A 3D rendered hand holding a magnifying glass over a 'HELP' button. The hand is rendered in a gradient of colors from purple to blue. The magnifying glass has a black handle and a silver frame. The 'HELP' button is a rounded rectangle with a gradient from purple to blue and the word 'HELP' in white capital letters.

# Examining Online HELP Features

by Hong (Iris) Xie and Adam M. Bowser

**In** the digital age, when information searching becomes part of everyday life, people cannot find needed information from just one type of information retrieval (IR) system. They search web search engines to find web documents; online databases for scholarly articles; online public access catalogs (OPACs) for book information; and digital libraries for special collections. It is impossible for the general public—and possibly even for information professionals—to be experts in every type of IR system. Thus, they rely on Help features in these systems. But how helpful are these Help functions? That is the focus of our recent study, which intends to answer two research questions:

- What are the explicit and implicit types of Help features and their associated formats and presentation styles in different types of IR systems?
- What are the problems and challenges for IR Help system design?

#### ASSESSING HELP FEATURES

We selected eight IR systems and analyzed their Help features from February 2008 to May 2008. We chose two from each category to represent the four types of IR systems: web search engines, online databases, OPACs, and digital libraries. Our choices were Google ([www.google.com](http://www.google.com)), Yahoo! ([www.yahoo.com](http://www.yahoo.com)), EBSCOhost (<http://search.ebscohost.com>), LexisNexis ([www.lexisnexis.com](http://www.lexisnexis.com)), WorldCat ([www.worldcat.org](http://www.worldcat.org)), PantherCat (<https://millib.wiscn.siu.edu/cgi-bin/Pwebrecon.cgi?DB=local&PAGE=First>),

American Memory's An American Time Capsule, (<http://memory.loc.gov/ammem/index.html>), and International Children's Digital Library ([www.icdlbooks.org](http://www.icdlbooks.org)).

We assessed their explicit and implicit Help features and analyzed them in terms of their types, formats, and presentation styles. More importantly, we identified and discussed the challenges and problems of Help system design, including whether there should be a standard design of Help, what content Help should cover, and what features may be missing. We asked how Help should be presented to users, what the relationship between Help and the overall interface design is, and how to differentiate search Help from other service Help.

The decision to choose these eight IR systems is based on their popularity, their availability, and their representation, as well as the design of their Help features. While the selected web search engines, digital libraries, and OPACs are publicly available, the two online databases are available only by login and password. We accessed these two online databases via one public library and one academic library. PantherCat was selected to represent one academic library's OPAC.

We analyzed the data based on 1) types of Help features, 2) formats of Help features, and 3) style of Help.

- *Types* refers to whether a Help feature is explicitly labeled as Help. If it is labeled as Help or ?, it is an explicit Help feature; otherwise, it is an implicit Help feature.
- *Formats* refers to the actual format of the documents in

Help features, ranging from text, images, screen shots, and multimedia materials to interactive materials.

- *Styles* refers to how the information in Help features is presented. Presentation styles can be classified into descriptive, guided, procedural, and exemplary categories.

We also identified the problems of Help features in these four types of IR systems.

#### IMPLICIT AND EXPLICIT TYPES

Search engines such as Google and Yahoo! dominate in showing explicit Help compared to the other IR systems examined. Even though web search engines have the simplest interfaces, they have the most complicated Help systems. However, it is not easy to access explicit Help in web search engines. In both of these search engines, explicit Help features are somewhat hidden. In Google, explicit links are accessible from the implicit links. Google's Help is embedded in About Google; Yahoo!'s explicit Help can only be found at the bottom of the main search page, and users have to click the search Help icon to access all the Help topics.

Additionally, there are a multitude of Help features in both Google and Yahoo!, but not all of them relate to search Help. It is difficult for users to effectively identify the needed Help for their information searching. By no means are Google and Yahoo! simple search engines. They have numerous systems, programs, and databases, plus they offer services related to mail, news, and blogs that make Help more cumbersome. Both sites offer elaborate programs to help a user go above and beyond essential functions.

Finally, the labels for Help features are not always consistent, with key implicit features located in the About Google category and each feature labeled in subcategories, such as Google Web Search Features, Corporate Info, and Contact Us. Google labels its Help section with multiple titles such as "Help" and "Help Center." It can get confusing as to which area is what and if one or the other is the main Help. Yahoo!'s Search Suggestion, a feature recently added by Google as well, offers users related search concepts, based on popularity rankings, without disrupting their searches. Yahoo! also offers Search Help in which users can search for their Help topics.

#### HELP IN ONLINE DATABASES

Unlike web search engines, commercial online databases offer more complicated interfaces and more focused Help features. In EBSCOhost and LexisNexis, explicit Help is clearly marked. LexisNexis has two links to Help. Its explicit Help features are also well-organized for the search process, ranging from searching, browsing, viewing results, and delivery. Its implicit Help features have unique characteristics related to the use of online databases. First, both have implicit Help to assist users in effectively identifying related databases, such as EBSCOhost's Choose Databases and LexisNexis' Sources. Second, online databases contain a number of Help features, such as EBSCOhost's Thesaurus

and Indexes in some of the databases, to enhance users' domain knowledge.

Third, while the Help features in these two online databases describe how to use the databases and how to limit results and findings, they also offer some advanced implicit features. EBSCOhost's Visual Search function guides users to assess search results and to refine their searches. LexisNexis places its implicit Help features such as How do I...? and View Tutorials next to the Search function, so users can easily check for Help if needed.

#### OPAC HELP

The OPAC's Help features are easier to follow compared to other types of IR systems. There are few either implicit or explicit features. While WorldCat uses questions to present Help topics, PantherCat's explicit Help is similar to online databases with some major topics related to the search process, such as Searching, Displaying Information, and Requesting Items. Both of these OPACs lack detailed Help sections. No further instructions are given to the questions that cannot be answered by their Help sections. WorldCat's implicit Help features do not offer anything new.

PantherCat provides more varieties in terms of its Help features, such as Options for users who cannot find related information to refine their searches or for those who take other approaches. A History feature shows users their previous queries. Search Tips illustrate some examples of searches. However, PantherCat's Search Tips opens the Help page in a small nonexpandable window that is extremely hard to use and redundant.

#### HELP IN DIGITAL LIBRARIES

The digital libraries we examined had a number of Help features designed to assist users researching multiple topics. First, both of the digital libraries have comprehensive explicit Help. American Memory contains Search Help, FAQs, Contact Us, and How to View. The International Children's Digital Library (ICDL) lists an FAQ, Search, Site Map, and Contact Us in its explicit Help. Both digital libraries used FAQs in their Help sections. They cover the questions in relation to the creation, view, and use of digital collections.

Second, Contact Us has a new meaning in digital libraries. American Memory offers the opportunity for users to have synchronous and asynchronous interaction with librarians.

Third, in addition to search Help, digital libraries present information related to collection identification and document viewing. The American Memory Help covers How to View, and its About covers About the Collection and Technical Information.

Fourth, many of the important Help topics occur in different locations. In both digital libraries, FAQs appear in both explicit Help and implicit Help. In American Memory, users can access the same information from general Help as well as Help in specific collections. Specific collections of American Memory, such as An American Time Capsule, display How to View.

Table 1. Explicit Help Features

Google	<p>About Google: Help:</p> <ul style="list-style-type: none"> <li>• Web Search: <ul style="list-style-type: none"> <li>• Help Center: <ul style="list-style-type: none"> <li>• Top Questions</li> <li>• Additional Resources</li> <li>• Search Guides</li> <li>• Search Features</li> </ul> </li> </ul> </li> <li>• About Contacting Support</li> <li>• Site Map</li> </ul>	<p>Preferences:</p> <ul style="list-style-type: none"> <li>• Preferences Help</li> <li>• Learn from other Google users</li> </ul>	
Yahoo!	<p>Help:</p> <ul style="list-style-type: none"> <li>• Top Questions</li> <li>• Tutorials</li> <li>• Community</li> <li>• Search Help function</li> </ul>	<p>Search Help:</p> <ul style="list-style-type: none"> <li>• Search Help topics</li> <li>• Top questions</li> <li>• Related Links</li> </ul>	
EBSCOhost	<p>Help:</p> <ul style="list-style-type: none"> <li>• Welcome</li> <li>• Translation</li> <li>• Searching</li> <li>• Browsing</li> <li>• Personalization</li> </ul>	<ul style="list-style-type: none"> <li>• Saving searches</li> <li>• Viewing results</li> <li>• Using folders</li> <li>• Print/Email/Save</li> <li>• Glossary &amp; Stop words</li> </ul>	<ul style="list-style-type: none"> <li>• Citation Styles</li> <li>• Using technical support</li> <li>• User profile help</li> <li>• EBSCOhost Tutorials</li> <li>• Support Site</li> </ul>
LexisNexis	<p>Help Content:</p> <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Searching</li> <li>• Using the source directory</li> </ul> <p>Help Index</p>	<ul style="list-style-type: none"> <li>• Viewing results</li> <li>• Delivery</li> </ul>	<ul style="list-style-type: none"> <li>• General</li> <li>• Tutorials</li> </ul>
WorldCat	<p>Help:</p> <ul style="list-style-type: none"> <li>• General WorldCat questions</li> </ul>	<ul style="list-style-type: none"> <li>• See more FAQs</li> </ul>	
PantherCat	<p>Help:</p> <ul style="list-style-type: none"> <li>• Searching</li> </ul>	<ul style="list-style-type: none"> <li>• Displaying information</li> </ul>	<ul style="list-style-type: none"> <li>• Requesting items</li> </ul>
American Memory	<p>Help:</p> <ul style="list-style-type: none"> <li>• How to View</li> <li>• Search Help</li> </ul>	<ul style="list-style-type: none"> <li>• FAQs</li> </ul>	<ul style="list-style-type: none"> <li>• Contact Us</li> </ul>
International Children's Digital Library	<p>Help:</p> <ul style="list-style-type: none"> <li>• FAQ</li> <li>• Library Help</li> <li>• Search</li> </ul>	<ul style="list-style-type: none"> <li>• Contact Us</li> <li>• Site Map</li> </ul>	

DIFFERENT FORMATS

Help content can be presented in different formats. The main formats are text, images, screen shots, multimedia materials, and interactive formats. Images refers to any pictures or illustrations that help users search for information. Screen shots refers to actual images of screens derived from an IR system that are related to web searching. Multimedia materials refers to audio or video files that guide users in learning how to effectively search for information. Interactive formats refers to those Help features that enable users to communicate with support staff members or librarians to solve their search problems.

Different formats represent different types of Help. Of course, textual information is an essential component for every Help feature, and each format uses some sort of textual descriptions, tags, labels, or processes. Text information presented in tables or bulleted lists is more helpful than text presented in paragraphs since users can easily view the most important information, particularly search tips such as PantherCat's Help on Searching. Hyperlinks are very effective for users to connect to different but related information.

Images are more effective than text in representing collections and documents. Images include formats such as JPEGs, TIFFs, and PNGs. Surprisingly, the IR systems we selected for this study do not make good use of images in their Help features. We don't consider small icons as images. Only two systems provide images in the Help features: LexisNexis' History and ICDL. In LexisNexis' About LexisNexis: History, images are used to illustrate the key events in LexisNexis History. ICDL's Read Books provides the most images with iconic images and pictures of the books available.

SCREEN SHOTS AND MULTIMEDIA

Screen shots are available for about half of the IR systems. Google applies screen shots in its Help on Web Search related to Advanced Search and Search Results Page. EBSCOhost relies on screen shots to describe its Help. Nearly every Help subtopic provides screen shots with the appropriate labels. Simultaneously, the two digital libraries use a good number of screen shots for their Help and Search



Table 2. Implicit Help Features

Google	About Google: • Google Web Search Features • Contact Us: • Site Map • Corporate Info				Preferences	Advanced Search: • Advanced Search Tips	Language Tools
Yahoo!	Advanced Search	Preferences	Search Suggestions	Company Info	Community		
EBSCOhost	Thesaurus	Indexes	Preferences	Advanced Search	Choose Databases	Visual Search	Search History/Alerts
LexisNexis	Power Search	Start Page	About LexisNexis • Site Map • Contact Us	Sources	How Do I...?	View Tutorials	
WorldCat	Advanced Search	About	Feedback				
PantherCat	Search Tips	Advanced Search	Reported Problems	History	Ask a Librarian	Options	
American Memory	About: • Mission and History • About the Collection • Technical Information • FAQs	Contact	About the Collection/ An American Time Capsule	Building the Digital Collection/ An American Time Capsule	How to View/An American Time Capsule	Glossary/ An American Time Capsule	
International Children's Digital Library	About Library	Read Books: • Books by Country • Advanced Search • Full Books Lists • Author & Illustrator • Lists • Featured Books	FAQs	Site Map	Contact Us		

Help areas. For example, Search Help in American Memory illustrates different browsing and searching approaches that users can access. ICDL also uses screen shots under *Library Help*, not only to offer help with search but also to assist different types of readers in reading books. The features on the screen shots in these IR systems are also highlighted and annotated to clearly guide users in using these features. There is one potential problem: Users cannot interact with these screen shots as they are static images.

Multimedia materials, either video or PowerPoint tutorials, are used in the web search engines and the online databases to provide users with brief guidance in searching. For example, LexisNexis' View Tutorials presents several video tutorials related to Overview, Selecting Resources, and Working with Results. Unfortunately, it doesn't have audio; users must read text while playing the tutorials. EBSCOhost Tutorials are presented in two formats: Adobe Flash and PowerPoint format. Its Flash format consists of audio explanations, mostly related to basic, advanced, and visual searches. Again, none of the multimedia Help is interactive. Users can view the presentation, but they cannot enter anything or get feedback from the tutorials.

Interactive format is offered in all of the IR systems except for ICDL. Among all the interactive formats, only Google and Yahoo! have their own user groups—Google's Learn

From Other Google Users and Yahoo!'s Community—so users can share problem-solving information about search. At the same time, Google offers users opportunities to contact Support via email.

EBSCOhost offers an interactive support site, Using Technical Support, as well as the Ask-a-Librarian feature. Visual Search is another outstanding Help feature. Users can interact with Visual Search to manipulate the search results by grouping results, sorting results, filtering results by date, and displaying style. LexisNexis' Contact Us page, in contrast, is pretty basic. It asks users to consult libraries within their organizations. Both American Memory's Contact Us and PantherCat's Ask-a-Librarian feature contain synchronous and asynchronous interaction options for users to chat with librarians or to send emails to librarians. WorldCat has only a Feedback Page with a form for users to send their comments to WorldCat. ICDL did not offer any interactive formats in its Help.

#### PRESENTATION STYLES

There are four types of presentation styles when describing Help content—descriptive, guided, procedural, and exemplary. Descriptive style describes content in narrative form. Guided style offers users advice in searching for information; this style can be further classified into system-

Table 3. Formats of Help Features

Format	Text	Images	Screen Shots	Multimedia Materials	Interactive Format
Google	All Help Features	N/A	Help: <ul style="list-style-type: none"> <li>• Web Search:</li> <li>• Search Guides: <ul style="list-style-type: none"> <li>• Advanced Search</li> <li>• Search Results Page</li> </ul> </li> </ul>	N/A	Help: <ul style="list-style-type: none"> <li>• Web Search:</li> <li>• Learn From Other Google Users</li> <li>• About</li> <li>• Contacting Support</li> </ul>
Yahoo!	All Help Features	N/A	N/A	N/A (Tutorials not search related)	Community
EBSCOhost	All Help Features	N/A	Help: Provided under every topic	Help: EBSCO Tutorials	Visual Search Help: Support Site
LexisNexis	All Help Features	About LexisNexis/History	N/A	Tutorials	Contact Us
WorldCat	All Help Features	N/A	N/A	Tutorials	Feedback
PantherCat	All Help Features	Table on Search Help	N/A	N/A	Ask a Librarian
American Memory	All Help Features	N/A	Help/General Search Help	N/A	Contact: <ul style="list-style-type: none"> <li>• Ask a Librarian</li> <li>• Chat With a Librarian</li> </ul>
International Children's Digital Library	All Help Features	Read Books: <ul style="list-style-type: none"> <li>• Full Books List</li> <li>• Author &amp; Illustrator List</li> <li>• Featured Books</li> </ul> Read Books: Advanced Search	Help: Library Help	N/A	N/A

guided style and human-guided style. Procedural style describes how to complete a task step by step. Exemplary style is used to reinforce a procedural style with examples.

Descriptive styles are extremely common in help areas, even though users lack the patience to read long paragraphs. It is an art to summarize key ideas in concise language. All the IR systems investigated have some form of descriptive Help features. Most of them focus on the introduction of the IR systems and their relation to the company or organization, such as Yahoo!'s Company Info, About LexisNexis, and About WorldCat. In digital libraries, descriptive styles are the key for introducing the overview of a digital library or a collection, such as American Memory's About Collection for An American Time Capsule and ICDL's About Library.

Some FAQs are also presented in descriptive style mainly because of the coverage of FAQs. The ICDL's FAQs cover mainly general, language, and book contributions. Other FAQs are presented in procedural styles when they deal with search tips.

#### GUIDED HELP STYLE

Guided help styles can be either system-guided or human-guided. System-guided style is applied to system features in which users can select different options provided to them. Guided styles differ from system to system.

Some of the advanced features use drop-down boxes for users to select different fields, as with EBSCOhost's and PantherCat's Advanced Search features. Some of them, such as Google's Advanced Search and LexisNexis' Power Search, do not have detailed field options; instead, they focus more on building powerful searches by providing search tips.

ICDL's Advanced Feature presents the most comprehensive options for children to choose from audience, appearance, content, type, and subject. Search Suggestion from Yahoo! and Search History from EBSCOhost and PantherCat show another form of system-guided style. While the former offers suggestions to enhance users' domain knowledge, the latter assists users in monitoring their search process and combining their searches. One of the nicer guided searches comes from EBSCOhost with its Visual Search, which guides users to evaluate their search results and refine strategies.

Human-guided styles are supported by the users themselves or by information professionals. Google's Learn From Other Google Users and Yahoo!'s Community provide platforms for users to help each other in using these search engines, including offering support for web searching. Users feel comfortable asking for help from their fellow users regarding problems in searching and how to overcome them. In addition, many of the search engines also



Table 4. Presentation Styles of Help Features

Styles	Descriptive	Guided	Procedural	Exemplary	Integrated
Google	About Google	<ul style="list-style-type: none"> <li>Advanced Search Help:               <ul style="list-style-type: none"> <li>Web Search:                   <ul style="list-style-type: none"> <li>About</li> <li>Contacting Support</li> </ul> </li> <li>Learn From Other Google Users</li> </ul> </li> </ul>	Help: Web Search (Most of the topic has its own procedural section)	Help: Web Search: Search guides	
Yahoo!	<ul style="list-style-type: none"> <li>Company Info</li> <li>Help</li> </ul>	<ul style="list-style-type: none"> <li>Advanced Search</li> <li>Help: Community</li> <li>Search Suggestions</li> </ul>	Help: Search Help	Help: Search Help	
EBSCOhost	<ul style="list-style-type: none"> <li>Help/General Glossary</li> <li>Help/General Stop Words</li> </ul>	<ul style="list-style-type: none"> <li>Preferences</li> <li>Advanced Search</li> <li>Visual Search</li> <li>Help: Support Site</li> <li>Search History</li> <li>Choose Databases</li> <li>Thesaurus</li> <li>Indexes</li> </ul>	Help (All subtopics except some, such as User Profile Help, Reaching Technical Support, Glossary & Stop Words)	Help (Most of the topics)	EBSCO Tutorials
LexisNexis	<ul style="list-style-type: none"> <li>About LexisNexis</li> <li>Start</li> <li>Help</li> </ul>	<ul style="list-style-type: none"> <li>Power Search</li> <li>Help: Introduction</li> </ul>	Help (Most of the topics)	Help (Most of the topics)	View Tutorials
WorldCat	<ul style="list-style-type: none"> <li>About WorldCat</li> <li>Help</li> </ul>	Advanced Search	Help (Some topics)	Advanced Search (with examples)	
PantherCat	Help	<ul style="list-style-type: none"> <li>Advanced Search</li> <li>Search History</li> <li>Reported Problems</li> <li>Ask a Librarian</li> </ul>	Help (Most of the topics) Search Tips	Help (Some of the topics) Search Tips	
American Memory	<ul style="list-style-type: none"> <li>About</li> <li>About the Collection/ An American Time Capsule</li> </ul>	<ul style="list-style-type: none"> <li>Contact</li> <li>Help: Search Help</li> </ul>	<ul style="list-style-type: none"> <li>FAQ</li> <li>Building the Digital Collection/ An American Time Capsule</li> </ul>	Help (Some of the topics)	
International Children's Digital Library	<ul style="list-style-type: none"> <li>About Library</li> <li>FAQs</li> </ul>	Read Books: <ul style="list-style-type: none"> <li>Books by Country</li> <li>Advanced Search</li> <li>Full Books List</li> <li>Author &amp; Illustrator List</li> <li>Featured Books</li> <li>Site Map</li> </ul>	Help: Library Help	Help: Library Help	

enable users to interact with information professionals via online chats, email, or telephone.

#### PROCEDURAL AND EXEMPLARY

Procedural styles are presented in the Help feature of every IR system we studied. They teach users how to work on sub-tasks in the information search process, such as conducting a search or viewing results. Of course, not every Help system provides the procedural style on all the topics presented. Among all the IR systems, WorldCat provides the fewest procedural styles in its Help. American Memory uses an FAQ to teach users how to take steps to accomplish tasks. In addition, in one of its collections, American Memory clearly instructs users how the digital collection was built. Most of the procedural styles are either illustrated in numbered lists or bulleted points so that users can easily identify the steps they have to go through to achieve a task.

Exemplary styles are essential in helping users understand how to fulfill search tasks. One example is better than one thousand words. Different IR systems have different ways to present their examples. LexisNexis and PantherCat only show the examples in text. Yahoo! provides examples

only in screen shots, such as in Search Assistance. EBSCOhost and American Memory illustrate the examples and procedures in screen shots. ICDL integrates procedural and exemplary styles together by using numbered lists with text for procedural style and using the screen shots with arrows as examples in its Library Help. Google presents the Google search bar for users to conduct an actual search with examples in its Help.

Tutorials offered in both of the online databases represent the integration of the four styles. These tutorials integrate descriptive, guided, procedural, and exemplary styles together by providing narrative description of how to accomplish search-related tasks step by step with examples. Again, the difference between the two formats is discussed in the section titled Multimedia Materials. The only shortcoming of these tutorials is that they can only provide general Help instead of context-sensitive Help when users encounter problems.

#### DESIGN PROBLEMS AND CHALLENGES

Based on our analysis of the data, we identified the following problems and challenges for Help design:

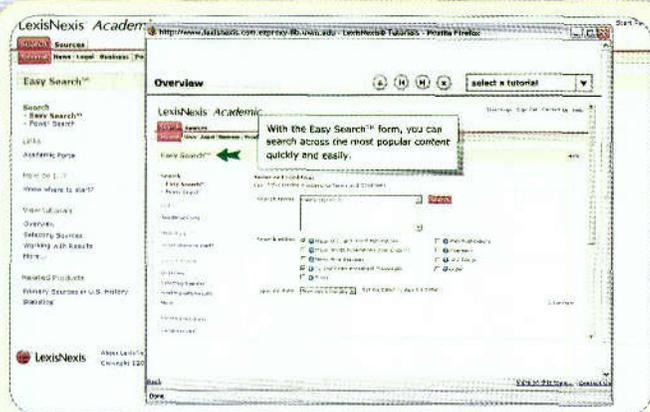




EBSCOhost's Visual Search function guides users to assess search results and to refine their searches.



American Memory offers the opportunity for users to have synchronous and asynchronous interaction with librarians.



LexisNexis places its implicit Help features such as How do I...? and View Tutorials next to the Search function, so users can easily check for Help if needed.



International Children's Digital Libraries also uses screen shots under Library Help, not only to offer help with search but also to assist different types of readers in reading books.

databases to enhance users' knowledge on their search topics. American Memory's Glossary is another effective approach toward understanding the search topic and its terminologies. However, these features are not context-sensitive. Yahoo!'s Search Suggestions provides related terminologies to assist users in constructing alternative queries.

What is lacking is Help for organization and evaluation. To effectively evaluate information, users must find a way to effectively manipulate results and identify relevant information. Visual Search from EBSCOhost provides one of the few organization Help for users.

Two problems emerge when we look at the task of effectively presenting Help features. First, while static Help features are needed to offer users general help, it is more important to have context-sensitive and dynamic Help. Static Help, which is common, requires users to look at and click on these Help features. However, their contents do not change according to the situation. Dynamic Help, such as Yahoo!'s Search Suggestions, changes depending on the users' query input. EBSCOhost's Visual Search and Finding More Like This change based on the search results. In addition, these features are located close to the search box and

search results so that users can easily identify them. PantherCat's History also provides dynamic Help, but its location makes it difficult for novice users to use it.

Second, even though multiple presentation styles are incorporated into the design of Help systems, users need interactive Help features to help clarify their problems and suggested solutions. LexisNexis' View Tutorials and EBSCOhost's Tutorials integrate descriptive, guided, procedural, and exemplary styles into the design. However, they allow only linear, one-way communication; users can view the tutorials, but they cannot input any information. It would be helpful if users could actually practice their searches based on the instructions. Current interactive Help features are mostly supported by people. Users can get support from others, as with Google's Learn From Other Google Users and American Memory's Chat With a Librarian. However, it is difficult to get assistance all the time. Users have to take an extra step to contact human Help. A solution: Design interactive mechanisms within the IR systems to simulate human-to-human interactions.

Another challenge is inserting explicit Help into interface design. Users normally are unwilling to make an extra effort



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to use Help. Some feel they do not have the time to exert that effort. WorldCat's Advanced Search shows examples right next to the search features, so users can quickly formulate their own queries based on the examples without clicking Help. It is an art and a science to design a Help system that unobtrusively assists users and effectively eliminates information overload. Yahoo!'s Search Suggestions, which can be turned on or off, provides a good example for an effective Help design.

Finally, these IR systems not only provide search services, but they also offer other services. Web search engines have email, news, blogs, and multiple online tools. Digital libraries extend preservation, education, and distribution. How to differentiate between search Help and other types of Help features is a particular problem for web search engines. Both Google and Yahoo! offer an overwhelming amount of information to users; their search Help is embedded under different names and at different levels. At Google, users can select web search from 19 other choices under Help. Interestingly, Yahoo! has many tutorials, but they are not related to search. It is a challenge for IR systems that have multiple functions to clearly offer search Help.

### STANDARDIZATION IS NEEDED

The lack of standardization among IR Help systems is a critical problem, but the question is whether there should be a standard design. Users are not willing to spend the time learning how to use Help in every IR system they encounter; plus, they bring their mental models from one system they have used to other systems with which they are unfamiliar.

System designers, on the other hand, cater to the perceived strengths of their individual systems, striving to have the most insightful, well-designed, logical, and usable system possible. It is hard to imagine a standard that all these systems should abide by in a capitalist market, where a unique IR system has the possibility of creating higher profits. Further research needs to be done on how to balance between standardization and uniqueness of Help systems.

Among the four types of IR systems, web search engines need an individual study to assess their Help functions. Since they have drastically changed the amount of subsidiary programs and services available, there seems to be too much "Help" information with search engines. Clear, well-labeled areas could eliminate part of the confusion. The magnitude of scope that each of these systems provides entails a more defined study.

Interactive Help features should be created to facilitate users' interactions with IR systems. For that purpose, more user studies are needed to investigate what type of problems lead users to look for help and what their preferred approaches to solving their problems are, in particular, how users interact with humans when looking for help. Finally, further research needs to examine how to balance the overall design of a system interface and its Help functions.

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