Notes on Operations

PDA Consortium Style

The CU MyiLibrary Cataloging Experience

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In April 2010, the University of Colorado Boulder (CUB) Libraries implemented a patron-driven acquisitions (PDA) e-book program through Ingram Content Group’s on the MyiLibrary platform. CUB’s PDA program expanded to include all campuses within the University of Colorado (CU) system, launching a collaborative pilot project for shared purchasing and shared cataloging of e-books among five geographically separate and diverse CU libraries in December 2011. The PDA program affects the catalogs, cataloging departments, and cataloging workflows of each library. This paper describes the CU PDA program with a focus on how MARC records are prepared and distributed to the CU libraries, both before and after titles are purchased. It covers factors that impact editing and customization of the records such as the quality of vendor-supplied data, local needs, and best practices for Prospector, a regional unified catalog in which all CU system libraries participate. In addition, the authors share their strategies for detecting and correcting cataloging errors that occur and their methods for handling PDA titles duplicated in other e-book packages available at CU libraries.

The University of Colorado (CU) system represents a diverse group of institutions composed of three universities operating on four distinct campuses with five separately administered libraries. The libraries are located at the University of Colorado Boulder (CUB), University of Colorado Colorado Springs (UCCS), University of Colorado Denver (UCD), University of Colorado Anschutz Medical Campus (a component of UCD), and the University of Colorado School of Law (a component of CUB located on the CUB campus). CUB is the CU system’s flagship institution. The diversity of the campuses and programs served by the CU libraries is reflected in their respective budgets and in the operational structures they developed to meet the needs of their patrons with the resources available to them. Currently each library uses Innovative Interfaces’s integrated library system (ILS), and all five participate in Prospector, a unified catalog of over forty academic, public and special libraries in Colorado and Wyoming, sponsored by the Colorado Alliance of Research Libraries. However, while CUB uses Ingram Academic, formerly Coutts Information Services, as its major vendor for monographic purchases, a variety of other vendors supply print and electronic monographs to the CU system libraries, including unique vendor arrangements for each library. Furthermore, the cataloging or metadata units of the CU system
libraries vary widely in terms of staff size and specialization. For example, CUB Libraries has a relatively large metadata services department with highly specialized experts. At the other end of the spectrum is UCCS with only one professional cataloger who handles materials in all formats.

In April 2010, CUB implemented a patron-driven acquisitions (PDA) e-book program through the Ingram on the MyiLibrary platform. Borrowing from Candace Dahl, the authors use the term PDA to refer to “the automated practice of allowing patrons to select books for their library, most often through the process of clicking on records that have been added to their library’s catalogue.” CUB’s PDA program expanded to include all campuses within the CU system in December 2011. Within most CUB libraries, one cataloger at each library is responsible for loading MyiLibrary e-book records locally; at the Law Library, instead of a cataloger, one technical services/library technology specialist loads the records. Cataloging of purchased MyiLibrary e-books falls among the job responsibilities of three individual copy catalogers at CUB.

CU system libraries participate in many cooperative arrangements with vendors and publishers to bring electronic resources to their patrons in more economically feasible ways. However, the MyiLibrary e-book project is the first one that actively engaged catalogers and metadata experts throughout the CU system.

This paper focuses on the cataloging aspects of the CW MyiLibrary e-book PDA program. It describes how the program affects the participating libraries’ catalogs, cataloging workflows and cataloging departments. It discusses the workflow used to share MARC records for PDA titles among the libraries, both before and after titles are purchased. It also touches on the factors that impact editing and customization of the records, such as record quality, local needs, and best practices for Prospector, the regional unified catalog. In addition, the paper conveys strategies used by CU catalogers for detecting and resolving errors and for handling records for titles duplicated in other e-book packages or other PDA platforms available at some CU system libraries. Some of the information in this paper was originally presented at the ALCTS Catalog Management Interest Group meeting held during the 2012 American Library Association Annual Conference and at the 2012 Charleston Conference.

**Literature Review**

Although PDA, also known as demand-driven acquisitions (DDA), has its roots in the print world, it is experiencing renewed significance in today’s environment in which electronic resources predominate. The e-book marketplace is burgeoning while budget constraints and fiscal accountability requirements compel libraries to consider “just-in-time” over “just-in-case” monographic purchases. Furthermore, e-books are ideal for serving students in online programs, which has been a motivating factor for the CU system libraries for adding e-book packages to their collections. For example, the Kraemer Family Library at UCCS provides support for online nursing and health sciences courses including a Doctor of Nursing Practice (DNP) program that is completely online. The recent rise in PDA popularity is closely connected to the growing e-book publishing industry and is reflected in an expanding body of literature on the topic and in the number of programs devoted to it at various library conferences over the past several years, such as the Charleston Conference, the Acquisitions Institute at Timberline, and the Electronic Resources and Libraries (ER&L) annual conference.

Two monographs published in 2011 scan the PDA spectrum. In *Patron-Driven Acquisitions: Current Successes and Future Directions*, editors Nixon, Freeman, and Ward present numerous articles authored by librarians at various academic institutions in the United States that discuss PDA for print books and e-books. Among the articles is a literature review by Nixon, Freeman, and Ward charting historical and evolutionary forces that generated the PDA movement from print books through e-books. The work also includes articles on case studies related to workflows and materials usage, methods for acquiring print books based on interlibrary loan requests, methods for acquiring e-books based on a variety of patron selection techniques, and innovative systems used to support patron-driven acquisitions programs. The articles in this volume originally appeared in a 2010 special issue of the journal, *Collection Management*.

In *Patron-Driven Acquisitions: History and Best Practices*, David A. Swords, Vice President of Sales and Marketing at EBL, has assembled numerous articles by a variety of contributors, including librarians, publishers, and vendors, focused primarily on e-book PDA. For academic librarians who are weighing the feasibility of initiating a PDA program at their institutions, Dahl, in her 2012 article, provides an overview that addresses the issues surrounding selection control, collection building, and the evolving definition of a library’s purpose in terms of preservation of materials versus access to them.

In general, the literature covering PDA reviewed here is focused largely on the rationales behind it and the collection development strategies that support it. To date, little has been written about procedures for cataloging e-books that are available through a PDA model, although several authors have discussed the matter in broad terms. For example, addressing some of the challenges that arise for catalogers with the surge of e-book collections, University of Houston librarians,
Wu and Mitchell note in their 2012 article that PDA is not typically discussed as a cataloging issue. Nevertheless, it presents unique circumstances for catalogers since records for materials not actually owned by the library are loaded into the catalog, there may be records that need to be removed or suppressed for titles not purchased within a given timeframe, and records may need to be updated or corrected when titles are purchased. In another 2012 article, Herrera describes the overall processes used at the University of Mississippi Libraries to load PDA MARC records to the local catalog and to update the records for purchased titles. In their 2012 article, De Fino and Lo discuss the impact of PDA on collection development and technical services librarians; they also provide a general description of a PDA cataloging workflow at Rutgers University and emphasize that the “success of a patron-driven plan relies on the close collaboration between the cataloger and the selector.”

Articles reporting on processes and procedures related to batch loading of records are relevant to PDA cataloging processes. For example, in 2010, and Zhao and Zhao presented a case study of an e-book MARC project undertaken by the University of Windsor’s Leddy Library and its affiliated consortium, the Ontario Council of University Libraries. It focused on vendor-supplied MARC records and the establishment of a consortial e-book MARC records database. The authors identified specific policies and procedures for e-book cataloging that may prove useful to other academic libraries. Dinkins’ 2012 article notes challenges encountered at Stetson University when downloading MARC records from their e-book vendor’s site because it was difficult to distinguish PDA records from those of their subscribed titles. Martin and Mundle (2010) discuss methods used at the University of Illinois at Chicago’s University Library to improve the quality of vendor-supplied records for e-books made available through a consortial purchase. They conclude that working with the consortium and the vendor to provide good quality records as a top priority “was the most productive route to quality data in the catalog.” In 2011, Preston described the processes used by OhioLINK’s Database Management and Standards Committee to put e-book records into the Ohio Link Library Catalog and to distribute them in batch loadable MARC record sets to OhioLINK member libraries. She explained how the catalog projects are organized and how they evolved to accommodate available data, members’ needs, and evolving cataloging standards. Catalogers who are responsible for batch loading PDA records to their local or consortium catalogs may find and share helpful information by subscribing to batch@listserv.vt.edu, the email discussion list devoted to batch loading issues in libraries hosted by Virginia Polytechnic Institute and State University (Virginia Tech).

PDA programs, particularly e-book PDA programs, are likely to become more prevalent among libraries and library consortia. For example, in July 2011, the Orbis Cascade Alliance, a consortium serving libraries in the northwestern United States, launched a PDA program in partnership with EBL and YBP. In May 2012 the Colorado Alliance of Research Libraries launched a consortial PDA program with YBP Library Services, Ebook Library (EBL), and ebrary similar to the one launched by the Orbis Cascade Alliance. Both PDA projects, which the consortiums call Demand Driven Acquisitions (DDA) programs, were described by Kelley in a June 2012 article posted on The Digital Shift weblog. As these types of programs gain more ground, the body of literature devoted to them is likely to increase accordingly.

In describing the unique cataloging practices, processes, and workflows used to manage MARC records for a PDA pilot program shared by the individual institutions within the University of Colorado system, this paper attempts to augment the available literature aimed specifically at bibliographic control of PDA e-book titles. Because library catalogs serve as e-book discovery gateways for library patrons, it is important for catalogers and metadata experts to insert themselves into the PDA projects undertaken by their institutions.

CU System Libraries E-book PDA Timeline

In April 2010, CUB Libraries implemented an e-book PDA pilot program through Ingram’s Academic division, previously known as Coutts Information Services, using the MyiLibrary e-book platform. The PDA program covered five subject areas: religious studies, business, chemistry, women’s studies, and ethnic studies. The plan included recently published titles from scholarly presses and some backlist titles from the previous three years. CUB subject specialists selected titles from a list provided by Ingram for the initial launch of the pilot project. Afterward, CUB worked with Ingram Academic to develop a selection profile. With a few intentional exceptions, titles that CUB owned in print were excluded from the PDA program. Ingram supplied MARC records for all of the e-books included in the plan. The first batch of “discovery” records contained 985 titles. A “discovery” record represents a title not yet owned by the library that is available for patrons to discover and thereby generate a library purchase for that title.

CUB, Ingram, and the other CU system libraries entered into an agreement that enabled all CU system libraries to access CUB’s purchased PDA titles in July 2010, and CUB initiated monthly distributions of MARC record sets to the other four libraries.
for PDA purchased titles. The first set contained twenty vendor-supplied (Ingram) records. In October 2010, after deeming the pilot project a success, CUB developed selection profiles for all subject areas relevant to CUB, and commenced weekly downloading of vendor-supplied discovery records to CUB's local catalog.

CUB's MyiLibrary PDA program broadened in scope so that all CU system libraries could fully participate in the plan in November 2011. The CU MyiLibrary PDA e-book program was launched, and collaborative shared purchasing and shared cataloging of PDA e-books began. In addition to managing the acquisitions processes for the program, CUB also assumed responsibility for obtaining MARC records for MyiLibrary titles and distributing them to the other CU libraries, thereby becoming the cataloging agent for the project. CUB delivered a backfile of 3,129 MyiLibrary vendor-supplied discovery records to the other CU system libraries for titles available for “discovery” by all patrons at all CU system libraries by December 2011. In late 2011, CUB also began weekly distribution to the other CU libraries of discovery records for new titles added to the PDA e-book plan.

OCLC and Ingram launched a short-term e-book loan option in August 2011. Through this program, e-books on the MyiLibrary platform are available for nine-day loans, for a fee, to libraries that utilize OCLC's WorldCat Resource Sharing services. To ease the workload for interlibrary loan staff in determining whether CUB owns a particular e-book, the CUB Libraries implemented a retrospective cataloging project to set holdings on OCLC records for all of the purchased MyiLibrary e-books, and in the process, to replace existing vendor records in the local catalog with their corresponding OCLC WorldCat records. Having CUB’s MyiLibrary e-books holdings visible in WorldCat prevents interlibrary loan staff from generating unnecessary short-term loans for e-books the library already owns. The catalogers could have simply replaced the vendor control numbers in the MARC 001 fields in the local bibliographic records with their appropriate OCLC record numbers and set holdings in WorldCat using OCLC Connexion’s batch updating feature. However, as a member of the Program for Cooperative Cataloging (PCC), CUB decided, in the interest of global cooperation, to catalog the purchased titles directly in OCLC. As a result, any enhancements made to the records by CUB's catalogers, such as the addition of tables of contents or summaries, are available to all OCLC members and WorldCat users. Record quality was not a factor in the decision to replace vendor records with OCLC records since Ingram provides good quality records. In the spirit of cooperation, CUB shares the OCLC records with the other CU system libraries, giving them a convenient option to replace vendor records in their own catalogs with updated OCLC records and to set their institutions’ holdings on the WorldCat records as well. By January 2012, CUB shared 164 OCLC records for PDA purchased titles with the CU system libraries.

After the official start of the CU system PDA pilot, subject coverage of CUB’s profile expanded to include additional areas of interest to the other CU system libraries, including criminal justice, nursing, public health, and sports medicine to support programs and courses offered by their institutions in these areas. This expansion added 322 records to the backlist for 2011 imprints not covered in CUB’s profile. To indicate which part of the profile or subject area generated their availability to the program, Ingram and CUB created specific profile codes that are linked to the PDA titles. The codes can be used to evaluate the profile’s effectiveness and to indicate where future adjustments may be desirable. These codes are included in the vendor-supplied MARC records downloaded from Ingram, and they are retained on the OCLC records used for purchased e-book titles. By early December 2012, affiliated patrons of all CU system libraries had access to 7,300 e-book titles through 6,749 PDA discovery records and 551 records for purchased PDA e-books. As of this writing, CUB, UCD and UCCS are loading all available MyiLibrary e-book MARC records into their local catalogs. The Law Library is adding records for law-related e-books only and while the Health Sciences Library on the Anschutz Medical Campus has plans to load records for health sciences related e-book titles only, they have not loaded any records thus far.

**Cataloging Overview**

As the cataloging agent for all five CU system libraries for MyiLibrary e-book titles, CUB strives to provide uniform, high quality MARC records. The cataloging workflow for the project has evolved over time, and it will continue to evolve as cataloging standards and practices change and as the needs of the CU system change. Because Ingram was willing to customize the MyiLibrary PDA discovery records per CUB's requests as described in the next section, CUB is able to automate additional editing of the records to bring them in line with CUB's cataloging standards and those agreed upon by the CU system libraries for the program. This reduces the time CUB catalogers spend on editing PDA records and allows CUB to deliver them to the other libraries shortly after CUB receives them. CUB’s OCLC cataloging of purchased MyiLibrary titles is a little more complex, yet CUB has been able to streamline the process and deliver OCLC records for purchased titles to the other CU libraries on a monthly basis. Once the other libraries receive records from CUB, each will use various methods to prepare
Ingram collaborated with CUB to identify ways in which the vendor could customize its MARC records to help streamline the MyiLibrary PDA program for CUB and the CU system libraries. As a result, vendor records now arrive on the Ingram’s server with the following MARC field customizations.

- **006** CUB’s default setting for the additional material characteristics is used, namely, code m (computer file/electronic resource) in position 00 (form of material) and code d (document) in position 09 (type of computer file). Code o (online) is used for position 06 (form of item). The inclusion of this code complies with OCLC requirements for WorldCat record validation, which changed in November 2012.

- **007** Position 23 (form of item) is set to code o (online).

- **020** Ingram standardizes the qualifier for the International Standard Book Number (ISBN), such as, “Cloth/HB,” “Paperback,” and “Electronic Book,” and places all ISBNs in the MARC 020 subfield z. This allows CUB to place all ISBNs

CUB. A flowchart of the process is presented in figure 1.

### Cataloging Challenges and Solutions

#### Vendor-Supplied Discovery Records

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- **020** Ingram standardizes the qualifier for the International Standard Book Number (ISBN), such as, “Cloth/HB,” “Paperback,” and “Electronic Book,” and places all ISBNs in the MARC 020 subfield z. This allows CUB to place all ISBNs
with the qualifier “Electronic Book” into the correct subfield, a using a “regular expression,” a formula created to match and replace characters or a text string. Regular expression capability, a sophisticated find and replace mechanism, is built into many text editors, word processors and programming languages.

655 Ingram omits the genre/form term in the MARC 655 field containing “Electronic books” because CUB does not use this field to identify e-books in its local ILS.

856 Ingram provides a uniform resource locator (URL) in the electronic location and access field in subfield u, the uniform resource identifier (URI), in each PDA e-book record. The URI points to a landing page on the MyiLibrary platform rather than the book itself. The landing page provides information about the book that allows patrons to determine whether they want to read it. Access to the book is based on Internet Protocol (IP) authentication. Linking to the landing page does not count as a purchase trigger for the book. Ingram also adds a public note to each MARC 856 field in subfield z that reads, “Connect to online resource” which is how the link to the e-book is labeled in CUB’s public catalog.

Ingram places the appropriate CU system library’s profile code in the local MARC field 950 in each PDA e-book record. This is a local processing information field. Data in this field are useful for collection development and profile assessment purposes.

956 Ingram adds the note “MyiLibrary PDA” to each record using the MARC field 956, another local processing information field. This identifies records as unpurchased PDA titles and serves as a “hook” to gather PDA discovery records into a single list or file when needed.

Figure 2 presents a sample MARC record from Ingram with MARC fields customized for CUB.

Overall, the quality of the vendor-supplied discovery records for MyiLibrary titles is good. Each bibliographic record has the full description for the work based on current e-book cataloging standards and Library of Congress (LC) classification and subject headings. In rare cases, the general material designation (GMD) “electronic resource” is missing from the title field (MARC 245 subfield h). With Resource Description and Access (RDA) implementation, scanning for missing GMDs will be supplanted by scanning for the MARC fields 336 (content type), 337 (media type) and 338 (carrier type). Other RDA changes, such as the addition of the MARC 264 field (production, publication,
distribution, manufacture, and copyright notice), will not affect record loading. However, local libraries must work with their ILS vendors to assure that their systems will accommodate RDA and use it to its full potential in today’s digital environment.

In some instances the MARC 245 field did not match the book’s title because the vendor derived the discovery record from a prepublication record that contained a title that changed after the book was published. Occasionally the vendor-supplied profile code, the local MARC 950 field, was missing. To detect missing data in these areas, CUB catalogers scan the records in MarcEdit using the program’s “Extract Selected Records” tool.

Some of the vendor-supplied records for PDA discovery titles come with MARC 019 fields that contain OCLC numbers for the e-books’ corresponding print records from which the discovery records were derived. Although this is an incorrect use of the MARC 019 field, which is an OCLC defined MARC field intended for obsolete OCLC numbers, CUB catalogers were initially inclined to retain them as a reference point. CUB has used the information to check e-book record quality by comparing the OCLC print records to the corresponding e-book records. However, CUB’s catalogers soon realized that some of the other CU libraries index their MARC 019 fields the same way as MARC 001 fields, and the misuse of them in MyiLibrary discovery records had the potential to cause problems in their local systems. For example, they could turn up as duplicate OCLC numbers in the libraries’ system-generated reports if a library owned the print version of the title.

Another problem related to the MARC 019 field occurred when CUB began loading titles and URLs for MyiLibrary PDA purchased titles into the knowledge base of the electronic resources management (ERM) system of CUB’s ILS. The ERM is an efficient management system used to gather pricing information and licensing terms for individual electronic resources. It can also generate usage statistics for a resource. Furthermore, if access to a resource, such as the MyiLibrary collection, becomes unavailable for any reason, a global notification/alert can be inserted into the resource record that will display automatically on each individual record in the public catalog that is linked to the resource record.

The ERM is designed to attach individual titles within a collection, such as MyiLibrary purchased titles, to one unified resource record. When a resource record for a collection is created, discrete holdings/check-in records for every title in that collection can be attached to it through an automated process. The holdings/check-in record contains the URL for accessing the title on the vendor’s platform while the URL in its corresponding bibliographic record in CUB’s catalog is suppressed through changing the MARC tag 856 containing the URL to the local MARC 956 tag, which is suppressed from public display. The other CU system libraries do not use an ERM system. Their access to the purchased e-books is through the links in the MARC 856 fields.

To create a holdings/check-in record that links to its appropriate bibliographic record, the holdings/check-in record must match on a single, unique identifier found in the bibliographic record. The unique identifier for CUB’s ERM is the data in the MARC 001 field, which contains the OCLC number for the MyiLibrary PDA purchased title. Based on the manner in which the ERM system’s matching algorithm interacts with CUB’s ILS, the ERM could fail to generate the holdings/check-in record if a MARC 001 and a MARC 019 field appear on the bibliographic record. Consequently, CUB catalogers are now deleting all MARC 019 fields from the PDA discovery records and the OCLC records used for the PDA purchased titles.

Another challenge CUB’s catalogers encounter with the vendor-supplied records is incorrect subfield coding of ISBNS in the MARC 020, International Standard Book Number, field. This is not limited to MyiLibrary e-book records. Miscoded ISBNS are also found in other vendor-supplied records and in OCLC records. Print ISBNS and vendor ISBN-look-alike control numbers, prefixed with 661 or 978661 are often found in the MARC 020 subfield a instead of subfield z, canceled/invalid ISBN, where they belong.14 This has the potential to cause problems in local and shared systems that use the ISBN in the MARC 020 subfield a as an overlay match point because it could cause an e-book record to be merged with a print record or vice versa.

During the initial stage of the project, CUB catalogers used a regular expression in MarcEdit to globally change the MARC 020 subfield a to subfield z in vendor-supplied PDA records if the first letter of an ISBN qualifier did not start with e or E. However, this regular expression could not correct ISBNS that lacked qualifiers, and many invalid and ISBN-look-alikes created by the vendor remained improperly coded in the MARC 020 subfield a on MyiLibrary records. CUB appealed to Ingram to deliver PDA records with correctly coded ISBNS. Although Ingram’s internal system used to create MARC records was not designed to sort ISBNS in this manner, they standardized the ISBN qualifiers on their records. In addition, Ingram agreed to place all ISBNS in the MARC 020 subfield z. CUB catalogers were then able to modify their MarcEdit regular expression so that it changed subfield z to subfield a when the ISBN qualifier starts with e or E. Once the regular expression was applied, all e-ISBNS

Several fields in Ingram’s records must be edited to comply with best cataloging practices for Prospector to prevent confusion or mismatching of institutional holdings in that system. A unique MARC 001 field contains Ingram Academic’s accession number prefixed with “cis” (Couts Information Services, reflecting the company’s former name). Since there are records from a different vendor in Prospector that also contain the MARC 001 “cis” prefix, CUB changes the Ingram prefix to MiLeis to create a unique MARC 001 for the MyiLibrary e-book records. Although the MyiLibrary PDA discovery records are suppressed from view in Prospector, it is still a good practice to follow Prospector’s guidelines in the event that the CU system libraries decide to display their MyiLibrary PDA discovery holdings in Prospector in the future.

The LC style call numbers found on the discovery records in the MARC 050, Library of Congress Call Number field, are not always complete, but for efficiency’s sake, CUB retains them during the editing process. The presence of call numbers helps with duplicate record detection processes in local catalogs, and LC classification numbers can be useful for collection analysis when needed. Classification numbers are also helpful to reference librarians and library patrons who want to search their library’s catalog for all available titles in a given classification.

Specific Cataloging Workflow for Discovery Titles

The steps that CUB catalogers take to obtain and process PDA “discovery” records and distribute them to the other CU system libraries are provided below:

1. CUB downloads MARC records from Ingram’s FTP server:
   - Each week, Ingram notifies CUB that a file of new PDA discovery records is available. Once notified, CUB downloads the file and opens it in the MarcEdit program. Ingram also informs CUB when the record for a title is no longer accessible because the author or publisher withdrew access rights.

2. CUB edits the vendor’s records using MarcEdit.

3. CUB loads the records into the CUB library catalog:
   - The bibliographic records are loaded into CUB’s local catalog with item records attached. Participating Prospector libraries are encouraged to attach item records to the bibliographic records in their local catalogs to display their institutional holdings information clearly in the consortial catalog. The CU libraries agreed to include item records in the event that they display the discovery records in Prospector in the future.

4. CUB checks for duplicate records:
   - Using the duplicate call number report feature in the local ILS, CUB scans for duplicate records based on the call number field.

5. CUB globally updates local fixed field data for the records:
   - After CUB loads the records into the local catalog, locally defined fixed field information is globally updated to indicate that the records are batch loaded e-book records. To reflect the fact that these records are for titles not yet purchased, the cataloging date is changed from the system supplied record load date to blank. CUB uses the cataloging date as a variable in creating a monthly list of bibliographic records to send to Backstage Library Works (Backstage), the company that provides CUB with authority control services, the process of standardizing names, subjects, and series entries on bibliographic records. CUB does not send records for unpurchased titles for authority control. Keeping the cataloging date blank ensures that the discovery records are not sent to Backstage. CUB also adds a suppression code to the PDA discovery records to prevent them from displaying in Prospector, which is the currently agreed upon practice among CU system libraries participating in the MyiLibrary PDA e-book program.

6. CUB distributes the edited MARC records to the CU system libraries.
   - CUB posts its edited MARC records for pickup by the other CU system libraries in Basecamp. CUB delivers the MARC records files in the .mrc format, a machine readable file format suitable for batch loading of the records into their local ILS systems. Libraries can download the files directly into their catalogs or they can open them in MarcEdit for additional record editing if necessary to accommodate local
cataloging practices.

**OCLC Records for Purchased E-books**

PDA e-book purchases are triggered on the MyiLibrary platform based on an agreed-upon number of uses by library patrons within the CU system. When a PDA e-book is purchased, CUB’s acquisitions staff will create and attach order records to the vendor records for the PDA titles in the local ILS and notify CUB’s catalogers of the purchases. The catalogers then initiate cataloging procedures to replace PDA records with OCLC records that reflect the purchased status of the corresponding e-books.

After several experiments and trials, CUB’s OCLC cataloging procedures for PDA purchased titles are now well-established. Nevertheless, developing cataloging efficiencies for the process posed a few challenges. The following examples demonstrate how some of those processes have evolved.

As with vendor records, ISBNs are often incorrectly coded in the MARC 020 fields in OCLC records. CUB’s goal is to have OCLC records in the local catalog and in Prospector that contain accurately coded e-book ISBNs on e-book records. Records for purchased MyiLibrary titles are coded to display in Prospector, and the likelihood is high that CUB’s records will serve as the master bibliographic records in the Prospector system. To that end, the initial plan called for CUB’s copy catalogers to correct, as needed, the subfield coding of every ISBN on all OCLC records for MyLibrary e-books before exporting them to the local catalog. In this scenario, catalogers ensured that print ISBNs were correctly coded in MARC 020 subfield z. CUB’s copy catalogers pointed out that this would be time consuming, and qualifiers are sometimes inaccurate. Verifying each ISBN found on an OCLC record would tremendously slow down the MyiLibrary copy cataloging process for purchased e-books. Therefore CUB decided that catalogers would export records with ISBNs as is, and use the global update feature in the ILS to place ISBNs in MARC 020 subfield z, canceled/invalid ISBN, if they do not have a qualifier starting with e or E.

It is not uncommon for the URLs, the links to the e-books, to change over time. Below are examples of URL syntax variations that may occur for a single e-book title:

- A. `http://lib.myilibrary.com?id=281874`
- B. `http://www.myilibrary.com?id=281874`
- D. `http://lib.myilibrary.com/Open.aspx?id=281874&src=1`

The URL currently used by the CU libraries to access MyiLibrary purchased e-books is exemplified in (a) above. However, URLs found in OCLC WorldCat records may contain the domain name `www.myilibrary.com` shown in example (b) above. MyiLibrary continues to support the older, legacy links represented in example (b) by redirecting them to the current pages on their website to access the e-books associated with them. The syntax style shown in example (c) that contains the `open.aspx` string is a current and acceptable alternative to the one used by the CU libraries. The URL shown in (d) with the extension “&src=1” may appear in the browser’s address bar when a user, in this case a cataloger, accesses content within the e-book, which catalogers will do to verify or obtain cataloging metadata. The syntax style used by CU libraries, example (a), is the ideal syntax since it does not rely on “open.aspx,” a Microsoft file extension that could, in rare cases, cause the link to fail. For instance, it might fail on computers using outdated web browsers.

Keeping the URL format syntactically consistent makes future local global updating easier if needed. When CUB copy catalogers verify a URL by determining if it actually points to the e-book being cataloged, the URL returned in the browser’s address box may differ from the one originally entered as indicated above. In their general e-book cataloging procedures, CUB’s copy catalogers are instructed to copy and paste the URL that appears in their browsers into the record after they have verified it. Initially, at the point of cataloging, they did not take steps to assure that all URLs for MyiLibrary e-books were syntactically the same. To do so could cause a time-consuming break from their regular cataloging routine. Instead, CUB catalogers used the ILS global update feature to accomplish this after the records were loaded into the local catalog. However, after several weeks of experimentation, the copy catalogers realized that they can quickly and easily supply syntactically consistent URLs in the local catalog record through the use of a local macro, which has become CUB’s standard procedure. Since records are output from CUB’s ILS for distribution to the other CU libraries, they are guaranteed to receive records with syntactically consistent e-book URLs regardless of which process was used to standardize them.

As part of the record editing process, CUB catalogers add a “cost-recovery script” to URLs in the 876 fields for all purchased MyiLibrary e-book records, which is used internally to gather e-book usage data. CUB mandates the capture of usage statistics on all e-resources purchased with grant-funded research dollars. CUB Libraries decided to add the cost-recovery script to all paid e-resources for internal use studies. Consequently, catalogers must add the script. It is an addition to the original URL and enables the institution to gather statistics when the survey is turned on.
The script must be removed before the records are distributed to the other CU libraries. In June 2012, CUB began providing title access for purchased MyiLibrary e-books through the URL links embedded in the check-in/holdings records generated from its ERM system. Since the system allows this script to be globally added and stored in the ERM knowledge base, it seemed as though CUB’s copy catalogers could be spared the chore of adding it to the URLs on the bibliographic records. However, the copy catalogers pointed out that eliminating the script from MyiLibrary records would be an exception to the uniform cataloging procedures they put in place to handle all e-book copy cataloging. Making an exception for one group of titles could cause confusion and produce errors in their cataloging. Therefore, they continue to add the script to MyiLibrary records using an ILS macro developed for cataloging all e-books at CUB. Before the MyiLibrary e-book records are distributed to the other CU libraries, they are output to a file that is then opened in MarcEdit, and the cost-recovery script is globally deleted from all records.

To accommodate the other CU libraries’ need for an overlay match point when they replace discovery records in their local catalogs with the shared OCLC records for the purchased titles, CUB catalogers devised a method for transferring the vendor’s control number found in the MARC 001 field on the discovery records to the MARC 035, System Control Number field, of the OCLC records used to catalog purchased titles.

To provide a “hook” in the Libraries’ local catalogs for gathering all MyiLibrary purchased titles into a single list when needed, CUB’s catalogers add locally via a macro the note, “MyiLibrary PDA purchased” to all of the OCLC records using the MARC 956 local field.

CUB distributes the OCLC records for PDA purchased titles to the other CU libraries each month after they come back from Backstage where they are sent for authority control. Therefore, all headings on these records are verified and controlled, that is, all name, subject and series entries are standardized according to LC practices.

Specific Cataloging Workflow for Purchased Titles

The instructions CUB’s catalogers follow when cataloging purchased PDA titles follow:

1. Copy the Ingram accession numbers with the MiLcis prefix in the MARC 001 field from the PDA discovery records and paste them into a text editor.
2. Catalog purchased titles on OCLC. If an e-book record is not available in OCLC, provide original cataloging for the title by deriving a record from the record for the print version of the title.
3. Export the OCLC records and overlay the PDA discovery records in the local catalog.
4. The local bibliographic record number is used as the matching point during the record export-overlay process. The loader program used in the export process protects the profile code in the local MARC 950 field in the discovery records and they are thereby retained on the incoming OCLC records.
5. Set the cataloging date to the date of the export, retain the original item record for each title, and set the record display in the Prospector system.
6. Send records to Backstage for authority control on a monthly basis:
   - Backstage matches the headings found on bibliographic records against the LC name and subject authority file databases, updates the names, series, uniform titles and subjects headings, and returns the updated bibliographic records with correct headings along with the headings’ corresponding authority records to CUB.
7. When records are returned from Backstage with verified and/or corrected headings, the existing records are replaced or overlaid, and the updated records are exported from the catalog to a file.
8. Open the monthly output file in MarcEdit and delete CUB’s local data from records: cost-recovery
Missing Record Detection

The Acquisitions Department at CUB plays a major role in detecting missing MyiLibrary bibliographic records. For example, CUB received invoices for two PDA purchased titles for which Ingram had not generated a MARC record. The invoices appeared to have been generated in error. When informed of this by the Acquisitions Department, Ingram produced usage statistics to prove that CU’s patrons had indeed generated the purchases, which CUB was able to confirm by checking usage data available on the MyiLibrary platform. It turned out to be a timing issue. Although the CU profile had targeted the titles, apparently CU patrons “discovered” them directly on the MyiLibrary platform just as soon as they became available and before Ingram’s catalogers had a chance to create bibliographic records for them for distribution. Their shift to the purchased status moved them out of discovery mode and, apparently, out of Ingram’s record production queue for CU’s e-book PDA. CUB’s acquisitions staff are required to have PDA bibliographic records in CUB’s ILS since their practice is to add order records to the vendor’s discovery records when invoices are received for purchased titles. Ingram supplied the missing records with profile codes included to identify them as CU MyiLibrary titles. Ingram also redesigned its workflow to prevent this situation from recurring.

CUB prepares a quarterly spreadsheet of all MyiLibrary titles available in CUB’s catalog to assist the other CU system libraries in identifying missing titles in their own catalogs. By comparing holdings in OCLC, a required step for OCLC member compliance.

Figure 3 presents a sample MARC record for a PDA purchased title and figure 4 shows the public displays of the record in CUB’s and UCCS’ catalogs.

Figure 3. MARC Display of the Record for a PDA Purchased Title in the CUB Catalog (http://libraries.colorado.edu/record=b6970235-s3)

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script in the MARC 856, cataloger’s initials, CUB local cataloging processing fields, and system-generated fields during the output process.

9. Distribute the revised MARC records to the other CU system libraries via Basecamp in .mrc file type.

10. At the beginning of each month, initiate the ERM process for generating holdings/check-in records containing the URLs for accessing the e-books.

The other CU system libraries will do the following after retrieving a file of MARC records for purchased PDA e-books from Basecamp:

1. Edit the records to accommodate local cataloging practices.
2. Overlay the vendor PDA records with corresponding OCLC records.
3. Use OCLC’s batch features to set 950 profile fund code protected during record overlay
956 “book” to the purchased collection
956 40 [Connect to online resource
Link to the cost-recovery script

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CUB’s spreadsheet with spreadsheets from their local systems, the libraries can detect missing records that CUB can supply. Missing records have typically occurred when CUB had not distributed them, which sometimes happened during the very early stages of the project. This also occurred because a local library missed downloading a given set of records that CUB had supplied.

**Duplicate Titles Detection**

CUB uses several methods to exclude titles that it already holds, in print or e-book format, from arriving as part of the MyiLibrary PDA e-book plan. CUB established selection profiles with Ingram that govern the majority of its monographic purchases. In addition to allowing CUB to specify call numbers, subjects, publishers, and non-subject parameters (languages, book types, price limits, preferred format), the profiles determine whether CUB will receive a book on approval, as a firm order, or as a patron select (PDA) e-book. Ingram is instructed that when CUB owns a print version of a title, it is not a candidate for an e-book purchase or discovery as a PDA title. Furthermore, CUB’s Ingram profile blocks titles from the MyiLibrary program that CUB receives in publisher packages, e.g., Springer-Verlag, Institute of Electrical and Electronics Engineers (IEEE), Oxford Scholarship Online, the Organisation for Economic Co-operation and Development (OECD), Cato, World Bank, and United Nations.

In addition to the profile, Ingram tracks all of CUB’s book purchases and will not send books, unless specifically requested, that CUB already owns in print or e-book formats. To accomplish this, CUB sends Ingram weekly lists, generated from CUB’s ILS, of all monographs added to CUB’s catalog in a given week. This allows Ingram to identify titles that CUB purchased from vendors other than Ingram, thereby preventing Ingram from duplicating them. This process also allows Ingram to avoid duplicating titles that CUB has access to through records provided by the Serials Solutions 360 MARC Update service and other providers.

Potentially, the monographic holdings of the entire group of CU system libraries could go to Ingram for e-book duplication control of MyiLibrary PDA e-books. This is not done because it would interfere with CUB’s overall Ingram plan by preventing CUB from receiving an e-book or a print book from Ingram if another CUB library already owns it. Such a process would also block PDA availability to all campuses for any title if just one other library already owns it. In the spirit of cooperation, the other CU system libraries have agreed to rely on CUB’s plan with Ingram and to accept the fact that some title duplications will inevitably occur in their local catalogs as a result of their participation in the shared MyiLibrary program.

Ingram selects PDA discovery titles based on CUB’s profiles and excludes titles based on CUB’s holdings. However, some titles still inadvertently turn up as PDA discovery titles. This is most likely to happen when e-books are available to CUB in other packages or from other sources. A lag time at CUB in cataloging titles available to them through other sources might prevent them from appearing on CUB’s weekly lists in time to prevent Ingram from delivering them as MyiLibrary PDA titles. Additionally, CUB selectors will occasionally place a firm order for an e-book title even if it is already available as a PDA discovery title, for example, to fulfill a faculty
member's course reserve request. The selectors place these orders directly online with Ingram through OASIS. Ingram Academic’s customer interface for orders and tracking, and the duplication may not be caught until the invoice for the firm order arrives at CUB. Once the duplication is detected, CUB notifies Ingram and the PDA title is deactivated.

Once Ingram delivers a new MARC record set for PDA discovery titles, CUB catalogers use tools to catch duplicate titles both before and after the records are loaded into the catalog. Before loading, catalogers use the “Extract Selected Records” function in MarcEdit to browse the publishers in the MARC 260 subfield b, Name of publisher, distributor, etc. This allows them to catch any PDA title that is already available in a publisher's package at CUB, such as Springer and IEEE. Since Ingram has been informed of CUB’s publishers’ packages, this type of duplication rarely occurs. When duplicate titles are found among PDA discovery records before they are loaded into the catalog, Ingram is informed to deactivate the titles, and the duplicate records are not loaded into the catalog.

After PDA discovery records are loaded into the CUB catalog, CUB’s Acquisitions staff are instrumental in catching PDA titles duplicated in the approval/firm orders. If they find a PDA discovery record that duplicates an existing record on approval/firm order, they inform Ingram to deactivate the title from CU’s MyiLibrary PDA program. Catalogers are then informed through Basecamp to delete the record from the catalog and to inform the other CU system libraries about the duplication. All CU system libraries have access to MyiLibrary e-books purchased by CUB as approval/firm orders, and CUB shares its MARC records for these titles after they are cataloged.

Records for duplicate PDA discovery titles found at CUB are not included in the weekly MARC files CUB posts on Basecamp for downloading by the other CU system libraries. Once the other CU libraries load the PDA e-book files, they may see duplicate title occurrences in their local catalogs. For the most part, finding duplicates at the other CU system libraries is a catch-as-catch-can process. Sometimes the catalogers detect them in their ILS’s duplicate call numbers report when they download new records. This works only if the duplicates have the same call numbers. Sometimes acquisitions staff or selectors uncover them in the process of ordering new books. Duplicates occur when the same e-book is available through another source at a given CU system library. If the duplicate title is one already owned by the CU system libraries as a whole (for example, a Springer e-book or IEEE e-book) the library that detects it will post the information on Basecamp, and CUB will notify Ingram to deactivate the PDA title. PDA duplicate records for titles in this category are suppressed or are deleted from all CUB libraries’ catalogs. Since Ingram is now aware of which publisher packages CUB owns, this situation rarely happens. When PDA discovery titles are found duplicated in subscribed e-book packages, the duplicate PDA discovery records are retained, and the titles remain candidates for discovery purchases.

Two CU system libraries, UCSC and UCD, are participating in another recently launched demand-driven acquisitions pilot sponsored by the Colorado Alliance of Research Libraries in conjunction with Yankee Book Publishers (YBP). Many of the same e-book titles are offered in both the MyiLibrary program and the YBP program. How these duplicates are handled is up to the individual libraries to decide and the workflow continues to evolve. Currently UCSC suppresses records for YBP discovery titles that are found duplicated in the MyiLibrary plan while UCD does not.

Impact on the Cataloging Departments

Since the MyiLibrary shared PDA project evolved from CUB’s original e-book PDA plan with Ingram, it makes sense for CUB to maintain its position as the program’s central contact with Ingram for acquisitions, profiling and invoicing operations, and MARC record distribution. As the cataloging agency for all CU libraries, CUB has worked with Ingram and its cataloging staff, as described above, to produce and provide high quality and customized MARC records for discovery purposes. Although this means more work for CUB, the shared PDA project affects the cataloging departments of all of the CU libraries that add MyiLibrary records to their catalogs.

CUB’s cataloging procedures for PDA purchased titles were revised several times to help expedite the record editing and loading processes for the other CU libraries and to accommodate best practices for the Prospector unified catalog. The influx of new procedures generated processing errors that required record reviews and follow-up to assure that CUB catalogers are using the most current procedures. In addition, catalogers at the other CU libraries had to develop local procedures and workflows for processing the records CUB provides.

With CUB providing the OCLC records for purchased MyiLibrary e-books to all of the other CU system libraries, it would seem that downloading them at the other institutions would be a straightforward process. However, local practices make a difference in how each library handles the incoming records. With OCLC records, the provider-neutral standard comes into play whereby a single record represents all online manifestations of a given e-book title. When an e-book is available to a library from more than one provider and OCLC is the cataloging source for those providers’ records...
(e.g., through OCLC WorldCat Collections sets), the library must adopt the provider-neutral standard locally or have duplicate OCLC records in its catalog (one for each supplier of the e-book). Both methods are used among the CU system libraries. Those who have adopted the provider-neutral approach, as CUB has, must ensure that the process used to ingest OCLC e-book records into their local systems will preserve all necessary provider information, particularly the URL for the e-book on the providers’ platforms. Those who opt for multiple OCLC records must design loaders that will insert duplicate OCLC records rather than overlay existing OCLC records with the incoming records.

Timing is another wrinkle in the provider-neutral environment. With OCLC continuously merging records in WorldCat from the preprovider-neutral days, there may be OCLC numbers for merged records in the current MARC 019 field of the OCLC record that are MARC 001 fields in local catalogs, depending on when OCLC records were loaded into a local catalog. This situation could cause duplicate e-book records to occur in the local libraries’ catalogs as well as in shared unified catalogs such as Prospector. There currently is no systematic process for handling these types of duplicate OCLC records in CU system libraries’ catalogs that result from OCLC cataloging of MyiLibrary purchased e-books. CUB hopes that in the future, OCLC, Ingram and MyiLibrary could partner to provide record sets for MyiLibrary titles through OCLC’s WorldShare Metadata program to help libraries improve cataloging efficiency.

CU system’s MyiLibrary e-book PDA program is based on CUB’s monographic holdings and CUB’s original profile. As a result, duplicate titles from non-MyiLibrary sources are likely to appear in the catalogs of the other CU libraries since they do not participate in the title de-duplication process established between CUB and Ingram. This is particularly true for UCCS and UCD since, like CUB, they have collections that are broad in their scope of subject coverage. In addition, UCCS and UCD are participating in the YBP and Colorado Alliance of Research Libraries shared DDA e-book pilot project through EBL and ebrary. As indicated earlier, this program has the potential to duplicate MyiLibrary titles. Each individual library must determine how it will handle records for duplicate titles that they acquire from a variety of sources.

The collaboration and communication among the CU libraries puts “extra eyes” on the project that help in spotting cataloging errors and in detecting MyiLibrary title duplications that might occasionally occur despite safeguards in place to prevent them. The project is also promoting communication among the CU system libraries that is beneficial to all of them in general. As the catalogers work together to streamline record sharing procedures with CUB, they also share their knowledge and expertise of MarcEdit, ILS loaders, OCLC batch loading features, and best practices for the regional unified Prospector catalog.

A problem related to the display of diacritics serves as a good example of the benefits of cooperation. Initially, diacritics found on records provided by CUB did not always display correctly in the other libraries’ catalogs. This problem is associated with character encoding formats used in local systems, MARC-8 versus Unicode. CUB was able to provide coding that the other libraries could add to their loader programs to make diacritics display properly in MyiLibrary records and also in all other locally batch loaded records.

**Conclusion**

With four of the five CU libraries downloading MyiLibrary records, it has been a positive experience for the catalogers in general. They shared their ideas and their expertise, and together they developed guidelines that facilitated local cataloging operations while accommodating the Prospector unified catalog. Having one library serve as the central agency within the consortium is efficient and reduces workloads for most participants. As the flagship university within the CU system, CUB is well positioned to negotiate with the vendor for services that benefit the entire consortium.

The authors recommend the following best practices when working with vendors to procure MARC records:

- Establish an agreed-upon standard or requirement for the vendor-supplied MARC records, preferably before the contract is signed.
- Maintain contact with the appropriate vendor representatives, e.g.,
  - representative in charge of setting up collection profiles;
  - cataloger responsible for creating and/or making MARC records available; and
  - representative responsible for the e-book platform and title access.
- Comply with consortial best practices:
  - meet local cataloging needs;
  - provide a means for assessing the collection;
  - provide a means for monitoring the budget; and
  - help streamline local workflow.
- Notify the appropriate representative as soon as possible when duplicate records are detected.
- Appreciate the vendor’s efforts to accommodate the library’s needs.

The high-quality bibliographic records provided by Ingram, including special customization to meet the needs
of the CU system, make the cataloging process more efficient for CUB. Good vendor records reduce editing time for CUB’s catalogers, allowing them to quickly load and distribute records. CUB catalogers apply the same high cataloging standards to the records for the MyiLibrary PDA titles as they do to all their batch cataloging projects. When CUB distributes MyiLibrary discovery records to the other CU libraries, they receive records that can be downloaded with no additional editing except what is necessary to accommodate local practices, including those related to RDA implementation.

With good records in multiple catalogs, the e-books are more likely to be “discovered” and purchased, creating a win–win situation for all stakeholders. The libraries’ patrons have catalog access to e-books soon after they become available, the vendor is more likely to sell books, and the libraries enrich their collections.

State funding for higher education in Colorado has steadily decreased over the past five years as full-time enrollment has increased. In these harsh economic times, the CU system libraries’ longstanding tradition of cooperation in providing electronic resources to their patrons serves them well. The CU system MyiLibrary e-book program is but one example of how the libraries have continued, collectively, to leverage their dollars. The MyiLibrary project extends beyond the leveraging of dollars. It also demonstrates how individual libraries can come together to share knowledge and expertise of library systems and tools to produce better metadata in local and shared systems. In particular, it demonstrates the benefits of bringing catalogers and metadata experts to the table with collection development and acquisitions librarians to plan and implement a PDA program. The CU Libraries have yet to determine the program’s impact on their patrons and their collection development processes, yet anecdotal evidence based on the number of title purchases generated and feedback from reference librarians suggests that the CU MyiLibrary cataloging project is succeeding. To confirm the program’s success, the libraries will need to conduct formal cost-benefit studies in the future.

References