

Tracking Electronic Resource Acquisitions: Using a Helpdesk System to Succeed Where Your ERMS Failed

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TRACKING ELECTRONIC RESOURCE ACQUISITIONS: USING A HELPDESK SYSTEM TO SUCCEED WHERE YOUR ERMS FAILED

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ABSTRACT

From selection to license negotiation through activation, libraries need the ability to track the electronic resource acquisition process and support uninterrupted workflow through multiple people and/or departments. Existing systems store fragments of information about a resource, but they don't support management of the progress of each resource through the electronic resource acquisition maze. Stanford and Claremont have configured the JIRA and Footprints ticketing systems to address this fundamental need. Our systems facilitate efficient and complete activation of e-resources, and allow greater transparency in the acquisitions process throughout the organization. We will demonstrate the key features & functionality of our independently configured systems and invite discussion about these critical improvements to electronic resource management systems.

Stanford University Libraries

Stanford's problem

In 2008, the Stanford Acquisitions Department did not have a working ERM and had no plans to purchase one, so our electronic resource acquisition process was scattered. Purchase information for electronic resources arrived in numerous, sometimes contradictory, emails from the subject specialists and directors. The purchase process would start with different Acquisitions staff members depending on who received the initial request, and subsequent messages and paperwork were received in various units. How could we standardize the e-resource acquisition process so it was performed the same way every time?

Besides the need for standardization, the information about an electronic resource purchase needed to be centralized. Sometimes information changed during the purchase process; for example, if funding changed, the ordering unit did not always receive notification of the change and created a purchase order on an incorrect fund. Often, the Acquisitions department would begin the purchase process and then be forced to return to the subject specialists with questions when pieces of information were still missing. As new complexities, like batch MARC record loading, were added to the duties of the Acquisitions department, new pieces of information were needed from the subject specialists for electronic resource purchases. How could we centralize e-resource purchasing information to keep each unit informed of the most current and complete specifications for the purchase request?

We needed standardization and centralization of our purchase process, but we also needed greater transparency for the selection staff. The collections librarians requested a new electronic resource and then waited patiently until the database or e-book was cataloged and ready to use. If they felt it had been too long, they sent questions to Acquisitions staff that then tried to track down the purchase. These e-resource purchases were usually expensive and often important additions to a subject collection, so selectors wanted to be able to announce major purchases to their faculty. Without knowing where this purchase was in the process and when it would be ready, they were

concerned it had been lost or mishandled. How could Acquisitions help the collections staff understand and feel confident in the acquisition process?

The tool

To achieve the goals of increasing standardization, centralization, and transparency in the processing of major electronic resource purchases, we chose to use JIRA. At Stanford, the JIRA project started in summer 2008 with a proposal for an internal grant. The stated objective of the proposal was to provide a framework for electronic resources workflow through the Acquisitions department. The proposal was timely because our Digital Library department had recently purchased the JIRA software for tracking their work and the Acquisitions department could use the existing license without any extra cost. JIRA is an enterprise-level bug tracking platform from Atlassian. It is used by many companies, particularly in the software industry, to track feature requests and bugs in a software product. JIRA is also used to track helpdesk-type requests coming in from a company's customers. The central functionality of the program is to create a set of information about a problem or a request and carry this information through a process. Each issue can be assigned to the most appropriate staff member, can be moved through successive statuses towards resolution, and can accrue comments and link to other issues as needed.

The first issue to address in setting up the new process was standardization. We created a series of steps in JIRA to lead the department through the standard process of electronic resource purchasing (Fig. 1). From a default status of Open, the new purchase moves to In Process - Licensing. Once licensing is completed, the issue moves to In Process - Ordering, triggering an email alert to the manager of the ordering unit. When the purchase order is placed, the ordering manager notes the order number on the issue and moves the issue to In Process - Electronic Resources. JIRA notifies the Electronic Resources unit by email and they set up access. Finally, the issue is sent to In Process - Metadata and then Resolved. At all stages, staff can add information and comments to the issue, contributing to the set of information about the purchase. Issues can also go backwards in the process, for example if a resource is found to need a license after the order is placed.

JIRA Workflow – Acquisitions

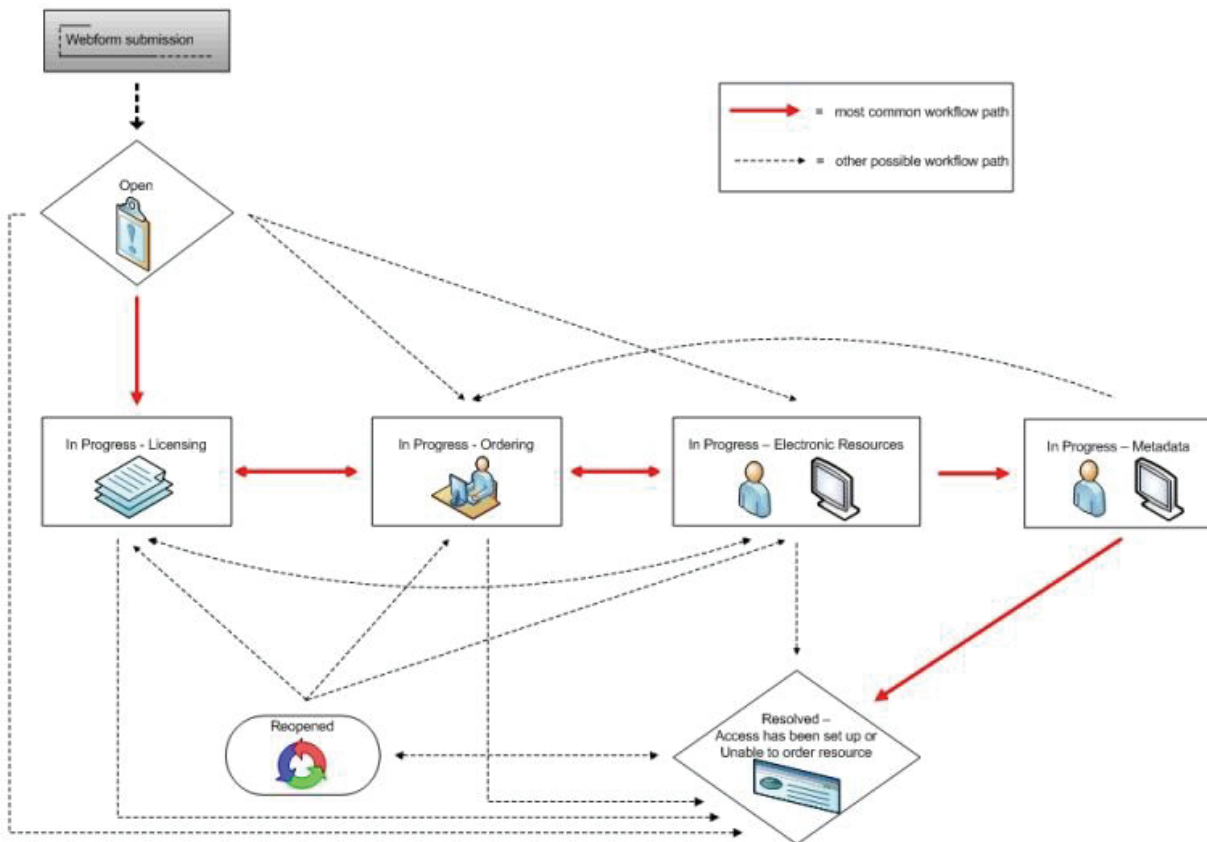



Figure 1. JIRA workflow (image credit: Jennifer Uchiyama)

After creating a standard flow for new purchases, we addressed centralization of information. An important part of centralization was creating a web-based form that would feed information into the JIRA project (Fig. 2). The purpose of the form is to ask the subject specialist to enter a number of data elements that the Acquisitions department did not have a formal method for collecting previously. Therefore the web form is not just a way to add issues to JIRA, but a way to ensure Acquisitions has every data element needed before beginning the purchasing process. The form also serves as a user-friendly front-end to JIRA so subject specialists do not have to search for the correct place to request a purchase.


[SOCRATES \(SU CATALOG\)](#) | [E-JOURNALS](#) | [SITE SEARCH](#) | [ASK US](#) | [SULAIR HOME](#) | [SU HOME](#)

Order an Electronic Resource

Please enter the description of the Electronic Resource below. Send any questions or comments about this form to [Xan Arch](#).

REQUIRED INFORMATION

Selector

Resource name

Type of resource

Publisher

Funding

Is a license required?

☐ yes
 ☐ no
 ☐ don't know

Add resource to databases page?

☐ yes * If yes, select subjects below.
 ☐ no

Figure 2. Web form

To use the JIRA process to increase transparency for library stakeholders, we had to wait until the companion wiki product, Confluence, was upgraded to the point that it could show a table of electronic resources in process and their current status, such as In Process – Ordering (Fig. 3). Acquisitions has been using the wiki as an intranet and we provide a wiki homepage for the collections development department that contains relevant acquisition-related information. We added this table of electronic resources with each resource hotlinked to the JIRA issue, providing a gateway for users to enter JIRA if they wanted more information. Now subject selectors who have requested a database purchase have a place to quickly check the status of their purchase as it moves through the acquisition process. Watching the progress of a purchase through the process allows the subject selector to feel confident that their request is being handled, and knowing which stage a purchase is in allows the subject selector to contact the most appropriate unit with questions.

Dashboard > Acq + Bibliographers > ... > E-resources > E-resources in process		Space ▾ Xan Arch ▾ Search
 E-resources in process		Edit Add Tools
Added by Xan Arch , last edited by Xan Arch on Sep 21, 2009 (view change)		
SULAIR JIRA (22 issues)		
Summary	Status	
FBIS Daily Reports (1941-74)	In Progress - E-Resources	
Elsevier e-books for 2009	In Progress - E-Resources	
Springer 2009 ebooks	In Progress - E-Resources	
Water Environment Research Journal Online	In Progress - E-Resources	
E-journals from Cupri	In Progress - E-Resources	
Economics Collection - Annual Reviews	In Progress - E-Resources	
Morgan & Claypool Synthesis 3	In Progress - E-Resources	
e-koreanstudies database	In Progress - Metadata	
RIPM Online	In Progress - E-Resources	
Catholic periodical and literature index	In Progress - E-Resources	
ebrary Cambridge e-books	In Progress - E-Resources	
Springer 2010 ebooks	In Progress - E-Resources	

Figure 3. Display in wiki

How is it working now?

At first, the project was slow to catch on. Some key players were unwilling to try out the new interface and continued to use the old methods. Two changes caused a jump in the adoption rate of JIRA for e-resource tracking.

The first change was increased overall use of JIRA within the libraries, particularly in the technical support department. Stanford has a small unit of dedicated library technical support staff, but also trains a large group of other staff to do basic computer maintenance tasks within their own departments. These individuals go to monthly trainings on first response technical support and an important part of their job is knowing how and when to call for help from the technical support department. As these calls for help were moved to JIRA tickets, a wide variety of staff across the libraries were trained to use the software.

The second change that brought wider JIRA adoption was a particularly hectic end to the fiscal year. As the 2008/2009 fiscal year included the distraction of layoffs and budget cuts, the library funds were significantly under spent by the last month of the fiscal year. Subject selectors and directors hustled to spend out their funds, almost overwhelming the Acquisitions department with email. Suddenly, having a single place to consolidate information about big-ticket purchases and find it again quickly was more relevant than ever. In particular, the head of the payments department began using JIRA as a place to find invoices, funding, and details about orders. We have now updated the JIRA notification scheme to include an email to the head of payments when a purchase leaves the ordering stage, meaning it is ready to be paid.

There is still some work to do, however. Not all the subject selectors submit orders through the web form. E-journals remain ambiguous since they do require access set-up but often do not require licensing. Some go through the webworm into the JIRA project, others do not. This will need to be standardized and documented so that selectors and library staff know what to expect when tracking a new e-journal. Other major work on databases such as renewals and cancellations could

also benefit from the JIRA process but we have not yet addressed if these should or could be combined with new e-resource purchasing.

Despite the remaining questions, the JIRA project was considered a success and we continue to use the process for electronic resource purchasing. We have also started to use the software for other processes within Acquisitions. We use it to track packages of MARC records through evaluation and loading into the catalog and we have started to investigate using JIRA to manage moving journal issues to off-site storage and replacing them with microfilm. The software allows linking between issues and this ability to link related issues in different projects has meant we can show a relationship, for example, between an electronic resource purchase and the MARC record load for the same content. Linking these two issues allows the later MARC work to take advantage of the earlier investigations done in order to purchase the content. This type of flexibility and configurability in JIRA has made it an invaluable tool for many different types of work within Acquisitions, and has meant that we do not miss the services of an ERM.

Special thanks to Jennifer Uchiyama, my co-investigator on the JIRA project.

Claremont Colleges Library

Claremont has been in need of a functional electronic resource acquisitions tracking system for nearly a decade. Before then, there were fewer e-resources and fewer staff members involved in acquiring each product. Over time, an ad hoc multi-department workflow developed and expanded to address the increasing complexity of the resources and the systems we use to provide access to them. This increase in complexity brought with it a growing array of sticking points and errors of omission. The sticking points are particularly insidious since they commonly fall between departments, where each may think they are waiting for the other(s), and miscommunication or dropped communication abounds. Errors of omission are common because we fail to determine which acquisition steps apply to which resources and even when we do, struggle to implement them in an efficient or comprehensive fashion.

The purpose of this paper is to describe our prototype 'ERMS-like' configuration of a helpdesk ticketing system (Footprints by Numara) that was developed to address some of the major failures of the currently available commercial ERMSs. As a 'homegrown' system it has a number of features that are specific to Claremont, but should serve as a proof of concept for either or local or commercial development of a next-generation ERMS. Its major advantage over currently extant systems is that is designed to *track resources* through the process of acquisition and implementation in addition to storing information about those resources.

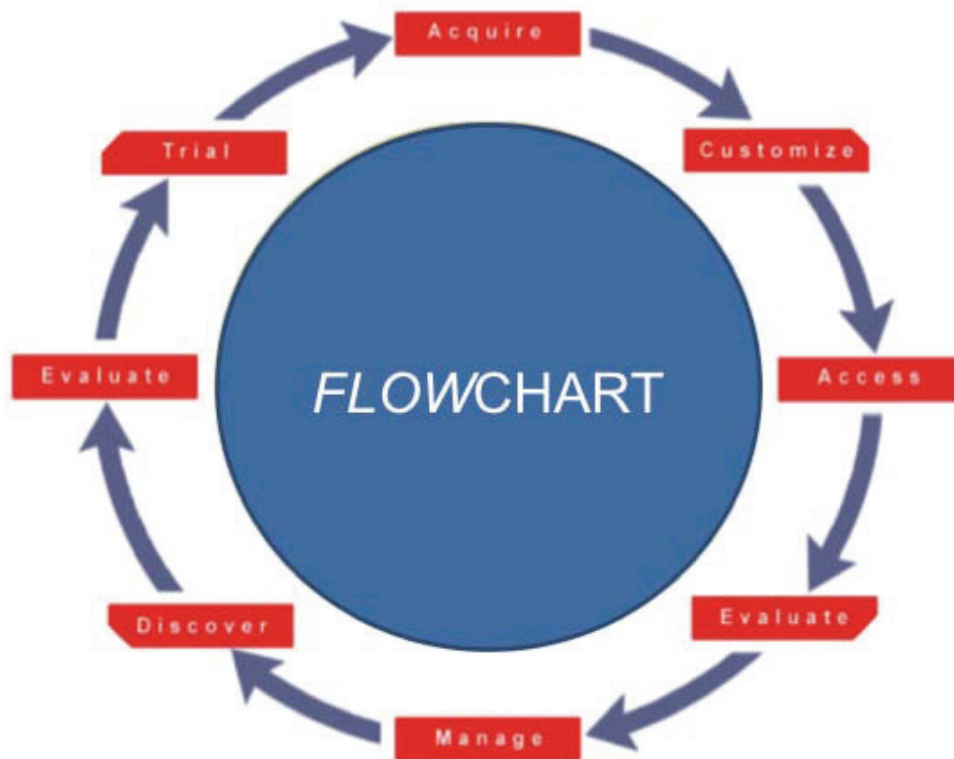


Figure 4 The ERMS promise - 2005

Despite the early promises of some library vendors (Fig. 4), current ERMSs should be thought of more as information systems designed to store information about resources than as systems designed to manage them. They are an improvement over a spreadsheet or other flat file, but still suffer from the limitations of the fixed relational database structure that we are familiar with in the traditional ILS. The one major benefit of the popular ERMS products over the traditional ILS for ERM is that they are built in the electronic resource knowledge base environment, which is designed to deal more effectively with hierarchical collections where titles are contained in packages that are offered by vendors. This does not change the fact, however, that the information is displayed in forms that apply to particular aspects of electronic resources and can only be related to each other in the fixed way in which the system is designed. As a result, these information systems do not even perform well as such, because information at different levels or relating to different aspects cannot be called upon as group in useful ways. This is certainly a challenge for every database interface, but could be mitigated by ongoing development. When combined with a structure that is not designed to track resources, however, it makes for a product that has little hope of satisfying acquisitions management needs.

It should be noted that the electronic resource acquisitions tracking system (ERATS) at Claremont addresses only one of two major aspects of electronic resource management. It facilitates *acquisition* from identification to activation, but does not attempt to address ongoing *maintenance* of the resources we have previously acquired. Some maintenance issues, such as unexpected loss of access, might be even more ideal for a ticketing system. An access problem tracking system, however, would be built to track incidents through a very different set of steps and stages. Many other maintenance efforts (such as renewal and usage statistics collection require scheduling of more discrete tasks), making them less well suited to a tracking-based solution.

Key challenges addressed by the Claremont ERATS system

Incomplete activation/listing of a resource is very common under our current system. There is no point at which the resource is completely assessed as to its appropriate listing locations, so this rarely happens. A minimum set of common steps are taken (usually), such as addition to the proxy server, database list, and catalog, and then shortcomings are only addressed later if and when someone notices and requests a fix. Even in the days when a paper or word document checklist was completed, passing it on to multiple people and departments created version and co-location issues that were hard to manage. As a result each person in the pipeline tended to have incomplete information and not know who might have the information they need. Furthermore they may be unaware who needs to know about the actions they have taken or information they have gathered. Because there are more than a dozen different activation steps that may apply to any given resource, it is crucial that the tracking system accommodate clear decisions about each of these steps and clear communication as to their disposition.

Secondly, progress of resources through the pipeline is regularly delayed when communication about a resource lapses. One staff member waiting on another who might be waiting on them! One common example was a request to a librarian for a database description or subject categorization. It was fairly common for the technical staff person to be waiting for a response and the requesting librarian to be waiting for the resource, not realizing that he or she was the one holding up the process. Even if this sort of breakdown only happens on one in ten requests for information, if between five and ten requests need to be made for each product in the pipeline, this sort of breakdown would affect more than half of the resources that are added. A ticketing system can be used to keep tabs on the status of a request and configured to send notifications anytime a resource stalls in the pipeline.

Standardization of required metadata at the point of entry is a third factor that can significantly improve efficiency in the process. Our database page for instance has field size limits for the short and long descriptions and cannot accept some common characters (e.g. ampersands). Because any given librarian rarely writes a description, these limitations are often forgotten. When these characters are included or the maximum length is exceeded, the IT staff member who edits the database list has to edit the content of the descriptions or request correction by the librarian. More importantly, perhaps, our subject lists have varying degrees of complexity, so a menu-driven selection list can ensure a minimum of back and forth to be sure that listing decisions are as specific as the list rubric requires.

Transparency to the requestor regarding resource progress through the pipeline is the final key component addressed by our system. Since it is not unusual for resources to take 2-4 months from discovery to access, our collection team often gets questions about what's happening with specific resources (sometimes very frustrated ones). At minimum, the tracking system will allow anyone on the team to immediately address such questions. With little further development, it can be used to create a real time portal that provides details about any given resource and send update notifications to interested parties when each resource moves to the next stage.

Each of these problems is well within the realm of common helpdesk ticketing systems, since they are designed to track issues for customers rather than just to store data. The following section describes the architecture of our ticketing system turned e-resource tracking system pipeline in more detail. The details of the system may be of interest to some. But the bigger picture that I hope that librarians will see is that these systems can be customized to support any acquisition process-- the larger point I hope that vendors will accept is a reminder that their ERM products should be developed in this direction (as they suggested they would be in the first place)!

Claremont ERATS overview and specifics

A useful acquisitions tracking system should meet the following fundamental expectations:

- The system should track resources through a series of stages
- The fields that are required should be dependent on the stage of the acquisition
- The system should encourage analysis of incoming info for easy retrieval later in the process
- The system should allow decision & communication about WHICH steps need to take place
- The system should provide a record as to completion of each necessary step
- The system should collect & collocate all the information related to each issue
- The system should enable detailed reporting on acquisitions output

In this section, the specifics of the system are described to illustrate how these features are represented in its design.

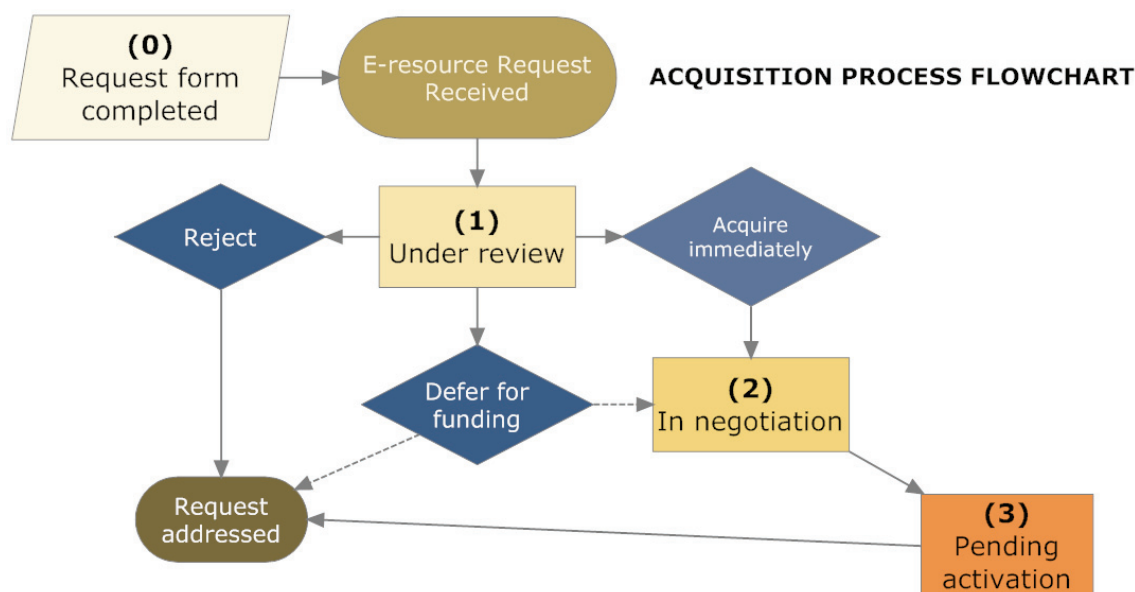


Figure 5

Resources that are acquired proceed through three major stages in the ERATS system (Fig. 5), each of which has its own set of required fields that are highlighted as the resource enters each stage. After a user completes the required fields in the web request form, the request is acknowledged and enters the '**under review**' stage. The collection team then evaluates the resource and decides whether to reject, defer, or acquire the resource. This decision marks the end of the review stage and moves the resource into an archive, a funding queue, or into the negotiation stage, as appropriate. Resources '**in negotiation**' have their pricing and license terms reviewed and negotiated as necessary. Payment marks the end of this stage, whereupon a resource shifts to '**pending activation**'. At this point, the collection librarian responsible for the resource completes the activation checklist, indicating which aspects apply to the resource at hand. Applicable tasks are then listed for the technical services staff that can complete them as the resource becomes available. After the last applicable task is completed the resource ticket moves into a completed section and librarians and users are notified.

Each of the statuses has its own tab/screen of fixed fields—some required some optional—to guide and contain the information needed for each phase of acquisition. Footprints supports

status dependent required field settings, (1) allowing a growing set of fields to be required as a request progresses through the process, and (2) ensuring that crucial steps are completed at the right time (i.e. after enough information is available for them to be addressed and before it is too late to address them). In addition to fixed fields, Footprints archives all the email associated with each issue, ensuring that a record of the discussion related to each request is right at hand. Footprints has also has extensive reporting functionality we have yet to leverage.

Figure 6. Resource request form

The **resource request form** was designed to be used by any requesting liaison librarian. It takes advantage of customer service portal functionality to simplify the request process and ensure that all necessary information is provided. It has two sections: database description and needs analysis (Fig. 6). The database description mirrors the content and format required for the library web page database list, ensuring that this information is available from the start and will not delay listing after the resource is active. The needs analysis is also best performed by the requestor, providing an opportunity to objectively justify the purchase and increase its chance of acquisition. After this form is completed, the request moves into the under review stage and is shepherded through the rest of the process by the appropriate collection librarian.

Contact Information	Database Description	Under Review	In Negotiation	Activation
*Vendor contact name		*Vendor email		*Print Replacement?
Trial URL		Trial Uname/Pass or IP		Trial Expires
				Mon Day Year
				current date
*Content quality	No Choice	Content quality note		
*Breadth	No Choice	Breadth note		
*Depth	No Choice	Depth note		
*Usability	No Choice	Usability note		
*Distinctiveness	No Choice	Distinctiveness note		
Decision	No Choice	Other review notes		
Decision date	Mon Day Year	Price details		

Figure 7. 'Under review' phase

The **under review phase** (Fig. 7) includes fields that support the collection team's acquisition decision and document its evaluation. Claremont is experimenting with five aspects rated on a five point scale, and currently the group decides on this value. These would presumably be adapted to local practice and can provide a less subjective threshold for resource acquisition. This data can be shared with interested parties who have a read-only account and/or included in reports generated by the system. Requests can be rejected (and moved into the status 'Complete'), deferred for funding (and moved to a 'Deferred' status indefinitely), or progress to the *in negotiation* stage for immediate purchase.

Misc. Info/Email	Attachments	Assigees and Notifications	Time Spent	History
Database Description*	Under Review*	In Negotiation*	Activation*	To ERM
# of Sim. users*	unlimited	Authorized users	Fac/Stu/Staff Walk-ins Remote Other (see note)	ILL Secure Electronic (Ariel)
Print copy	Allowed	Digitally copy	Allowed	Scholarly Sharing Allowed
Course reserve	Allowed	Course pack print	Prohibited	Course pack electronic Prohibited
Users resp/Reasonable efforts	<input checked="" type="checkbox"/>	Advance notice for cancellation	Does not autorenew	Post cancellation rights? None
Digital Archive/Preservation	Lockss Clockss Portico Other	License signed	Mon Day Year current date <input type="checkbox"/>	Invoice paid Mon Day Year current date <input type="checkbox"/>
Objectionable clauses	5.4.1 You will ensure that all of your users will remove all [our] content from their computers after your subscription ends! (DO NOT SIGN TILL REMOVED/CHANGED)			Link to license http://yourlicense.edu

Figure 8. 'In negotiation' tab

The **in negotiation phase** (Fig. 8) features a top ten list of key negotiation points (using ERMI terminology) and is capped off by payment confirmation. This helps to streamline the license review process, and share the effort, since it ensures that the key points are addressed by whichever collection librarian does the review. As of yet, there is no integration of the user-facing terms with our database page, but having them coded could allow for automatic transfer if presenting these terms to users becomes a higher priority for our library. When the negotiation is complete, the resource is paid in the ILS and the pay date recorded to move it to the pending activation stage.

Database Description*	Under Review*	In Negotiation*	Activation*	Misc. Info/
Customize interface?*	Yes	Customize done?	No	Customize note
OpenUrl source?*	Activate	OpenUrl done?	No	OpenUrl note
EzProxy?*	Existing			EzProxy Note
DBlist A-Z?*	Yes	DB A-Z done?	No	DB A-Z note
DBlist subj?*	Yes (add to note)	Db subj done?	No	DB subj note
DBlist type?*	No			DB type note
Dataset list?*	N/A			Dataset note
Ejournal list?*	DontKnow			Ejournal list note
Ejournal coll. pg?*	No			Ejournal coll note
Blais DB record?*	Yes	Blais DB done?	No	Blais DB note
Blais INDIV recs?*	No			Blais INDIV note

Figure 9. 'Pending activation' stage

The screen for the **pending activation phase** (Fig. 9) is the most innovative and useful in the Claremont ERATS system. Its critical feature is independent decision points for each potential activation step: when the collection librarian selects an option that requires action, that task is added to a checklist in the center column. This step ensures that every possible activation step is systematically accepted or rejected so that resources are completely activated with all appropriate access points being addressed. Furthermore it allows easy division of the activation labor among multiple technical staff people and at-a-glance assessment of which steps remain for complete activation and listing.

Conclusion

These systems were born out of necessity at our institutions to fill the gap between the original promise of the ERMS and the current functionality of commercial options. If these improvements resonate with the library acquisitions community (or at least with our readers), we hope that they will spur development of/or requests for ERM functionality that is a closer match to acquisition management needs. Given that we have succeeded in building reasonably functional systems by reconfiguring a general-purpose product (and without a single line of new programming), imagine what could be done with tracking software designed specifically for e-resource acquisitions!