E-Ventures: Notes and Reflections from the E-serials Field

CUFTS: An Open Source Alternative for Serials Management

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Introduction

For libraries searching for an affordable way to manage their growing online serials collections, CUFTS open source serials management software provides an effective alternative to more traditional commercial solutions. Developed by the Simon Fraser University (SFU) Library in British Columbia, Canada, CUFTS is currently being used by libraries across western Canada and around the world. The funding for creating, maintaining, and continuing to develop the software is provided primarily from the Council of Prairie and Pacific University Libraries (COPPUL), a consortium of western Canadian academic libraries. Other partners include the Electronic Library Network (ELN), a consortium of university and college libraries in British Columbia, and the Roskilde University Library in Denmark. These partnerships represent an excellent example of libraries working together to find a unique and affordable solution to the problems associated with the explosion of online content.

At the centre of CUFTS is the knowledge base, an online database of title lists from a variety of open access and subscription-based electronic journal collections. With this, CUFTS is able to provide a range of critical services, including electronic resource management, a publicly-accessible serials database, article-level link resolving, journal searching, resource comparison, and the creation and export of brief MARC records.

Simon Fraser University Library currently hosts more than 30 libraries' CUFTS accounts, and the software is freely available to download, modify, and use under the terms of the GNU Public License (GPL).

Knowledge Base

The CUFTS knowledge base is an online database of electronic resources providing libraries with a variety of serials management functions. The knowledge base currently includes over 325 journal resources, consisting of over 30,000 unique titles. Included in these are: aggregated collections, such as the many EBSCO, Proquest, and Gale products; electronic journal resources from Ingenta, ScienceDirect, Blackwell, and others; and open access collections including the Directory of Open Access Journals, PubMedCentral, Bioline International, and more.

Libraries are able to subscribe to Simon Fraser University Library's CUFTS knowledge base illustrated below in Figure 1, or can freely download and set up their own installation. The advantage of a subscription is that the journal titles lists are regularly updated by SFU Library. This service does, however, require an annual fee. Libraries looking for a more independent, "Do It Yourself" (DIY) approach can avoid the subscription fee, and maintain their own title lists.

Logged in as: **Kevin Stranack**   Active site: **Simon Fraser University**

New Local Resource |

show all   Filter: _____   filter

	resource	provider	type	titles	active	rank	title list scanned
view | edit | delete	AAAS Journals	American Association for the Advancement of Science	fulltext journals	2 of 2 (bulk)	yes	90	2005-11-01
view | edit | delete	ABI/INFORM Global	Proquest	fulltext journals	2698 of 2698 (bulk)	yes	95	2005-11-01
view | edit | delete	Academic Search Elite	EBSCO	fulltext journals	3461 of 3461 (bulk)	yes	100	2005-11-01

Figure 1: CUFTS Knowledge Base

Each CUFTS library activates its own set of local resources from the global list of resources in the knowledge base, using the web-based administrative interface. Some resources are simply activated by checking them off, automatically enabling the entire list of titles (such as for aggregated collections, where the library has access to all of the titles). Others require libraries to check off individual titles, when only part of the title list is subscribed to, such as with electronic publishers' collections. In addition to activating individual titles, details can also be customized.   An example of

Stranack, K. (2006). CUFTS: An Open Source Alternative for Serials Management. *Serials Librarian* 51 (2), 29-40.

2

customization as illustrated in Figure 2 below is holdings dates, which may vary from library to library.

	717361	Applied Health Economics and Health Policy	11755652			2003-01-01
☐	717362	Applied Nanoscience	11762314			2004-01-01
☐	717363	Applied Population and Policy	11759550			2003-01-01
☑	717320	Art, Design & Communication in Higher Education	1474273X		2006-01-01	2004-01-01
☐	717269	Australian and New Zealand Journal of Audiology	01571532			2001-01-01
☐	717397	B en M - Beleid en Maatschappij	13890069			2002-01-01
☐	717267	Behaviour Change	08134839			2003-01-01
☑	717405	Biological Chemistry	14316730			1999-01-01

Figure 2: Activating Individual Titles

CUFTS libraries also have the ability to create their own unique local resources, if they are not available in the global knowledge base. This does, however, require the local library to create and maintain its own title list for the new resource.

All of the title list data in the CUFTS knowledge base comes from freely-accessible sources, such as vendor web sites or by contacting the publishers directly. Some vendors provide excellent, up-to-date, downloadable title lists for their collections, making the task of title list maintenance almost effortless. Others, unfortunately, do not, providing only scattered details on their web sites, which must be brought together into a usable, machine-readable format. With the rise of the OpenURL standard, many publishers are becoming increasingly aware of the critical importance of providing this data to the library community, and this trend will hopefully continue.

All of the CUFTS title lists are centrally updated at the SFU Library for subscribing libraries. Resources with frequent changes are revised monthly, while more stable lists are updated as necessary. The currency of the knowledge base is crucial for the effectiveness of all services offered by CUFTS. Without current data, libraries do not have an accurate picture of their collections.

Electronic Resource Management

One important service that the CUFTS knowledge base provides is for basic electronic resource management (ERM). In discussions with our partner

Stranack, K. (2006). CUFTS: An Open Source Alternative
for Serials Management. *Serials Librarian* 51 (2), 29-40.

3

libraries, we quickly learned that many were searching for an ERM solution that would bring together all of the disparate information they needed to maintain their growing online collections. Many libraries were relying on information stored in spreadsheets, archived emails, paper files, or individuals with strong memories. CUFTS ERM allows for a single location for all of these details.

The current version of CUFTS provides basic ERM database fields, such as collection name, publisher, vendor, acquisition codes, renewals dates, licensing terms (illustrated in Figure 3 below), contact information, and other administrative details. CUFTS also allows for automatic email notification when a contract nears its expiry date.

Figure 3: Electronic Resource Management: Licensing Terms

Future enhancements will include more detailed data fields (based on the important work done by the Digital Library Federation Electronic Resource Management Initiative), increasing the reports and statistics that can be generated from CUFTS, allowing for different staff access levels/permissions, creating an online database of databases for libraries, and more.

CUFTS Journal Database

Another important service requested by CUFTS libraries was for a public interface to the journal collections activated in the knowledge base. The result

Stranack, K. (2006). CUFTS: An Open Source Alternative
for Serials Management. *Serials Librarian* 51 (2), 29-40.

4

is the CUFTS Journal Database (CJDB), which not only provides an online database of a CUFTS library's electronic journals, but also integrates their print and microform holdings.

When a collection or an individual title is activated in CUFTS, it appears in the CJDB. To add print and microform holdings, libraries are able to upload their serial MARC records to CUFTS, which displays them in the CJDB.

The CJDB is browsable by subject or title, and can also be searched by title, ISSN, publisher/provider, or subject as illustrated in figure 4 below.

Figure 4: CUFTS Journal Database

One integrated record, as illustrated below in Figure 5, is created for each title, bringing together the print or microform holdings information (and direct link to the catalogue) as well as all instances of the journal from different CUFTS collections (including a summary of the holding dates and a direct link to the journal in the resource).

Stranack, K. (2006). CUFTS: An Open Source Alternative
for Serials Management. *Serials Librarian* 51 (2), 29-40.

5

Figure 5: CJDB Search Result Display

Journal details not provided from the publisher title lists stored in the knowledge base, such as subject headings, additional titles, etc., are added from the serial MARC records contributed by the libraries. To assist libraries that have titles in the knowledge base, that are not in their print or microform collection (and thus have no MARC record), we have created a journal authority database, which brings together all of the contributed serials records and shares the necessary details. If one library has contributed a MARC record for the title, everyone benefits. The journal authority database can also be edited to add details for journal titles for which no MARC record has been created by any of the CUFTS libraries.

One of the early challenges we faced in developing the CJDB was how to provide user-friendly subject browsing. Initially, Library of Congress subject headings were displayed in a lengthy list, which proved to be difficult to navigate, and was unsuited to browsing. Ultimately, we settled upon using Library of Congress call numbers, also provided by the contributed MARC records. We then match the call numbers to a highly modified version of the Library of Congress call number classification outline as illustrated in Figure 6 below.
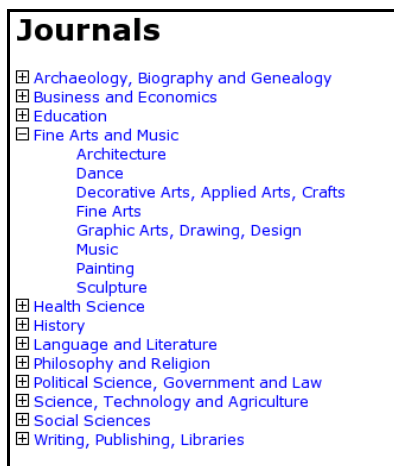
Stranack, K. (2006). CUFTS: An Open Source Alternative
for Serials Management. *Serials Librarian* 51 (2), 29-40.

6

Figure 6: Subject Browsing

Changes to the Library of Congress call number classification outline include, for example, combining Music and Fine Arts, separating Psychology from Religion and Philosophy and placing it under Social Sciences, and more. Each CUFTS library has the option to customize the subject browsing hierarchy to better suit their own local needs.

Another CJDB function is the ability for CUFTS libraries to "tag" individual journals. Tagging, an important element of the social Internet, used for describing and sharing bookmarks (http://del.icio.us/) or photographs (http://www.flickr.com/), is the addition of one or more brief, descriptive terms (tags), which allow for the development of more informal classification systems. To aid resource discovery, tags can not only be searched, but also displayed in "tag clouds", which are groups of tags displayed in varying font sizes, depending upon the number of items they describe. CUFTS libraries have the option to limit tagging to library staff, but can also experiment with opening it up to faculty or even to their students. While tagging journal titles may never develop the popularity of sharing photographs online, it does provide an interesting way for libraries to get involved with the growth of online communities.

Lastly, the CJDB allows libraries to add their own headers and footers, modify the style sheet to change colours, fonts, sizes, etc., and configure screen templates, allowing for wording changes, or repositioning of elements on the user display. One of the development priorities for all of our software is to ensure maximum local customization.

Link Resolving

CUFTS was originally developed as a knowledge base for SFU Library's open source link resolver, GODOT. Using OpenURLs, Digital Object Identifiers (DOIs), or its own internal linking syntax, GODOT and CUFTS work together to provide article-level linking in all major indexing and abstract databases. In addition, GODOT and CUFTS offer extended services, including local and remote catalogue searching (using Z39.50), interlibrary loan services (interoperating with a variety of commercial and open source ILL systems, such as OpenILL), Internet search engine linking, bibliographic manager services (both commercial and open source), and a citation finding tool. The link resolving interface is illustrated below in Figure 7.
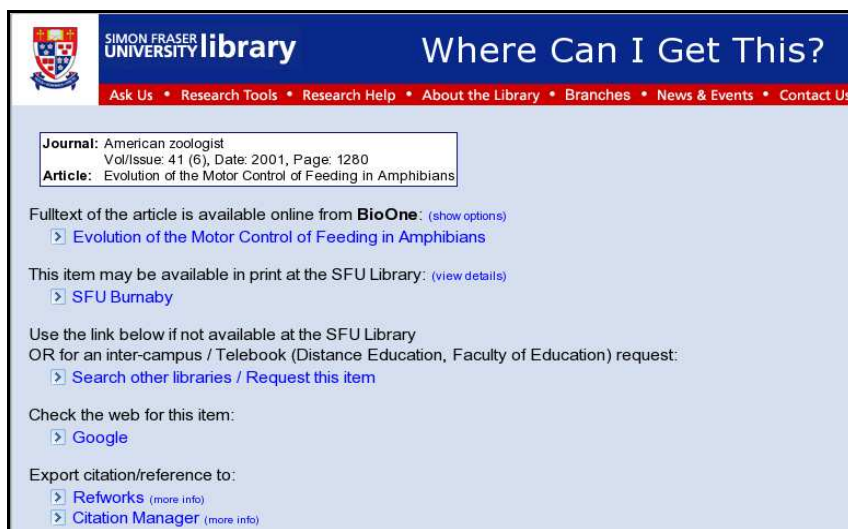

Figure 7: Link Resolving Interface

As with the CJDB, the link resolver user interface can be extensively customized, allowing libraries to change not only the wording of the OpenURL links in their databases, but also the design and functionality of the display.

Stranack, K. (2006). CUFTS: An Open Source Alternative
for Serials Management. *Serials Librarian* 51 (2), 29-40.

8

Public Services

In addition to the services available to CUFTS libraries, the knowledge base also has applications for non-CUFTS sites (http://cufts.lib.sfu.ca/tools.html): Journal Search, Resource Comparison, and cufts2marc.

Journal Search illustrated in Figure 8 below helps to locate a journal title or an ISSN within the CUFTS knowledge base, revealing where a journal is indexed, for which date range, and if it has fulltext. This can be extremely useful on the reference desk, when there is the need to find out quickly which journal collection contains a particular title.

Duplicates

issn	title	ABI/INFORM Global				Business Source Elite			
		citation start	citation end	fulltext start	fulltext end	citation start	citation end	fulltext start	fulltext end
00000019	Publishers Weekly	1986-01-03		1996-01-01		1989-01-13		1997-01-20	
00010782	Association for Computing Machinery. Communications of the ACM	1989-01-01		1991-01-01		1984-01-01		2004-06-01	
00012610	Planning	1981-01-01		1987-12-01		1993-07-01		1993-07-01	
00013072	Abacus	1976-06-01				1984-06-01		1985-03-01	
00014273	Academy of Management Journal	1963-03-01, 1971-09-01	1985-12-01	1963-03-01, 1987-03-01	1985-12-01, 2001-12-01	1984-03-01		1985-03-01	
00014664	Accountancy	1972-11-01		1992-01-01		1984-01-01		2003-11-01	
00014699	Accountancy Ireland	1992-10-01		1996-12-01		1997-02-01			
00014788	Accounting and Business Research	1982-01-01				1984-03-01		1985-03-01	

Figure 8: Journal Search

The Resource Comparison Tool, illustrated below in Figure 9, allows for any two CUFTS resources to be examined, revealing unique titles and overlap. This has proven to be a very popular collection management tool for many libraries.

Stranack, K. (2006). CUFTS: An Open Source Alternative for Serials Management. *Serials Librarian* 51 (2), 29-40.

9

Figure 9: Resource Comparison

Another publicly-available service is what we call cufts2marc, illustrated below in Figure 10. cufts2marc generates brief MARC records for all of the collections in CUFTS. Libraries have a number of configuration options before the records are generated, and these records can be freely downloaded and added to a library catalogue.

Figure 10: cufts2marc Records

Stranack, K. (2006). CUFTS: An Open Source Alternative
for Serials Management. *Serials Librarian* 51 (2), 29-40.

10

These public CUFTS services are currently being used by libraries around the world, and reinforce the key importance of maintaining accurate, up-to-date information in the knowledge base.

Collaboration

One of the most important elements of open source is that it encourages a collaborative approach to software development. CUFTS arose out of the needs of a group of Canadian academic libraries facing similar problems and deciding upon a solution that would work for the larger community. Building a diverse and active community of CUFTS users helps to ensure that the software continues to evolve and meet the needs of libraries in an ever-changing information landscape. We strongly encourage libraries interested in an alternative way to manage their growing collection of online resources to consider what CUFTS may be able to do for them, and to become active partners in our endeavours.

Links

British Columbia Electronic Library Network
http://www.eln.bc.ca

Council of Prairie and Pacific University Libraries
http://www.coppul.ca

Digital Library Federation Electronic Resource Management Initiative
http://www.diglib.org/standards/dlf-erm02.htm

reSearcher
http://researcher.sfu.ca

Roskilde University Library
http://www.rub.ruc.dk/

Simon Fraser University Library

http://www.lib.sfu.ca

Stranack, K. (2006). CUFTS: An Open Source Alternative
for Serials Management. *Serials Librarian* 51 (2), 29-40.