



# The Big Dig:

## Mining Nuggets of Value

How to design a search interface to meet your users' needs

BY SCOTT AND MICHELLE LEE McDANIEL

**S**o much information, so little time. That's a problem we all face as we try to mine nuggets of value from the vast chaos of the online world. Search engines are critical guides in the quest for knowledge. But while standard search engines such as AltaVista, Lycos and Google have gotten more sophisticated, they are too generic for many search needs. Creating a custom search interface for a Web site, application or knowledge base is a frequent requirement.

Imagine this situation: Rumors surface that a pharmaceutical giant is about to announce a major breakthrough in treatment for Alzheimer's disease. Suddenly everybody wants to know the details, and they all have different reasons. What would be the ideal search interface to help them find more information about various aspects of the disease and the new drug?

"It depends," you say, "on who they are and what information they need."

Well, consider the needs of Samantha the Patent Examiner. She's reviewing a patent application from the pharmaceutical company and needs to determine if a key technique is truly innovative or has been used before. Samantha must search existing patents as well as newspapers, magazines, books, journals and conference proceedings that could show whether the technique has already been used. The Patent Office asks you to design the search screen for a Web application to search both existing patents and PubMed, a search service of the National Institutes of Health.

Next, consider Albert the Bookstore Associate. Albert works behind the information desk of a bookstore, helping customers locate books of interest. When the media trumpets the new achievement, customers flood the nearest bookstore, asking Albert for help. Sometimes they know the specific book they want, but more frequently they just ask for "the best that you

have on Alzheimer's." The bookstore needs a new application to search the store's inventory, "Books in Print" for specific titles, and a database of evaluative reviews so that customers can select titles that interest them. What would be the best design for a search interface and results presentation to support the beleaguered bookseller?

Finally, consider Keith the Medical Librarian. Keith works for the pharmaceutical company developing the new treatment. He supports researchers in their literature searches. Keith played a key role in the breakthrough when researchers asked him to track down a little-known article describing an earlier, but failed, attempt to refine the key ingredient of the drug. When Keith delivered the article, the researchers spotted the flaw in the earlier attempt, thus prompting the breakthrough. What's the best kind of search system to support Keith in his searches of medical literature?

Samantha, Albert and Keith all have different needs and different skills. It is clear that one interface would not fit them all. So the generic solution is not the best for these three users.

### General Search Design Guidelines:

#### Three Key Areas

Even the most sophisticated of the standard search engines are too generic for many searching needs. Identifying design guidelines that are appropriate for different types of users and searches is key for designers.

There are many considerations in designing a search interface. Among the first steps are identifying the design guidelines that are appropriate for the user and the situation. A good place to start is with a set of accepted guidelines (heuristics) for building searches. A number of people have published basic search design guidelines. Among them are Shneiderman, 1998; Nielsen, Molich, Snyder and Carol, 2000; Spool, Scanlon, Schroeder, Snyder



## Learn the **criteria your customers** use to make **purchase decisions** and present it to them directly in the search results.

and DeAngelo, 1999; and Nielsen, 2001. Nielsen and Spool, in particular, concentrate on consumer needs. When you are designing a product, you will likely find their guidelines too broad for your specific situation, but they are a good base from which you can arrive at the precise set of guidelines for your needs.

The guidelines can be organized into three areas:

### 1. Type of User

This classifies users into three categories based on the type of information they're looking for:

- Casual Searcher
- Interested Layperson
- Subject-Matter Expert

### 2. Level of Experience the User Has with Search Interfaces

This characteristic is less about the user's level of computer literacy than how sophisticated the user's search experience is. How detailed a query is the user comfortable with? Does the user really understand how to construct a Boolean query and know when to do so?

Based on their knowledge and sophistication with search programs, users are grouped into:

- Novice Searchers
- Intermediate Searchers
- Advanced Searchers

### 3. Type of Search Result Expected

This categorizes search results into three types of searches based on the results the user requires:

- *Precision* searches generally locate a single, known item.
- *Recall* searches locate all items that meet certain criteria.
- *"Some good items"* searches locate a small group of items that best match the query criteria.

These three areas are a useful way to structure specific guidelines and heuristics. Some of the heuristics have been validated by research, while others are suggestions based on experience with search interfaces.

#### Guidelines Related to the Type of User

Identify your users' type by answering the question "Who is doing the searching?" A patient looking for a book on Alzheimer's would be an Interested Layperson. Samantha the Patent Examiner and a physician would be different types of Subject-Matter Experts. Keith the Medical Librarian straddles the line between Interested Layperson and Subject-Matter Expert.

#### Designing for the Casual Searcher

*("I just want the basic info, not a novel")*

Casual Searchers have a passing interest in the subject of their search. They are not apt to spend a great deal of time thinking about search strategy. They hope to find just a few paragraphs that satisfy their need, or perhaps a quick introduction about a topic. Potential customers of e-commerce sites like Amazon or CD Now are often Casual Searchers, browsing through whatever catches their fancy. A Casual Searcher looking for information on Alzheimer's would be interested in a quick definition of the disease's symptoms and perhaps a few sta-

tistics about it. When designing a search interface for the Casual Searcher, be sure to consider the following:

- Offer a simple search box on the home page and on each page throughout the site (Nielsen, 2001). It's best to play down advanced search and scoping (searching only parts of a Web site or database).

- Present information in the search results that allows users to assess relevance (Walker & Janes, 1999). Casual Searchers should be able to tell from the search results whether a given item meets their criteria, because they will not spend much time investigating each result. This guideline applies to all users and situations, but it is especially relevant for consumers. Learn the criteria your customers use to make a purchase decision and present it to them directly in the search results.

- Allow Casual Searchers in an e-commerce setting to search for things other than products (Nielsen et al., 2000). Consumers may want to search for "Returns," "Customer Service" or "Account Info."

- Allow Casual Searchers to search for items using their own vocabulary (Nielsen et al., 2000). More than just allowing synonyms ("movies, videos, features"), this guideline means that you also provide meaningful results for slang terms or jargon ("action flicks").

#### Designing for the Interested Layperson

*("Just the facts, please—spare me the gobbledegook")*

The Interested Layperson is motivated but has a limited knowledge of the area he or she is searching and is unlikely to know the jargon or understand the fine distinctions of the field. For example, a person only casually interested in designing search interfaces probably does not know (or care about) the differences among a guideline, a heuristic and a rule. The Interested Layperson wants to find out more about a given topic but lacks the

# GETTING PERSONA

## USING A TECHNIQUE CALLED “PERSONAS” TO DESCRIBE MODEL USERS

Usability designers often employ a technique called “personas” to describe model users to whom the designers refer as they create the user interface. The personas are archetypes that embody the key features of typical users as determined by the user analysis that is part of the design process. Here are personas for three different search users, all of whom need to learn about aspects of Alzheimer’s disease but have significantly different needs.

### Samantha the Patent Examiner

Samantha has been a patent examiner for eight years. With a master’s degree in biotechnology, she is well versed in the pharmaceuticals field and is comfortable with its terms and concepts. She is also adept at finding prior art—any material that relates to a current patent application. Her goal is to find evidence that proves that the technique used for any given patent application has already been used by someone else. From her Windows 2000 desktop, she uses a Web application to search through existing patents (foreign and domestic). She also regularly uses the Internet and other technical sites in her quests for related information, though she rarely uses the Internet at home or for non-work-related purposes.

- **User Type:** Subject-Matter Expert
- **Search Experience:** Intermediate
- **Type of Search Results:** Recall



### Albert the Bookstore Associate

Albert has worked at Book Warehouse for just over three months and has been moved from the registers to the information desk. He knows the layout of the store well, but usually must check to see if specific titles are in stock. About 60 percent of the time, he is asked to find specific books given incomplete, or even erroneous, information. His goal is to find the book in question and put it in the hands of the customer. Many of his requests, however, involve helping patrons find books on particular topics. He gets questions such as, “What do you have on the ancient Mayans?” In this case, he tries to help his patrons find the best three or four books on the topic. Albert’s search experience is limited to searching Google on the Internet.

- **User Type:** Casual Searcher
- **Search Experience:** Novice
- **Type of Search Results:** Precision, “Some good items”



### Keith the Medical Librarian

Keith has a master’s degree in biology as well as a master’s of library science with a concentration in medicine. He has been with a large pharmaceutical company for 13 years and knows its collection backward and forward. Research physicians typically come to him for help when starting a project, asking for every relevant article on a topic. They also ask him for specific papers, for all articles by a given author and more. Keith is still sometimes surprised by the odd parameters he must use in his searches.

- **User Type:** Interested Laysperson (He has not specialized within the medical field)
- **Search Experience:** Advanced
- **Type of Search Results:** Recall, Precision, “Some good items”



—S.M. and M.M.

## Novice searchers need a **clear path** to move forward, and **each additional feature or option requires additional thought**—and additional chance for error.

vocabulary or specialized knowledge of a professional. When designing a search interface for an Interested Layperson, note the following:

- Allow searching for both common terms and specialized terms. As the searcher becomes more familiar with the field, she will begin making some of the distinctions of the professional.

- Provide extra help with refining searches. Teach, display and define the specialized terms throughout the search process. The Interested Layperson often needs the concepts embodied by the field's jargon but lacks the vocabulary to express them.

- Consider alternatives to free text entry search. For example, a combination of drop-down lists and other mechanisms can limit the recognized search terms and parameters (Nielsen et al., 2000).

- Keep the search interface simple, but provide access to an advanced search interface. Such an advanced interface should hold the Interested Layperson's hand through concepts like Boolean searches and word stemming (Nielsen, 1997, 2001).

### Designing for the Subject-Matter Expert

*("I definitely want the facts, and give me the gobbledygook too!")*

Subject-Matter Experts (SMEs, pronounced "smeeze") are professionals in their chosen field. The field may be scientific or not, technical or not. Aeronautical engineers are SMEs, as are Broadway lighting designers, stamp collectors, physicians and orchid growers. Because SMEs use detailed knowledge, concepts and vocabulary within their fields of

expertise, the designer is often faced with the need to create search interfaces that reference unfamiliar content. For example, if you are a SME in visual perception, you already know what the "Lateral Geniculate Nucleus" is, but if you are a designer writing a search interface for visual perception SMEs, you are probably lost. When creating for experts, designers need to work with the SMEs to learn how the material is structured and along what dimensions the users are likely to want to search.

Also, note the following:

- Learn enough of the subject field to understand what your SMEs search for and how they search. Be sure the search interface responds to their specific vocabulary (Nielsen et al., 2000).

- Allow SMEs to save both their search parameters and their search results (Shneiderman, 1998). They can then search for the basic concepts in their field and combine those searches to find information on the advanced concepts in their field.

- Don't assume that SMEs understand advanced searching concepts. Training in one area does not guarantee training in another, and a Ph.D. may not be familiar with concepts such as the best use of Boolean operators. The interface should lead SMEs through such concepts, since they may need to find highly specific results.

- Provide SMEs with enough information in the search results to decide whether a given item is relevant (Walker and Janes, 1999). The search engine may not be able to provide an adequate measure of relevance for a SME.

### Guidelines Related to the Level of User Experience

When you talk with users, you quickly realize that they have a wide range of mental models relating to what happens when they press the "Search" button. Some users have a clear understanding of such elements as databases, indexes and keywords, while others may have far less sophisticated (or even erroneous) models. Users' mental models for searching are a blend of their technical understanding and their experience with performing searches.

Albert the Bookstore Associate, as a new employee, may be relatively inexperienced with searching. He may not understand that the book reviews he is searching are stored in a database. Even if he knows this, he may not know if he is searching for keywords attached to each review or searching the full text of every review in the database. Keith the Medical Librarian, however, is more likely to understand the difference between keyword and full-text searching and will be able to tell which strategy a product employs based on the structure of its user interface.

To the extent that you develop an understanding of your users' mental models for searching, you can reflect their models and generate an interface they find easy to use.

### Designing for the Novice Searcher

*("I usually look for a place to type in a word and then click on Search or Go")*

Novice searchers may have extensive computer or technical experience, but they have not had an occasion to perform in-depth online searching. They may be Casual Searchers, SMEs or Interested Laypersons. Essentially, Novice Searchers do not have any preconceived expectations about how to do a search or how a search works (or they have erroneous expectations), so the user interface must provide a model for them. When designing for Novice Searchers, note the following:

- Consider alternatives to a search (www.usability.gov/guidelines, 2001). No-

vice Searchers may not need a search engine—there may be a better way to guide them to the information they need (especially for precision searches, described in the next section). So consider carefully if such a search is the best option for finding the required data.

- A global search is better than a scoped search (Nielsen, 1997). Novice searchers lack the experience to fully understand the difference between a global and a scoped search, and even those who do know the difference may not be able to tell what the current scope is.

- Lead Novice Searchers through the search dialogue. Keep the search interface simple, providing advanced search features on another screen (Nielsen, 2001). Novice users need a clear path to move forward, and each additional feature or option requires additional thought—and additional chance for error.

- Present the search options clearly and simply. Often developers, who have clear mental models of how a search works, use their own desires to decide what options are appropriate. Novice users do not generally benefit from “extra” features that don’t add significant value to the search. Be careful about added “wouldn’t it be nice if the user could also...” features, which may promote confusion rather than convenience. Novice Searchers do not understand the implications of labels like “sort order” and may not have the knowledge to be able to choose the fields they see. Use the knowledge you acquire during the user analysis to make these decisions for them.

**Designing for the Intermediate Searcher**  
*“I know how to use and, or and wildcards”*

Intermediate Searchers are proficient in researching a specific area or may have a good deal of search experience, but they lack formal training. They form and execute basic search strategies without knowing much about formal searching. They are aware of the need to search using variants of a word or synonyms,

and they are familiar with conventions like putting quotation marks around a phrase to find exact phrase matches. In fact, they assume such conventions and use them without checking to see if your search interface actually supports them. Intermediate Searchers have a mental model of how a search works, but it is not formalized. It also is based on other product’s search interfaces, not yours. When designing for the Intermediate Searcher, consider the following:

- Clearly state the search rules. Intermediate Searchers know that many search engines often ignore common words. Does yours? They know that you often can search for phrases rather than words. How do you do it here? Make it easy to find out.

- Provide Intermediate Searchers with a clear path for searching, but allow them to deviate from it if they wish. Reduce the cost of such exploration with clear error

messages and the ability to backtrack (Nielsen, 2000).

- Give users flexibility with the search results presentation. Allow them to sort results by various parameters (Schneiderman, 1998). Allow them to search within the current result set or to initiate a new search from the search results.

- Provide users with access to advanced features, but don’t make understanding them critical to success. Intermediate Searchers may like to save search queries or perform detailed Boolean searches, but should be able to complete their tasks without knowing how to use these features.

**Designing for the Advanced Searcher**  
*“I devise and execute search strategies for a living”*

Advanced Searchers have extensive experience with searching in general and your

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## PubMed vs. drkoop.com

### WHAT A DIFFERENCE A SITE MAKES: COMPARING USES



While Pubmed and drkoop.com allow users to find medical information, these two sites have very different purposes and audiences. Here's how they measure up

**PubMed**  
is a search tool for librarians and medical professionals

**Drkoop.com**  
is a medical information site for the general public (www.drkoop.com).



(www.ncbi.nlm.nih.gov/PubMed). It has a comprehensive database of citations and abstracts for medical articles. A profile of PubMed's typical user would be:

- **User Type:** Subject-Matter Expert
- **Search Experience:** Intermediate or Advanced
- **Type of Search Results:** Recall, Precision, "Some good items"

Most searches will be recall or "some good items" searches, but because PubMed shows article abstracts, most of its users will be trying to find a specific abstract.

PubMed is clearly oriented to Advanced Searchers, because it offers a variety of advanced search features. On its home page, it provides advice for the Advanced Searcher, such as "Enter journal titles in full or as MEDLINE abbreviations. Use the Journal Browser to find journal titles." This is reference information for Advanced Searchers who need know only the syntax of what they want to enter.

A Preview/Index feature allows users to enter a search and see only the number of hits that the search would return. It assigns each such preview search a line number, and searchers can then combine line numbers to create highly specific searches. Advanced and Intermediate Searchers can therefore build complex searches out of simple ones. When viewing individual hits, PubMed provides the information needed to look up the complete article in a medical library. It shows authors, title, journal, volume, issue, page numbers and PubMed ID. It does not display a relevance ranking, however.

Supporting recall and "some good items" searching, PubMed offers a Clipboard feature. In any hit list, users can check a box next to a hit and then click on "Clip Add" to add it to the Clipboard. At the Clipboard, the searcher can display the list as text for printing or download it.

Despite these advanced features, PubMed's home page offers a simple scoping mechanism (defaulted to all of PubMed), a text entry box, a Go button and a Clear button. Thus, even Novice Searchers stand a reasonable chance of finding relevant information.

Unlike PubMed, its core audience is neither medical professionals nor librarians. A profile of drkoop.com's typical user more closely resembles:

- **User Type:** Interested Layperson
- **Search Experience:** Novice
- **Type of Search Results:** Recall

Most users go to drkoop.com to find information on a particular topic or condition. They do not necessarily have a specific book or article in mind. Instead, they want to find all relevant information about their topic—a classic recall search.

As befits a search interface for Novice Searchers, drkoop.com offers a simple text entry box and a Go button. It does allow the user to set the search scope, but its default is to search all of drkoop.com. A bit less clear is a second search box labeled Search Natural Medicine, with a Go button. The difference between the two search mechanisms is not entirely clear, so Novice users face more potential for error than they might otherwise.

Drkoop.com's search results page is not nearly as detailed as PubMed's, reflecting the fact that its users are after information, not citations or other extraneous information. Each hit shows a title and a two- to four-line summary of the article.

Keeping in mind the fact that its users are Novice Searchers, there are no advanced features to get in the way of the results page's simplicity. Hits are chunked into groups of 10. So if there are 32 hits, there will be a total of four pages of search results through which users can progress. There is a yellow box at the top of the search results that shows the search term and allows users to start a new search.

Drkoop.com's search interface would frustrate a Subject-Matter Expert or an Advanced Searcher, but because its overriding principle is an orientation to Novice, Interested Layperson Searchers, its interface is appropriate.

—S.M. and M.M.

type of search interface in particular. They may have received formal training in searching and know what type of information they are looking for and how they want to specify it. Advanced Searchers want a full set of search features readily available so they can decide the most efficient way to proceed. They often want advanced features, such as the ability to combine several saved search sets. Because Advanced Searchers have experience with a number of different search models, they are usually adept at picking up new ones. Most librarians and other information professionals are Advanced Searchers. When designing for the Advanced Searcher, regard the following:

- Provide clear access to advanced search features, and make the full range of functionality obvious. Make sure the Advanced Searcher can see how to search on any or all of the available fields.

- Help users execute not only individual queries, but also entire search strategies. Allow Advanced Searchers to save both search parameters and search results (Shneiderman, 1998). Make it easy to plan and execute searches that take several queries to complete.

- Allow Advanced Searchers to enter the entire query in a free text box if you are using a known query language. Allow alternate means for specifying the query as well.

- Allow users to determine the information displayed in a results set, as well as the sort order. Part of an information professional's job is to find out from the customer what is needed to make a decision about an item's relevance. These professionals need to be able to respond to varying customer needs. Allow them to determine the sort order and general presentation of the information (Walker and Janes, 1999; Shneiderman, 1998).

- Provide Advanced Searchers with reference assistance rather than procedural assistance with their task. They are generally familiar with the functionality

available and need only know how it's implemented in this interface.

#### Guidelines Related to the Type of Search Results

Knowing what type of results your search needs to return is important. This question relates to more than how the search results are formatted. A search is useful only to the extent that the data it returns is useful. So a key question you need to ask is, "What are they after?"

Samantha the Patent Examiner needs a *recall search* to find everything she can about the new drug's refinement technique. Keith the Medical Librarian has a citation and is trying to locate a specific article; he needs a *precision search*. Albert the Bookstore Associate wants to help a customer locate the best five books on Alzheimer's; he needs a *some good items search* because the specific object of the

search isn't known ahead of time, and the customer only wants the few items that best meet her criteria.

#### Recall Searches

("Show me all articles about amyloid plaques")

A recall search casts a wide net, bringing in everything that meets specified criteria. A graduate student conducting a literature review on lucid dream therapy needs to perform a recall search. Often people performing a recall search may not even be in a position to evaluate the relevance of the items turned up, particularly if they are still learning about the topic of their search. An Advanced Searcher typically approaches a recall search by starting with the specific term ("lucid dream therapy") and then broadening the search to include synonyms and related concepts ("lucid dreams," "dream therapy," "conscious dreaming"). When you are designing an



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Provide **extra help** with refining searches. The **Interested Layperson** often needs the concepts embodied by the field's jargon but **lacks the vocabulary** to express them.

interface to support recall searches, consider the following:

- Make it easy to evaluate individual result items. Allow a person evaluating the results of a recall search to investigate each option and then include it or exclude it from a list of items for further investigation.

- Allow users to save and resume recall searches. It may not be immediately apparent that the search has been successfully completed.

- Make it easy to expand searches as well as narrow them. A “Search Within These Results” feature is less useful for a recall search than it is for a precision search.

- Search globally. A person doing a recall search wants to at least consider every item that meets the criteria. In general, global searches are less confusing than scoped searches (Nielsen, 1997).

- Accept word variants, word stemming and synonyms for search terms (Shneiderman, 1998). Novice and Intermediate Searchers may not realize that they should broaden their search rather than narrow it.

#### Precision Searches

(“Find Jennings & Cooper’s 1998 article on amyloid plaques, given a citation”)

It is easy to know that you have finished a precision search—you have the right answer. Precision searches have one or a few clear targets of the search. You either find them or you don’t, and relevance rankings aren’t much of an issue. A person performing a precision search knows what she is after and only wants the feature set that leads to the right answer. Advanced

Searchers approach a precision search by identifying one or two unique things about the subject and then looking for them. For example, to find a specific *Newsweek* story on the Palestinian Authority, they might search for the two most unique words in the article title and the name Arafat. They do not assume that everything they have been given in a citation is accurate—people transpose digits, misspell names and make other errors. When you are designing a precision search, note the following:

- Give the user what is needed to locate a unique item and no more. “If people know exactly what they’re looking for, it’s no time to give them pretty visual interfaces or easy-to-learn type-in boxes” (Tognazzini, 1996).

- Make it easy to narrow search results. Unlike recall searches, the primary strategy in a precision search is to progressively eliminate results until you are left with the correct items.

- Include the information in the search results that allows users to uniquely identify the target of their search (Walker and Janes, 1999). Users should be able to tell whether they have found their answer without investigating each option in the search results set.

#### “Some Good Items” Searches

(“Show me the latest papers on amyloid plaques”)

A “some good items” search is like a combination of a recall and precision search. In this case, the searcher only wants to find a limited set of items, but doesn’t know in advance what the items are. An astronomy professor who wants to assign his students

the three most representative articles about quasars would conduct a “some good items” search to locate the articles. Unlike recall or precision searches, determining the relevance of each item returned by the search is critical to a “some good items” search. Advanced Searchers begin a “some good items” search in the same way they begin a recall search—by starting with a given term or phrase and expanding the search. Once they have conducted the recall search, they then apply the relevancy standards given to them by their customer to rank the results and provide the best several matches. When you are designing a “some good items” search, note the following:

- Follow the guidelines for a recall search. Both recall and “some good items” searches begin with the same strategies.

- Make a simplified reference interview an optional part of the search process. Request information from the user that lets your search engine present a meaningful relevancy measure.

- Support the task of creating a short list of results. Allow users to manually create a custom list (that they can save) by moving items to it from other results sets.

#### Tying It All Together

After taking in the guidelines, study your users and the tasks they need to perform. Use the data you collect to build a set of design guidelines that pertain to your situation. Your user and task analysis is the key to resolving conflicts among the guidelines. Examine the case of Albert the Bookstore Associate to see how this works.

Albert is receiving many requests for books about Alzheimer’s. Because Albert is not an expert on Alzheimer’s or particularly motivated beyond a customer’s request, he is best classified as a Casual Searcher. And because, like most bookstore employees, he has limited search experience, he is also classified as a Novice Searcher. Since his customers don’t have specific books in mind, Albert must perform a “some good items”

search to recommend a few choices.

Combining these results leads to the following set of guidelines:

- Offer a simple search box on the home page and on each page throughout the site.
- Present information in the search results that allows users to assess relevance.
- Allow Casual Searchers in an e-commerce setting to search for things other than products.
- Allow Casual Searchers to search for items with their own vocabulary.
- Consider alternatives to a search.
- A global search is better than a scoped search.
- Lead Novice Searchers through the search dialogue.
- Present the search results clearly and simply.
- Make it easy to evaluate individual result items searches.
- Allow users to save and resume recall searches (also applies to “some good items” searches).
- Make it easy to expand searches as well as narrow them.
- Search globally.
- Accept word variants, word stemming and synonyms for search terms.
- Make a simplified reference interview an optional part of the search process.
- Support the task of creating a short list of results.

Inspecting the guidelines reveals some redundancies, such as “A global search is better than a scoped search” and “Search

globally.” These are easily consolidated. But what happens if the guidelines conflict? Short of flipping a coin, the best way to make a decision is to look at data from your user analysis. Give more weight to the needs of your primary users. You might also consider whether you in fact need two different user interfaces (text entry search vs. a category browse), or even two different products.

In Albert’s case, the guideline to keep the search interface simple could conflict with the guideline to support the task of creating a short list of results. Because he works in a store that groups together books about similar topics, it is probably sufficient for Albert to look at his initial list of results, note their location in the store, and then take the customer to that location. Here, a simple search interface is more important than the extra feature.

The take-home message is this:

- Familiarize yourself with the general search heuristics that apply to all situations.
- Analyze your searchers and determine the Type of User, Search Experience and Type of Search Results.
- Add the relevant specific guidelines to the set of general heuristics to arrive at the full set of guidelines for your search interface.
- Resolve any conflicts among the guidelines with user data. ■



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## RESOURCES

### Citations and additional reading

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