Classical Studies Department Library Catalog Project

Introduction

The Classical Studies Department Library is a non-circulating collection of materials maintained and housed by the Classical Studies Department at Loyola University Chicago. The collection contains close to 4000 items, and item types include books, periodicals, photocopies, and several audiovisual formats. In 2010 Meghanne Phillips, an undergraduate student in the Classical Studies Department, assigned call numbers and recorded bibliographic information for the items in the collection, creating the first comprehensive record of the collection. Item data was recorded in a Google Documents spreadsheet and shared[a] among the Classical Studies Department faculty.

The goal of this project is to create a searchable catalog for the Classical Studies Department Library that can be easily maintained. XML is well suited to this project because of its flexibility. The bibliographic data in the catalog does not conform to traditional library standards, and is not complete for all items. Using XML, the information fields can be customized to fit the currently available data. If future work is done to carefully record additional information about the books, then more fields or records can be added without destroying or harming the existing record. XML also has the advantage of being human readable, allowing even a non-expert to read and add to the code. If, at some point in the future, the Classics department were to decide to export the bibliographic data to another catalog system, the records would still be useful and intelligible.

The XML schema for this collection is based on a modified Dublin Core schema. Dublin Core is a metadata standard that is developed and maintained by the Dublin Core Metadata Initiative. Dublin Core is a widely used descriptive metadata standard that can be adapted for many different types of collections. Although Dublin Core was originally intended for digital objects, it is increasingly being used to describe physical collections. A chief advantage to using Dublin Core for local information resources is that it is intended to be easy to use by non-specialists.

Dublin Core can be implemented in two levels: Simple or Qualified. Qualified Dublin Core allows for the use of element refinements that can be used to adapt the metadata to specific collections.[b] The schema for this collection includes these modified elements to represent editor and translator as separate fields, rather than as subfields of the title, which is standard in representing MARC records in Dublin Core. The records of the Classical Studies Department Library are not in MARC format, nor are the Classics professors trained in MARC records. It made sense to diverge from strict library practice to fall in line with common understanding. We also included an element to represent a complete bibliographic citation, as the collection includes a number of journal articles, and the bibliographic data for this items was recorded in a single field in the original spreadsheet.

Complete Dublin Core Metadata Initiative documentation can be found here: http://dublincore.org/

Current DC schemas can be found here: http://dublincore.org/schemas/xmls/

To create XML records from the Google Documents spreadsheet, the spreadsheet was converted to an Excel 2007 spreadsheet, and each column in the Excel spreadsheet was matched to an element from the modified Dublin Core schema created for the collection. Some adjustments were made to the xml, in order to create a version that would be compatible with the eXist database software (see below).

The steps were as follows:

1. Make sure that the Developer Ribbon appears as an option in the Excel toolbar, as it is not one of the default options. In Office 2007, open Excel, then click on the upper left hand Windows symbol. Select options from the drop down menu. There is a tab for popular options, click the box next to Developer ribbon.

2. In the Developer ribbon, open the[c] XML Source window.

3. Click the XML Maps button and add a new schema. The schema’s elements should now appear off to the right hand side in an outline form.

4. Drag each element from the XML tree in the XML Source window and drop it on the heading of the corresponding data column. Each column should turn blue. Make sure to check the blue color extends all the way down the column.

5. In the developer ribbon, click Export to export the records in XML. This will bring up an option to save the file before you see the XML. The XML can only be viewed after it has been saved.

Using the Collection

The XML catalog records are stored in a github repository at https://github.com/hrdavies5/xml.project so that users can access the XML file. Approved members of the Classical Studies Department can download the XML to add or update records, and replace the existing version of the catalog in the github repository.

Users who wish to access the catalog as a database can download the XML file and add it to eXist, an open source native XML database management system that for allows keyword searching the catalog. A native XML database was chosen[d] because it is more flexible than a relational database, and because it is useful in situations where it is likely that the schema will evolve over time, which is the case with the Classical Studies Department Library.

Adding new records to the catalog.

New records can be added to the collection by adding data directly to the XML file that holds the catalog records.

1. Create a github account and follow github documentation for installing github.

2. Download the file XMLproject.xml from github and open it in the XML editor of your choice. [e]

3. Copy and paste a complete record from the file, and replace element contents with the new item data.

4. Save the file and upload to github.

Accessing catalog records as an XML database

Once the XMLproject.xml file has been downloaded to a local computer, it can be loaded into eXist, and accessed as an XML database. The instructions in this document refer to eXist version 1.4.2.

1. Access the catalog files at https://github.com/hrdavies5/xml.project

2. Download the repository as a zip file directly from github.

3. Download and install eXist, according the the eXist documentation. http://exist-db.org/exist/quickstart.xml

4. Launch eXist according to the eXist documentation, access the web application at this URL: http://localhost:8080/exist/index.xml.

5. Select “Webstart the Client” from the Admin menu.

6. In the eXist admin client, create a new collection by going to File -- Create Collection and naming the collection.

7. Select the new collection from the Resource menu, and load the XMLproject.xml file by going to File -- Store files/directories.

8. Browse to where the XMLproject.xml file is saved, and add it to the collection.

Searching the Collection

Use the eXist Query Dialog box to keyword search the catalog with XPATH queries.

1. In the eXist admin client, select the appropriate collection and file.

2. Click on the binocular icon to open the Query dialog box.

3. Copy and paste one of the following XPATH queries into the Query Dialog box. Choose the query that corresponds with the field to be searched, replacing Plato with the desired search term.

Entire catalog:

doc("XMLproject.xml")/Bibliography/Item[contains(.,"Plato")]

Author:

doc("XMLproject.xml")/Bibliography/Item/dc.Creator[contains(.,"Plato")]/../.

Date:

doc("XMLproject.xml")/Bibliography/Item/dc.Description[contains(.,"Plato")]/../.

Editor:

doc("XMLproject.xml")/Bibliography/Item/dc.Contributor.Editor[contains(.,"Plato")]/../.

Translator:

doc("XMLproject.xml")/Bibliography/Item/dc.Contributor.Translator[contains(.,"Plato")]/../.

Title:

doc("XMLproject.xml")/Bibliography/Item/dc.Title[contains(.,"Plato")]/../.

Series Title:

doc("XMLproject.xml")/Bibliography/Item/dc.Relation.IsPartOf[contains(.,"Plato")]/../.

Journal Article Citation : doc("XMLproject.xml")/Bibliography/Item/dc.Terms.BibliographicCitation[contains(.,"Plato")]/../.

Publisher:

doc("XMLproject.xml")/Bibliography/Item/dc.Publisher[contains(.,"Plato")]/../.

Item Type:

doc("XMLproject.xml")/Bibliography/Item/dc.Type[contains(.,"Plato")]/../.

Future Work

Currently, the catalog can only be searched on a computer with the eXist software installed. Future work to be done with the Classical Studies Department Library includes deploying the XMLproject.xml database as a web catalog that can be searched without having to install the eXist software. This web catalog should have an advanced search interface that allows users to search for multiple keywords, and in multiple fields.