BACKGROUND

The Ontario Colleges Library Service (OCLS) provides a suite of services to the province’s 31 publicly-funded college libraries. Our service suite provides management of electronic resources (databases, ebooks, ejournals, streaming video, etc.) including:
- Negotiating license agreements
- Arranging consortial-purchasing with vendors
- Setting up data for new resources
- Facilitating subscription renewals
- Troubleshooting access problems

In spring of 2014, we undertook a project to build a custom electronic resource management system (ERM) within our Drupal website in order to improve our workflow and handling of information related to this service.

BUILDING A CONSORTIAL ELECTRONIC RESOURCE MANAGEMENT SYSTEM

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1. PLANNING

A project management plan with detailed requirements and data models was developed throughout the spring and summer of 2014.

In the fall of 2014, OCLS budgeted $20,000 to develop a developer to build the ERM. We looked to see which another approach, OCLS was most interested in a Drupal-based solution that could be integrated into our existing website.

Affinity Bridge was a web development firm in Toronto with the successful track. They had developed a Drupal-based ERM tool for the electronic resources library of 10 CCs, which were then further developed and customized by two Ontario computer consultants, the Alberta Library (ARL) and the Council of Prairie and Pacific University Libraries (CPPUL).

ERMA: Electronic Resource Management Assistant

The new ERM and briefly launched on March 30, 2015. The ERM was branded as the Electronic Resource Management Assistant or ERMA.

Over the course of the next two months, we worked with Affinity Bridge to refine any bugs that were encountered by OCLS staff or the college libraries. During the summer we continued to maintain other teaching methods for electronic information in order to ensure that ERMA was functioning properly and that college library staff could always find what they needed.

Before ERMA

Prior to undertaking the project, information related to the electronic service was kept in a variety of different places.

When a single piece of information changed, such as a vendor representative’s phone number, it had to be updated in several places. For example, vendor contact information was tracked on a Vendor Contact webpages for use by Librarians, a spreadsheet for internal use, and a webpage containing instructions for obtaining usage statistics. As an assurance management service grew and, with the body of information we tracked, we found that maintaining consistency between the values in the locations where our data was stored was taking more and more staff time. We also found an increasing degree of discrepancy due to human error in the updating process.

Both OCLS staff and member libraries had to consult a variety of different files and sites to locate different information, resulting in inefficiencies, confusion, and general dissatisfaction.

2. DISCOVERY

Beginning in November 2014, OCLS and Affinity Bridge undertook discovery to flesh out the requirements of the ERM. It was determined that while the ERM built for the other Canadian consortia could be used as a base for the OCLS project, further customization would be required.

The existing consortial ERM did not meet all of the requirements of the OCLS project because they function primarily as communication tools for the consortial community, as well as a tool for internal tracking and management tools.

Affinity Bridge would need to add functionality to the OCLS ERM in order to track individual subscription renewal data, including pricing and invoicing.

The end result was a functional requirements document which included a detailed listing of content types, fields, and views specifications.

3. BUILDING & TESTING

Building began in early 2015. The ERM was built according to the functional requirements document.

Affinity Bridge used an iterative approach, with various versions of the ERM reviewed to OCLS for testing and feedback as they were deployed.

We learned that what we had determined in the functional requirements document did not always meet our needs since we used different requirements across the different development sites. Ideas that seemed right at one time or another had to be tested and sometimes even hardened once we worked with them in Drupal.

Quality assurance testing and acceptance was time intensive and Affinity Bridge often had to spend additional discovery time to find solutions to unforeseen problems.

4. NEW WEBSITE

It was determined that rather than build the ERM into OCLS’s existing website, it would be better to develop it as a part of a brand new site.

This gave us the opportunity to develop additional functionality, such as “Affinity Bridge’s contact with us” a new “Feedback” section of the site.

At the end of the project, initial emphasis was placed on the new design of the home page and the “Www” logo of the site.

5. MIGRATION

One of the reasons that OCLS decided to develop an ERM was that much of the information we needed to track and store was provided as structured data, making it difficult to respond to without additional manual intervention.

Affinity Bridge was able to create a migrator that allowed us to import any structured data into the new ERM. Some of our unstructured data was entered, making it difficult to be added into a spreadsheet so it could be used with the migrator.

The first attempt at data input using the migrator resulted in a large number of errors, so some files had to be made before running the migration second time.

Unfortunately, a large amount of unstructured data remained, which had to be manually imported by OCLS staff. A minimum level was done prior to launch, and the remainder was migrated over the course of the following months.

HOW IT WORKS

Different kinds of electronic resources information have their own content types in Drupal, which are basically forms with static fields. For example, the vendor contact type has a similar Contact field, the resource type has an Access Details field and the offer type, has a Renewal Deadline field.

Within a content type, you can create as many nodes (rows) as necessary. Example of vendor nodes are (BCBS), (PROD) and (EMP).

NODES

Nodes from different content types can be linked to avoid duplication of data. For example, each Wolverine node has a (BCBS) link to a vendor node. (e.g. PROD) - Information Changed in the vendor level is automatically pushed to content types level to avoid redundancy.

VIEWS

With Drupal views, information from content type can be displayed in different ways. The same information can be used in multiple views, and information from different content types can be mixed together. For example, information from the vendor content type is displayed in the vendor view, but also appears in the Access and Offer views. Then, they can be mixed or customized in the offer for the specific use.

USER ROLES

Various user roles were created that different permissions could be set for different fields and views. For example, staff who access Access and Links fields in every content type as well as administrative views that are not accessible to college/library staff.

After the completion of ERMA Phase 1, several ideas arose for further developments that would continue to improve internal efficiencies as well as service to our member libraries. We started working on Phase 2 in September 2015 and implemented the developments in December.

RENEWAL REQUEST

Generating tables of upcoming renewal data and generating requests from our member libraries used to take a lot of time and work. Since Drupal Phase 2, our members have easy access to web pages where they can review renewal information and generate requests.

DELIVERY OF ACCOUNT DOCUMENTS

To process our members’ vendor invoices, we maintain a database on account detail for each vendor. To those invoices and maintaining an appropriate file (in our members to process, we go through a detailed account estimate and balance process twice annually which can sometimes involve several iterations per year. We used to send account documents by email, which was a time-consuming process and could lead to errors. With the new system, we can generate PDFs for the website. The account documents can always be seen, and they are created and sent out from a single page.

NEXT STEPS

The beauty of Drupal is that it doesn’t require advanced skills to improve and develop ERMA’s infrastructure. Some of our ideas for ongoing improvement are simple enough that we can do them ourselves, such as heading for our data export functions and the administrative views of our content.

A word on subscription management for individual libraries

OCLS doesn’t only administer consortial offers; we also manage the individual library’s subscriptions. Any member library that requests our service, by the order, we do some of the work that every library does.

Due to our consortial functionality, Drupal is a very complex ERM. The build required for an individual library could be much simpler, with fewer views and content types. On the other hand, a federated library could benefit from the ability to manage agreements, or provide services to library partners. There are many functions that we did not develop in ERMA but that an individual library could.

Building our own ERM in Drupal could allow for a lot of customization to your library’s collection and staff workflows that isn’t possible in a vendor-developed ERM product. With our inclusive content type and functionality, you could develop your own library’s membership model and user roles.

Acquisitions is model is the core of the ERMA phase. The DFG module is the content type of items that are to be acquired. Acquisitions is module is the content type of items that are to be acquired. Acquisitions module is the content type of items that are to be acquired. Acquisitions module is the content type of items that are to be acquired. Acquisitions module is the content type of items that are to be acquired. Acquisitions module is the content type of items that are to be acquired. Acquisitions module is the content type of items that are to be acquired. Acquisitions module is the content type of items that are to be acquired.