

View From the Field

One Museum's Perspective on Storage.

FIELD.
MUSEUM

Sharon Grant
Janeen Jones
Kate Webbink
Rob Zschernitz

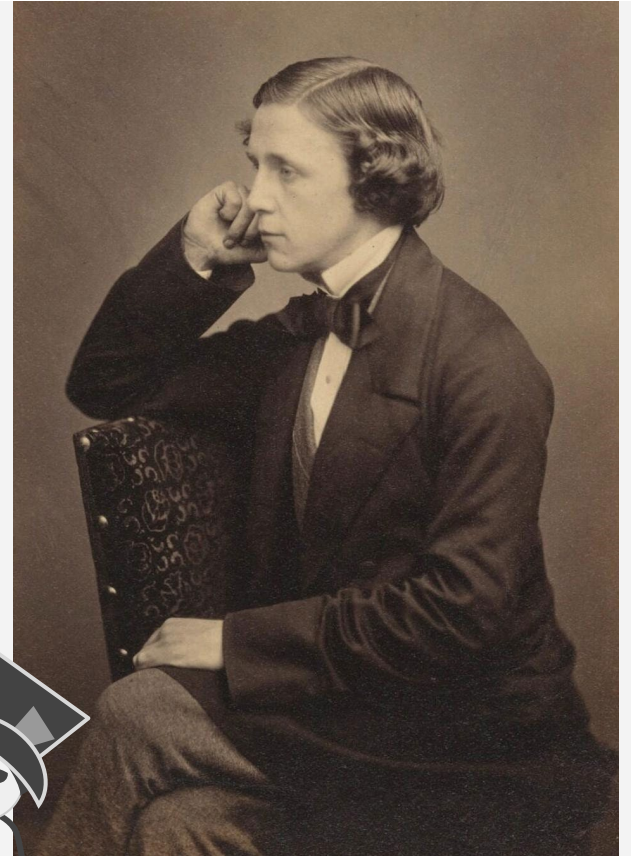
Integrating Institutional
Archives with Disciplinary Web
Repositories

2020 **overt**



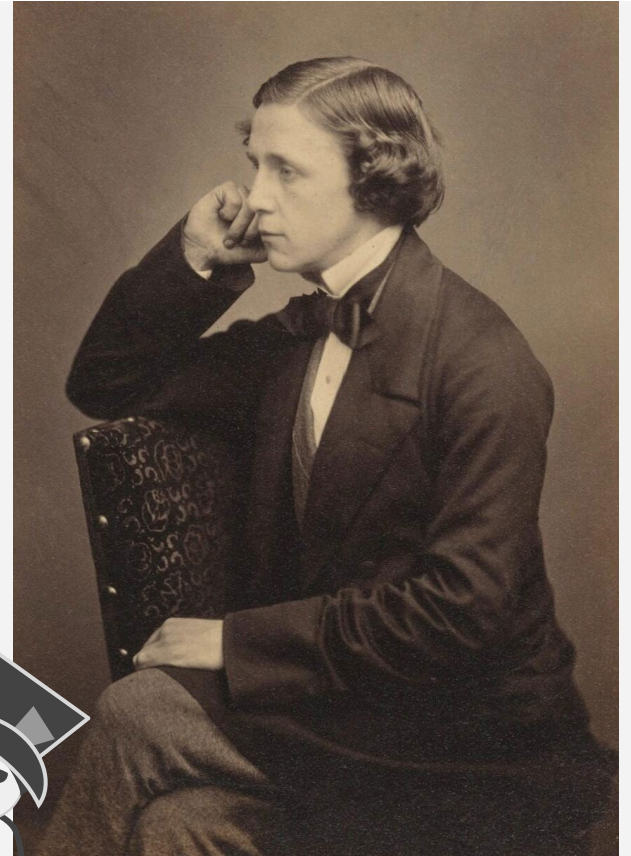
Questions

- How do you handle DAM and collections records? Are the systems well integrated?
- Are there different approaches for 3D and 2D?
- What important role does integration with external resources play in achieving your goals.
- What are the biggest challenges and grandest aspirations for having a digital presence?
 - Are different collections/departments idiosyncratic in solutions or is there top-down protocols



Questions

- **How do you handle DAM and collections records? Are the systems well integrated?**
- **Are there different approaches for 3D and 2D?**
- What important role does integration with external resources play in achieving your goals.
- What are the biggest challenges and grandest aspirations for having a digital presence?
 - Are different collections/departments idiosyncratic in solutions or is there top-down protocols



Yes. We use *EMu*...



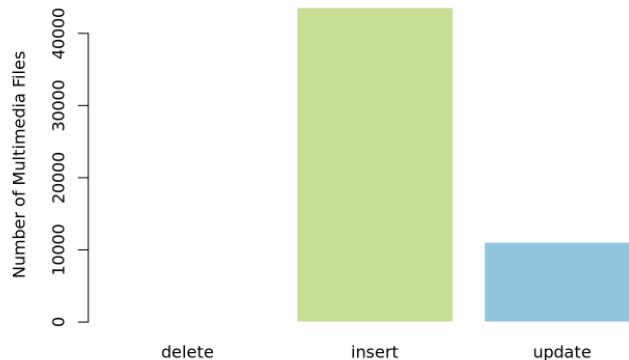
Review of Digital Assets at the Field Museum

Total in EMu:

- 1,893,058 media records
 - 1,671,145 images
 - 210,726 pdfs
 - 2,736 audio
 - 617 videos
 - + others

Monthly count of Multimedia records

Count	Action	Table	From	To
15	delete	emultimedia	2019-12-01	2019-12-31
43578	insert	emultimedia	2019-12-01	2019-12-31
11057	update	emultimedia	2019-12-01	2019-12-31



Monthly sum of new Multimedia file sizes (GB)

MainSumGB	SuppSumGB
20.43077	362.4395

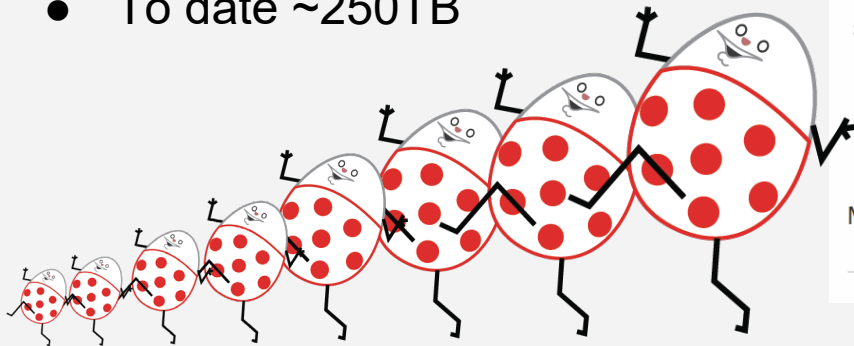
Review of Digital Assets at the Field Museum

This month in EMu:

- 43,578 new pieces of media
- 20.4 GB of web quality media
- 0.36 TB of archive media

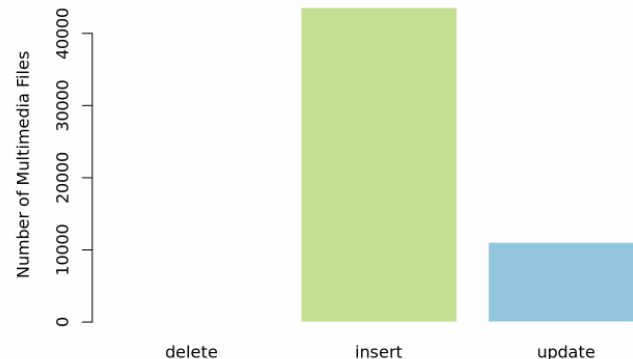
All centralised Museum media:

- 2010 ~50TB
- 2014 ~120TB
- To date ~250TB



Monthly count of Multimedia records

Count	Action	Table	From	To
15	delete	emultimedia	2019-12-01	2019-12-31
43578	insert	emultimedia	2019-12-01	2019-12-31
11057	update	emultimedia	2019-12-01	2019-12-31



Monthly sum of new Multimedia file sizes (GB)

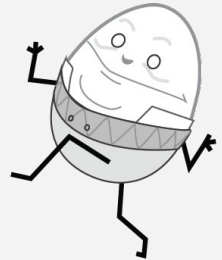
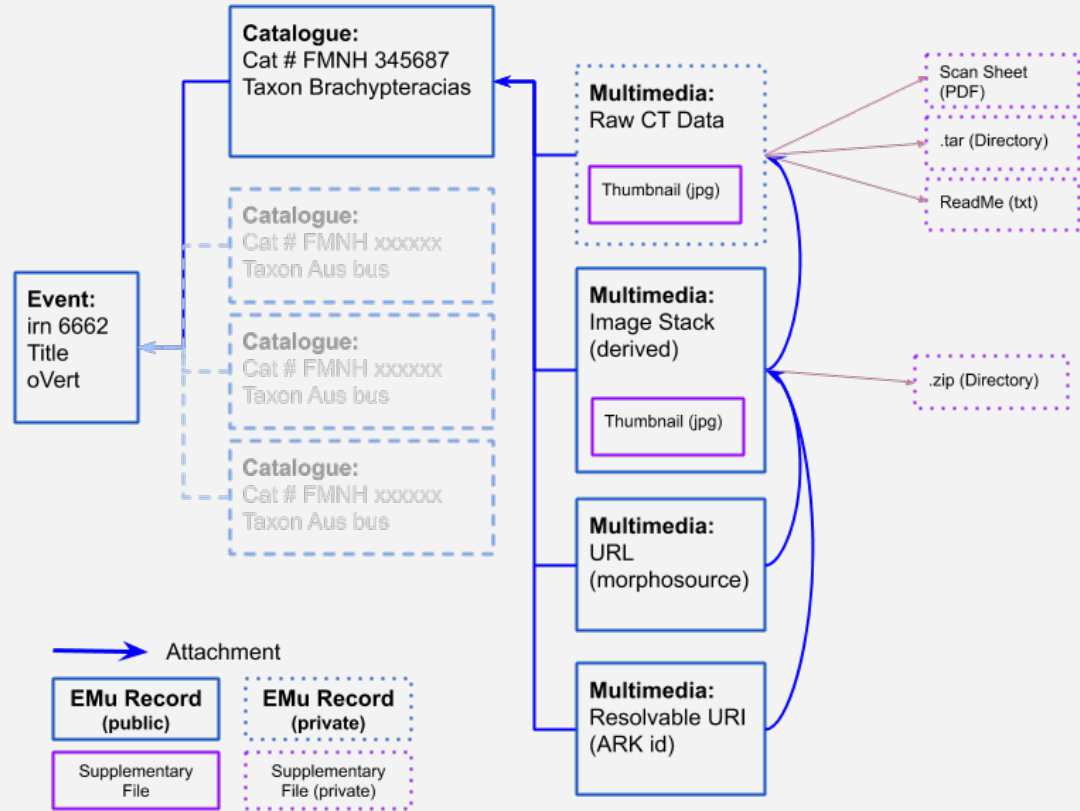
MainSumGB

20.43077

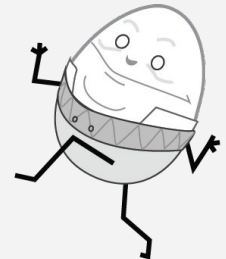
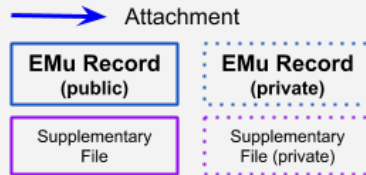
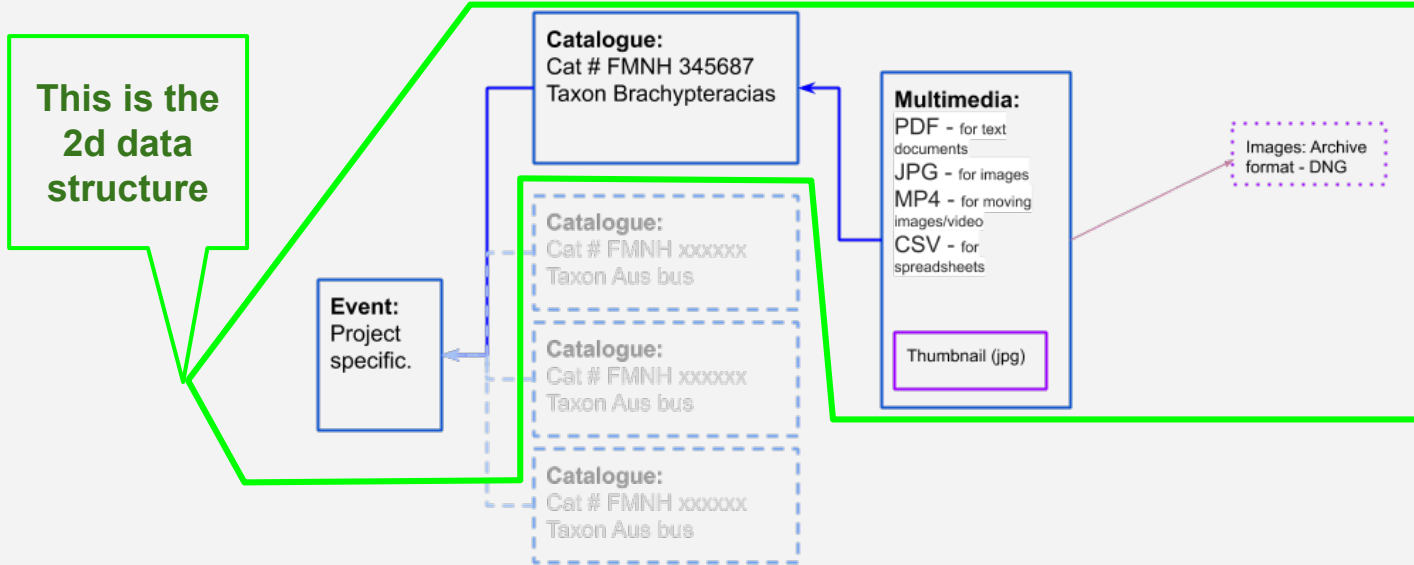
SuppSumGB

362.4395

What a CT scan looks like in EMu...

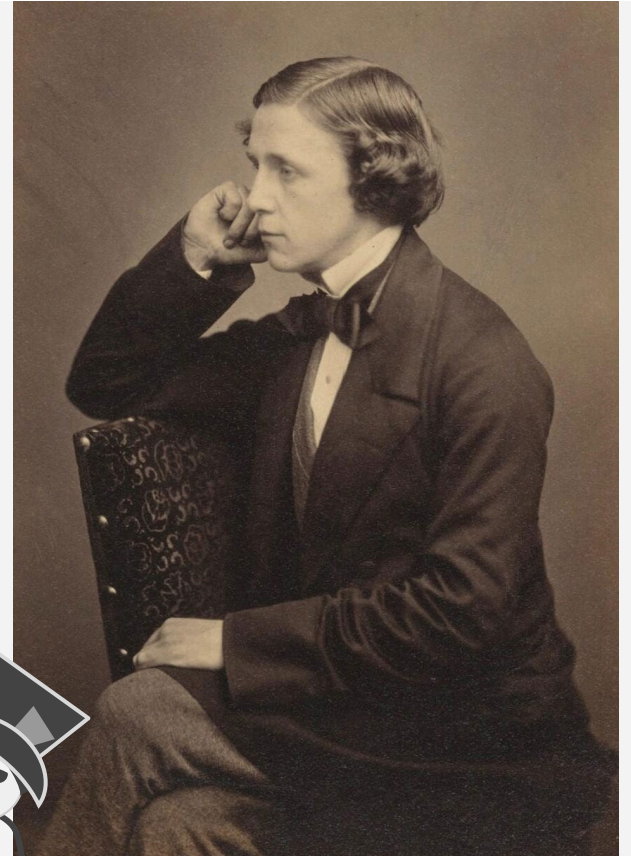


What a 2D image looks like in EMu...



Questions

- How do you handle DAM and collections records? Are the systems well integrated?
- Are there different approaches for 3D and 2D?
- **What important role does integration with external resources play in achieving your goals.**
- What are the biggest challenges and grandest aspirations for having a digital presence?
 - Are different collections/departments idiosyncratic in solutions or is there top-down protocols



What is looks like when it flies freeeee...



What it looks like when it flies freeeee...

Record

Term	Interpreted	Original	Remarks
Data generalizations	recordedBy redacted	recordedBy redacted	
Dataset ID	birds-20-nov-2019	birds-20-nov-2019	
Institution code	FMNH	FMNH	
Institution ID	http://biocol.org...col.org.col:34795	http://biocol.org...col.org.col:34795	
Basis of record	Preserved specimen	PreservedSpecimen	
Owner institution code	FMNH	FMNH	
Collection code	Birds	Birds	
Collection ID	http://grbio.org/cool/91hw-75rx	http://grbio.org/cool/91hw-75rx	

Occurrence

Term	Interpreted	Original	Remarks
Catalogue number	503775	503775	
Occurrence ID	1a5c123d-1f93-45b4-9758-a337bfbe7b09	1a5c123d-1f93-45b4-9758-a337bfbe7b09	
Preparations	alc	alc	
Record number	DSB-10773	DSB-10773	

Event

Term	Interpreted	Original	Remarks
Day	11	11	
Month	3	3	
Year	2015	2015	
Event date	2015-03-11T00:00:00		Inferred
Field number	DSB-10773	DSB-10773	
Start day of year	11	11	

Taxon

<https://www.gbif.org/occurrence/1427517131>

About the dataset

The Division of Birds houses the third largest scientific bird collection in the United States. The main collection contains over 480,000 specimens, including 600 holotypes, 70,000 skeletons, and 7,000 fluid specimens. In addition, the division houses 21,000 egg sets and 200 nests. The scope of the collection is world-wide; all bird families but one are represented, as are 90% of the world's genera and species. Included among its many historically and scientifically valuable individual collections... [more](#)

MULTIMEDIA

Accessurl	Creator	Description	Format
https://mm.fieldm...b844-4c32b1bdd80a	April Isch : University of Chicago Field Museum of Natural History - Birds Collection	Merops 503775 CT Scan Image Stack. Scanned as part of the oVert project, additional data on the supplementary tab..	
https://mm.fieldm...b844-4c32b1bdd80a	April Isch : University of Chicago Field Museum of Natural History - Birds Collection	Merops 503775 CT Scan Image Stack. Scanned as part of the oVert project, additional data on the supplementary tab..	
http://www.morpho...ow/media_id/22129	Morphosource	Merops 503775 URL for CT Image Stack. Scanned as part of the oVert project, additional data on the supplementary tab..	application

CITATION

What it looks like when it flies freeeee...

Record

Term	Interpreted	Original	Remarks
Data generalizations	recordedBy redacted	recordedBy redacted	
Dataset ID	birds-20-nov-2019	birds-20-nov-2019	
Institution code	FMNH	FMNH	
Institution ID	http://biocol.org...col.org.col:34795	http://biocol.org...col.org.col:34795	
Basis of record	Preserved specimen	PreservedSpecimen	
Owner institution code	FMNH	FMNH	
Collection code	Birds	Birds	
Collection ID	http://grbio.org/cool/91hw-75rx	http://grbio.org/cool/91hw-75rx	

Occurrence

Term	Interpreted	Original	Remarks
Catalogue number	503775	503775	
Occurrence ID	1a5c123d-1f93-45b4-9758-a337bfbe7b09	1a5c123d-1f93-45b4-9758-a337bfbe7b09	
Preparations	alc	alc	
Record number	DSB-10773	DSB-10773	

Event

Term	Interpreted	Original	Remarks
Day	11	11	
Month	3	3	
Year	2015	2015	
Event date	2015-03-11T00:00:00		Inferred
Field number	DSB-10773	DSB-10773	
Start day of year	11	11	

Taxon

<https://www.gbif.org/occurrence/1427517131>

About the dataset

The Division of Birds houses the third largest scientific bird collection in the United States. The main collection contains over 480,000 specimens, including 600 holotypes, 70,000 skeletons, and 7,000 fluid specimens. In addition, the division houses 21,000 egg sets and 200 nests. The scope of the collection is world-wide; all bird families but one are represented, as are 90% of the world's genera and species. Included among its many historically and scientifically valuable individual collections... [more](#)

MULTIMEDIA

Accessurl	Creator	Description	Format
https://mm.fieldm...b844-4c32b1bdd80a	April Isch : University of Chicago Field Museum of Natural History - Birds Collection	Merops 503775 CT Scan Image Stack. Scanned as part of the oVert project, additional data on the supplementary tab..	
https://mm.fieldm...b844-4c32b1bdd80a	April Isch : University of Chicago Field Museum of Natural History - Birds Collection	Merops 503775 CT Scan Image Stack. Scanned as part of the oVert project, additional data on the supplementary tab..	
http://www.morpho...ow/media_id/22129	Morphosource	Merops 503775 URL for CT Image Stack. Scanned as part of the oVert project, additional data on the supplementary tab..	application

CITATION

What it looks like when it flies freeeee...

Merops 503775 CT Scan Image Stack

Description: Merops 503775 CT Scan Image Stack. Scanned as part of the oVert project, additional data on the supplementary tab.

Attribution: [Copyright] Field Museum of Natural History - CC BY-NC
[How we are licensing our collections data and images](#)

Department(s)

- Birds
- Zoology

Subject(s)

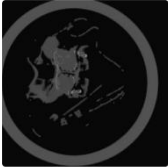
- CT scan
- oVert

Creator(s)

- Scanner: April Isch : University of Chicago

Supplementary files available

32000_ms_media_files_media_42888_preview190.jpg



IRN: 1873281
GUID: 119f5415-4aef-4ace-b844-4c32b1bdd80a

<https://mm.fieldmuseum.org/119f5415-4aef-4ace-b844-4c32b1bdd80a>

MORPHO SOURCE
BY DUKE UNIVERSITY

ABOUT BROWSE DASHBOARD

LOGIN/REGISTER

Media: M22129

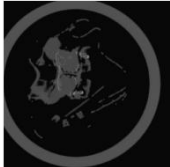
LOGIN TO DOWNLOAD

Project 1 media file

[Field Museum of Natural History \(Zoology\) Bird Collection](#)

Specimen Information

Specimen: [fmnh.birds.503775_Merops viridis americanus](#)
Specimen taxonomy: Merops viridis americanus
Element: whole bird
Institution: The Field Museum of Natural History, Chicago, IL, USA



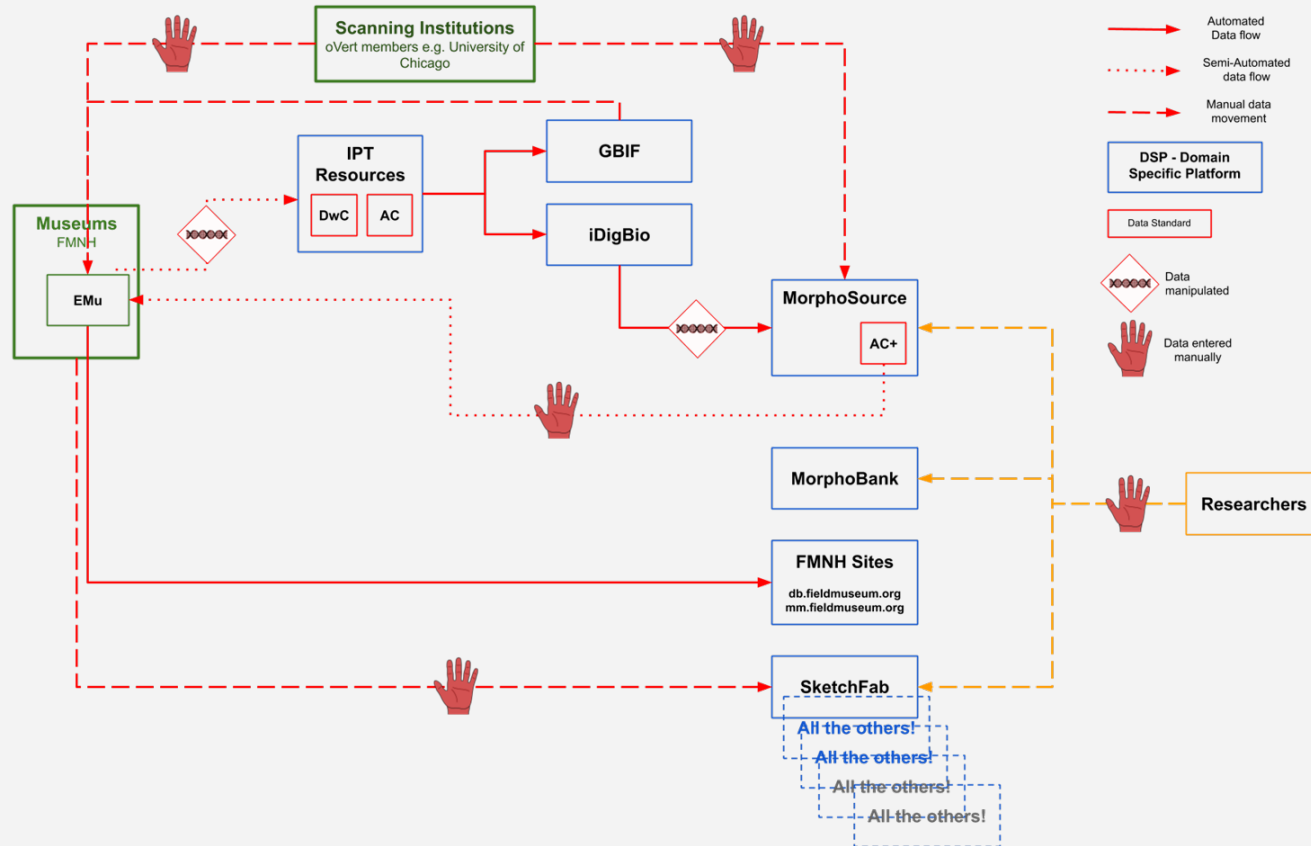
M22129-42888
TIFF image series ZIP file, 611.04 MB
Z-Stack
16-bit TIFF
Raw file of group
[Citation Elements](#)
ADD

Media Group Information

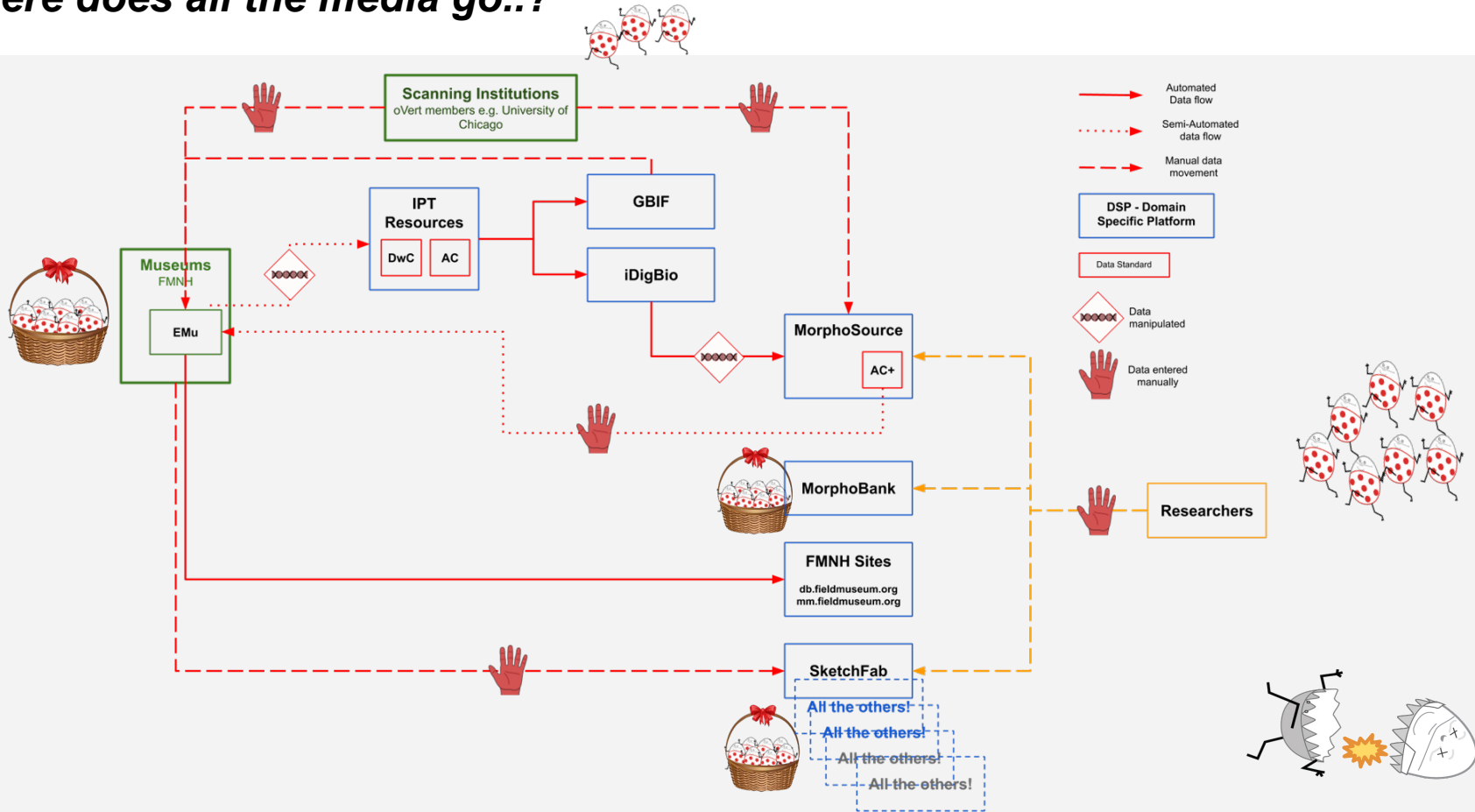
Description: CT scan of fmnh-birds-503775, Merops viridis americanus
Notes: fluid-preserved specimen
Grant support: oVert TCN, NSF DBI-1701714; NSF DBI-1702421
Is this media copyrighted?: Yes
Copyright permission: Permission to use media on MorphoSource granted by copyright holder
Copyright license: Attribution- CC BY-NC-SA - reuse here and applied to future uses but noncommercial
Copyright Holder: Field Museum of Natural History
Facility: University of Chicago PaleoCT
X res: 0.0711070 mm
Y res: 0.0711070 mm
Z res: 0.0711070 mm
Voltage: 140 kv
Amperage: 200 µa
Watts: 20.11

https://www.morphosource.org/Detail/MediaDetail/Show/media_id/22129

Where does all the media go..?

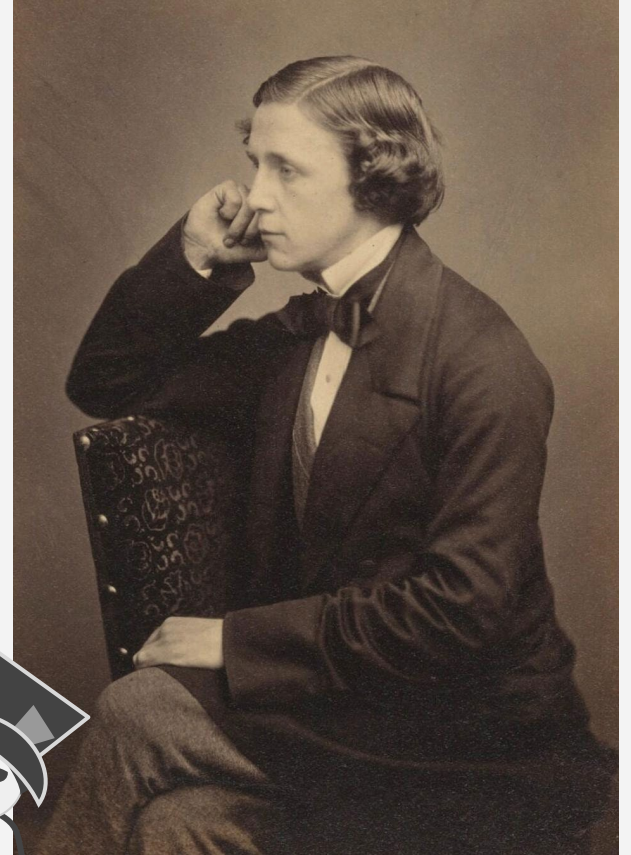


Where does all the media go..?

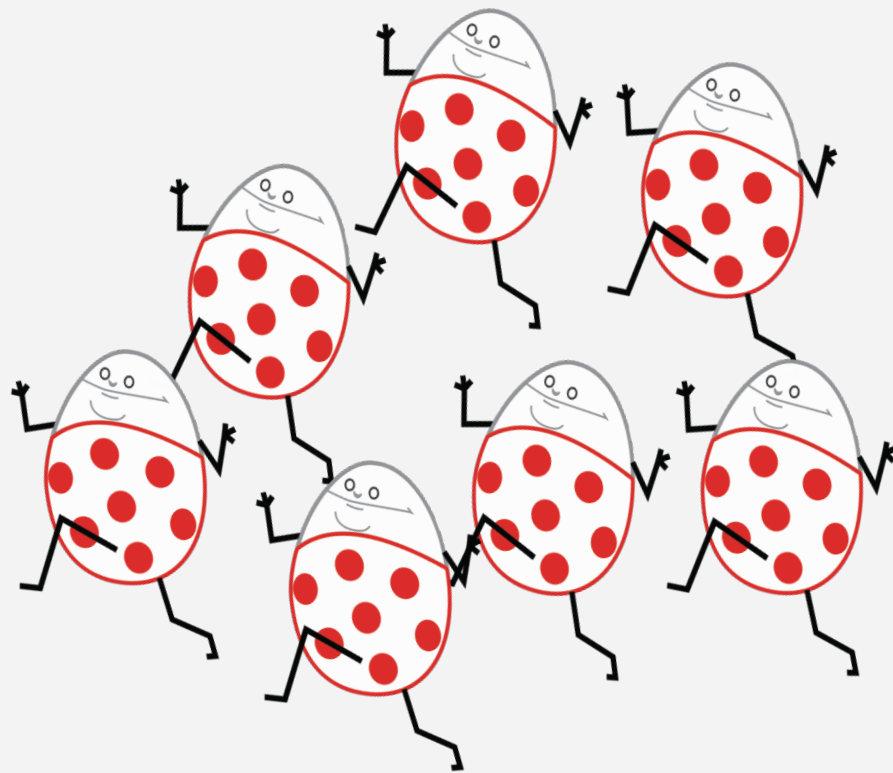


Questions

- How do you handle DAM and collections records? Are the systems well integrated?
- Are there different approaches for 3D and 2D?
- What important role does integration with external resources play in achieving your goals.
- **What are the biggest challenges and grandest aspirations for having a digital presence?**
 - Are different collections/departments idiosyncratic in solutions or is there top-down protocols



Eggs...



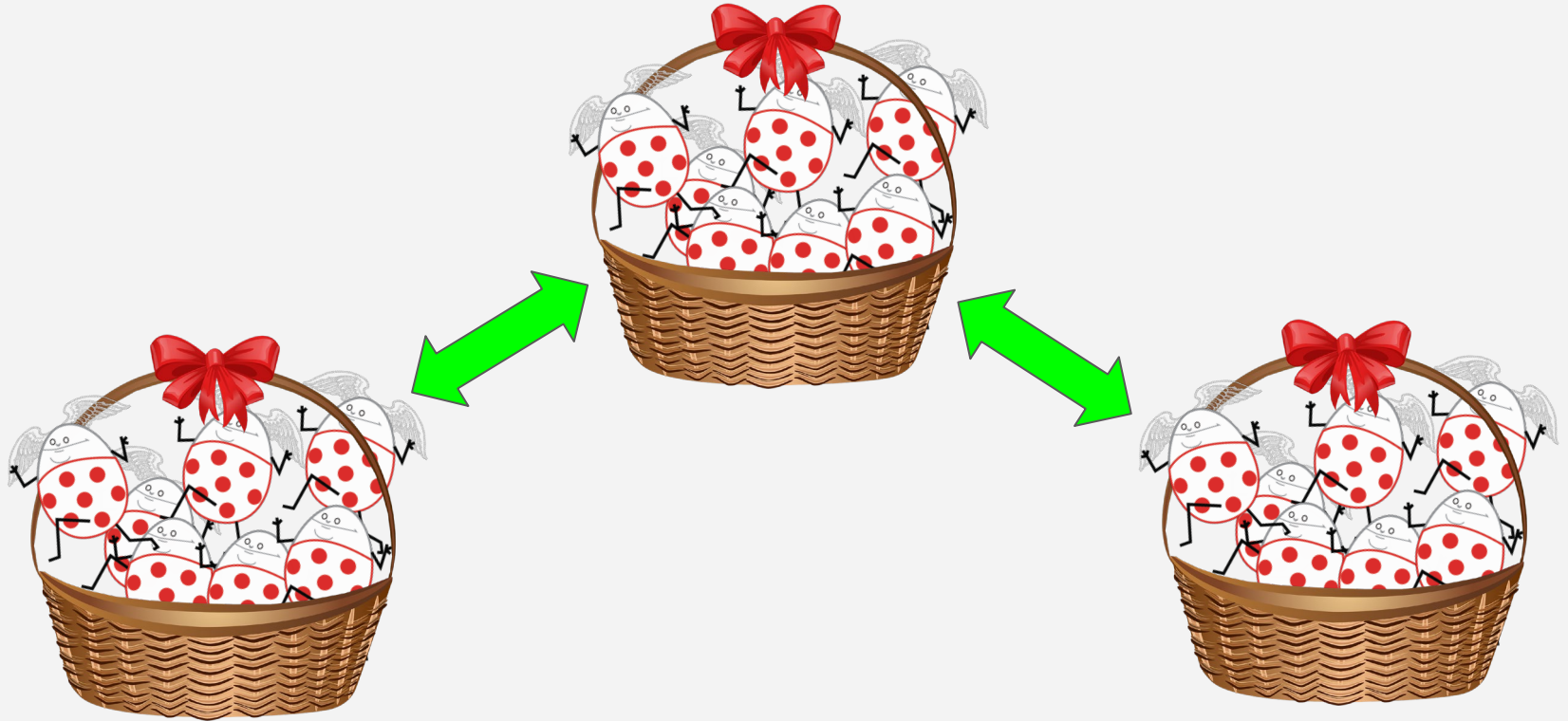
Eggs in one basket...



Orphic Eggs..?



Replicated connected baskets of Orphic eggs..?



No! no! Adventures first....

*"Explain all that,"
said the Mock Turtle.*

*"No, no! the
adventures first," said
the Gryphon in an
impatient tone:*

*"explanations take
such a dreadful
time."*



Usage and Licensing...

USE OF COLLECTIONS DATA AND IMAGES

How we are licensing our collections data and images

Per these documented **Conditions and Suggested Norms for Use of Collections Data**, the Field Museum of Natural History ("the Field Museum") is releasing its collections data under a public domain waiver ([CCO](#)) and making multimedia served publicly from its authorized Collections Management System available under a Creative Commons Attribution-Noncommercial 4.0 International ([CC-BY-NC](#)) license.

A [CCO](#) waiver marks our intent to place our data in the public domain and decline to enforce any intellectual property rights we may have in it. The [CC-BY-NC](#) license allows the distribution, publication, and remixing of these

Attribution and agreement...

FIELD MUSEUM OF NATURAL HISTORY

MEDIA CREATION AND ASSIGNMENT AGREEMENT

The Field Museum of Natural History ("Museum") makes its collections available to qualified researchers for academic purposes; it also makes its collections data and media publicly available under its Data Norms. As a condition of accessing or borrowing Collections Items, you are agreeing to assign the rights in Media created from or of these items so that the Museum may, at its discretion, archive the Media and distribute it to the public under its Data Norms, i.e., under a CC-BY-NC License.

For further information, see [frequently asked questions](https://tinyurl.com/y2qhwj9x) (<https://tinyurl.com/y2qhwj9x>).

As a condition of borrowing or accessing Collections Items, you, the undersigned, agree to the following terms and conditions.

A. Definitions.

Access Agreement refers to a Loan Agreement, Research Access Agreement, or similar document specifying the Collections Items you will be working with, the purpose of your use, and other details of your loan or research visit.

CC-BY-NC License refers to the Creative Commons Attribution-Non-Commercial 4.0 International License, full text available at <https://creativecommons.org/licenses/by-nc/4.0/legalcode>. The Museum makes multimedia served publicly from its authorized Collections Management System available under this license, which allows reuse without further authorization provided the use is non-commercial and credits the Museum as required in the Data Norms. This is a broad, flexible license that allows for most common academic uses of the Media.

Collections Items refers to specimens and artifacts accessioned or deposited into the Field Museum of Natural History's scientific collections.

Data Norms refers to the Museum's Conditions and Suggested Norms for Use of Collections Data and Images, available at <https://www.fieldmuseum.org/field-museum-natural-history-conditions-and-suggested-norms-use-collections-data-and-images>.

Media refers to all media created from or of Collections Items and derivatives of that media. This includes, but is not limited to, (a) representations, such as photographs, audio/visual recordings, scans and raw scanning data created by various means, or other recordings or images created by technology now known or hereafter developed and (b) derivative assets, whether physical or digital, such as models, images, molds, casts, three-dimensional printing files, etc. Media does not include facts (e.g., measurements,

Attribution and agreement...



Attribution and agreement...



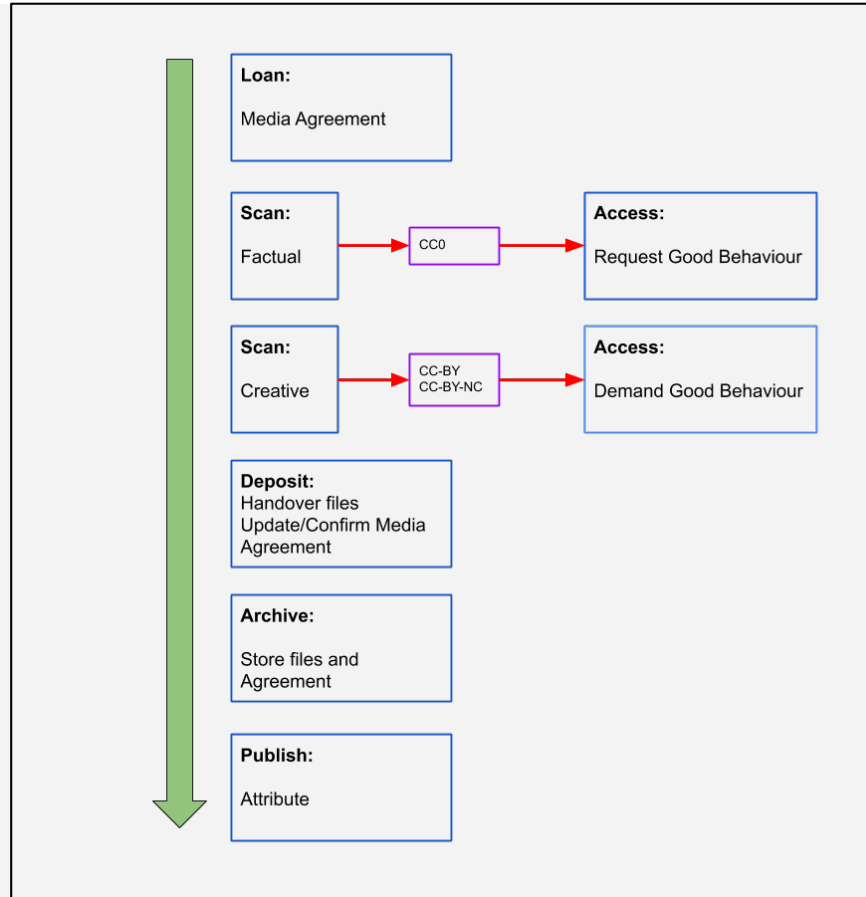
I'm Late....

“Oh my fur and whiskers.

I'm late, I'm late, I'm late!”



Incorporate into existing workflows....



I'm Late....

“Oh my fur and whiskers.

I'm late, I'm late, I'm late!”



Lost costs.... On the data side

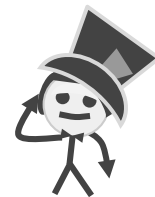
- **Storage** - hardware maintenance.
 - Short-term - need more storage to process than to store the data (exacerbated by scope creep)
 - Long-term - most funding bodies won't fund this, but institutions must store data afterwards (and maintain the hardware)
- **Preservation** - maintaining current archival standards
 - Short-term - handling formats you did not know how to handle before (requires figuring out workflows and processes for doing so)
 - Long-term - format preservation/migration
- **Transfer/Bandwidth** - infrastructure for moving giant files around
 - Short-term - shock of sudden/new/massive files puts a burden on existing infrastructure.
 - Long-term - technology acclimates to the size/variety of the files but the files keep getting bigger.
- **Standards** - appropriate identifiers and permanent associations.
 - Short-term - Expedited workflow
 - Long-term - Loss of data & context; broken connections affects reproducibility; Solutions to fixing and cleaning up become slower if not impossible to implement.

Lost costs.... On the people side

- IT Professionals
 - Systems, Network, Informatics, Web
- Collections Professionals
 - Collection Management, Assistants, Interns, Trainers
- Project Management
 - Team coordination between fields, departments, and institutions to maintain scope, deliverables, and timelines

Questions, comments, thoughts?

One Museum's Perspective on Storage



FIELD.
MUSEUM

Sharon Grant

Janeen Jones

Kate Webbink

Rob Zschernitz

Integrating Institutional
Archives with Disciplinary Web

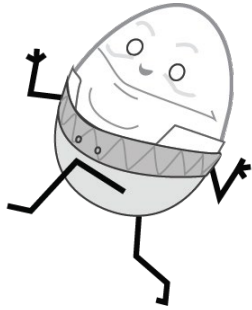
Repositories

2020



overt

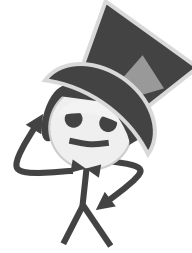
The Cast



Egg-thing



Eggs in a basket thing



Lewis-thing



Egg-be-free-thing