FL-Islandora Overview and Basic Skills

January 29, 2016
Training Outline

• Basics and key concepts (see also http://fig.wiki.flvc.org documentation)
• FL-Islandora architecture and sites
• Collections
• Content Objects
• Content Models
• Loading content
• Hands-on exercises
Islandora Basics: what is Islandora?

- **Islandora vs. FL-Islandora:**
  - **Islandora** is an open-source software framework originally developed by UPEI’s Robertson Library for use in storing and displaying digital collections.
  - **Islandora** consists of a variety of open source components: Drupal, Islandora code, Solr, Fedora Commons Repository.
  - **Islandora** was selected as our digital library platform, and FLVC is extending the software with functionality to meet our users’ needs (FL-Islandora).
  - **FL-Islandora** is FLVC’s version of Islandora software that contains some local customizations to meet our users’ needs.
Key Concepts: partial glossary

• **FL-Islandora** consists of a single software installation, Solr Index, and Fedora Commons repository of digital objects

• FL-Islandora “sites” (one per institution) all share software and a common content repository on one server

• **Islandora Content Models** are used for loading and displaying like materials (single image vs. multi-image objects, books, serials, newspapers)

• **MODS descriptive metadata** is used for cataloging content objects in Islandora

• **Islandora “object”** = metadata + content file(s)
An FL-Islandora Site

• Each institution has its own FL-Islandora website, with its own branding and theming, its own collections and content, its own set of logins/users.

• All FL-Islandora sites share software and one repository on a single server.

• Each site has its own unique Islandora “namespace” or “prefix” (e.g., fsu:, fau:, ucf:, broward:, etc.) that enables display/searching by site even though all objects for all institutions are stored in a single repository.
FL-Islandora Architecture

Shared software and object repository

A single server
<table>
<thead>
<tr>
<th>Drupal</th>
<th>Islandora</th>
<th>Solr Index (metadata)</th>
<th>Mulgara RDF database</th>
<th>Fedora Commons Repository</th>
</tr>
</thead>
<tbody>
<tr>
<td>object</td>
<td>object</td>
<td>object</td>
<td>object</td>
<td>object</td>
</tr>
<tr>
<td>object</td>
<td>object</td>
<td>object</td>
<td>object</td>
<td>object</td>
</tr>
<tr>
<td>object</td>
<td>object</td>
<td>object</td>
<td>object</td>
<td>object</td>
</tr>
<tr>
<td>object</td>
<td>object</td>
<td>object</td>
<td>object</td>
<td>object</td>
</tr>
</tbody>
</table>
Islandora Persistent Identifiers (PIDs)

• Every object in the Islandora Fedora repository has a unique persistent identifier (PID) of the format namespace:ID. Example: fau:1324

• The PID is assigned when the object is created, and cannot be changed.

• PIDs for content objects are automatically generated during loading.

• PIDs for collection objects should be manually assigned at the time of collection creation.
Islandora Collections

• Collections are used to group objects in Islandora.
• Each FL-Islandora site has a “root” or “site-level” collection under which all topical collections reside.
• Each institution has the ability to create and theme its own collections and sub-collections.
• Collection objects should have IDs (PIDs) consisting of the site namespace : alphanumeric collection code (e.g., flvc:history).
• FL-Islandora policy dictates that a collection may contain only other collections or content objects, but not both.
Collection Hierarchy Example

- Root collection/website landing page (flvc:root)
  - Historic Photographs Collection (flvc:history)
    - Photo of Court House (flvc:321)
  - Children's Literature Collection (flvc:juvlit)
    - ABCs (flvc:40)
  - Jacksonville Collection (flvc:jax)
Adding Content to FL-Islandora

• Any file type can be loaded into FL-Islandora (JPG, JP2, audio and video files, etc.)

• Materials are loaded by Content Model (Basic Image, Large Image, PDF, Audio, Video, Binary Object, Book, Serial, Newspaper, Compound Object)

• Objects can be loaded via the user interface or batch-loaded.

• Loaded objects are indexed in real time.
FL-Islandora and Mango

- Metadata and thumbnails from FL-Islandora can be automatically exported and loaded into the Mango discovery tool.
- Metadata includes links back to Islandora objects.
- Mango extracts are run and loaded weekly.
- Specific collections can be excluded from the Mango feed.
- Islandora also allows OAI-PMH harvesting of your site.
FL-Islandora metadata in Mango

91. TLR agonists differentially induce maturation of nicotine-exposed dendritic cell.
Author: Tamjidi, Saba author

92. The Evolution of Brand Strategy.
Author: Chernlavsky, Vanessa author

Author: Kinchen, Elizabeth MSN RN author

94. The effect of parasite infection on reproductive potential of bony fish.
Author: Young, Joy author
Tour of an FL-Islandora Site
Sub-collections
Content Objects in a Collection

Collections pulldown

Advanced search

Results sorting

Search facets

Breadcrumbs

Export results
In CSV format
Object Summary (view) Tab

Various viewers allow minimizing/maximizing of objects, etc.
Object Full Description (metadata) Tab

- **Title:** New College Charter Class Information.
- **Name(s):** New College of Florida
- **Type of Resource:** text
- **Issuance:** single unit
- **Date Created:** 1964
- **Publisher:** New College of Florida
  [Sarasota, Fla.]
- **Language:** English
- **Summary:** Pamphlet with information about the charter class.
- **Identifier:** HIST_003_0026_00026 (IID)
- **Subject(s):** History -- New College (Sarasota, Fla.) -- College publications -- United States -- Florida -- Sarasota
  http://purl.flvc.org/ncf/fd/HIST_003_0026_00026

Before photographing or publishing quotations or excerpts from any materials, permission must be obtained from the New College Archives, and the holder of the copyright, if not New College of Florida.

This bibliographic record is available under the Creative Commons CC0 public domain dedication. The New College of Florida Libraries, as creator of this bibliographic record, has waived all rights to it worldwide under copyright law, including all related and neighboring rights, to the extent allowed by law.

**NCF**

- **Owner Institution:** NCF
- **Persistent Link to This Record:** PURL

**breadcrumbs**

Collection(s) to which object is assigned
Anatomy of an Islandora Object

• An Islandora object consists of more than just a file/image with descriptive metadata.
• Islandora objects consist of a number of different files called datastreams:
  – A MODS XML file containing descriptive metadata
  – An XML named “RELS-EXT” that includes relationship information about the Islandora object
  – The original file/image supplied by user (OBJ)
  – A variety of files/images derived from the OBJ (thumbnail, full text files, etc.)
Anatomy of an Islandora Object

• Each object has a unique ID “PID”: site namespace: [number] that’s reflected in the object URL.

• Datastreams used for display of objects:
  • RELS-EXT: relationships to other objects, collections
  • MODS descriptive metadata
  • Required Islandora Dublin Core record
  • TN – Thumbnail
  • OBJ – the original image/object
  • Derivative files that vary by Content Model (FULL TEXT, additional image derivatives, etc.)
Object Datastreams (staff view only)

The user has only loaded/created the MODS and OBJ files. Islandora has created the remaining datastreams.
Object RELS-EXT (relationships) file

An XML file that gives Islandora the following information, indexed in the Mulgara database:

- The unique object ID (PID)
- The collection(s) to which it belongs
- The “Content Model” to which it is assigned

```
<rdf:RDF>
  <rdf:Description rdf:about="info:fedora/islandora-test:657">
    <fedora:isMemberOfCollection rdf:resource="info:fedora/islandora-test:hgnvp"/>
    <fedora-model:hasModel rdf:resource="info:fedora/islandora:sp_basic_image"/>
  </rdf:Description>
</rdf:RDF>
```
FL-Islandora Content Models

Islandora Content Models are used for loading and displaying like materials (single file vs. multi-file objects, books, serials, newspapers)
Single vs. Multi-file Objects

- **Single-file objects:**
  - Consist of MODS metadata + single content file
  - Content Models: Basic Image, Large Image, PDF, Audio, Video, Binary

- **Multi-file objects:**
  - Consist of MODS metadata + multiple related content files
  - Content Models: Book, Newspaper, Serial, Compound Object
  - Content Model determines how the object is loaded and displayed
“Download Only” Binary Objects

- Binary objects are “download only” single-file objects. (Not viewable online)
- Can consist of any file format
- Display only metadata, a thumbnail, and a download link
- Ideal for a variety of unusual file formats (.zip files, spreadsheets, etc.)
Binary Object Example

A download link + size and file type information
Book Objects

- Multi-page objects
- A single title-level object with descriptive metadata and page child objects
- Displayed via Internet Archive BookReader (page turning)
- Can contain a Table of Contents, derived from a METS structMap
- “Pages” tab to view/enlarge/print individual pages
- “Search inside” feature
Book Example: page-turner
Each line links directly to a page or section in the book.
Newspaper Objects

- Consist of a single title-level object with descriptive metadata and issue child objects
- Issues displayed in hierarchical tree: year/month/day by MODS `<dateIssued>` element
- Individual issues consist of multiple page images displayed via Internet Archive BookReader (page turning display)
- Issues can contain a Table of Contents, derived from a METS structMap
- “Pages” tab to view/enlarge/print individual pages
- “Search inside” feature
Newspaper object example
Serial Objects

- A serial object is a multi-file (PDF) object
- Consist of a single title-level object with descriptive metadata and issue child objects
- Issues displayed in hierarchical tree with user-defined labels and multiple levels of hierarchy (e.g., Volume, Issue, Number, Month, etc.)
- Issues can consist of a single PDF for the entire issue, or article-level PDFs
Serial Example

Serial title-level metadata in “Serial Details” tab
Compound Objects

- Compound Objects are sets of related objects linked together by a “parent”, metadata-only record.
- Linking is performed after individual objects are loaded into the appropriate Content Model.
- Tabs include “Item Description” and “Set Description”
- Thumbnail is taken from the first child object.
- Compound Objects can be “unlinked” by deleting the “parent” object.
Compound Object Example

FSU Digital Library Home > Cuneiform Tablet Collection

Front

Download File

<table>
<thead>
<tr>
<th>Summary</th>
<th>Item Description</th>
<th>Set Description</th>
</tr>
</thead>
</table>

Title: FSU 06.
Type of Resource: text
Genre: Cuneiform
Date Created: OB, Rim-Sin 35/[x]/18
Place of Publication: Larsa
Extent: 47 x 38 x 22 mm
Language(s): Sumerian
Summary: A small, rather damaged tablet recording the disbursement of grain for various reasons.
Identifier: FSU_Tablet_06 (IID)
Subject(s): Cuneiform tablets
Held by: Special Collections & Archives, Florida State University Libraries, Tallahassee, Florida.
Persistent Link to This Record: http://purl.flyc.org/fsu/fsu/fsu_tablet_06
Use and Reproduction: Use of this item is provided for non-commercial, personal, educational, and research use only. For information about the copyright and reproduction rights for this item, please contact Special Collections & Archives, Florida State University Libraries.
Loading Content into FL-Islandora

Objects can be loaded into FL-Islandora using three different mechanisms:

• Single object loading directly through the user interface
• Batch loading directly through the user interface (.zip files of MODS metadata/content files or both)
• FLVC’s offline batch ingest

In preparation for batch loading, MODS metadata can be created from Excel files using FLVC’s Excel to MODS Transformer web application.
Questions?
Next: Demonstration and Exercises

• A “Quick Start” to enable you to start building collections and loading content based on the skills learned in the presentation.
• A demonstration of functionality and hands-on exercises
• Follow-up questions and answers
Quick Start Demo

A demonstration and hands on execution of the following tasks that will enable you to populate an FL-Islandora site:

• Logging in and adding a user:
  – FL-Islandora roles
• Creating a collection object:
  – Basic theming
• Loading single-file objects:
  – Using the User Interface
  – Using the batch ZIP file loader
• Modifying or deleting an object
Logging in

• The staff login is hidden from the public: [site URL]/user, e.g., http://islandora-test.digital.flvc.org/user

• Usernames follow the Drupal convention:
  — First and Last Name, case sensitive, e.g. “Sal Supervisor”

• Each user is associated with an FL-Islandora “role”: submitter, editor, supervisor, collection administrator, site administrator

• Only the site administrator role can manage users (“Annie Admin” user in FL-Islandora test site)
Add a New User

• You must have “site administrator” privileges (training user “Annie Admin”)
• Click on the “People” option in the upper left-hand corner, then “+ Add user.
• Username: Firstname Lastname (case sensitive)
• Assign a role of “islandora_coll_manager”
• Check Notify user of new account
• Click Create new account
Create a new user

This web page allows administrators to register new users. Users’ e-mail addresses and usernames must be unique.

**Username**

Jane Doe

Spaces are allowed. Punctuation is not allowed except for periods, hyphens, apostrophes, and underscores.

**E-mail address**

jdoe@jvc.org

A valid e-mail address. All e-mails from the system will be sent to this address. The e-mail address is not made public and will only be used if you notify notifications by e-mail.

**Password**

Password strength: Strong

Provide a password for the new account in both fields.

**Status**

- Blocked
- Active

**Assignable roles**

- islandora_submitter
- islandora_editor
- islandora_supervisor
- islandora_coll_manager

The user receives the combined permissions of all roles selected here and the following roles: authenticated user.
Create a Collection Object

- Manage tab -> “+ Add an object to this Collection”
- Collection Label: appears to the public
- Collection PID:
  - Namespace: alphanumeric (must start with a letter)
- Inherit collection policy? (uncheck unless you’ll be creating sub-collections under this collection)
- Allowable content models: do not mix “Collection Content Model” with other Content Models
- Ingest, to create a “basic” collection object with no theming.
- You can now load content into this collection.
- Additional theming can be done at any time.
Create a Collection Object

Welcome to the FLVC Islandora training collection!

Here you will create your own collections, and will load JPG images into them. Please delete your collections after you've finished with the exercises so that other users can use the test images when you're finished.
Adding a Custom Collection Thumbnail

Welcome to the FLVC Islandora training collection!

Here you will create your own collections, and will load JPG images into them. Please delete your collections after you've finished with the exercises so that other users can use the test images when you're finished.

Custom Thumbnails

Default “folder” collection thumbnail
Replace Collection’s default Thumbnail

From within your collection object:

• Manage -> Datastreams.
• Click “replace” in the Operations column of the TN / Thumbnail datastream.
• Browse to find a JPG or PNG thumbnail image.
• Click “Add Contents”.
• This will replace the default folder thumbnail image with an image of your choice.
Replace Collection Thumbnail

1. Navigate to the Manage option.
2. Select the Datastreams tab.
3. Click the replace button for the Thumbnail.
Replace Collection Thumbnail

[Image of a GUI window with options to update datastream with latest version, DSID: TN, Label: Thumbnail, upload document field, browse button, Unidentified_House_no., and upload button.]
Adding descriptive text to a Collection

A text file with ID "DESC-TEXT" that is uploaded as a collection datastream
Adding descriptive text to a Collection

A collection description is a collection object datastream with the ID “DESC-TEXT”
Adding descriptive text to a Collection

ID must be “DESC-TEXT”
Adding content to your new collection

• You’re now ready to add content objects to your new collection
• We’ll demonstrate loading of single-file objects
• Single-file Content Models:
  – Basic Image (JPG, PNG, GIF, TIFF file formats)
  – Large Image (JP2, TIFF file formats)
  – PDF Content Model (PDF file format)
  – Audio Content Model (WAV, MP3 file formats)
  – Video Content Model (MP4, MOV, AVI, OGG, QT, M4V, MKV)
Add a single-file object via the GUI

To add a “Basic Image” Content Model object:

- Prerequisite: a JPG, PNG, GIF or TIFF file accessible from your computer.
- From within the collection, click on the Manage tab
- “+ Add an object to this Collection”
- “Select a Content Model to Ingest”.
- Select “Islandora Basic Image Content Model. Click Next.
- Select a Form to create metadata: (MODS Simple Entry or Full MODS). Next.
- Upload a MARCXML file, if you have one, or Next to use the form to input metadata.
- After adding metadata, click Next to upload your content file/image

This procedure can be repeated for the “PDF” Content Model (PDF files), “Large Image” Content Model (JP2, TIFF files), etc.
The MODS Simple Entry Form

**Required MODS elements**

- **Owning Institution**: University of Florida
- **Title**: Photograph of the library
- **Identifier**: UF0000001234
Upload the Object and Ingest
Result: a Basic Image object

- Dynamically-created MARCXML from MODS
- A PURL is created during the load process
- Thumbnail created from object/image during loading
- Institutional logo/brand created from MODS
  
  `<owningInstitution>`
Basic Image object Datastreams

From the display of an object, click Manage then Datastreams to view all datastreams included in that object.
The RELS-EXT datastream

- `<rdf:RDF>
  - `<rdf:Description rdf:about="info:fedora/islandora-test:657">`
    - `<fedora:isMemberOfCollection rdf:resource="info:fedora/islandora-test:hgnvp"/>
    - `<fedora-model:hasModel rdf:resource="info:fedora/islandora:sp_basic_image"/>
  </rdf:Description>
</rdf:RDF>`

- The Islandora PID for the object
- The parent collection PID
- The Content Model of the object
Using the .zip loader (Batch Import)

• The .zip loader (Batch Import Objects function) can batch-load the following files:
  – A .zip file containing only MODS XML files (metadata only)
  – A .zip file containing only content files (content/images only, for single-file Content Models)
  – A .zip file containing metadata and content files, to create complete objects (single-file Content Models):
    • Object files are “matched” by filename, e.g. clown.xml (MODS file), clown.jpg (image file)

• Don’t mix objects for different Content Models in a single .zip file

• Multi-file Content Models also have the ability to load .zip files of issues or pages, but not complete parent objects with child objects.
.zip file contents for complete objects

<table>
<thead>
<tr>
<th>Name</th>
<th>Date modified</th>
<th>Type</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>pdf1.pdf</td>
<td>12/8/2014 1:54 PM</td>
<td>Adobe Acrobat Document</td>
<td>8,460 KB</td>
</tr>
<tr>
<td>pdf1.xml</td>
<td>12/8/2014 1:55 PM</td>
<td>XML Document</td>
<td>4 KB</td>
</tr>
<tr>
<td>Wilkes.pdf</td>
<td>7/27/2015 4:05 PM</td>
<td>Adobe Acrobat Document</td>
<td>1,955 KB</td>
</tr>
<tr>
<td>Wilkes.xml</td>
<td>7/27/2015 4:06 PM</td>
<td>XML Document</td>
<td>3 KB</td>
</tr>
</tbody>
</table>

Object 1

Object 2
Creating MODS XML files for .zip load

• If no MODS files are provided, the ZIP loader will create title-only MODS files that can be manually edited after loading.

• FLVC’s “Excel to MODS Transformer Service” transforms descriptive metadata in Excel files into MODS XML files:
  – Input is an Excel spreadsheet created from a template that supplies appropriate column headings.
  – Output is a .zip file of MODS XML files, one MODS file per row of Excel data.
  – Transformer .zip files can be loaded directly into FL-Islandora for a “metadata only” load, or they can be unzipped into a directory containing content files, then zipped and Batch Imported to create complete objects.
Excel to MODS Transformer

http://exceltomods.flvc.org

Excel to MODs Transformer Service

Welcome Lydia! This service transforms excel files into XML MODs format.

Upload an excel file

Output Filename: version3MODS

Owning Institution: FLVC
Batch Import / ZIP Loader
ZIP Loader – Select Content Model

**ZIP BATCH IMPORTER**
Select the file containing the assets and metadata to import. Assets and metadata will be matched together based on the portion of the filename that would be combined into a single object.

**Zip file containing files to import**
- **Browse**
- **JPG.zip**

**CONTENT MODEL**
The content model(s) to assign to the imported objects.
- **NAME**
- **Islandora Basic Image Content Model**
- **Islandora Large Image Content Model**

**Object Namespace**
**islandora-tast**
The namespace in which the imported objects will be created.

**Import**
Questions?
Next: Hands-on Exercises

Hands on “Quick Start” exercises:

• Use the exercises and examples provided to create a collection and add content objects to your collection
• Basic collection theming
• Batch loading of content
• Email lmotyka@flvc.org with questions and problems
• FL-Islandora user documentation: http://fig.wiki.flvc.org