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ATG Special Report -- reSearcher: The Open Source Solution for Managing Electronic Resources

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ATG Special Report — reSearcher: The Open Source Solution for Managing Electronic Resources

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Abstract

The onerous cost of traditional vendor electronic resource management products have often excluded smaller academic libraries from providing basic services such as OpenURL link resolving, federated searching, etc. At very best, libraries often forsake one service for another, and therefore, are unable to provide the same level of comprehensive research capabilities as larger, well-funded academic libraries. Fortunately for small academic libraries, the zeitgeist of open source software has inspired the **Simon Fraser University Library** to provide an open source integrated suite of electronic resource management products called *reSearcher* which has been adopted by a broad spectrum of academic libraries — from research to community college libraries.

This session will focus on demonstrating several components of *reSearcher* as well as describing its implementation. *reSearcher's* efficacy will also be compared to some commercial offerings

Introduction

As many community and two-year colleges experience unbridled enrollment growth, library budgets at many of these institutions either remain stagnant, or even worse, are reduced. Located in the Upstate region of South Carolina, **Greenville Technical College's (GTC)** enrollment has grown from 7,000 to 10,000 full-time students in the past several years and boasts the largest number of matriculated students of all technical colleges in the state. Despite the College's recent overall success in attracting students and gaining a statewide reputation for some of its academic programs funding consistently remains earmarked toward developing academic programs and the construction of several branch campuses. Unfortunately, the **Greenville Technical College Library's** budget has not been increased in four years. Concomitant to physical campus growth is the expansion of distance education within several academic disciplines. In addition to several existing programs in computer technology, health sciences, business, and liberal arts, **GTC** began offering an Associate of Science degree via distance education in 2007. This climate could be very challenging for a library with a modest and vulnerable budget to provide effective services that meet the needs of a growing, diverse student body and faculty.

In terms of electronic resources, the library's online presence needed to move beyond remaining a static portal for database access and become a more inviting environment for resource discovery. It was imperative for our services to fully address the fact that our students and faculty heavily rely on electronic resources, the former primarily concerned with retrieving full-text articles whenever possible. Other two-year institutions, moreover, were providing resource discovery technologies such as an interactive journal database, an Open URL link resolver, federating searching, etc. Out of the sixteen technical colleges in South Carolina, three have an A-Z journal title list service and federated searching. It is not surprising that the second and third largest technical colleges are in that group. None of the technical colleges have an Open URL link resolver, or an **Electronic Resource Management System (ERMS)**. This is in stark contrast to most four-year colleges in the state that have most of the aforementioned electronic resource access and management technologies. Even though this digital divide is not surprising, there is now a way for indigent institutions to narrow this gap. This paper illustrates how the **Greenville Technical College Library** effectively narrowed the digital divide between themselves and four-year institutions in South Carolina by opting for a comprehensive open source solution for managing electronic resources.

Discovery and Implementation

The path leading to open source solution began with many attempts to secure a vendor-based A-Z journal listing service and Open URL link resolver package that was affordable. Initially, in 2004, the library purchased **EBSCO A-Z** and included print titles in this database. Over time, numerous open access titles were added to **EBSCO A-Z**, but these resources were not "free" as the overall cost of **EBSCO A-Z** sharply increased, rendering this product unaffordable. How can a library of modest means continue to provide open access journals when the vendor of the electronic journal listing service increases the subscription rate based on the number of titles added? Instead of tacitly accepting these circumstances, the library sought alternate solutions such as partnering with other institutions. The library approached members of their consortium, the **South Carolina Information and Library Services Consortium (SCILS)**, for a possible group purchase of a vendor-based product. Two member institutions already subscribed to packages from **Serials Solutions** and had no desire to expand beyond A-Z listing and federated searching. The other nine member institutions were simply not interested during the time this was discussed.

Due to lack of interest from **SCILS** members, the library had to seek other alternatives. The library investigated other vendor-based products with little success; in some cases, the subscription costs were cheaper than **EBSCO**, but the library would have to choose both journal listing software and federated searching, in favor of journal listing software and link resolving package. Because an Open URL link resolver was a priority over federated searching, this was not tenable. Even when an Open URL link resolver was bundled with a journal listing service, the subscription rates were still prohibitively expensive for the library. At this point, finding a vendor-based **ERM** was not a consideration. The library, however, entertained the notion of creating an in-house **ERM** system with *Microsoft Access*, but there were not enough personnel to devote time to develop and manage this project. Consequently, the library continued to rely on spreadsheets and emails stored in disparate workstations. Cognizant of open source ILSs such as *Evergreen* and *Koha*, the Head of Technical Services, **Rachel Erb**, searched for open source software that

Figure 1. CUFTS Knowledgebase

was analogous to commercial products. She stumbled upon *reSearcher*, emailed a technical contact, **Kevin Stranack**, and received a response within several hours. Due to the lack of technical support at **GTC**, it was not possible for the library to become a "software only" site. The library negotiated for hosting and technical support, paying **Simon Fraser University** $6000.00 for the first year of implementation, and $5000.00 for the second year. Despite these costs, the library still saved several thousand dollars.

reSearcher Modules

CUFTS A-Z

Developed in Canada at the **Simon Fraser University for the Council of Prairie and Pacific University Libraries (COPPUL)**, *reSearcher* is an open source suite of electronic resource management products. *reSearcher* comprises several modules: **CUFTS A-Z** for serials and **ERMS**; **GODOT** for Open URL link resolving; **dbWiz** for federated searching, and **Citation Manager** for personal bibliographic management. Currently, **CUFTS A-Z** only allows databases that provide full-text e-journals in its database. This is a bit more restrictive than **EBSCO A-Z** which permits the inclusion of citation databases in its A-Z serial management tool, but the Library's patrons are more concerned with full-text articles. It was serendipitous that **CUFTS A-Z** met the needs of the library's patrons more than **EBSCO A-Z**. Furthermore, the fact that the **GTC Library** could now have an Open URL link resolving feature in its databases overshadows this concern regarding the exclusion of citation databases in the knowledgebase.

The knowledgebase contains information for more than 375 collections from a wide-variety of providers such as **Gale**, **EBSCO**, **Blackwell**, and open access collections such as the **Directory of Open Access Journals**, **PubMedCentral**, etc. (Stranack, 2008) (See Figure 1). **CUFTS A-Z** is frequently updated by the project managers at **Simon Fraser University** and simultaneously benefits from participants adding titles to the knowledgebase. The library was able to include aggregator, print and electronic publisher titles in the knowledgebase. The library was primarily responsible for maintaining the collection, but occasionally sought the assistance of the **SFU Library**. Being the first library in the United States to become a part of the *reSearcher* community, **GTC** had several unique resources that needed to be added to the knowledgebase by the project managers at the **SFU Library**.
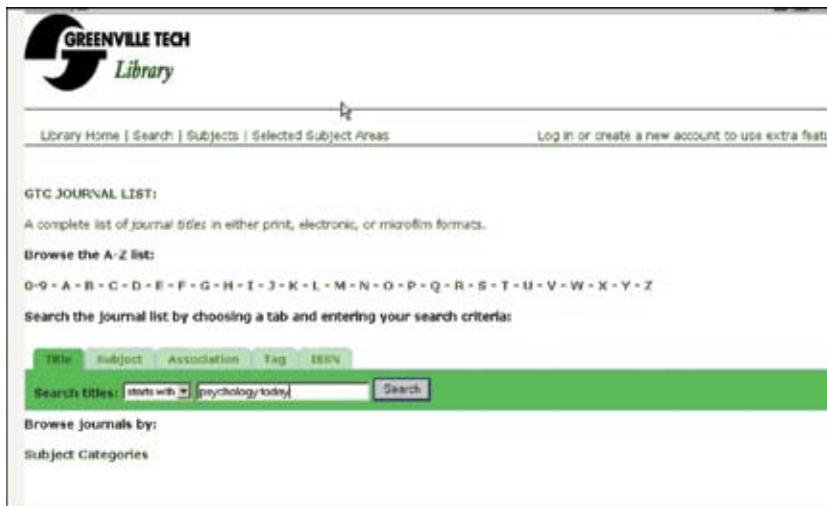

Figure 2. CUFTS Search Interface
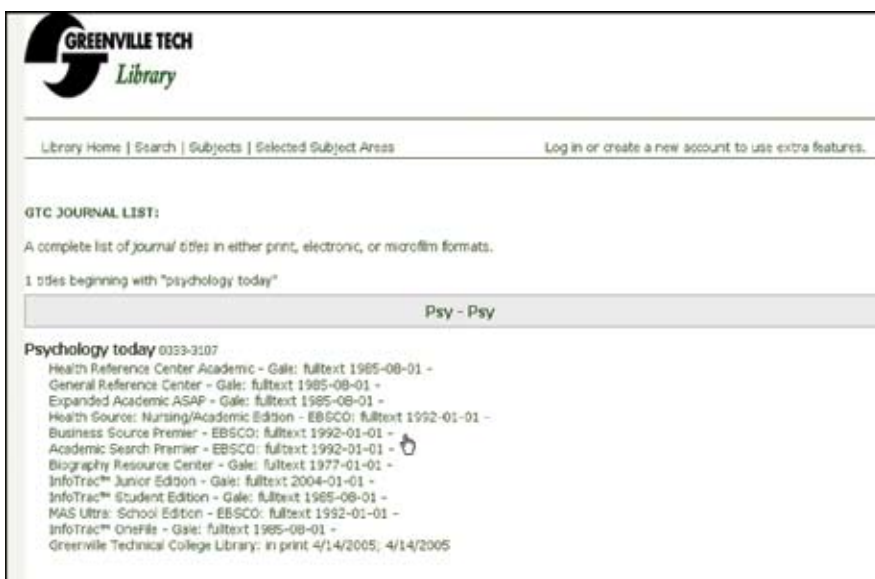
Figure 3. CUFTS Journal Record

Statistics may also be generated from **CUFTS A-Z** to assess usage and compare up to four resource title lists. The latter is useful in discovering overlap between two or more databases.

The user interface also engages users in an interactive, intuitive research experience. The tabbed search feature clearly presents search indexes such as keyword, subject, association, or social tag (see Figure 2). Browsing by alphabetical title is a standard feature identical to analogous commercial products. One of the more interactive features of **CUFTS A-Z** is the option for users to assign tags to their favorite journals for the purpose of creating custom lists based on subject, course name, etc. The spirit of social book-marking sites such as **del.icio.us**, **LibraryThing**, etc., is fully realized in **CUFTS A-Z**. The library also has the option to restrict the social tagging feature to library staff, but the public can still browse the tags to access journal titles.

The journal record displays

Figure 4. CUFTS2MARC Record

all print and electronic holdings as stored in the knowledge base (see Figure 3).

The inclusion of social tagging is one of several key differences that set **CUFTS A-Z** apart from other commercial journal listing products. Social tagging is currently not a feature of either **EBSCO A-Z** or **Serials Solutions A-Z** journal listing products. Live updating of the knowledgebase is a feature of **CUFTS A-Z** and is consistently reliable. Even though **EBSCO A-Z** permits live updating, the Library has found there were frequent extended time intervals (sometimes up to 24 hours) between updating and when these changes were realized in the public A-Z journal interface. Live updating is not a feature of **Serials Solutions A-Z** and the knowledgebase is consistently updated within 24 hours.

Also, both **EBSCO** and **Serials Solutions** offer more database choices. Unique databases, however, can be added to **CUFTS A-Z** by simply contacting technical support. Despite this, the process is often expedient — updates are made within a few business days.

The A-Z journal listing databases often vary to what extent the public display is customizable. **CUFTS A-Z** and **Serials Solutions A-Z** offer more extensive options to brand and customize. For example, headers and footers are customizable to the extent that they can match the headers and footers of the library's Website. On the other hand, **EBSCO A-Z** is rather restrictive, allowing the insertion of a logo and a few color changes.

CUFTS2MARC

The **CUFTS** knowledgebase also facilitates the access of electronic journal titles through the online catalog because it has the capability to generate MARC records which can be uploaded to an integrated library system (ILS) (see Figure 4).

The **CUFTS2MARC** module is essentially an online form that allows the cataloger to customize MARC records. Essentially, libraries are able to generate locally enhanced records either by the addition of MARC tags or by customizing existing fields. For example, many fields, such as the one pertaining to the URL (MARC 856) can be enhanced to reflect access issues. Specifically, the URL in the 856 field may be prefixed to show an EZProxy login URL. Both commercial vendors, **EBSCO** and **Serials Solutions**, provide a subscription service for MARC records, but **CUFTS A-Z** provides free MARC records.

ERM

The **ERM** is accessed from the administrative module of **CUFTS**. At the time of implementation at **Greenville Technical College**, the **ERM** was fairly skeletal and did not provide an extensive range of data fields. In 2007, the **ERM** has been upgraded based on

Figure 5. ERM Resource Record

Figure 6. Search in Academic Search Premier.

Note: Greenville Technical College, like most *reSearcher* partners, opted for the phrase "Where can I get this?"

the *Functional Requirements of Electronic Resource Management: the Report of the DLF Initiative*. The **ERM** now provides enough data fields to manage cost and renewal details, administrative information such as usernames, password, and trials, and links to license information (see Figure 5). Because of these significant enhancements, the library is finally able to manage their growing collection of electronic resources. Prior to implementing the **ERM**, the library's cumbersome way of managing electronic resources consisted of storing usernames and passwords in a **Word** document.

The ability to manage database usage statistics provided by vendors is also a key feature of most commercial **ERMs**. In response, the **CUFTS ERM** can track statistics that are **COUNTER** compliant. At the time of writing this paper, the research team is investigating how to import **Standard Usage Statistics Harvesting Initiative (SUSHI)** compliant statistics in preparation for when most vendors will provide statistics that adhere to these standards. The **ERM** now allows the library to harness the potentiality of administrative, technical, and statistical information from its electronic resources.

GODOT

One of the more significant modules to impact the research experience of the **GTC** community is the Open URL link

Figure 7. User Interface of GODOT after citation #3 is selected.

resolving module of *reSearcher*, **GODOT** because they can finally access full-text

articles from citation or citation-dominant databases. Depending on the database, **GODOT** will usually link the citation with a direct link; when a direct link is not available, the software will provide issue or journal level links to the resource (Stranack, 2008). In order to use the full power of **GODOT**, it was configured to search **GTC's** online catalog (**SIRSI**), **Google**, and **Google Scholar**. In the event an item is not found in any of the resources, a link to the library's interlibrary loan form is included. This has been proven to be an effective way to promote interlibrary loan services. Since the implementation of **GODOT** at **GTC**, there has been a marked increase in interlibrary loan requests.

A feature that works in tandem with **GODOT** is **Citation Manager**. This product is analogous to other citation management products such as **RefWorks**, **EndNote**, etc. **Citations** can be either culled from **GODOT** or added manually and can also be organized in folders. **Citation** lists can be exported in XML, tab delimited format, etc., and are also compatible with **Citation Manager's** major commercial reference management analogues.

An advantage that **Citation Manager** has over commercial citation management products is that access can be maintained after graduation (Stranack, 2008). The library can determine if access is to either cease upon graduation or continue indefinitely for alumni. At the time of implementing *reSearcher*, the **GTC Library** did not actively promote **Citation Manager** and whether or not it will be incorporated into its bibliographic instruction program remains uncertain.

dbWiz

One of the modules currently not implemented at the library was the federated search engine, **dbWiz**. Implementation was forestalled due to personnel changes. The person primarily responsible for configuring **dbWiz** resigned to take another position in another state. Because **dbWiz** employs the **CUFTS** knowledgebase, configuration of this utility is quite simple. Like most federated search engines, **dbWiz** searches traditional library resources such as library catalogs, **Z39.50** databases, and full-text/citation article databases. Web resources such as **Google** (even **Ebay**!) may be included. **dbWiz** also permits the clustering of databases by subject and course title or number. The ability to rank databases for each federated search cluster makes it possible to manipulate the order of preference in which databases are searched. To circumvent overwhelming students, the retrieval limit can be set to a certain number of hits. The end-user is able to sort the search results by date or by database alphabetically. **dbWiz** is not as robust as other commercial federated search products. **Serials Solutions' Central Search**, for example, allows more sorting options and has an export feature which **dbWiz** currently lacks. In essence, **dbWiz** is an inexpensive way for institutions to delve into federated searching.
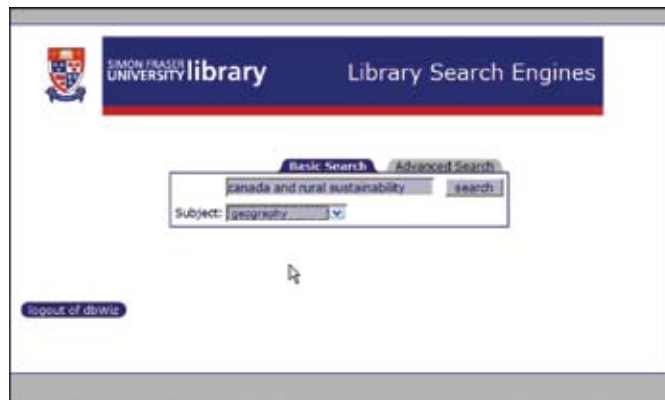

Figure 7. dbWiz Basic Search (Simon Fraser University)

Future Developments

One of the potential pitfalls of taking the open source route is that there is a risk the software development will be either indefinitely stymied or permanently discontinued. There is clear evidence that this is not the case with *reSearcher*. In the near future the **Greenville Technical College Library** will benefit from several initiatives driv-

Figure 8. Search Results

ing the evolution of this product. Specifically, there are concrete plans to enhance the **ERM** module. **ERM** fields will be fully customizable. The **ERM** will also permit variable staff permissions, allowing some full administrative rights (Stranack, 2008). Most significantly, **ERM** data will be able to be imported from an institution's ILS. Also, **dbWiz** will not remain rudimentary for long — there are plans for an improved iteration.

In addition to future enhancements of existing modules, a new module is under development — **CUFTS Resource Database (CRDB)** (see Figure 9). Essentially, this is a database of databases for libraries and it eliminates the need to maintain a separate list of resources outside the **CUFTS** system (Stranack, 2008). **CRDB** will have standard browsing and searching features and faceted browsing. Each **CUFTS** library will also have the ability to include additional Subject, Resource Type, and Content Type terms.

Figure 9. CRDB Prototype as of November 2007

Conclusions

Implementation at **GTC** was very successful and the library is very proud to be the first participant from the United States in the *reSearcher* community. As one who was directly involved in all phases of its implementation, I can attest to not only the quality of this product, but to also the high level of professional service and assistance from the developers at **Simon Fraser University**. *ReSearcher* is slowly starting to garner attention from the open source library software community and some academic libraries in the United States are deciding to implement this product. For example, the **Baker University Library**, in Baldwin City, Kansas is using **GODOT** and **CUFTS A-Z**. **Lee College** in Baytown, Texas is in the process of implementing *reSearcher*. In late 2007, I presented *reSearcher* to librarians at the **College of St. Mary** in Omaha, Nebraska and there are plans for implementation in late 2008. As *reSearcher* emerges as part of the discussion regarding electronic resource management software, it will be interesting to see its overall impact on the development of subsequent open source library applications and commercial products.

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From the Reference Desk

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Published by **ABC-CLIO** *Encyclopedia of the Jewish Diaspora Origins, Experiences, and Culture* (2009, 978-1-85109-873-6, $295) forgoes the typical alphabetical arrangement that most users are accustomed to. Editor **M. Avrum Ehrlich** and his contributors provide readers a three-volume reference that collects hundreds of essays and organizes them around major themes and specific countries, regions, and communities. However, this arrangement does not detract from its overall value. The scholarly content and scope of coverage remain impressive.

The first volume is subtitled Themes and Phenomena of the Jewish Diaspora and contains articles that cover history, major concepts and themes, various ethnicities, interaction with other religious traditions, persecution, the role of women, music and culture, the place of Israel, as well as current developments. The essays in this volume are descriptive and offer valuable background information. Volumes two and three discuss the Jewish communities throughout various regions of Asia and Europe as well as in numerous countries in Africa, Latin America and the Caribbean, the Middle East, and North America. The articles in these two volumes are fact filled, often containing basic statistics, a historical overview, and contemporary status. The articles can also be quite specific and focus on groups as small as Syrian Jews in New York and as large as Jews in South Africa. The articles in all three volumes have selected bibliographies and the third volume contains a helpful glossary and a general index useful for finding specifics.

No doubt many libraries will gladly find room for *Encyclopedia of the Jewish Diaspora Origins, Experiences, and Culture* in reference. However, the organization of this work may make it equally useful in circulating collections where patrons are afforded more time to uncover the wealth of information and insights it provides. But regardless of its placement, it will be welcomed and appreciated by serious students and scholars. Recommended for academic libraries supporting classes in Jewish Studies and for public libraries where there is strong interest.

Encyclopedia of Global Health (2009, 978-1-4129-4186-0, $425) is a recently released four volume set that provides researchers with a broad overview of an extremely important issue. Published by **Sage** and edited by **Yawei Zhang** of **Yale University**, these four volumes contain more than 1,200 survey articles on a variety of relevant topics and should appeal to all types of libraries where global health is of interest.

One of the cornerstones of the set are the numerous articles devoted to specific countries that provide brief but objective analysis, along with basic statistics. Numerous countries in Africa, Europe, Asia, the Americas, and the Pacific are included. There are also articles that discuss individual diseases and conditions, mental health concerns, treatments, therapies and drugs as well as current research methods and relevant organizations and government agencies. In addition, there are articles that focus on health issues related specifically to men, women and children. The *Encyclopedia* also has a reader's guide grouping articles by category, a 57-page glossary, an appendix of core health indicators by country and a chronology highlighting events and advances. Each entry has a bibliography, some stronger than others. Any future edition might consider enhancing these as a way of adding value to researchers who are using the set as a springboard for further research as well as for the information it provides.

The *Encyclopedia of Global Health* offers students, health professionals, as well as general readers, a valuable background source that is well supplied with useful and relevant facts. Editor **Zhang** and her contributors have compiled a wealth of information in a well organized and easy to access reference work that helps lend clarity to an increasing recognized area of study. Academic, public and some special libraries should give it full consideration.

Libraries seeking up-to-date maps and geographical information on a global scale need look no further than the *Oxford Atlas of the World* (2008, 9780195374513, $80). Affordable and updated annually, this new 15th edition easily measures up to its predecessors providing extensive information along with state of the art maps and images that graphically depict our world.

While satellite images, maps and other impressive visuals are the essence of the *Atlas*, as in past editions, there is a brief section that provides useful statistics on countries,