Feed, Tag, and Go!: Adding Web 2.0 enhancements to your hosted CONTENTdm interface

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Government & Heritage Library
State Library of North Carolina
http://digital-library.ncdcr.gov
Who we are & how and why we dunnit

Museums, Arts Council

Historic Sites, Archaeology, Symphony
Who we are & how and why we dunnit

• State Library of North Carolina
• Targets a variety of statewide needs
  • Library Development (LSTA, public library support)
  • Library for the Blind & Physically Handicapped
  • NC ECHO statewide digitization program
• Government & Heritage Library (continued)
Who we are & how and why we dunnit

- State Library of NC, Government & Heritage Library
  - Provides direct services to state government employees and researchers
- State Publications Clearinghouse collects and processes state agency created publications
- Metadata and Cataloging does what their title says, and partners really well
- Digital Information Management Program develops recommendations & tests solutions that support the identification, collection, cataloging, storage, & preservation of state government information for permanent public access
Who we are & how and why we dunnit

- Statutory mandate to gather, provide access to, and permanently store NC state agency electronic publications and records

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Who we are & how and why we dunnit

• Information Technology

• DCR-IT provides desktop and application support
• Some space for storage on a local SAN shared by the entire Department of Cultural Resources
• Centralized ITS provides network support
• No defined support for long-term management of born-digital or digitized state records at this time
How it makes us feel.

And, we aren’t going to win a Nobel Peace Prize anytime soon.
• So, we headed it out on our own. . .
  • To be honest, we had a little grant money to hire a PHP programmer, who was able to implement these enhancements.
• However, she was temporary, and we now maintain them on our own.
Stats: DIMP & Repository

- Three full-time staff persons dedicated to digital collections building and digital preservation
  - Other staff throughout the State Library for which some percentage of their work involves CONTENTdm
- Repository live since June 2008
- Nine publicly accessible collections
- ~9,200 items as of October 9, 2009
- From 350 visits per month to 9,000 per month in about a year
And, now . . . on with the show.
Adding RSS feeds to your hosted CONTENTdm

With special thanks to Terry Reese at Oregon State University for creating the initial code and Jessie Lu at the State Library of North Carolina for modifying it to work in a hosted environment
RSS feeds—what are they?

• Allow users to “subscribe” to updates to your CONTENTdm collection

• Updates are read in an RSS aggregator like Bloglines, Google Reader, etc.

• Shows newly-added items and also existing items that have been updated

This could be on YOUR CONTENTdm collection website!
RSS feeds: how is it done?

- In summary:
  - copy the rss.php file
  - put it in your cdm4 folder
  - edit rss.php file as necessary to customize it
  - add a link to your webpage for the rss.php file in cdm4
  - MAGIC!!!
RSS: step 1: copy the file

• We’ve put it online for you:
  – go to http://statelibrarync.org/secdm_workshop/
  – copy the rss.php file
  – it’s also there as a plain text file (RSSPHP.TXT) if you need it
RSS: step 2: paste into cdm4 folder

- I couldn’t get a screenshot of this because the training server wouldn’t connect on the day I needed it to
- Please don’t use actual fish paste, results not guaranteed
• Edit the rss.php file to customize it for your institution!
• Use any web editor you’re comfortable with; we will be using the open source Aptana today (http://aptana.com/)
• What kind of edits?
  – title of the RSS feed itself
  – which collections the feed covers (can do one or multiple collections)
  – the elements you want displayed in your RSS feed items
  – time period covered by the feed (e.g., last 30 days, last 14 days)
RSS: edits: title of feed

- Change title to reflect your own institution (duh!)
- This title does not display to the public

```php
<?
/* Original code by Terry Reese from Oregon State University.*/
define("BaseUrl", "http://" . $_SERVER['SERVER_NAME'] . "/");
define("OAIURL",BaseUrl . "cgi-bin/oai.exe?verb=ListRecords&metadataPrefix=oai_d
define("DEF_TITLE", "State Library of North Carolina Digital Repository");
include("../dmscripts/DMSystem.php");
```
RSS: editing: which collections to search

- Can pull new items from all your collections at once, a group, or just one
- The current text is for searching all collections
- To set it to a specific collection, replace $set = "" with $set = "collectionalias" where "collectionalias" is the name of the collection (e.g., p15012coll1)

```php
define("DEF_TITLE", "State Library of North Carolina Digital Repository");
include("../dmscripts/DMSystem.php");

set_time_limit(900);
if (isset($_GET['set'])) { $set = $_GET['set']; } else { $set = "";
if (isset($_GET['max'])) { $max = $_GET['max']; } else { $max = 0;
if (isset($_GET['widget'])) { $widget = true; } else { $widget=false;

class Google {
    function header($title, $link, $date) {
        $string = '<?xml version="1.0" encoding="UTF-8"?>'."\n".
```
RSS: editing: elements for display, part 1

- Pick the elements you want to display in your RSS feed items
- For example: title, link, publication date of item, creator, etc.
- these elements come from the Dublin Core metadata
- be sure that the element listed in <> and [] match each other

```php
function buildItem($DCValues) {
    $string = "<item>
        "<title>".".$DCValues["title"]"</title>
        "<link>".".$DCValues["identifier"]"</link>
        "<pubDate>"."date("D, d M Y", strtotime($DCValues["datestamp"])) . " 00:00:00 +0000"
        "<dc:creator>".".$DCValues["creator"]"</dc:creator>
    "$words = explode(" ", $DCValues["description"]);
    if (count($words)>50) {
        $string .= "<description><![CDATA[" . implode(' ',array_slice($words, 0, 50)) . "[...]
    } else {
        $string .= "<description><![CDATA[" . $DCValues["description"] . "]]]></description>
    }
    $string .= "<content:encoded><![CDATA[" . $DCValues["description"] . "]]]></content:encoded
}
```

17.8.2009 12:54
RSS: editing: more elements for the feed

- More info to be put in the feed item.
- “Get MetaData” creates a link to the full item in your CONTENTdm collection.

```php
$string = "";
$string = "<!--" .BaseUrl . "cgi-bin/getimage.exe?CISOROOT=/"
if ($this->url_exists(BaseURL . "cgi-bin/getimage.exe?CISOROOT=

    $string = "<img src="" .BaseUrl . "cgi-bin/getimage.exe?CI

$string .= "<p>" . $description . "<br /><br /><br />
"Subjects: " . $subjects . "<br /><br />
"<a href="" . $uri . "">Get MetaData</a></p>";
return $string;
}

function url_exists($url) {
    $data = file_get_contents($url);
}
RSS: Here’s what the elements look like in action

• Here’s an item from our feed, showing data pulled from Title, Creator, Description, and Subjects fields, plus the GetMetaData link that takes the viewer to the full metadata for the item.

Statewide accounts receivable report, for the year ended ...

By North Carolina. Office of the State Controller.

Annual; Description based on: 1998; title from opening screen (viewed on October 7, 2009); Report year ends title: North Carolina.


Get MetaData
RSS: editing: time period for feed items

- Choose the number of days of updates you want included in your feed by editing the timestamp
- The minus sign in front of the number of days is essential!
- Save all your changes!

```php
// make timestamp
$timestamp = mktime(0,0,0,$datearr[1],$datearr[2],2009-14);

// increment date, you can alter the number of days obviously
$newtimestamp = strtotime("-14 days",$timestamp);

// change to readable date
$startdate = strftime("%Y-%m-%d",$newtimestamp);
```

Change "-14" to "-30" to harvest updates from the last 30 days.
RSS: step 4: create a link to your feed

- on the webpage where you want users to know you have a feed, add a link to the rss.php file in cdm4
- Use of the RSS icon is recommended:
- You can see this in action on our webpage:
  http://digitalstatelibnc.cdmhost.com/cdm4/view/all.php

North Carolina Family Records Online

For countless families, a name reflects their personal heritage and provides a direct link to their rich family history. Through this collection, the State Library of North Carolina and the North Carolina State Archives seek to harness the power of the name. North Carolina Family Records Online currently contains over 200 Bible Records (lists of birth, marriage, and death information recorded in North Carolina Bibles throughout the 18th, 19th, and 20th centuries). The collection also contains a six-volume index of marriage and death notices that appeared in five North Carolina newspapers from 1799-1893.

Browse collection | Search collection
Now you have an RSS feed!

- The feed will display items that are new to your collection, and items that have been updated.
- This includes edits to metadata of existing items.
- Sorry, no actual toast included.
Adding Tagging and Commenting Functionality to CONTENTdm

With special thanks to Terry Reese at Oregon State University for creating the initial code and Jessie Lu at the State Library of North Carolina for modifying it to work in a hosted environment.
What is tagging and commenting functionality?

- Tag example
  - http://digitalstatelibnc.cdmhost.com/u/?/p249901coll36,195

- Comment example
  - http://digitalstatelibnc.cdmhost.com/u/?/p249901coll36,283
How does it work?

- User submits tag or comment
- Tag or comment is immediately stored in a database and designated “moderator” is notified via email.
  - Moderator can delete the tag or comment if it is inappropriate
SLNC CDM5 Tags & Comments Approval

Most Recent Comment

The following comment has been added: The Digital Durham web site added a new collection of 35 maps for Durham and Durham County on May 6, 2009. These maps depict Durham from the 1860s to the present day.

Date: 2009-05-09
Added to collection: NC MOSAIC
Item number: 552
This comment is from IP address: 149.168.27.243
Reference URL: http://digitalstatelibrarync.cdmhost.com/u/?p249001coll31_552

Delete this comment

Most Recent Tag

The following tag has been added: margie goins
Date: 2009-09-18
Added to collection: NC MOSAIC
Item number: 802
This tag is from IP address: 149.168.27.243
Reference URL: http://digitalstatelibrarync.cdmhost.com/u/?p249001coll31_802

Delete this tag
How does it work?

Let’s quickly walk through it
What do you need to get started?

• WebDav access to hosted CONTENTdm server
• Instructions regarding what code to add/modify
• Ability to create a MySQL database
• Networked php/web/email server to house the MySQL database and a few php files
• Sense of adventure
Let’s get started

✓ Step 1. Establish communication between the hosted CONTENTdm server and the networked php server with the MySQL database
  – Open ports on both servers (OCLC will have to do this on the hosted server side)

✓ Step 2. Create MySQL database setup
  – 4 tables (setup included in handout)
    • Comments
    • Control (populate with collection info.)
    • Tags
    • Users (populate with user info.)
Almost there...

✓ Step 3. Add the following files/folders to your networked php server customizing as noted in the handout
  – bhcomments.php to cdm4-tc folder
  – bhtags.php to cdm4-tc folder
  – tcapprove folder to cdm4-tc folder
  – xslt folder to cdm4-tc folder

✓ Step 4. Set up the WebDav connection with OCLC
  – Map network drive to your hosted server and log in
    • Go to “My Computer” and open the “T” drive
Last steps

• Step 5. Add the following files to the specified folders on your hosted OCLC server
  – comments.php to cdm4 folder
  – tags.php to cdm4 folder
  – TRBlog.php to dmscripts folder
  – meta_scr_notc.php in cdm4/includes folder
    • this file is a copy of your meta_scr.php file before you modify it

• Step 6. Modify the following files on your OCLC server as shown in the handout
  – meta_scr.php in cdm4/includes folder
  – results_scr.php in cdm4/includes folder
  – STY_global_style.php in cdm4/client folder
  – config.php in cdm4 folder
  – document.php in cdm4 folder
  – basic_view.php in cdm4/includes folder
Let’s test it out!

• Go to:
  – http://train12009.contentdm.oclc.org/Group1cdm4
• Browse the collection and open a record
• Add a tag and/or comment to a record
  • We need to do this one group at a time
• Refresh the page and see if the comment or tag appears
• Check the email account to see that you were notified of the addition
• Click the edit link in the email to see if you see the item having been added and if you can delete it
Hopefully it worked!

• Questions?
• Where to get the files and handouts
  – email with link to my dropbox is in cdmdemo@gmail.com
  – If you email me I will send you a direct invitation to view the files in my dropbox
• Contact info.
  – jennifer.ricker@ncdcr.gov
Where in the World?

Mapping your data from CONTENTdm to Google maps
Necessary Tools

• Some spatial data
  – Name of place
  – Latitude
  – Longitude

• A Google Map: maps.google.com

• The Earth Point Website

• An Excel Spreadsheet

• A text file reader (notepad)
Spatial (Meta)Data: Dublin Core Coverage

• Need to identify the location of your data
  – In Dublin Core, we’ll use three qualifiers for the element coverage:
    • <dc.coverage type="spatial" scheme="ncgs"/>
    • <dc.coverage type="latitude" scheme="dd"/>
    • <dc.coverage type="longitude" scheme="dd"/>

• Need a URL that points to the Cdm record
  – This is tricky. You don’t get the URL until the record has been created.
Gathering Your Tools

Hopefully, you won’t need these!
Google Maps: You need an account

- Open a browser window
- Go to maps.google.com
- Select “my maps”
- Select “Create new map”
- Name it, mark it as “unlisted,” then hit “save”
Earth Point: On-the-fly transformation csv to kml

- Open another tab or window.
- Go to: http://www.earthpoint.us/ExcelToKml.aspx#QuickStart
Excel Spreadsheet: Get it & Open it up

- Go to http://statelibrarync.org/secdm_workshop/ and download the following spreadsheet: SECdm_demo.xls
- Open it.
- Don’t do anything, yet.
CONTENTdm records

- Assuming you’ve already collected the Latitude and Longitude information . . .
- But, if not . . .
  – This site is helpful: http://lat-long.com
  – So is this one: http://geonames.usgs.gov/domestic/download_data.htm
• Go to admin module and export data in tab-delimited* format, being sure to check “return field names in first record.”
• Click “next”

*aka, “csv format”
On the next screen, right-click on “export.txt”

Save it to your desktop as “export.txt”

For this demo, you will download this file alongside your Excel spreadsheet.
• At the bottom of the screen, click on the “PAGE TWO – EXPORT GOES HERE” tab.
• You will be importing your export.txt file to this tab.
Import into Excel Spreadsheet

1. Choose the file type that best describes your data.
   - **Table**: Each line of data is a separate entry.
   - **Comma**: Commas separate field values.
   - **Space**: Spaces separate field values.
   - **Other**: Select specific delimiters.

2. Set the delimiter data type:
   - **Tab**: Tab characters separate field values.
   - **Comma**: Commas separate field values.
   - **Space**: Spaces separate field values.
   - **Other**: Select specific delimiters.

3. Select each column and set the data format:
   - **General**: Converts numeric values to numbers, date values to dates, and all remaining values to text.
   - **Text**: Converts all values to text.
   - **Date**: Converts date values to dates.
   - **Number**: Converts numeric values to numbers.
   - **Currency**: Converts numeric values to currency.
   - **Percentage**: Converts numeric values to percentages.
   - **Boolean**: Converts numeric values to Boolean values.
   - **Custom**: Custom format settings.

Data preview:
- **Title**: Text
- **Creator**: Text
- **Contribution**: Text
- **Other Title**: Text
Excel: Copy data to correct columns

From PAGE TWO
- Title
- Place
- Latitude
- Longitude
- URL

To PAGE ONE
- TITLE
- Name
- Latitude
- Longitude
- URL
Excel: Save Page One

- As a tab-delimited text file
  - (sound familiar?)
Back to Earth Point . . . (a)
Back to Earth Point ... (b)

Earth Point
Tools for Google Earth

Sign In

Excel To KML - Display Excel files on Google Earth.

A user account is recommended for one feature on this web page.

Export a spreadsheet of lat/long coordinates to Google Earth. Pop-up balloons, icons, and
watercolor maps are automatically plotted onto Google Earth.

AD, BC, CE, and BCE can appear before or after the dates. Read more...

Click the 'Browse' button and select an Excel file (xls, xlsx, xldm, xlsb, txt, or csv).

View on Google Earth

View File on Web Page, Check for errors
Your file directory . . .

• . . . Should look like this:
• Find your map, click on the name you gave it
• Now, click on the “Edit” button
• Select “import”
• Find the file called “EarthPointExcel.kml”
• Click “Done”