Applying Desktop Search Power to Your Desktop

Barry P. Chaiken, MD, MPH

Like many other industries, information and knowledge drive the beneficial delivery of services in health care. Physicians, nurses, and other health care professionals rely upon access to patient specific information and medical knowledge to guide them through their decision-making and care delivery activities. With the rapid expansion of medical technology over the past few decades, knowledge and information are growing at rates that are impossible to manage. Professionals struggle to organize and catalogue information due to the effort involved. Therefore, easily finding and accessing relevant information during a period of patient care is almost impossible.

The growth of the Internet and World Wide Web as a source of information only exacerbates this problem. Most medical journals offer their content on-line, while research institutions provide customized medical information for use by physicians and patients. In recent years, on-line peer review journals have appeared offering their content only in a digital format.

Although on-line medical search engines such as Medline allow clinicians to efficiently retrieve relevant information specific to search criteria, they do not facilitate the cataloging and indexing of this information. Therefore, if this information is stored locally on a personal computer, it is quite difficult to retrieve that information easily at a later time.

Also, the growth in the use of e-mail to consult with patients creates additional digital information that must be managed. With the recent move by some payors to reimburse physicians for such work, the volume of such data will expand, leading to it increasingly becoming important to file this information for future retrieval.

HELPFUL SEARCH ENGINE TECHNOLOGY

The success of Google and other Internet search engines has revolutionized the way we look for information. A generation ago, an encyclopedia provided the only easily accessible knowledge source. Today, using these search engines expands that concept of an encyclopedia to the world's billions of Web pages, news forums, and personal blogs.

As our personal computers store the digital information we previously stored on paper in file cabinets, we require a means to effectively access that digital information in order to make that information useful. Recently, Google, MSN, and Yahoo! introduced desktop search applications that leverage the technology inherent in their Internet search engines and apply it to the personal computer of each user. In effect, desktop search offers a method to automatically catalogue and index information on a personal computer without the need to manually organize the information.

DESKTOP SEARCH ENGINES

Desktop search is a new desktop application that allows rapid access to files, e-mail, Web history, and chats, allowing a user to view Web pages visited even when not on-line. Although the features of each version of desktop search may differ slightly, generally each of the current releases provides full text search for the following:
- Web pages seen in Microsoft Internet Explorer
- E-mail sent or received via Microsoft Outlook or Outlook Express
- Instant messenger chats using AOL Instant Messenger
- Files in Microsoft Word, Excel, and PowerPoint
- Plain text files

(For purposes of example, Google Desktop Search will be used in describing the use of these types of applications.)

To use desktop search, a user launches the application, which brings up a search page in Internet Explorer. The search terms are then entered into the "Search Desktop" box to begin a search. Users familiar with Internet-based search engines will feel comfortable using these applications.

Typically, searches in desktop search are in an integrated format that combines a search of the Internet with a search of the local computer. Upon execution, one query is sent to an Internet search engine that performs an external search that most Web users are familiar with. In addition, a duplicate query is sent to desktop search, which only searches the information that the application has already indexed.

The results from the Internet search are then combined with those of the desktop search and presented together. Icons are used to indicate the source (i.e., desktop or Internet) and type of result (i.e., Web page, file, e-mail, chat). When necessary, searches can also be limited to just the desktop.

Results from the search are listed, sorted by either date or relevance, with a short description of each item and a link to the item itself. For Web pages, two links are offered, one for the Internet Web page that was visited previously and another for the Web page that is cached on the user's computer. This latter cached page contains the information that was available

From BearingPoint, Inc., McLean, Virginia.
Correspondence: Barry P. Chaiken, MD, MPH, associate chief medical officer, BearingPoint, Inc., 1676 International Drive, McLean, VA 22102 (e-mail: bchaiken@docsnetwork.com).

at the time the page was visited and not necessarily the current up to date version of that page. Unfortunately, cached pages do not contain the images that might have been associated with that page.

For e-mail messages or files from Word, Excel, or PowerPoint, the links launch the appropriate application and present the relevant file or e-mail message.

At the top of each results page from a search is a listing of the total number of matches for each type of file. For example, a search on the word "diabetes" might show 116 e-mail messages, 12 files, 0 chats, and 14 Web history pages. By clicking on any of these summary results, the search is narrowed to that type of file, with the results then displayed appropriately.

APPLYING DESKTOP SEARCH TOOLS

The ability to automatically index personal computer data for later retrieval opens up a wealth of information that would ordinarily be lost. Clinicians can now search their e-mail messages and documents for key information that may be important in treating their patients. In addition, personalized medical literature saved locally on a desktop computer can now be accessed through a search tool.

Although most desktop search engines do not allow searches of PDF files (Yahoo! Desktop Search does claim this capability), a standard format for digitally storing documents, creatively naming each document when it is stored on the desktop (e.g., JAMA Mumps Bchaiken 1987.pdf) can facilitate a search of these and other types of files that normally are not indexed by desktop search engines.

Some potential uses for this new technology include:

- Identification of patients that have an interest on a particular medical subject as expressed through their e-mail messages. Any new information can then be "pushed" out to them in an e-mail message.
- Tracking of research conversations with colleagues whether using e-mail or instant messaging.

- Indexing and retrieval of personalized medical literature.
- Tracking of referring doctors through the searching of both e-mail messages and word documents.
- Access to cached Web pages when offline.

The utility of desktop search tools will increase as clinicians rely more upon digital communication and information, and as these search tools become more sophisticated in their ability to index and retrieve. Linkage to electronic medical record systems and physician portal web pages that contain expanded patient information will expand the breadth and usefulness of searches tremendously. As the volume of digital information increases for clinicians, desktop search tools will provide a means for busy clinicians to manage this avalanche of information resident on their desktop, and leverage it to enhance the care of their patients.

REFERENCES

1. www.google.com.
2. www.msn.com.
3. www.yahoo.com.