

(A proposal for an Islandora User Group Presentation)

Title: Developing a Metrics Dashboard for Islandora

By Peter MacDonald

Library Information Systems Specialist  
Hamilton College Library  
Clinton, NY 13323  
pmacdona@hamilton.edu  
315 859-4493

(submitted March 4, 2013)

The variety of objects stored in a typical Islandora repository does not vary too widely, but the way that Fedora structures the data elements about those objects is very complex. Fedora stores all of the usual data elements such as record ID, mime type, date created, descriptive metadata, and so on, but it also stores less common data elements such as namespaces, content models, security policies, inter-object relationships, and version history. Because of these more specialized data elements, generating reports often requires using specialized utilities and APIs.

Despite the fact that Islandora comes with a variety of utilities that give access to this complex set of data elements, such as the Fedora Web Admin Interface, fedoragSearch, gsearch\_solr, and RISEarch, there is no out-of-the-box utility or service that gives one an overall picture of how these data elements are being used in the repository.

To meet this need, I wrote a Drupal 7 module that Islandora administrators can use to general more than a dozen statistical reports on their repository. The following tables are examples of two such reports generated by this module from our own repository.

### "hasModel" relationships and the number of each one in active objects

	<b>hasModel</b>	<b>Total</b>	<b>cwl</b>
1.	info:fedora/fedora-system:FedoraObject-3.0	2534	N/A
2.	info:fedora/fedora-system:ServiceDefinition-3.0	4	N/A
3.	info:fedora/fedora-system:ContentModel-3.0	19	N/A
4.	info:fedora/fedora-system:ServiceDeployment-3.0	7	N/A
5.	info:fedora/islandora:collectionCModel	11	N/A
6.	info:fedora/islandora:bookCModel	476	N/A
7.	info:fedora/islandora:pageCModel	1900	N/A
8.	info:fedora/islandora:benshiMovie	1	N/A
9.	info:fedora/HamiltonJapaneseComparativeFilm:benshiRecording	1	N/A
10.	info:fedora/HamiltonJapaneseComparativeFilm:benshiClip	11	N/A
11.	info:fedora/HamiltonJapaneseComparativeFilm:benshiClipSubbed	3	N/A
12.	info:fedora/HamiltonJapaneseComparativeFilm:benshiStill	69	N/A
13.	info:fedora/HamiltonJapaneseComparativeFilm:JapaneseTranscript	5	N/A
14.	info:fedora/HamiltonJapaneseComparativeFilm:EnglishJapaneseTranscript	4	N/A
15.	info:fedora/HamiltonJapaneseComparativeFilm:benshiPresentation	1	N/A
16.	info:fedora/HamiltonJapaneseComparativeFilm:EnglishTranscript	4	N/A
17.	info:fedora/HamiltonJapaneseComparativeFilm:benshiEssay	1	N/A
18.	info:fedora/HamiltonJapaneseComparativeFilm:benshiNarrator	1	N/A
19.	info:fedora/islandora:sp_basic_image	2	N/A
20.	info:fedora/islandora:sp_large_image_cmodel	7	N/A
21.	info:fedora/islandora:sp-audioCModel	1	N/A
22.	info:fedora/islandora:sp_pdf	1	N/A
23.	info:fedora/islandora:sp_videoCModel	2	N/A

### MIME Types and the number of each one in active objects

	<b>mimetypes</b>	<b>Total</b>	<b>cwl</b>
1.	text/xml	5509	N/A
2.	application/rdf+xml	597	N/A
3.	image/png	83	N/A
4.	application/xml	7	N/A
5.	application/tei+xml	1922	N/A
6.	image/jp2	1907	N/A
7.	image/jpeg	456	N/A
8.	application/pdf	544	N/A
9.	video/quicktime	27	N/A
10.	text/html	59	N/A
11.	application/vnd.openxmlformats-officedocument.wordprocessingml.document	57	N/A
12.	audio/mpeg	3	N/A
13.	application/vnd.openxmlformats-officedocument.presentationml.presentation	1	N/A
14.	application/octet-stream	24	N/A
15.	image/jpeg	227	N/A
16.	text/plain	112	N/A
17.	video/mp4	4	N/A
18.	image/tiff	59	N/A
19.	audio/ogg	2	N/A
20.	image/tif	8	N/A
21.	video/x-matroska	1	N/A
22.	plain/text	1	N/A

I hope to eventually expand this list of independent scripts into a full dashboard that reports on the various data elements used by Fedora.

In my presentation I will discuss the technologies behind this endeavor and some practical uses of the metrics generated.

To be discussed:

- creating a Drupal 7 module (PHP)
- creating iTQL queries of (RDF) triples (content models, etc.)
- transforming Sparql (XML) output with XSLT
- styling the HTML output with CSS

(This project is being carried out as part of a collaborative initiative between Hamilton College, Williams College, and Vassar College.)