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Designing Webliographies in an Effective and Simple Manner: A Step by Step Process

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Abstract

This paper explains web-based information retrieval as one of the main research interests of information professionals during the last decade, and introduces machine-oriented and human-oriented approaches in the designing process of Internet search tools and concerns with the second approach as a basis for the discussion. Then it defines the concept of webliography as a special type human-edited search tools. It is in fact an enumerative list of hypertext links and a gateway to the scientific sources of information on the Net, whether annotated or not. The existence and development of webliographies on the Net are justified based on a brief literature review. 14 phases of webliography production process are also enumerated step by step and a conclusion is provided finally.

Keywords

Background

Information Retrieval (IR) on the World Wide Web has become a terrible and tedious experience for almost all of the end-users (novices/professionals) during the past decade. This statement has been supported by findings of several overlapping research studies in computer sciences, library and information sciences and mass media. This common research area is in fact the domain of online IR literature. The aim of the researches in this domain is exploring structure, specifications, and functions of online information systems and causes of the problem of information retrieval, to explain outcomes of this new and emerging situation, and to propose some linguistically-based and IT-oriented methods to solve the problem and to increase recall and precision in the process of information retrieval.

Looking at the recent IR literature shows that most of the research studies have been based on the application of automated mechanisms, i.e. development of the Internet search engines. In other words, solutions have been mainly focused on machine-oriented approach. But information retrieval from the Internet is still problematic.

Therefore, regarding the unsatisfactory progress of the automated IR on the Internet, information professionals have had a mere glance at the human-oriented approach as another way to improve online IR. They have concerned with non-automated and semi-automated mechanisms, i.e. development of web directories as additional solutions. They have designed, developed and tested some manual techniques/search tools, such as webliographies.

This paper discusses the development of the webliography as an Internet search tool. The discussion is based on the findings of some group theoretical studies and practical exercises at the Allame Tabataba'ee University (A.T.U.) (Alimohammadi, 2004b).

What is the Webliography?

A Webliography, according to the accepted definition, is an enumerative list of hypertext links and a gateway to the scientific sources of information on the Net, whether annotated or not (Alimohammadi, 2004a; Portland Community College, 2004; Potts, 2004; Smith, 2004). An example is A Poe Webliography (http://newark.rutgers.edu/~ehrlich/poesites.html). It is a critical guide to electronic resources for Poe research on the World Wide Web and CD-ROM, including electronic texts, HTML-encoded texts, hypertexts, secondary works, commentaries, and indexes. Webliographies are in fact digital equivalents of bibliographies (printed lists of information sources). Bibliographies are secondary sources among print media and Webliographies are the same on the Net.

Webliographies: a brief review of the literature

Why do we concern with webliographies? In other words, is the development of webliographies reasonable or justifiable in an age of intelligent retrieval systems?
A brief review of the past studies on Webliographies can provide us with a clearer picture of the state of the art and importance of Webliographies. Searching the databases of library and information science and related fields shows that the amount of literature about webliographies is not considerable and more studies need to be done. Most of the published articles on webliographies are in fact printed forms of manipulated webliographies in a wide range of various topics. In other words, their authors have tried to identify, evaluate, select, gather, organize and publish lists of accredited web sites on the context of specialized journals.

The first theoretical text on webliographies was written by S.R. Harris (1997). He argued that librarians must take an active role in providing subject access to information on the Internet, discussed those aspects of bibliography that are relevant to online information resources, and proposed webliography as an important responsibility for librarians. In addition, he stressed that librarians should not only create useful products for the user, but should also develop knowledge of the particular online literature. This available literature can be useful in providing reference and instructional services to their constituencies.

Marino (1998) discussed the use of webliographies as collections of Internet sites on a particular subject, to help students find relevant and useful sources on the World Wide Web. Also, she highlighted the validity of information sources; developing criteria for evaluating information; how to set up a webliography web page; and HTML commands.

To the best of the author's knowledge, so far just one survey has been done on webliographies. Alimohammadi (2004a) in a survey found out that webliographies are becoming more popular among Internet publishers and end-users. In his research, totally, 696 webliographies were reviewed. The research discovered that 84/9 % of webliographies have been updated during their second time period of life.

Alimohammadi (2004b) in another article reported an experience at the Allame Tabataba'ee University. The report concerned initially with an exploration of the current situation of online information retrieval on the World Wide Web and continued with an introduction to the Internet search tools and webliographies specifically. After an explanation of the experience, a sample of designed webliographies illustrated. Alimohammadi concluded that this experience should be adopted by other LIS Departments all over the country (Iran as context of the experience).

However, looking at the aforementioned items shows maturity of webliography literature. Harris & Marino discussed advantages of webliographies as gateways that provide subject access on the World Wide Web. They also stressed that designing webliographies is one of the librarians' responsibilities. Marino provided some notes about technical aspects of the designing of webliographies specifically. Since the publication of Harris's and Marino's articles many webliographies have been designed and become available online. Alimohammadi wanted to answer an important question, an answer that could be applied in planning some of the future information policies and projects. Based on the results he gained, an instructional course was developed at the Allame Tabataba'ee University. Surprising outcomes were achieved at the end of the course and taking the outcomes into account was proposed. Regarding to the literature review and the A.T.U.'s experience, we shall explain 14 phases which should be followed to design a webliography.

How can we develop a webliography?

To develop a webliography, these phases should be followed step by step:

1. Selecting the topic; it is the first and of course an important phase. The topic should be as specific as possible. Specification is an important strategy, because of information overload on the Web. At the same time, it should not be specified in a petty field so no valuable information retrieved. Since the whole of the process will be influenced by the decision made in this phase, much attention should be paid to the topic selection. Selecting outdated/rejected topics will be led to retrieving few hits,
2. Searching the Web; the Net should be navigated by using one of the popular Internet search tools like Google. Using search engines is recommended because of their updated information, advanced and complicated search interfaces and also their multi-volume databases in comparison with web directories. Although search engines are used to construct a major part of web directories and webliographies, it should be mentioned that web directories can be used to extract some filtered web sites too. It must be kept in mind that limiting search techniques should be adopted to increase recall and precision in information retrieval process,
3. Browsing and selecting the best ones among retrieved hits; in order to do the best, some pre-definited criteria should be followed. These criteria are in fact a basis for evaluation of web sites. A part of library and information science literature has been dedicated to this topic. You are refereed to the relevant literature and also accredited web sites on the Net,
4. Creating a web page; some software like Microsoft FrontPage, Netscape Composer and Dream weaver can be manipulated.
5. Choosing an informative title for the webliography; for example "Annotated webliography of Information Literacy". The file should have a title which reflects its content very well,
6. Writing an introduction; it should be placed at the first section of the webliography. The description is in fact a way through which designer and publisher of the webliography can introduce it and its purpose to the user community so they will be able to take more advantage of the subject gateway,

7. Preparing a table of content; it is provided because the designer aims to help user to navigate the subject gateway easier. In fact, table of content is added to the webliography, because of the aim of information services that is, providing end-users with a well-structured/well-formed information source; a source in which navigation and seeking the information is as simple as accessing to the source through a hyperlink on the web. The importance of the table of content is increased when the bulk of the webliography is developed, for example from 20 sites to 200 sites,

8. Entering selected/filtered links to the environment of aforementioned softwares;

9. Producing the body; Body or the main part of the webliography consists of a list of Internet sites which have been equipped with qualitative annotations produced by the designer. The list can be a short one and limited to one page or not. However, it includes several records/web sites containing each of two to three fields like title, annotation (Critical description) and URL. The URL is an optional field and whenever it is appeared, should not be linked to the source (web site). Annotation is usually provided in order to help user to make a decision on how the link is useful in terms of his/her information need. It will be comprised of several sentences including a brief and meaningful description about the link and its relationship with the webliography, the best part of the page, the reason of selecting this page and an evaluation of its quality according to the web resources evaluation criteria,

10. Establishing hyperlinks;

11. Preparing an index; the index should be comprised of several keywords extracted from the text of the body (annotations). One may ask why do we need an index, when robots navigate the Net and produce fulltext indexes? The reason is that robots follow several indexing policies to gather data from the Web. Some of them index web pages partially, for example up to 250 characters. Some others adopt link popularity as their indexing policy. But, it seems that most of the popular search engines follow fulltext indexing policy or a combination of all aforementioned policies. According to the fulltext indexing policy, robot has to swim in pages and extract all keywords and exclude those words which match the stop list. Then it should calculate the frequency of extracted keywords and arrange them from most frequented keywords to less frequented ones. When an end-user referees to an engine and searches its database, the search engine matches the submitted query against the indexed pages and represents those documents which best satisfies the query according to the frequency of a given keyword. Now, return to the webliography and suppose that the given robot has indexed your webliography. The page would be best retrieved; if the most important keywords have had been repeated more and more, because according to our statement the index should be comprised of several keywords extracted from the text of the body (annotations),

12. Introducing yourself to the viewer of the page; your name must be linked to your home page/weblog or at least an e-mail address. Such a facility is intended to help user to contact the designer/publisher when s/he faced to a dead link or a new Internet site that seems to be useful,

13. Transforming the manipulated file, for example from Microsoft FrontPage to an HTML document in order to prepare it to be published on the World Wide Web;

14. Publishing the webliography by uploading it on the server; in this phase, the designer can enter meta-tags to the source code of the webliography in order to increase its searchability. Meta-tags ensure us that the webliography is found when appropriate searches are executed.

Conclusion

As it was discussed, the literature of webliography is gradually becoming matured and we are entering to an era of designing webliographies more and more. This means that some

research projects should be done on topics such as designing a semantic network among webliographies (using subject headings, classification schemes, thesauri, taxonomies and ontologies) and organizing them to produce a directory of webliographies (meta-webliography) based on their subject categories and semantic relations. For designing a meta-webliography, the same procedure can be followed.

Learning/reinforcing some other skills such as searching, evaluating and composing the Internet resources is also possible during the process. These techniques could also be utilized in many other contexts such as building/developing online collections for information centers, deploying an effective and new logic for organizing the digital sources of information, providing reference/information services on the Net, designing library and information centers' web sites, and teaching information seeking skills to the end-users.

The designer/maintainer is responsible for accuracy and currency of the webliography. This means that s/he has to browse the content of the webliography in due course and modify outdated information/hyperlinks. Of course, some intelligent software has been designed during the past years. These softwares check hyperlinks automatically and alarm when they face to a blind link. But they cannot compare the annotation with the content of the web site. In order to solve this problem, the designer has to browse included web sites and update related annotations according to the new uploaded version of given web sites.

Acknowledgment

I should acknowledge Miss. Mahshid Sajjadi who studied the earlier draft of the paper and pointed out some valuable notes.

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Bibliographic information of this paper for citing:

Alimohammadi, D. (2004). "Designing Webliographies in an effective and simple manner: a step by step process". *Webology*, **1**(1), Article 2. Available at: http://www.webology.org/2004/v1n1/a2.html

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