

Libraries at University of Nebraska-Lincoln
Library Philosophy and Practice (e-journal)

University of Nebraska › Lincoln

Year 2008

Making E-Reference Books Findable

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Introduction

The Internet has evolved into the most used of all communication media. Increasing numbers of Americans use the Internet for research and communication (Pew, 2005). Accordingly, publishers and libraries increasingly make information available electronically via the Internet to users. A common example of such development is the electronic book, also known as an e-book. To read an e-book, the user needs a computer or a handheld display device.

E-books have the following advantages: they can be distributed globally via the Internet; they are cheap to publish and share; and they do not need storage space. Gall (2005) reported from a 2002 consumer survey on e-books that “67 percent of respondents wanted to read an e-book, and 62 percent wanted that access to be from a library.” Peek (2005) reported that new technologies would support and enhance the use of e-books. For these reasons, many believe that e-books have the potential to replace traditional books in the future (Emke, 2005).

Even as e-book usage appears to be on the rise, there are reports about their limitations. Safley (2006) discusses that the acceptance of electronic publications depends on the immediacy of information need. For example, electronic reference books and journals provide an easy way to find quick answers for users, but users experience discomfort reading an entire electronic monograph. Thus the usage of electronic reference books is significantly high, but that of electronic monographs is substantially low in academic settings (Anuradha & Usha, 2006). Accordingly, academic libraries have been increasingly providing access to electronic reference books.

Like many academic libraries, Kansas State University (K-State) Libraries have provided access to a considerable number of e-books over the past several years. The e-book reference collection includes encyclopedias, directories, dictionaries, and so on. Vendors such as netLibrary, Dekker, Gale, and ABC-Clio offer electronic reference books as part of electronic book packages. Because reference e-

books are accessed electronically, K-State librarians refer to these books as e-Reference books or e-Reference resources.

Problem

Promoting e-Reference collections is an important issue for libraries. K-State Libraries has been acquiring an increasing number of e-books, including resources that were previously available only in print. K-State Libraries' e-Reference resources were going largely undiscovered because the titles were listed individually in the Libraries' Online Public Access Catalog (OPAC) but were not visible on a shelf in the reference collection like their traditional print counterparts. User feedback received at reference services points indicated that although e-Reference titles could be found by searching the library's catalog, only skilled searchers had the ability to discover them and there was no easy method for browsing the Libraries' e-Reference collection. Reference librarians were adamant that the hidden e-Reference resources had to be brought to the limelight. K-State Libraries needed to find a way to make electronic reference books more accessible and visible to patrons.

Method

In the past, static lists of available reference books were created using HTML and published on the library's website. However, the idea of maintaining static HTML lists for e-Reference books was strongly rejected because creating and updating such lists would be cumbersome, inefficient, and time intensive. Therefore, K-State librarians decided to create a dynamic e-Reference web page to facilitate easy browsing of the collections.

Inspired by Steve Shadle's presentation at the 1999 Annual Conference of the North American Serials Interest Group, K-State librarians developed a dynamic search to pull e-Reference lists via the Voyager OPAC. Unlike the methodology employed at the University of Washington by Shadle and his colleagues, K-State Libraries' implementation does not require the use of programmers to create template-based web pages from sophisticated SQL queries. K-State Libraries accomplishes its version of a dynamic e-Reference page by using canned searches that lead the user to a results display directly from the OPAC. Patrons have the option of browsing e-Reference books by subject, title, or type of reference book (e.g. dictionary, encyclopedia, etc.).

Planning and Implementation

A team was formed to identify possible solutions to the problem of increasing the visibility of e-Reference books. The team included two subject librarians, two reference generalists, a Web team member, and a collection development librarian. The team's goal was to find a way to use the library's website to provide access to K-State's licensed e-Reference resources as well as to some freely accessible quick reference websites.

To begin the process, e-Reference books already available in the K-State Libraries online catalog were identified by collection development librarians and used for the project. The team decided that patrons would find it most useful to access e-Reference books by subject, by title, and by type. The two subject librarian members of the e-Reference Team developed a list of subject headings using Library of Congress classification and subject areas based on the K-State's academic departments. The subject list was presented to our subject librarian colleagues to solicit their feedback and suggestions. The team also developed a list of "types" by which the e-Reference collection could be browsed (e.g. dictionaries, encyclopedias, and thesauri).

The e-Reference Team needed to find the most efficient way to generate dynamic lists of e-Reference books by title, subject, and type using a keyword search. Information already present in the MARC record would not work for several reasons. For example, subject headings in the MARC record are too narrow for the purposes of an e-Reference list (e.g., Botany—Dictionaries or Outlaws--History).

Keyword searches often retrieve irrelevant titles if the keyword appears anywhere in the record. For example, a book about the history of dictionaries is retrieved in a search for “dictionaries”. Searching the terms “history and encyclopedias and electronic” retrieves a variety of items including a record with a link to a table of contents, another for a CD-ROM, and a few actual online resources. A search using the terms “agriculture and (electronic or online)” yields 37,000 records even after limiting the search to books. Would we ever expect a user to know to limit the format to “books” because they are looking for reference materials? No, of course not! These false hits, generated by users’ lack of familiarity with cataloging practice, lead to frustrating search outcomes. We cannot expect users to know which keywords or subject headings will generate a useful list of online encyclopedias or dictionaries.

To effectively query the database and generate dynamic lists of e-Reference books, a unique list of codes that represent subjects and reference book types needed to be developed. These codes would be added to the MARC record for each e-Reference book in our catalog. While this sounds easy, it took quite a lot of verification to find unique combinations of letters that were not already being used in the OPAC and therefore, would not generate false hits. The following criteria were established for developing the codes:

- Codes will contain four letters to minimize the length of dynamic queries, and
- Codes need to be easily recognizable as representing a specific subject area or type.

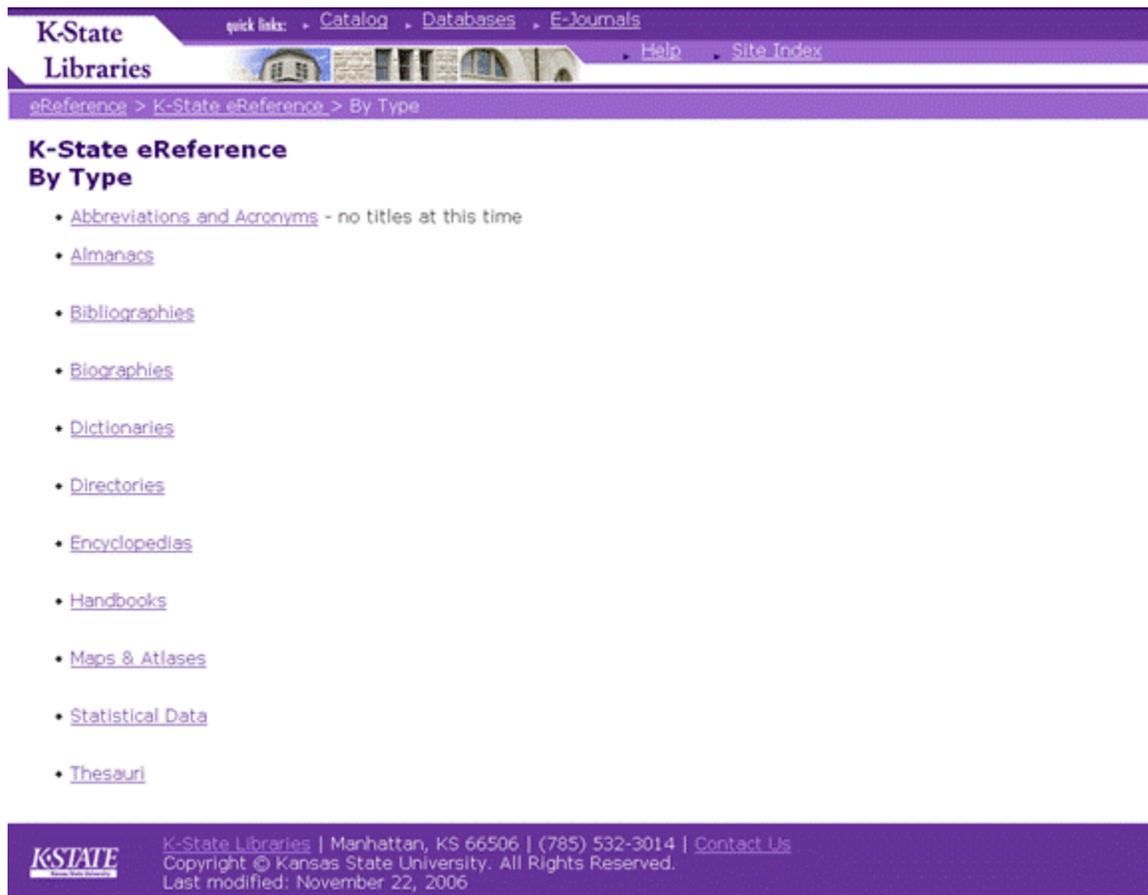
In addition to the subject and type codes, an additional code called “QERF”, was developed to identify all e-Reference materials, which would generate a title list. When QERF is combined in a query with a subject and/or type code, it would ensure that only relevant results were presented to the user.

Once the codes were developed, a decision needed to be made about where to place them in the MARC record. The e-Reference team consulted with the serials librarian and discovered serials staff were using unique codes on e-journals and current print subscriptions to identify publisher packages, group subscriptions and memberships, and affiliated campus departments. Including this code not only enabled users to locate information quickly, but it created an easier way to maintain e-journal packages, group subscriptions and memberships, and lists of current subscriptions by department. Extending the utility of the code concept to an e-Reference model made perfect sense. After initial experimentation with 7XX fields, the MARC 910 and 930 fields were chosen to accommodate the subject and material type codes, respectively (see Appendix A).

These codes are used to create dynamic queries popularly known as “canned searches”. The canned searches are embedded in library web pages to provide access to e-reference books, thus enabling users to browse e-Reference resources by titles, type or subject. The canned search is a query based on a keyword search that is manipulated to contain pre-defined terms and the codes developed by the e-Reference team. This precludes the need for the user to know how to conduct a search for e-resources and provides a quick method for retrieving e-Reference titles. For example, a keyword search in the OPAC for biology e-Reference books would consist of our codes for e-Reference books (QERF) and the code for biology (BIOL). This search creates the following session-specific query (session-specific components of the URL are in bold): https://catalog.lib.ksu.edu/cgi-bin/Pwebrecon.cgi?Search_Arg=qerf++AND++biol+&SL=None&Search_Code=CMD&PID=13277&SEQ=20070808152229 &CNT=50&HIST=1 . Since this query is session specific, the URL cannot be reused as a canned search. Thus, the query needs to be cleaned up to remove the session-specific details (PID=13277&SEQ=20070808152229). Once cleaned up, the new reusable query will look like this: https://catalog.lib.ksu.edu/cgi-bin/Pwebrecon.cgi?Search_Arg=qerf++AND++biol+&SL=None&Search_Code=CMD&CNT=50&HIST=1 .

Canned searches make K-State e-Reference books browsable by subject, type, and title (see Figure 1). Different combinations of the codes were used to develop the canned searches for the browsable e-Reference lists that now appear on the web pages. There is no limit to the number of codes that can be used in a canned query. Some e-Reference books fit into more than one category. For

example, the book *A Companion to Feminist Philosophy* has two subject codes assigned to it because it belongs in both the Women's Studies and Philosophy subject areas (See Figure 2).



The screenshot shows the K-State Libraries website. At the top, there is a navigation bar with the K-State Libraries logo and quick links for Catalog, Databases, E-Journals, Help, and Site Index. Below this is a breadcrumb trail: eReference > K-State eReference > By Type. The main heading is "K-State eReference By Type". A list of e-Reference book types is displayed, each with a bullet point and a link: Abbreviations and Acronyms (noted as having no titles at this time), Almanacs, Bibliographies, Biographies, Dictionaries, Directories, Encyclopedias, Handbooks, Maps & Atlases, Statistical Data, and Thesauri. The footer contains the K-State logo, contact information for K-State Libraries in Manhattan, KS, and copyright information for Kansas State University, dated November 22, 2006.

Figure 1. List of e-Reference books by type available through K-State Libraries available at <http://www.lib.ksu.edu/ereference/by/subject.html>.

000 01536cam a2200373La 450
 001 1425424
 005 20060709005649.0
 006 m d
 007 cr cn-
 008 010319r20001999mau sb 001 0 eng d
 035 __ [a (OCoLC)ocm47011858
 040 __ [a N\$T]c N\$T]d OCL]d OCLCQ]d MUQ]d OCLCQ
 020 __ [a [0631227644](#) (electronic bk.)
 050 14 [a HQ1190]b .C665 2000eb
 082 04 [a 305.42/01]2 21
 049 __ [a KKSA
 245 02 [a A companion to feminist philosophy]h [electronic resource] /]c edited by Alison M. Jaggar and Iris Marion Young.
 250 __ [a [1st pbk. ed., 2000].
 260 __ [a Malden, Mass. :]b Blackwell,]c 2000, 1998.
 300 __ [a xvii, 703 p. ;]c 26 cm.
 440 _0 [a Blackwell companions to philosophy]v 13
 504 __ [a Includes bibliographical references (p. 591-675) and index.
 533 __ [a Electronic reproduction,]b Boulder, Colo. :]c NetLibrary,]d 2001.]n Available via World Wide Web.]n Access may be limited to NetLibrary affiliated libraries.]n Excludes some or all of the images found in the original book.
 650 _0 [a Feminist theory.
 655 _7 [a Electronic books.]2 local
 700 1_ [a Jaggar, Alison M.
 700 1_ [a Young, Iris Marion,]d 1949-
 710 2_ [a NetLibrary, Inc.
 776 1_ [c Original]z [0631220674](#)]w (OCoLC)47984757
 856 4_ [u <http://www.netlibrary.com/urlapl.asp?action=summary&v=1&bookid=44970>]z An electronic book accessible through the World Wide Web; click for information
910 __ [a QERF]b PHIL]b WOST]5 KKS
 930 __ [a zztYHAND]5 KKS
 994 __ [a 92]b KKS
 948 __]z MARS

Figure 2. Screenshot of the K-State Libraries record for *A Companion to Feminist Philosophy* .

While devising the lists of subjects to be displayed on the e-Reference webpage, we kept in mind that these broadly-defined subjects might need to be broken down into narrower subject headings if the number of e-Reference books under the subject becomes too numerous to browse. Subject specialists were consulted to determine what additional subject headings needed to be included under each broad subject heading. Based on trends in publishing and our collection priorities, subject librarians determined the subject areas in which they expected the number of e-Reference books to increase. The e-Reference team developed codes for those subject headings and mapped them to the appropriate broader subject heading (see Table 1). As a result, some of the subject categories we selected to list on the e-Reference page are mapped to more than one subject code in the MARC record. The broad subject categories currently include headings such as “biology” and “chemistry”. However, if a user clicks on “Biology”, he or she will get a list of e-Reference books that have been assigned the subject codes for “biological and agricultural engineering”, “biology”, and “entomology”. Since we only own a handful of biology e-Reference materials, it is not necessary to list subject headings such as “entomology” on the e-Reference page at this point. In the future, we anticipate a need to narrow subject headings to include separate headings for entomology and biological and agricultural engineering.

Webpage Subject (Target)	Subject Codes
Economics	ECON
Education	CHIL, ECED, EDGN
Engineering	BAGE, CHEG, CENG, CPSC, EECE, GENG, IENG, MENG

Table 1. Sample of subject codes assigned to subjects listed on the e-Reference webpage

The browsable lists appear in the “e-Reference” section linked from the library's homepage. We divided the page into four sections: e-Reference Tools, Quick e-Reference, Subject Guides, and K-State

e-Reference (see Figure 2). The K-State e-Reference section provides access to licensed materials. Once the webpages were created, the links containing canned queries were tested to ensure there would be no “false hits” or “no hits”. If a displayed subject term did not retrieve any titles, that subject term was hidden from public view until the library acquires electronic resources in that subject area. If there were false hits, then the HTML coding in the canned queries were checked for typos and edited to display the appropriate results. The final step was to work with the library's web team to identify where links to the e-Reference page would appear on the library's website.

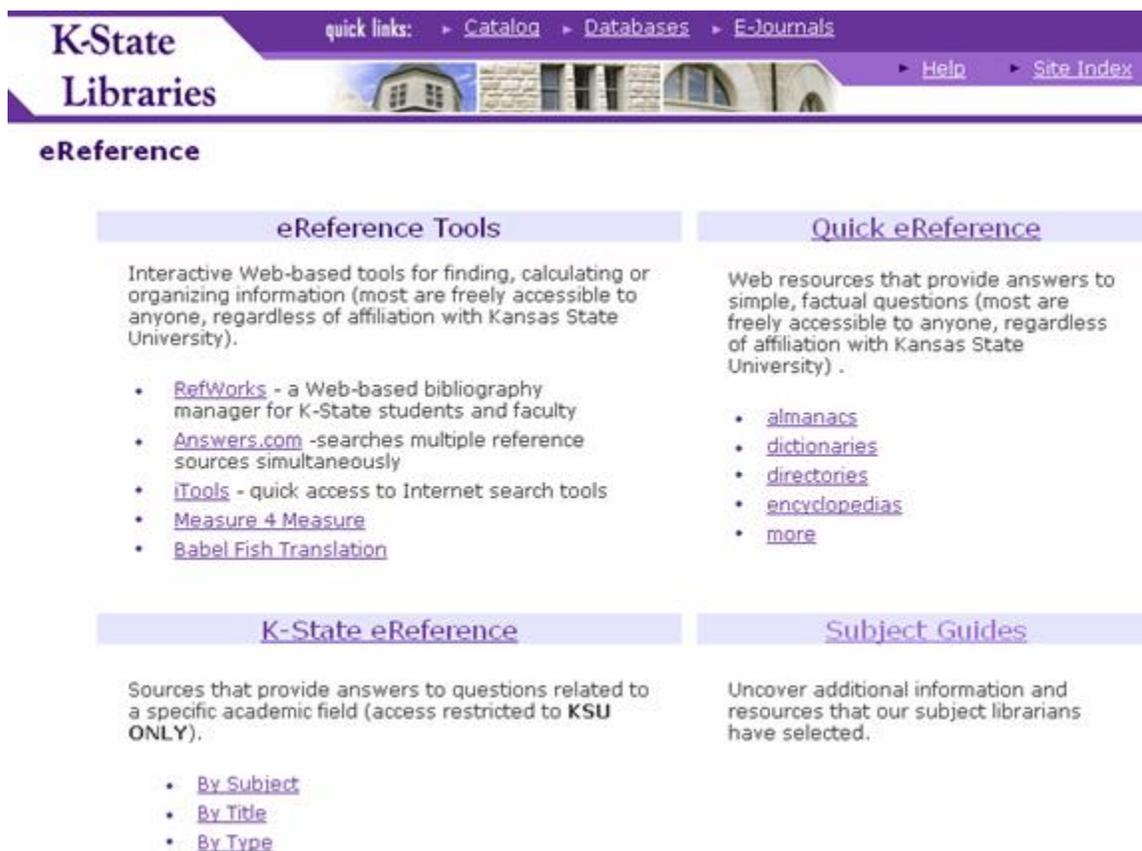


Figure 2. K-State Libraries e-Reference page available at <http://www.lib.ksu.edu/reference/index.html> .

Discussion

A number of public, university and special libraries already use canned searches in various ways, indicating that the major current integrated library systems (ILSs) have this capability. An informal review of several library catalogs and websites returned the following results:

Cornell University, a Voyager library, has web pages that describe setting up and using canned searches: http://library.cornell.edu/newhelp/res_tools/catalog/cannedsearch.html.

Mill Valley Public Library, California uses an Innovative Interfaces catalog and has set up canned searches for DVDs, CDs, etc. from its web pages: <http://www.millvalleylibrary.org/canned.html>.

Appalachian State University, another Innovative Interfaces user and member of the Western North Carolina Library Network, has established canned searches for DVD and VHS collections in

categories including children's films, feature films, or language:
<http://www.library.appstate.edu/collections/films/index.html#can>.

Indiana University–Bloomington provides information on saving canned searches from SIRSI ILS:
<http://www.indiana.edu/~librcsd/nt/canned.html>.

University of Washington Alcohol & Drug Abuse Institute uses canned searches for new additions to its collection and for specialized bibliographies: InMagic catalog <http://lib.adai.washington.edu>

University of Wisconsin-Whitewater suggests using canned Voyager searches for course reserves: <http://library.uww.edu/guides/directlkat.html#csearch>.

The majority of the libraries reviewed use canned searches to retrieve materials by format, for example, DVDs or music CDs. Some provide links to books or other resources for specific classes. K-State Libraries' solution – using canned searches in the online catalog to retrieve e-Reference books – may be easily adapted by other libraries. As described in this paper, additional work is required to enhance existing MARC records, but the collaboration of public services and technical services staff is a worthwhile endeavor to highlight and encourage use of purchased e-Reference materials. Additionally, the use of existing subject guides may speed the decision-making process for those considering ways to make e-Reference materials more accessible.

Additional information on libraries' use of canned searches may be found in Appendix B.

Conclusion

K-State Libraries have more challenges to be addressed such as decisions need to be made about continued maintenance, the selection of e-Reference content, and evaluation of the dynamic lists' usefulness. K-State Libraries plan to implement a web logging tool in order to obtain usage statistics of the e-Reference web pages. Next steps involve publicizing the e-Reference lists (e.g., during classroom instruction, when assisting patrons at the reference desk), and continual evaluation to ensure that we meet the needs of users. In the two years since the e-Reference webpage was set up, only a small number of materials in electronic format have been added to the Libraries' collections. New strategic initiatives in collection development are providing the impetus for our organization to offer more e-Reference titles. Since such initiatives are a goal for the Libraries, then ensuring the materials are easily browsable must also be a high priority. We post new books list via the OPAC, a blog and RSS feeds, but those methods do not provide adequate, long-term access to e-Reference titles, nor can they be sorted by subject or type.

Although a webpage exists for patrons to access e-Reference books, there is the question of who will maintain the page. Since the e-Reference Team disbanded, subject librarians have assumed responsibility for assigning subject and type codes to new e-Reference books. Likewise, the interface of the e-Reference page will need to change as patrons' ways of browsing and accessing information change over time. Web 2.0 technologies offer new ways of sharing information with patrons and therefore, the e-Reference webpage needs to be re-evaluated and improved to meet the information seeking needs of our users.

Another decision that needs to be made is whether the Libraries' databases and government publications should be coded and listed with the e-Reference titles. Although print indexes have traditionally shared shelf space with monographs in a print reference collection, this premise does not necessarily translate to electronic collections. Databases are not generally considered ready reference tools. When CD-ROM/LAN/remote online electronic indexes were made available via library websites, they were promoted under a “databases” link. Users are accustomed to recognizing the indexes as databases and, therefore, categorizing the databases as e-Reference at this point may cause confusion for patrons.

Identifying new government publication titles for inclusion in e-Reference lists could be challenging because of the number of bibliographic records loaded monthly from the MARCive records service. K-State receives approximately 550 records per month for electronic government publications. If cataloging standards included a mandatory requirement to code the bibliographic record's fixed field "Nature of Contents" element, a report could be written to extract those records that were, for example, bibliographies, dictionaries, handbooks, or encyclopedias. Unfortunately, the "Nature of Contents" element is optional and not used consistently. Therefore, it would require staff time to review the 550 records each month and prepare the coding route to catalogers for input.

Another issue for consideration is that most of the electronic bibliographic records received from MARCive are for websites, not e-books. Websites do not, by our current definition, fall within the current scope of the e-Reference collection. The government documents librarian maintains a web page list of popular government reference resources. That list might be a starting point should we expand the scope of our e-Reference page. While we have not included government publications in our list of e-Reference books and may reconsider that decision in the future, we should explore ways to point to those resources from the main e-Reference web page.

Recently, the link to e-Reference was placed in a more visible position on K-State Libraries' homepage. We need to investigate incorporating the e-Reference collection with K-State Online, the university's course management system. Proactive utilization of Web 2.0 technologies will help increase patrons' use of e-Reference collections. For example, the Libraries' Facebook account and our Instruction newsletter blog provide venues to publicize the e-Reference collection. The Libraries' newsletter, also published in blog format could link to our e-Reference web page. Any of these actions would increase the visibility of the collection. Without a doubt, the e-Reference collection will continue to grow as the print reference collections shrink and, conceivably, become entirely electronic.

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Appendix A

Table of Codes Assigned to Reference Subject Areas

Subject Area	Reference Subject Codes
Agriculture	GENAG, AGRN, ANSC, BAGE, ENTM, GRSC, HFRR, PPTH
American Ethnic & Multicultural Studies	MCES
Anthropology & Archaeology	ANTH
Architecture	ATID, ARCH
Art	ARTS, GRPH
Biology	BAGE, BIOL, ENTM
Business	ACCT, ATID, BUSC, BUSG, BUSI, FINC, HRIM, MGMT
Chemistry	BCHM, CHEG
Children's Literature	CHIL
Communication	COMM
Economics	ECON
Education	CHIL, ECED, EDGN
Engineering	BAGE, CHEG, CENG, CPSC, EECE, GENG, IENG, MENG
English Literature & Language	CHIL, ENGL
Family Studies & Human Services	ECED, FSHS, LSHD, MAFT
Finance	FINC
Geography	GEO
Geology	GEOL
Gerontology	GERO
History	HIST, HISA
Human Medicine, Health	DIET, HUNU, KINE, LSHD, MEDH
Humanities, General	GHUM
Journalism & Mass Communications	JOMC
Law	LAW
Mathematics, Statistics	MATH, STAT
Modern Languages & Literature	LANG
Music	MUSC
Philosophy	PHIL
Physics	PHYS
Political Science	PLSC
Psychology	PSYCH
Religion	RLGN
Science, General	GSCI
Social Science, General	GSOC
Social Work	SOWK
Sociology	MCES, CRIM, SOCI
Theatre & Dance	DANC, THEA
Veterinary Medicine	VETM
Women's Studies	WOST

Appendix B

Canned Search Documentation from Various Integrated Library Systems

all URLs viewed December 20, 2007

- Ex Libris Aleph
- University of Minnesota – Duluth :
http://blog.lib.umn.edu/rliitwin/comp/2006/03/canned_searches.html
- McGill University : <http://www.mcgill.ca/library-support/teaching/links/#CATALOGUE>
- Innovative Interfaces
- Mill Valley Public Library: <http://www.millvalleylibrary.org/canned.html>
- Occidental College : <http://departments.oxy.edu/library/research/help/more/videos.htm>
- Appalachian State University/Western North Carolina Library Network:
<http://www.library.appstate.edu/collections/films/index.html#can>
- Auraria Library: <http://library.auraria.edu/guides/general/integrilibres.html>
- Ex Libris (formerly Endeavor) Voyager
- Colorado School of Mines: <http://www.mines.edu/library/catalyst/canned.html>
- Cornell University : http://library.cornell.edu/newhelp/res_tools/catalog/cannedsearch.html
- University of Wisconsin-Madison: <http://madcat.library.wisc.edu/help/cannedsearches.htm>
- SirsiDynix
- Indiana University – Bloomington : <http://www.indiana.edu/~librcsd/nt/canned.html>
- Vanderbilt University : <http://acorn.library.vanderbilt.edu/help/acornlinks.html>
- Creighton University : <http://reinert.creighton.edu/aboutlib/help/CLIChelp/display.htm#canned>
- InMagic
- University of Washington Alcohol & Drug Abuse Institute: <http://lib.adai.washington.edu/>
(under Library Resources/Newest Books); and ADAI Bibliographies on Substance Abuse:
<http://lib.adai.washington.edu/biblist.htm>