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Biz of Acq — The Development, Growth, and Maintenance of a Web-Based Book Order System



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Background

Developing and maintaining a home-grown system of any sort is a major labor-intensive effort. UMBC's Albin O. Kuhn Library developed a home-grown Web-order system in 1999 and has maintained it for the last ten years, adding enhanced features over time in response to patron demand.

UMBC is a mid-sized doctoral institution with 12,000 students and just 24 librarians. Academic departments do the majority of the ordering of library materials, with some input from librarians from time to time. Each academic department has a library liaison/selector who represents the department for ordering materials and is responsible for spending the library funds allotted to the department. The liaison, or a designee, places requests for materials purchases through the online order system or via BNA Collection Manager. We no longer accept typed orders or circled catalogs.

UMBC developed its Web order system in direct response to problems with a Web email based order system that generated numerous faculty complaints. The email based Web page sent the orders to selectors who then forwarded them on to the Collection Management department. Collection Management printed them and gave them to Acquisitions. Hundreds of individual email orders were being sent at a time, and some would be missed in the forwarding, and some would be forwarded multiple times. Additionally, orders could sit in email while people were on vacation, away for the summer, or on sabbatical. The library received so many complaints regarding lost orders that in 1999 the Library Director mandated that the Acquisitions Librarian fix the problem and insured that a Systems Librarian's time be spent on it.

The System

UMBC's Web order system has different interfaces, depending on whether the person accessing the system is a member of the public, an academic department liaison, or a library staff member. The form that the public sees when they click on the link from the library homepage allows anyone to request that materials be purchased (See Figure 1). Requests are forwarded to the appropriate liaison who decides whether to purchase the material or not. The most minimal information required for requesting that an item be purchased are the patron's name and email address and the item's title and format. Additionally, a department must be selected for each order. When the item request has been submitted, a copy of the order appears. At the bottom of the form the requestor can choose between ordering another book, with carry-over of some key fields from the previous request, or ordering a new book. Priority is extremely important in the ordering process to both Acquisitions and Cataloging, so the priorities of Rush, Priority and Collection Building are all explained right at the top of the form.

Departmental liaisons use another interface (See Figure 2) by logging in via the campus authentication system using their usual campus username and password. Liaisons are able to place pre-approved orders via this interface which go to library Acquisitions with no further actions neces-

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Book & Media Purchase Recommendation Form

All forms will be forwarded to the appropriate library liaison and then Collection Management for consideration. This form is for UMBC affiliates only.

Please include as much information as possible! Insufficient data may delay processing of request!

* = Required field. You must fill in all required fields.

Selectors login here

Priority of this order		
<input type="radio"/> Rush	Usually arrives within a month	Use this for items you need in 1-2 months Rush requested materials are always placed on Hold. (See Hold below.)
<input type="radio"/> Priority	Usually arrives within 3 months	Use this for items you need in 3-6 months
<input checked="" type="radio"/> Collection Building	Arrival times vary	Use this for quality items for the library collection

*Name:

*E-mail:
Please input a valid UMBC e-mail address.

Order for UMBC even if owned by another USM Library?
 Yes No

*Title:

Author (last, first):

*Format:

ISBN:

Price:

Place:

Publisher:

Year:

Edition:

Is any available edition acceptable?

Yes
 No
 Latest only

Volume:

Series:

*Department:
Africana Studies
American Studies
Ancient Studies
Athletics

Hold? Yes No

If "Yes," this material will be held for you at the Circulation desk for two weeks, after being processed. (You will automatically be notified when the material is placed on Hold). Rush requested materials are always placed on Hold.

Copies: The library normally does not order more than one copy of a book.

REMARKS:

Please include as much information as possible! Insufficient data may delay processing of request!

* = Required field. You must fill in all required fields.

Figure 1: Public Book & Media Request Form

sary. While they are logged in, liaisons can also approve or reject public requests for purchase, either individually or en-masse, or put requests on hold until a later time. Via this interface, liaisons may also review titles they have approved but haven't moved on to "Cleared in Acquisitions," review titles that have been cleared and ordered by Acquisitions, and review approved and denied requests for the past two fiscal years. They can also see generally how much of their materials budget remains for the fiscal year. Liaisons can also edit an order before approving it, by adding information to the order, changing the priority, adding reminder information to the remarks, and changing the patron name and email to the person who should be notified when the book arrives. Via this same interface, the Collection Management Librarian also has the authority to change the department that was originally selected or forward the request on to a different department for consideration.

Staff Functions and Tasks

Staff perform various other tasks, which include establishing users, monitoring orders, loading records, setting order statuses, and running reports in the Web order system, via a **Microsoft Access** interface (See Figure 3), allowing them to work without understanding **Access** or the database structure. Most tasks staff or students do on a daily basis are included on the interface. Some other more complex tasks are done directly with tables, queries, and reports, requiring a better understanding of **Access**. The **Microsoft Access** database is tied to the actual data in **MySQL** on a campus server via **ODBC**. Having the staff interface in **Microsoft Access** allows the Acquisitions Librarian to customize and add new features whenever needed.

In order to have access to the Web order system behind the campus **MyUMBC** login, individuals have to be set up as users, and in order to be able to do anything, they have to be assigned departments to select against. When a liaison or

AOK Library Book Request Approval

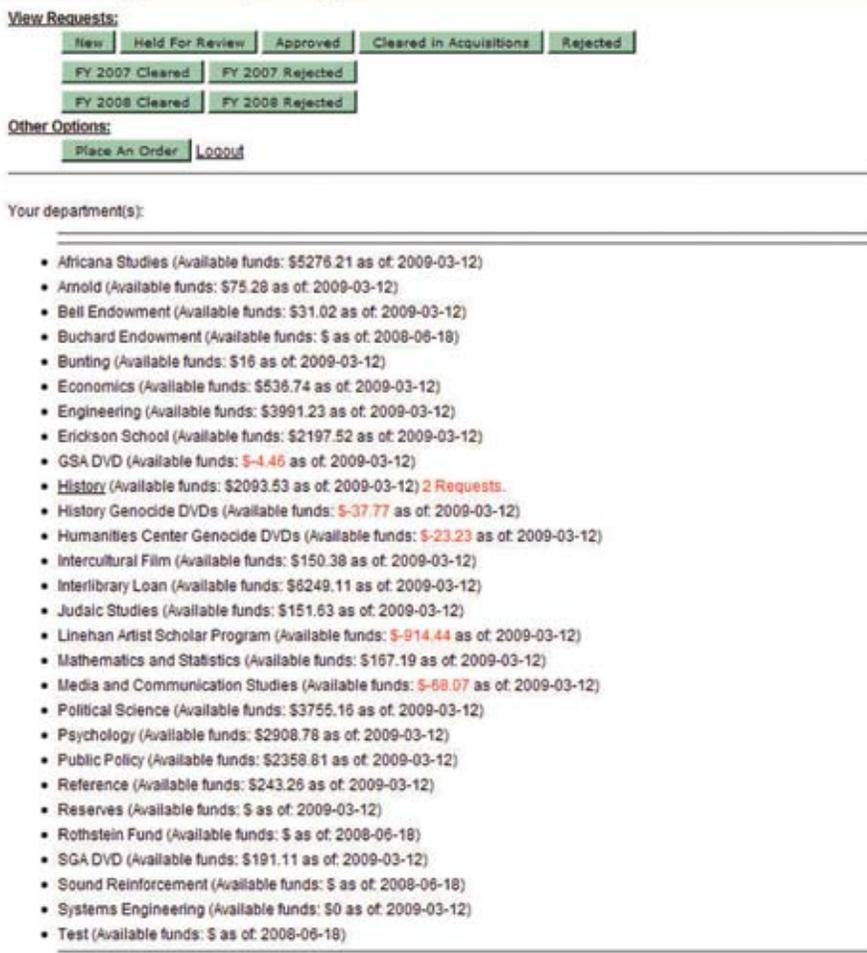


Figure 2: Liaison Interface

selector changes, either Collection Management or Acquisitions staff can "Look for a User" to see if a person is established in the system already. If already in the system, they are simply given the new or additional department. If not already

in the system, the person is input using "Input a New User." Once established, a user can be assigned one or more departments or funds. Users are assigned a role for each department, either "Selector" or "Secondary Selector." A "Selector" is the person primarily responsible for a fund, also known as the liaison. A "Secondary Selector" designation is given to additional people who have been given the authority to order against that fund. Some funds have two to three Secondary Selectors. The Web order system also provides lists of departmental library liaisons for the entire library in a couple of different formats.

Selectors are alerted when there are orders for them to review (See Figure 4). At one point this process was automated and the system sent alerting emails, but at this time the campus server doesn't allow for this. Therefore, acquisitions staff must manually monitor new orders coming into the system. They open a query in the system that displays all orders with a "new" status and then manually email the alerts.

Twice daily Acquisitions staff retrieve approved orders (See Figure 5) and print them saving a back-up file of the set of orders. Queries are run automatically at the beginning and end of the printing process to insure that the number of orders being cleared matches the number of orders printed. If the number of orders in the two queries don't match, orders will be lost and the process is aborted and started over again at a later time. All orders print with a cover sheet, and rush

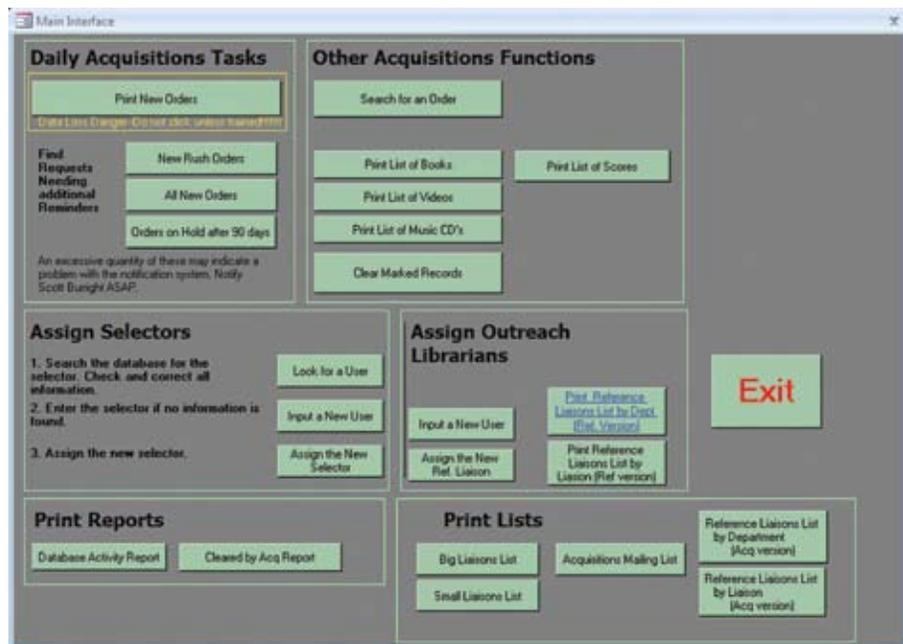


Figure 3: Staff Interface

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orders are printed first, followed by priority, then collection building. Within each category, they're alphabetized by department. An update query changes the status of orders from "Approved" to "Cleared in Acquisitions." Once this query is run, these orders are un-retrievable, so this is the point where the process is aborted or continued depending on if the query numbers match the number of orders printed.

Each department receives periodic Department Reports (See Figure 6), and each requestor receives periodic Requestor reports (See Figure 7). These reports are **Microsoft Access** generated HTML files and are sent via email, and they include the status of the various orders that were placed. These reports include items ordered and now in the library, orders rejected as already owned, and orders approved but delayed, including the reason (such as out-of-money or not yet published).

To report the status of orders submitted via **BNA's Collection Manager (CM)**, records are loaded into the Web order system. **CM** requests are received and loaded on a weekly basis via an **Excel** file we receive from **BNA**. Any problems in the file are resolved and then the **Excel** file is imported into a load table in the Web order system. The **BNA** data is manipulated via a query to better match the data, then loaded into the main data table via an append query that maps the data into appropriate fields.

Hello

There is/are 3 order(s) in the web order system that need(s) your approval (these include 2 priority orders). Please log in to the system at <http://aok.lib.umbc.edu/bookorder/bookapprove.php> and click on "new" to review them. Thank you.

Best regards,

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Figure 4: Email Notification of New Orders to be Reviewed

The information included on the reports regarding the status of the order, differentiating a filled order from an unfilled or delayed one, is input manually into the system by student assistants. They search the system for each order, and when they find the appropriate one, they select the appropriate status and add any notes. The system automatically time stamps each disposition when it's set. Staff check the students' work for accuracy via a report.

Reports are generally run and sent about once a week, both for liaisons and for requestors. Data

is modified to new date range in a query, and that query modifies data in two different reports, one for the Liaison Reports and the other for the Requestor Reports. The reports are exported as HTML documents, creating individual files for each page of the report. This creates many files, one for each page of the report, and the HTML files are attached to emails and sent.

Development

This system began as a bare-bones system based on two pages of specifications written by the Acquisitions Librarian in consultation with the Collection Management Librarian. The specifications spelled out for the Web librarian what the system would have to be able to do and the specs also included everything the system could possibly do. The specs were very specific to our unique Collection Management arrangement with academic departmental control of ordering.

We knew we had to monitor orders that weren't getting handled by allowing the Collection Management Librarian to be able to approve all faculty rush order on any fund, and we also knew we needed to be able to quickly and easily change liaisons and selectors. The full list of possible features was prioritized. Our programmer at the time did the initial design of the tables in **Access** and the Web development. The database was originally in **Access**, and the Webpages and programming were done in **PHP**, **Perl**, and **SQL**.

Throughout the development process, there was a great deal of back and forth, as the programmer developed the **Access** tables and Web-based public interfaces, and the Acquisitions Librarian developed all the staff portions of the system in **Access**. Initially the Acquisitions Librarian designed linked forms, queries, macros, and reports to print orders and revise their statuses, and later developed a minimal staff interface that allowed functions to be performed from one interface form with the click of the mouse. The Acquisitions Librarian continued adding additional staff functions over time as needed and as time allowed, with the system slowly evolving into the feature-rich staff interface that now exists.

Substantial testing of the system was done before roll-out due to the many complaints the existing process was generating. This caution insured that everything worked correctly and was satisfactory. Features were added and bugs were fixed via three-tier testing, by the Collection

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Priority
3/19/2009 9:05:44 AM

Requestor: _____
E-mail: _____
Order Number: 433106054

Modern Languages, Linguistics, a ApprovedBy: _____

MLL-F
Order If Owned by Another USM Library? _____
ISBN: 978-90-420-2500-4 Format: Book-Hardcover or E-book
Title: **Rethinking the French City: Architecture, Dwellings, and Display after 1968**
Author: Yaari, Monique
Place: Amsterdam New York
Publisher: Rodopi
Year: 2008
Edition: _____ Is any edition ok? Yes
Volume: _____
Series: _____
Price: \$100.00
Copies: 1
Remarks: _____
ID#009's booknumber 2 in Rodopi#009's series: Architecture - Technology - Culture

BIB _____
DUP (UMBC/USMAI) _____

(ON ORDER RECEIVED SERIAL
 MULTVOL RCLC LOST/MISSING)

COLLECTION MANAGER _____
OCLC _____
AMAZON _____
BARNES & NOBLE _____
BIP _____

MLL-F Requestor: _____ ApprovedBy: _____
ISBN: 978-90-420-2500-4 Format: Book-Hardcover or E-book
Title: **Rethinking the French City: Architecture, Dwellings, and Display after 1968**
Author: Yaari, Monique
Imprint: Amsterdam New York Rodopi 2008
Edition: _____ Volume: _____

Figure 5: Printed Order for Acquisitions Processing

