

Accessing a Personalized Bibliography with a Searchable System on the World Wide Web

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Abstract.—Researchers, educator's and land management personnel routinely construct bibliographies to assist them in managing publications that relate to their work. These personalized bibliographies are unique and valuable to others in the same discipline. This paper presents a computer data base system that provides users with the ability to search a bibliography through the World Wide Web (Web). To illustrate this system, a bibliography of publications produced by the USDA Forest Service and its cooperators is used. Users can search the references on the Web using parameters such as date, author, key words, title, or a combination of these fields. This procedure can increase the accessibility and value of personalized bibliographies.

Introduction

Computerized bibliographies are commonly used to manage publications relevant to one's discipline. Substantial time investment is needed to construct and maintain such personalized bibliographies. The time investment is justified because of the value of a searchable bibliography that is topically focused and relevant to one's discipline. This paper describes a computer data base system that capitalizes on the time investment by sharing the bibliography over the World Wide Web (Web) in a searchable form.

Methodology

Web access is the only requirement for access to the bibliography used in this example. However, if users want to make their bibliographies available to others, they must have access to a Web server with specialized software (a common gateway interface) that links to data bases. Users

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should consult with their local system administrator or computer technician to investigate options. If users want others to be able to download full-text copies of publications, they will also need access to a flatbed scanner and optical character recognition software.

Reference Documentation

Today, most researchers and educators use software to store and retrieve reference material. Because of the number of publications and rate that information is being produced, using a computer data base to track and maintain information in their fields of interest is necessary. To illustrate how this computer system works, we used a collection of annotated references for publications produced from the Beaver Creek watershed project in north central Arizona; a USDA Forest Service, Rocky Mountain Research Station project located at Flagstaff, Arizona. The Beaver Creek project was established in 1956 in response to public concern that the flow of streams and the amount of forage for livestock and wildlife on watersheds in the Salt-Verde River Basins were being reduced by increasing densities of ponderosa pine saplings and pinyon-juniper trees (Baker 1999). Nearly 700 publications were produced as a result of this project from 1956 to 1996 (Baker and Ffolliott, 1998). This bibliography of references is currently available at http://www.rms.nau.edu/beaver_cr/.

Reference Retrieval

The Beaver Creek bibliography is partitioned into 24 subject areas. Simple searches of the data base can be done using the format in figure 1. Five search options are available including keywords (subject areas), titles, authors, abstract, and publication information. The keyword option provides a drop down list for easy access and application. By reviewing this drop down list, one merely has to identify an area of interest, highlight it, click, and then click Go. To illustrate, selecting the Economic subject area, provides a listing of 63 references in this category. In the title search option, one can enter any keyword or phrase, for example, ponderosa pine, and get a listing of



Figure 1. Format for simple searches of the Beaver Creek bibliography.

137 references that have ponderosa pine in the title. Search of the author, abstract, and publication options are similar.

Often during a search process, a narrowly structured search is needed. Such a search is accomplished by selecting the option at the bottom of the simple search screen (figure 1) *A more capable search tool is available.* A search of Beaver Creek bibliography for the author Ffolliott, produces a list of 215 publications. However, using the more complex search option, one can ask for author Ffolliott and publications since 1990, to obtain a narrow list of 45 (figure 2). As figure 2 indicates, there are many search options available. Users can input data into some or all subject areas, and use various combination of other fields either with or without delimiters.

Document Retrieval

Finding the reference accomplishes only half the task. In the past, after locating the desired reference, users would have to find and obtain the hardcopy from personal reprints, journals, or libraries. Today, many libraries

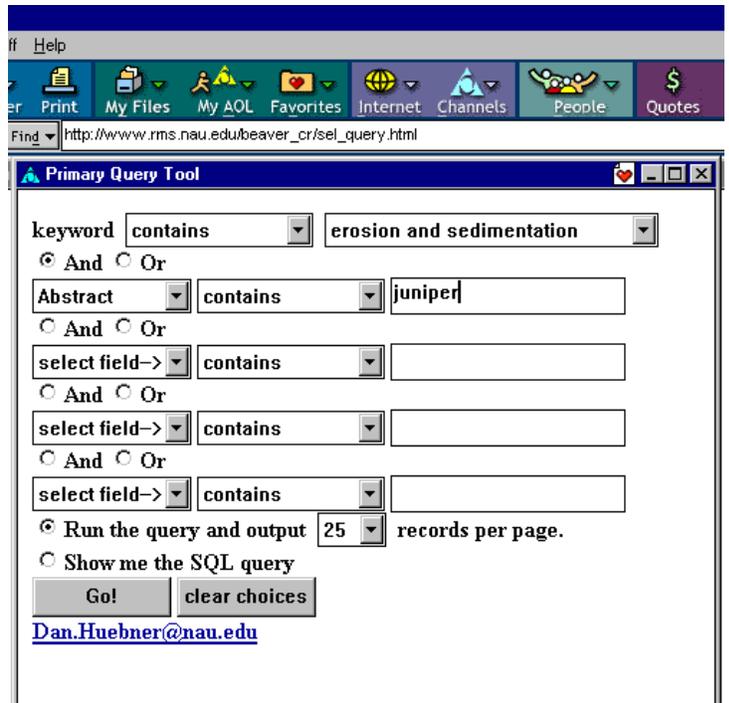


Figure 2. Layout of options available for making complex searches of the Beaver Creek bibliography.

have much of their reference material computerized, and access to these sources is becoming easier through the Web. Many people have hundreds of reprints that are a valuable source if users can access them. In the 21st century, accessibility to information will become even easier and faster. A commonly used form for delivering formatted documents online is an Adobe Acrobat file. This software allows users to view a document and print it in a format that is nearly identical to the paper original. The immediacy of this type of document retrieval is of great value.

Our computer system can archive and retrieve documents electronically. Although not all of the Beaver Creek documents are available online, we have a number of publications online to illustrate what is possible. These publications have been scanned and electronically stored so that they can be viewed and downloaded from our Web site. However, copyright laws also pertain to online publications. For copyrighted publications, appropriate approval is necessary. The History of Watershed Research in the Central Arizona Highlands, a USDA Forest Service publication, in the public domain, is currently available and not copyrighted.

Management Implications

Researchers and educators must continually peruse numerous publications and other sources of information to remain current in their fields of interest, and to document their publications and presentations. However, with the proliferation in publications and other sources of information, this process is becoming time consuming and difficult to catalogue, store, and retrieve. The availability of searchable, personalized bibliographic data bases is a valuable asset to researchers, educators, managers, and interested publics in obtaining information. Their availability on a Web site makes it easier and faster to obtain the reference, and ultimately the publication.

Computerized data bases on a Web site with searching capabilities can make reference searches easier, less time consuming, and increase our ability to share information. In this example, we used a bibliographic data base that includes publications from a specific project. However, individuals with common interests may wish to develop common reference collections, for example, a data base of riparian information. This can be accomplished with a minimum of expertise and expenditure of effort. Great strides have been made in the last century in all areas of watershed management. However, the challenge today is to efficiently use this information in solving problems

with and management of our natural ecosystems. One way to accomplish this is to ensure that information is readily available.

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