

## E-Matrix—Choosing to Grow Your Own Electronic Resource Management System

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Even with commercial options now available, the North Carolina State University (NCSU) Libraries has chosen to continue developing a homegrown electronic resource management (ERM) system, E-Matrix. This contributor provides a brief description of E-Matrix and outlines the reasons NCSU chose not to go with a commercial product. He also discusses changes to technical services workflows and presents lessons learned by NCSU during the development process. Meyer offers recommendations to consider when implementing either a homegrown or commercial ERM system. *Serials Review* 2006; 32:103–105.

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### Brief Description

At its core, E-Matrix, a homegrown electronic resource management system, is a staff management tool for serials, journals, and electronic resources. The system brings together the various data sets about the North Carolina State University (NCSU) Libraries' collection which were previously stored in separate information silos. Information in E-Matrix includes data from NCSU's catalog, link resolver knowledge base, and evaluative data collections stored in small Access databases and Excel spreadsheets. Bringing together the various information serves to create a centralized repository for managing information about serial resources, such as databases and journals. The system is accessible through a Web interface for staff to look up information and perform tasks for library materials.

### Why Not a Commercial Product?

The NCSU Libraries decided not to purchase a commercial product for two reasons. First, when the Libraries decided to investigate electronic resource

management (ERM) and implement a system, there were no commercial products available. After we began our own development efforts and as various vendors began to release the first versions of their ERM products, we paid close attention to the market through constant evaluation of the new systems. The second reason is that subsequent evaluations reinforced confidence that NCSU Libraries could produce a better system tailored exactly to local needs. Even as many of the commercial products begin to mature to their current state, there are a few design elements that NC State has built into E-Matrix that are important and not available elsewhere. For example, E-Matrix does not view the electronic nature of the resources as the greatest challenge for ERM; instead, we feel that it is the seriality that presents the primary challenge in managing these library resources in the twenty-first century. Consequently, we have included our entire active journal collection in E-Matrix, both print and electronic. Having information about our entire serial collection, not just the electronic subset of it, is one of the ways that we have tailored our ERM system to fit our needs.

One of the next stages of development for the NCSU Libraries will be the redesign of its Electronic Journal Finder into simply a Journal Finder. Patrons searching for content will not need to search two separate systems, an E-Journal Finder for electronic copies and the OPAC for print copies. This is possible at NC State because we control all aspects of the data store for our future journal finder.

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Another way that E-Matrix has been tailored to local needs is the tight integration between its data and the library's Web site. As part of a recent redesign of the library's entire Web site, we created a portion that provides subject-based access to our collection. These Web subjects are based upon the programs of study at the university and bring together, for example, all of the databases that might fall under the subject area of Electrical and Computer Engineering. Assigning a database to a particular subject is controlled within the E-Matrix database's tables. This reduces the number of independent systems managing information about the same library resources. Furthermore, incorporating the local subjects into E-Matrix will allow us to pull together the resources and subjects with other evaluative data, such as librarian comments or licensing data. By experimenting with our own development in the ways outlined above, we hope to play an active role in the ERM conversation and influence the market and the system features in vendor products.

## Workflow

ERM strongly suggests many changes to technical services workflow. As more information about these resources is stored in an ERM system and repurposed in new ways outside of the traditional OPAC, the keepers of bibliographic, licensing, or link resolving information will need to reconceptualize how they manage their daily workflows and processes. In an effort to create a smooth transition during the development of E-Matrix, we have tried to design around the current workflow that exists in our technical services departments. One of the design principles that we have built into the system involves the notion of a single authoritative data source. Our intention is that data

should be edited in a single place and made available to E-Matrix from that location.

As is probably the case with any library implementing an ERM system, we do not intend to replace our existing integrated library system (ILS) for management of our serials and electronic resources. The ILS still serves many functions for these materials that ERM was not designed to replicate, such as acquisitions and purchasing functions or robust bibliographic description. Similarly, we still need to maintain up-to-date relationships between journals and their electronic providers in our link resolver knowledge base. This means that our staff will still need to update catalog records in the ILS and the link resolver records in their native systems. In light of these considerations and in order to avoid introducing more work, we have designed E-Matrix to be aware of these systems and changes made within them. As changes are detected, they are imported into E-Matrix rather than requiring duplicate data entry from library staff. The catalog and the link resolver, therefore, are the authoritative data stores for much of the E-Matrix data. E-Matrix is the authoritative data store only when the information in question does not already exist in an environment in which there are other functional dependencies for another library process or service.

Adding E-Matrix as yet another library system layer over our collection has other workflow and staff awareness implications. Staff must be cognizant of the relationships between our different library systems and understand that making changes in one system has cascading effects for other systems.

Fig. 1 demonstrates the way that the E-Matrix system can detect and import the changes made within the existing technical services workflow. Two simple steps made by cataloging and acquisitions staff for an aggre-

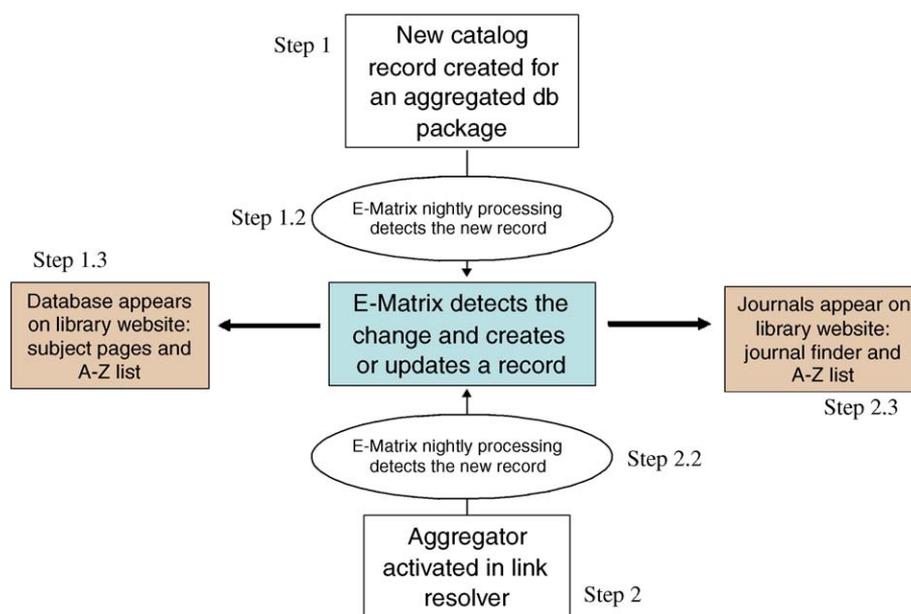


Figure 1. E-Matrix workflow.

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