholarly Communication

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ABSTRACT

Search Engines (SEs) and Meta-Search Engines (MSEs) are the tools that allows people to find information on the World Wide Web. SEs and MSEs on internet have improved continually with application of new methodologies to satisfy their users by providing them with relevant information. Understanding and Utilization of SEs and MSEs are useful for information scientist, knowledge manager, librarians and most importantly for authors and researchers for effective information retrieval and scholarly communication. The paper explores on how Search Engines and Meta-Search Engines discover web pages, indexes content, and provide search results. The paper discusses about the technological evolution of SEs and MSEs, working process and different types of SEs and MSEs. Finally paper presents conclusions and suggestions for further research.

INTRODUCTION

The World Wide Web contains enormous amount of information, that is multiplying at a exponential rate. The web has plenty of useful resources, but its dynamic unstructured nature makes them difficult to locate, the quality of search in web pages. The explosive growth and the wide spread accessibility of the web information retrieval in the World Wide Web makes it difficult to get relevant results. Effective use of Search Engines is a challenging task for Library and Information Science Professionals. The main problem is displaying only important pages relevant to the keyword(s) typed by users. The importance of a web page can be judged based on the content specified in it or based on link information. Internet has become the most largest and important network which connects billions of people all around the

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world. World Wide Web has been growing rapidly and it attracts the librarians to access the web. The term 'scholarly' used in academic domain, especially in higher education. Scholarly communication is used to describe how research is communicated among peers and evaluated.

Search Engines can be used as a quick and direct reference to get any type of information all over the world. Librarians were the ultimate Search Engines before the web took over. Search Engines have changed the way to find information, as per the patrons needs, or conduct research. Behind every online destination, social network, cell phone, and online newspaper there is a Search Engine. There are many Search Engines available today, but retrieving relevant and meaningful information is very difficult. Perfect Search Engine as something that 'understands exactly what you mean and gives you back exactly what you want'. Search Engines earlier were very primitive and they had rudimentary general search options, from general search options there was a trend of developing advanced search features and thus new Search Engines are came into existence.

Searching for information on the World Wide Web (WWW) is done in much the same way that you look for information in a library, using an on-line catalog system (the updated version of the old index card system). The difference-and the advantage-is that you can get information from all over the world, instead of from a single library collection. The term "search engine" is typically used to describe all of the different programs that allow people to search the WWW. Using SEs and an index is searched rather than entire web. A MSE (Multi Threaded SE) such as Mamma, Meta Crawler, Dogpile, Savvy search, is a search tool that sends a query simultaneously to several SEs and consolidates all results, thereby saving time. This paper gives an overview on working of SEs, MSEs, and their significance in information retrieval.

Objectives of the Study

The main objective of this study is to explore the working process of SEs and MSEs.

The other objectives of the study are:

1. Know the genesis of search engine and meta-search engines technology.
2. Find out the working process of search engines and meta-search engines.
3. Identify the different types of search engines, meta-search engines and their technology

Methodology

The study is based on an extensive review of literature available in the print journals, online journals on internet to investigate about the search engines, meta-search engines, technology, user's perspectives on web search engines and meta-search engines.

Statement of the Problem

The present paper entitled as *Search Engines and Meta Search Engines for Effective Information Retrieval and Scholarly Communication* has been undertaken to answer what is search engine and meta search engine, how search engine and meta search engine works, what are the problems in accessing search engines and Meta Search Engines to identify the solutions for the problems in accessing search