

Search

Many Web sites allow users to search for

information contained in the site. Users access the search capability by entering one or more keywords into an entry field—usually termed a ‘search box.’ When there are words in the Web site that match the words entered by users, users are shown where in the Web site those words can be found.

Each page of a Web site should allow users to conduct a search. Usually it is adequate to allow simple searches without providing for the use of more advanced features. Users should be able to assume that both upper- and lowercase letters will be considered as equivalent when searching. The site’s search capability should be designed to respond to terms typically entered by users. Users should be notified when multiple search capabilities exist.

Where many users tend to conduct similar searches, sometimes it works best to provide search templates. Users tend to assume that any search they conduct will cover the entire site and not a subsite. The results presented to users as a result of searching should be useful and usable.

17:1 Ensure Usable Search Results

Relative Importance:

12345

Strength of Evidence:

12300

Guideline: Ensure that the results of user searches provide the precise information being sought, and in a format that matches users' expectations.

Comments: Users want to be able to use the results of a search to continue solving their problem. When users are confused by the search results, or do not immediately find what they are searching for, they become frustrated.

Sources: Amento, et al., 1999; Bailey and Koyani, 2004; Dumais, Cutrell and Chen, 2001; Nielsen, 2001a; Nielsen, et al., 2000; Pollock and Hockley, 1996; Rosenfeld and Morville, 2002; Spool, et al., 1997.

Example: Returned search results in the main panel contain snippets of the searched page with the user's search terms highlighted (allowing the user to gain a sense of the context in which the terms are used) and a clustered list of related search terms is contained in the left panel.

Clustered Results | Top 196 results of at least 35,440,000 retrieved for the query cancer (Details)

- cancer (196)
- Cancer Center (38)
- Breast Cancer (33)
- Cancer Society (16)
- Cancer Prevention (18)
- Network (9)
- Types Of Cancer (8)
- Cancer Care (8)
- Non-profit organization (5)
- Colorectal Cancer (5)
- Therapies (7)

Find in clusters: Enter Keywords

Search Results Snippets:

- Cancer Treatment Options** [new window] [preview] [clusters] Sponsored Link
Advanced Cancer Vaccine Treatment Proven Long-Term Remission Rate
www.lssels.com - Sponsored Listings 1
- Cancer Info, News & Tools** [new window] [preview] [clusters] Sponsored Link
Recommended by More Oncologists than any other website. Secure/Free
www.caring4cancer.com - Sponsored Listings 2
- American Cancer Society Homepage** [new window] [frame] [cache] [preview] [clusters]
Dedicated to helping persons who face cancer. Supports research, patient services, early detection, treatment and education.
www.cancer.org - Looksmart 1, Ask 1, Gigablast 1, MSN 1, Open Directory 25
- National Cancer Institute** [new window] [frame] [cache]
The National Institute of Health
www.cancer.gov - Wisen
- National Cancer Institute** [new window] [frame] [cache]
Colon and Rectal Cancer Director. Dictionary of Cancer
www.nci.nih.gov - Ask 2,
- Susan G. Komen Breast Cancer Foundation** [new window] [frame] [cache]
Dedicated to education and research. Headquartered in Dallas, Texas
www.komen.org - Wisen

Product Listing: Displaying 1 to 15 of 121 Record(s)

Product Name	Price	Buy
Echinacea - 400mg 100 cap Brand: MotherNature.com Echinacea is also commonly known as Purple Coneflower. more>>	\$8.22	Buy
Zinc Lozenges - with Echinacea & Vitamin C 60 lozenges With Echinacea & Vitamin C. more>>	\$4.49	Buy
Echinacea Angustifolia Extract 60 cap Brand: Nature's Way Echinacea angustifolia dried root extract standardized to 4% Echinacoside, and supported by whole herb Echinacea purpurea. more>>	\$19.79	Buy
Green Tea with Echinacea 12 Units / 15 lozenges Brand: 2and Sweetened only with natural rice syrup. more>>	\$20.08	Buy
Echinacea Propolis & Ester C 50 cap Brand: Futurebiotics Echinacea/ more>>	\$14.36	Buy
Flavored Echinacea Cold Care 2 oz Brand: Rainbow Light Echinacea Cold Care (Echinacea Angustifolia, Purpapera, Pallida) is an excellent herb for all kinds of viral & bacterial infections, strengthens the immune system against pathogenic infection by stimulating phagocytosis & T-Cell formation, blood cleansing properties, acne, bronchitis, colds & flu, congestion, psoriasis, tonsillitis, wounds, ear infections and stimulates the immune system. more>>	\$13.95	Buy
Echinacea 1 oz Brand: Nature's Way Echinacea Purpurea has antiviral and anti-inflammatory properties, enhances immune response, stimulates the production of white blood cells, helps fight infections and is naturally rich in iron, iodine, copper, potassium, sulphur, and vitamins A, E, and C. more>>	\$6.29	Buy
Echinacea - Liquid (alcohol) 1 oz Brand: Nature's Way Goldenseal root extracted in pure grain alcohol and spring water. more>>	\$10.79	Buy
Echinacea & Goldenseal 1 oz Brand: Nature's Way		

These search results are difficult to use. There is no discernable order and no ability to sort results by characteristics (e.g., price, size, etc.)

See page xxii for detailed descriptions of the rating scales
12340

17:2 Design Search Engines to Search the Entire Site

Guideline: Design search engines to search the entire site, or clearly communicate which part of the site will be searched.

Relative Importance:

12345

Strength of Evidence:

12300

Comments: Designers may want to allow users to control the range of their searches. However, users tend to believe that a search engine will search the entire Web site. Do not have search engines search only a portion of the site without clearly informing users which parts of the site are being searched.

Keep in mind that what a designer may consider to be the entirety of a site may not be the same as what the user thinks is the 'whole' site. For example, many large sites have various subsections that are maintained by different designers, so the user may think of a site as something that designers think of as several sites. Make sure it is clear to users what part(s) of the Web site are being searched. Provide a means for users to narrow the scope of searches on large Web sites by providing easy access to specific subsites when searching.

Sources: Bailey and Koyani, 2004; Spool, et al., 1997.

Example:

This design allows users to easily bound their search to a selected subsection of the Web site, or to run an unbounded search by selecting the 'All of SSA' menu choice.

Tip: The default operator for Boolean searches is AND

Search For: in

Mode: Concept Boolean Pattern

- For all searches: Enclose exact phrases in double quotes. For example, "change of address" will result in a list of every document with that address in it.
- **Concept** mode searches are performed on meaning instead of exact matches to your query word related terms. For example a search on the word "money" may also locate the similar concepts "income" and "pay".
- **Boolean** mode searches look up documents with (or without) a specific term or terms. Boolean

17:3 Make Upper- and Lowercase Search Terms Equivalent

Guideline: Treat user-entered upper- and lowercase letters as equivalent when entered as search terms.

Relative Importance:

12340

Strength of Evidence:

12000

Comments: For example, 'STRING,' 'String,' and 'string' should be recognized and accepted equally by the Web site. When searching, users will generally be indifferent to any distinction between upper- and lowercase. The site should not compel a distinction that users do not care or know about, or that the user may find difficult to make. In situations when case actually is important, allow users to specify case as a selectable option in the string search.

Sources: Smith and Mosier, 1986.

17:4 Provide a Search Option on Each Page

Guideline: Provide a search option on each page of a content-rich Web site.

Comments: A search option should be provided on all pages where it may be useful—users should not have to return to the homepage to conduct a search. Search engines can be helpful on content-rich Web sites, but do not add value on other types of sites.

Designers should be careful not to rely too heavily on search engines. They are not a substitute for good content organization, and do not always improve users' search performance. Designers should carefully consider the advantages and disadvantages of including a search engine, and whether their Web site lends itself to automated searches.

Sources: Detweiler and Omanson, 1996; Farkas and Farkas, 2000; Levine, 1996; Nielsen, 1996a; Nielsen, 1997e; Nielsen, 1999d; Spool, et al., 1997.

Example: As users delve deeper into the site's content, the search capability remains immediately available.

Relative Importance:

12340

Strength of Evidence:

12000

The image displays three overlapping screenshots of the U.S. Department of the Treasury website. Each screenshot shows a search box in the top-left corner of the page content area, circled in red. The top screenshot is the homepage, featuring the Treasury Department logo and a navigation menu. The middle screenshot shows a sub-page with a search box and a list of navigation links. The bottom screenshot shows an education page titled 'Treasury's Learning Vault' with a search box and a message to students and teachers. The navigation menu in all screenshots includes links for Home, Contact Us, Site Index, FAQ, FOIA, Español, Accessibility, and Privacy & Legal.

Guideline: Construct a Web site's search engine to respond to users' terminology.

Relative Importance:



Strength of Evidence:



Comments: Users seem to rely on certain preferred keywords when searching. They will generally conduct one or two searches before trying another site or search engine (or abandoning the search altogether). Therefore, it is important that users succeed on their first try.

Determining the keywords users are using may require considerable data collection. Designers should make use of search engine logs, surveys, and other techniques to determine the preferred search words for their site, and make information relevant to those terms easy to find through the site's search engine. Keep in mind that designers' preferred keywords may not match users' preferred keywords, and content writers may overestimate the specialized vocabulary of their audience. For the most common searches, provide a 'best bets' set of results. Ensure that the 'best bets' do not appear as advertising or paid links.

In addition to responding to users' keywords, try to design the site's search engine to accommodate common misspellings, extra spaces, alternative punctuation, misused plurals, and other common user search errors.

Sources: Bailey and Koyani, 2004; Dumais, Cutrell and Chen, 2001; Egan, et al., 1989; Evans, 1998; Hooke, DeLeo and Slaughter, 1979; Koyani and Nall, 1999; Schiano, Stone and Bectarte, 2001; Spyridakis, 2000.

Example:

A search for "tongue cancer" also returns results on Oral Cancer, Head and Neck Cancer, and Lip and Oral Cavity Cancer.

The screenshot shows the National Cancer Institute website interface. At the top, there is a search bar with the text "Search" and a "GO" button. Below the search bar is a navigation menu with links for "NCI Home", "Cancer Topics", "Clinical Trials", "Cancer Statistics", "Research & Funding", "News", and "About NCI". The main content area displays "Search Results" for the query "tongue cancer". On the left side, there are sections for "Quick Links" (including Director's Corner, Dictionary of Cancer Terms, NCI Drug Dictionary, Funding Opportunities, NCI Publications, Advisory Boards and Groups, NIH Calendar of Events, and Español) and "NCI Highlights" (including John E. Niederhuber, Personalized Trial for Breast Cancer Launched, Statement on Fiscal Year 2007 Budget Request, Cancer Trends Progress Report: 2005 Update, NCAB Working Group Report on Biomedical Technology, The Nation's Investment in Cancer Research FY 2007, and Past Highlights). The main results section is titled "Results for: tongue cancer" and includes a "Best Bets for Tongue Cancer" section with links to "Definition of Tongue Cancer", "What You Need To Know About™ Oral Cancer", "Head and Neck Cancer: Questions and Answers", "Lip and Oral Cavity Cancer (PDQ®): Treatment", "Oropharyngeal Cancer (PDQ®): Treatment", "Oral Cancer (PDQ®): Prevention", and "Oral Cancer (PDQ®): Screening".

17:6 Allow Simple Searches

Relative Importance:



Strength of Evidence:



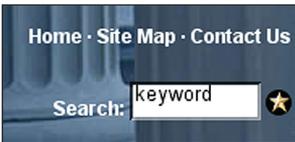
Guideline: Structure the search engine to accommodate users who enter a small number of words.

Comments: The search function should be easy to use and allow for users to be successful when searching. Most users tend to employ simple search strategies. They rarely use advanced search features (such as Boolean operators), so it is important not to rely on those to improve the effectiveness of the site's search engine. If most of the site's users are inexperienced Web searchers, provide simple instructions and examples to help guide users' searching and use of the search results.

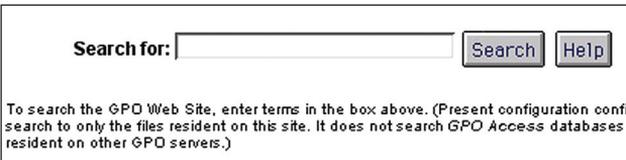
Provide a box (entry field) for entering search terms that is at least 35 to 40 characters wide. Users will self-detect more errors when they see what they have entered.

Sources: Bailey and Koyani, 2004; Bayles and Bernard, 1999; Koyani and Nall, 1999; Nielsen, 2001a; Nielsen, et al., 2000; Pollock and Hockley, 1996; Spink, Bateman and Jansen, 1999; Spool, Schroeder and Ojakaar, 2001.

Example:



Simple search engines will accommodate most users' search strategies.



This search page is far too complex for the average user. Such advanced search capabilities are best presented on a page dedicated to advanced searches.



17:7 Notify Users when Multiple Search Options Exist

Guideline: If more than one type of search option is provided, ensure that users are aware of all the different types of search options and how each is best used.

Relative Importance:
1 2 3 0 0

Strength of Evidence:
1 2 3 0 0

Comments: Most users assume that a Web site has only one type of search. In one study, when there were multiple search types available, users tended to miss some of the search capabilities.

Sources: Bailey, Koyani and Nall, 2000; Levy, et al., 1996.

Example: These sites all offer multiple ways of searching.

See page xxii for detailed descriptions of the rating scales
1 2 3 4 0

17:8 Include Hints to Improve Search Performance

Guideline: Include specific hints to improve search performance.

Relative Importance:

12300

Strength of Evidence:

12300

Comments: A major tradeoff that must be considered in the design of a search input interface is related to the need to provide sufficient instructions for users to take advantage of the power of the search engine, while keeping in mind the reluctance of users to read instructions.

One study found a direct link between the content of search hints and task effectiveness. When syntactic information was included in the search hint, participants achieved significantly greater syntactic performance. When semantic information was included in the search hint, participants achieved significantly greater semantic performance. In addition, participants' confidence that their queries would retrieve the correct answer was reliably enhanced by the presence of semantic search hints (but not syntactic hints). The presence of examples improved semantic performance, but had no effect on syntactic performance. When hints contained more than one type of information (syntactic, semantic, or examples), performance was generally lower than when only one hint type was presented. Also, participants were able to complete the search tasks faster when only one hint was presented.

Sources: Bandos and Resnick, (2004).

Example: This site provides search hints to assist the user.

Searching Hints

What you type	Documents will be listed if their index entries contain:
netscape browser netscape and browser netscape <and> browser	The two words <i>netscape</i> and <i>browser</i> . Those two words (regardless of capitalization) must occur somewhere in the index but not necessarily together or in any order. (Words separated by spaces are treated as if the space was an implied <and> operator.)
"netscape browser"	The words <i>netscape browser</i> together in that order anywhere in the entry, regardless of capitalization . (Multiple words enclosed by quotation marks are treated as a single search phrase .)
netscape or browser netscape <or> browser	Either the word <i>netscape</i> or the word <i>browser</i> anywhere in the entry, including together, regardless of capitalization.
"Netscape browser" Compass	Documents containing both the phrase <i>Netscape browser</i> and the word <i>Compass</i> .

17:9 Provide Search Templates

Guideline: Provide templates to facilitate the use of search engines.

Relative Importance:

12000

Strength of Evidence:

12300

Comments: Search templates assist users in formulating better search queries. A template consists of predefined keywords that help users select their search terms. The keywords can be used directly, or can help users formulate their own queries. Each template should be organized as a hierarchy of predefined keywords that could help to restrict the users' initial search sets, and improve the relevance of the returned 'hits.' One study reported that people using templates find seventy percent more target Web sites than those not using templates.

Sources: Fang and Salvendy, 1999.

Example: Some 'search template' examples include:

To find information on 'human error' use

errors	fault	miscalculation
slips	blunder	slip-up
mistakes	inaccuracy	

To find information on 'usability testing' use

user interface testing	cognitive walkthroughs
performance testing	automatic tests
heuristics evaluations	remote testing

To get more specific search results, try using the following tips:

Check [spelling](#)

Use [multiple words](#)

Example: our free product

Use [similar words](#)

Example: safe secure privacy security

Use appropriate [capitalization](#)

Example: Search Template Reference

Use [quotation marks](#)

Example: "our pledge to you"

Use [plus \(+\) or minus \(-\)](#)

Example: +"template language"

Use [field searches](#)

Examples:

title:about

desc:"Our Team"

keys:membership

body:security

alt:"try now"

url:help

target:Atomz

Use [wildcards](#)

Examples:

wh*

"wh* are"

415-*-*