

Making the SHiFt:

Using Sufia with Hydra/Fedora for collection management and access

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About IU Libraries Repo System

- Fedora 3 – digital special collections, digitized books
 - 2,000,000+ objects
 - Various custom sites and services sites
- Dspace – Institutional Repository (IR), document-centric
 - IU Scholarworks (IUSW), Digital Library of the Commons, Archives of Institutional Memory
 - IUSW – 11,000+ items
- No Fedora 4 prod (yet)

CBRC

- Center for Biological Research Collections
- Specimen collections
 - Herbarium – 2D images of plants
 - Zooarchaeology – 3D images of bones
 - 10's of K's of items
- Specify Software
 - Specimen management and cataloging
 - Darwin Core, geospatial info

CBRC Needs

- Cataloging and inventory management covered
- No place to store/preserve images
- No way to provide public access to digitized specimens

Born-digital docs on finding aids

- Spring 2014 survey
 - 4 out of 12 repositories responded
 - Almost 500,000 born-digital documents (not including images)
 - PDF, Word and other text files, video, audio, Excel, PPT, ZIP and other

Born-digital docs on finding aids - Needs

- No workflow to ingest non-image items into Fedora
- No way to offer search and discovery or access to non-image items

Sufia 6/Fedora 4

- Problems solved! (JK)
- Workflow for multiple file types
- Chance to try Fedora 4 (aka, THE FUTURE)
- Possibility of system mostly out of the box that lets collection managers actually manage collections in Fedora

Archives Online

at Indiana University



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Indiana University African Studies Program Directors' records, 1957-1995

   

Summary Information

Repository

Indiana University Office of University Archives and Records Management
1320 East Tenth Street
Herman B Wells Library E460
Bloomington, IN 47405-7000
Phone: 812-855-1127
[Email: archives@indiana.edu](mailto:archives@indiana.edu)
<http://www.libraries.iub.edu/archives>

Creator

Indiana University, Bloomington. African Studies Program.

Extent

9.3 cubic feet

Language

Materials are in English unless otherwise indicated.

Title

Indiana University African Studies Program Directors' records, 1957-1995

Collection no

C217

Abstract

The collection consists of the administrative records and correspondence of directors J. Gus Liebenow and Patrick O'Meara related to the development of the African Studies Program.

University Archives Sufia Test - Results

- Awesome
 - Self-deposit
 - Permissions controls
- Not Awesome
 - No hierarchy (collection of objects that contain objects that have multiple items)
 - No view, only downloadable
 - Separate Sufia instance needed for each repository?
- Sufia doesn't match needs yet

Sample Item – Canis familiaris mandible

- Sample item from one CBRC collection
- 3D images created using FARO ScanArm equipment
- Each item will be digitized and stored in Sufia / Fedora along with associated metadata
- Metadata will also be stored in Specify, an open-source Java-based platform for storing information about biological research collections (see <http://specifyx.specifysoftware.org/>)

Darwin Core metadata

- All CBRC collections use the Darwin Core metadata standard
- Extension of Dublin Core to add metadata specific to biological collections
- See <http://rs.tdwg.org/dwc/>

[Back to search results](#)



R38_mandible.obj Institution Name

Descriptions

Resource type:

Creator: garymotz@indiana.edu

Keyword: 3D

Rights: Attribution-NonCommercial-ShareAlike 3.0 United States

Identifier:

Collection Code: WRAZL

Catalog Number: 1900-10-0840

Other Catalog Num...: R38

Continent: North America

Country: United States

County: Kivaliq County

Higher Geography: Kivaliq, Nunavut, Canada

State Province: Nunavut

Locality: South Hampton Island

Decimal Latitude:

Decimal Longitude:

Scientific Name: Canis familiaris

Scientific Name Aut...

Kingdom: Animalia

Phylum: Chordata

Class: Mammalia

Order: Carnivora

Family: Canidae

Genus: Canis

Specific Epithet: Canis familiaris

Infraspecific Epithet:

Type Status:

Actions

Download

Export to: [EndNote](#) | [Zotero](#) | [Mendeley](#)

Collections

This file is in the following collections:

3D Collection Objects

Sample Item in Fedora

ns002: **title**
R38_mandible.pdf

ns003: **isPartOf**
<http://poplar.dlib.indiana.edu:8260/fedora4/rest/dev/b5/64/4r/75/b5644r755>

ns004: **dpt**
garymotz@indiana.edu

ns006: **relativePath**

ns007: **catalogNumber**
1900-10-0840

ns007: **class**
Mammalia

ns007: **collectionCode**
WRAZL

ns007: **continent**
North America

ns007: **country**
United States

ns007: **county**
Kivaliq County

ns007: **family**
Canidae

ns007: **genus**
Canis

ns007: **higherGeography**
Kivaliq, Nunavut, Canada

ns007: **kingdom**
Animalia

ns007: **locality**
South Hampton Island

ns007: **order**
Carnivora

ns007: **otherCatalogNumbers**
R38

ns007: **phylum**
Chordata

ns007: **scientificName**
Canis familiaris

Update Properties

```
<http://www.w3.org/ns/auth/ac#>  
PREFIX ns007:  
<http://rs.tdwg.org/dwc/terms/>  
PREFIX dc:  
<http://purl.org/dc/elements/1.1/>  
PREFIX foaf:  
<http://xmlns.com/foaf/0.1/>  
PREFIX fedoraconfig:  
<http://fedora.info/definitions/y4/co  
nfig#>  
PREFIX image:
```

Update

Sample Item in Specify

Specify 6.6.01

File Edit Data System Tabs Help

Welcome Data Trees Reports Interactions Statistics Query Symbiota Workbench SGR Plugins Lifemapper Attachments

Create/Update

- Collection Object
- Taxon
- Agent
- Geography
- Locality
- More Forms

Record Sets

- Beth's photos
- Bovidae
- Canidae
- Deer photo record
- Husky Kelsey loan
- IUPUI
- IUPUI 2
- Jesualdo
- Jesualdo Scans
- NORTH POLE
- Polly 2011 Loan
- Rowe loan 01-12-2014
- SAA Femur
- Sufia 3D export
- Tuttle Furs locality
- WRAZL Primates
- Zoarch Scans

Collection Object

Catalog Number: 1900-10-0840 Original Cat Number: R38 Accession: 1900-ZL-000

Object Condition: Specimen Description: Surface Features:

Remarks: Skull and mandible

Determinations

Common Name: DOMESTIC DOG

Taxon: **Canis familiaris** Current

Preferred Taxon: Canis familiaris Type: None

Determined Date: Determiner: Method:

Collecting Information

Context: CF 0

Locality: South Hampton Island, Kivaliq County, Nunavut, Canada

Collectors

Last Name	First Name	Remarks

Preparations

Prep Type	Count	Is on Loan	Preparation Attachments	Description	Solution	Storage
Skull	1	Yes		NH40H		7D, IUZL, Stud...

Col Obj Attribute

Sex: Sex Basis: Cause of Death:

Age: Age Basis: Date Born:

Specimen Length: Weight: Tissues Taken:

Specimen Source: W. R. Adams

Attachments

CF 0

Modified By Agent: Motz, Gary Timestamp M...: 2015/02/10 Cataloged D...: 2010/12/03

1 of 2

Trash

Welcome Trees Collection Object WRAZL Darwin Core Mapping Query Results

Zoarchaeology | William R. Adams Zooarchaeology Collection | garymotz

Specify Taxonomy Tree

The screenshot displays a software interface for specifying a taxonomy tree. The interface is organized into several sections:

- Top Bar:** Contains various icons and a search bar with the text "Canis".
- Left Panel:** Includes sections for "View Tree", "Edit Tree", "Open Tree Definition", and "Unlock a Tree", each with sub-options for "Geography", "Storage", and "Taxon".
- Main Area:** A hierarchical tree structure with columns labeled "Life", "Kingdom", "Phylum", "Class", "Order", "Family", "Genus", and "Species".

The tree structure is as follows:

- Life**
 - Kingdom: Animalia**
 - Phylum: Arthropoda**
 - Phylum: Chordata**
 - Actinopterygii
 - Amphibia
 - Aves
 - Chondrichthyes
 - Class: Mammalia**
 - Afrosoricida
 - Artiodactyla
 - Order: Carnivora**
 - Ailuridae
 - Family: Canidae**
 - Alopex (0, 6)
 - Genus: Canis (0, 100)**
 - Canis adustus (1)
 - Canis dirus (2)
 - Species: Canis familiaris (5...)**

Specify and Sufia work together

- All metadata stored in both Specify and Sufia
- Specify provides data entry and analysis tools that would be hard to replicate
- Data synchronization is an issue
- Sufia serves as the primary archival location for both data files and metadata

Darwin Core metadata and the RDF-Vocab project

- At our request, Darwin Core metadata was added to the available vocabularies within the RDF-vocab project
- See <https://github.com/ruby-rdf/rdf-vocab>
- This enables us to easily reference DWC metadata fields from within the application and link them appropriately

Sufia fields to DWC metadata code snippet

```
property :order, predicate: ::RDF::Vocab::DWC.order do |index|
  index.as :stored_searchable, :facetable
end
property :family, predicate: ::RDF::Vocab::DWC.family do |index|
  index.as :stored_searchable, :facetable
end
property :genus, predicate: ::RDF::Vocab::DWC.genus do |index|
  index.as :stored_searchable, :facetable
end
```

Future work – 3D viewer integration

- 3D scans can currently be viewed using solutions such as SketchFab – see <https://skfb.ly/CUqJ>
- We hope to instead integrate a viewer solution with Sufia using technology being developed at IU's Advanced Visualization Lab

Future work – batch ingest and workflow

- We need automated scripts between the digitizers workstations, Sufia and Specify
- Digitizers will enter metadata directly into Specify, and drop files for deposit into Sufia.
- We will leverage existing infrastructure for image processing and backup as much as possible

Future work – need for hierarchy

- We will soon need the ability to have multiple levels of hierarchy within the repository
- 3D imaging produces multiple files per object

Future work – generalizing the repository

- For now, our Sufia repository is specific to these biology-related collections
- It also serves as a pilot project for Fedora 4
- Eventually, we might use a single Sufia instance to hold a wider variety of content
- Each collection might have different metadata needs
- Editing metadata fields through the interface, and not within code would be desirable

Thanks! Question? Comments?

- Github repo

<https://github.com/IUBLibTech/cbrc>

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