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PC Magazine, October 22, 1996

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Computer Shopper, September 1996

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StatView runs under Windows '95, Windows 3.1, Windows NT and is  
available for Macintosh and Power Macs. We have translated and student  
versions of StatView and license, academic and quantity discounts.

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For members and friends of AAAS

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## AAAS Travels

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### Smarter Searching

The importance of good search tools has  
been apparent since the early days of the  
Internet. There are  
now an estimated 100  
million Web pages,  
and with about 200,000 added each day, it is  
not surprising that the main complaint  
among users is the difficulty of finding the  
documents they want. An important class of  
tools is the search "engine," which takes key-  
words as input and returns a set of Web  
documents. Effective use of these tools re-  
quires some knowledge of how they work.

#### NET TIPS

Search engines are not directories. The  
latter are sites where several thousand  
Web sites have been categorized by human  
reviewers. The largest is Yahoo!  
([www.yahoo.com](http://www.yahoo.com)), with links to about  
370,000 Web sites. Although directories  
often point users to quality sites, they can-  
not possibly catalog all of the Web. For a  
more thorough search, users must turn to  
search engines. Because these engines are  
not limited by the availability of human  
filters, they can catalog literally millions of  
Web documents.

Each engine consists of three distinct  
components: the spider, the index, and the  
query module. The spider (also referred to as  
the robot) is a program that "moves" on the  
Net from page to page in search of new docu-  
ments. Each robot uses its own specific algo-  
rithm for finding and navigating Web pages.  
The harvested pages are then entered into a  
database on one of the search engine's com-  
puters. The database is organized by an index  
whose architecture is also specific for each  
search engine. Users search the index through  
a predefined query module, an interface spe-  
cific to each engine.

Two concepts should be borne in mind.  
First, search engines do not scour the Net in  
real time, but rather query an index of Web  
pages compiled on the search engine's site.  
This explains why some search results point  
to outdated or nonexistent links. Indeed, it  
may take days or weeks for any particular  
search engine to traverse the entire Net.  
Second, the same query on two different  
search engines will not yield identical re-  
sults, because the combination of propri-  
etary robot, index, and user interface will  
be unique. The best strategy is to try sev-  
eral engines when searching for a specific  
Web document.

With the proliferation of commercial  
search engines, a new tool—the metasearch  
engine—has occupied a slot above them all.  
Metasearch engines will send a query to sev-  
eral other engines in parallel and return a  
composite report (with duplicate entries re-

moved). This can save the effort of performing several searches in series. But meta-engines tend to be slower and tend to return a maximum of about only 100 results.

Because each engine has its own quirks, it is worth reading the search tips usually listed on the home page. Armed with a few search engines and perseverance, users should be able to find relevant documents in what is fast becoming the world's largest library. Some top search engines are listed in the accompanying Site Finder section, and links to additional search sites can be found at [www.MedsiteNavigator.com/techsight/nettips\\_3.html](http://www.MedsiteNavigator.com/techsight/nettips_3.html)

—Richard Peters and Robert Sikorski

Digital Mailbox:  
[www.sciencemag.org/dmail.cgi?53284](http://www.sciencemag.org/dmail.cgi?53284)

## Search Engines

HotBot  
[www.hotbot.com](http://www.hotbot.com)

From the creators of *Wired*, this is a very fast search engine with an index of 53 million Web documents.

### SITE FINDER

*PC Magazine* selected it as their number one choice for its advanced search features. Both the Web and Usenet groups can be searched, and the query syntax allows exact matches, near matches, or boolean expressions. The search can be narrowed to specific geographic locations, calendar dates, or even media types (image, audio, java, and so on). Users can customize the interface and save the settings for future use.

Lycos  
[www.lycos.com](http://www.lycos.com)

Lycos (Greek for spider) is a hybrid between a search engine (100 million pages) and a directory. LycosPro is now available for advanced searching with Java-based Power Panel relevancy controls. This engine, though, does not offer the advanced search options of something like HotBot. On the other hand, Lycos offers a human-edited directory that is divided into 18 categories, including science, education, and health. It features the top 5% Web sites reviewed by a team working for Lycos, with 100 new reviews added per week.

AltaVista  
[altavista.digital.com](http://altavista.digital.com)

Designed as a research project at Digital Equipment to showcase the power of their Alpha Web server, it is one of the fastest engines. It houses an index of more than 30 million pages, and lets you search the Web and Usenet groups in several languages, from Chinese to Swedish. The advanced search allows boolean operators such as "and," "or," "not," and "near" (which en-

sures that two words are within 10 words of each other).



InfoSeek  
[www.infoseek.com](http://www.infoseek.com)

This search engine (with 50 million documents) now has four variations: Ultrasmart offers bare bones functionality for searching the Web; Ultraseek offers advanced features such as whole-sentence searching, and word variant ("mouse" will also return documents containing "mice"), case-sensitive, and field-based searching (searches a specific field such as Title or URL on Web pages); Newscenter features the latest headlines organized by category; and Smartinfo is a collection of tools that let you search for e-mail addresses, stock quotes, phone numbers, and company profiles.

Excite  
[www.excite.com](http://www.excite.com)

Another hybrid search engine, Excite features an index of 50 million Web pages and a directory of 150,000 sites organized into 14 channels including careers and education, and health. You can also look up e-mail addresses, newsgroups, stocks, and the weather. The Powersearch option of Excite lets you search for words or phrases, but pales in comparison to those offered by the other engines. As a bonus, however, the service has just introduced free Web-based e-mail to all its users.

Metacrawler  
[www.metacrawler.com](http://www.metacrawler.com)

This metasearch engine does not maintain a local database, but, rather, it queries in parallel those of Lycos, Infoseek, WebCrawler, Excite, AltaVista, and Yahoo! with a customized search window. Powersearch allows searches limited to a geographic location and to a word or a phrase. Although such a metaengine will ensure that you have pulled out the most popular documents from the engines and directories queried, it does not offer advanced search features.

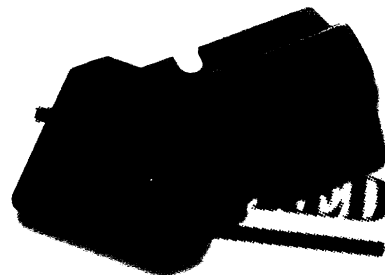
—Richard Peters and Robert Sikorski

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*Tech.Sight is published in the third issue of each month, and appears in Science Online at [www.sciencemag.org](http://www.sciencemag.org). Contributing editors: Robert Sikorski, National Cancer Institute, Bethesda, MD; Richard Peters, Harvard Medical School, Boston, MA. The editors welcome your comments by e-mail to [techsight@aaas.org](mailto:techsight@aaas.org). Specific comments and feedback should be routed via the Web with the Digital Mailbox URLs at the end of each item.*

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