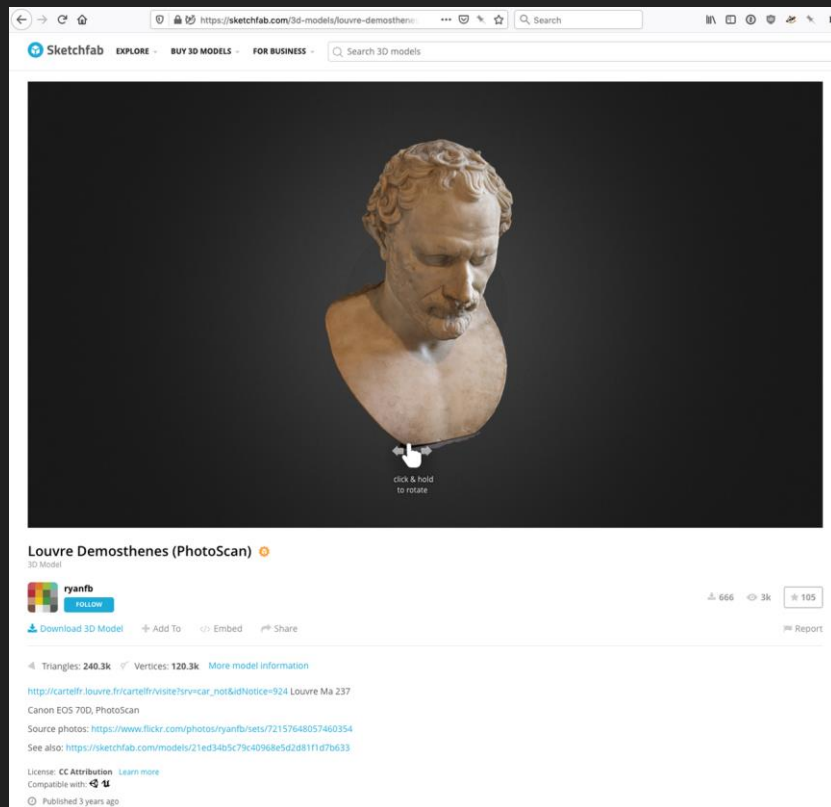


# Linked Open Data & 3D Models on the Web

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Slides: <https://tinyurl.com/lod3d>

# 3D Models on the Web Today:



## 5-Star Linked Open Data:

1. Available on the web (whatever format) but with an open licence, to be Open Data
2. Available as machine-readable structured data (e.g. excel instead of image scan of a table)
3. as (2) plus non-proprietary format (e.g. CSV instead of excel)
4. All the above plus, Use open standards from W3C (RDF and SPARQL) to identify things, so that people can point at your stuff
5. All the above, plus: Link your data to other people's data to provide context

<https://www.w3.org/DesignIssues/LinkedData.html>

# 5 Stars:

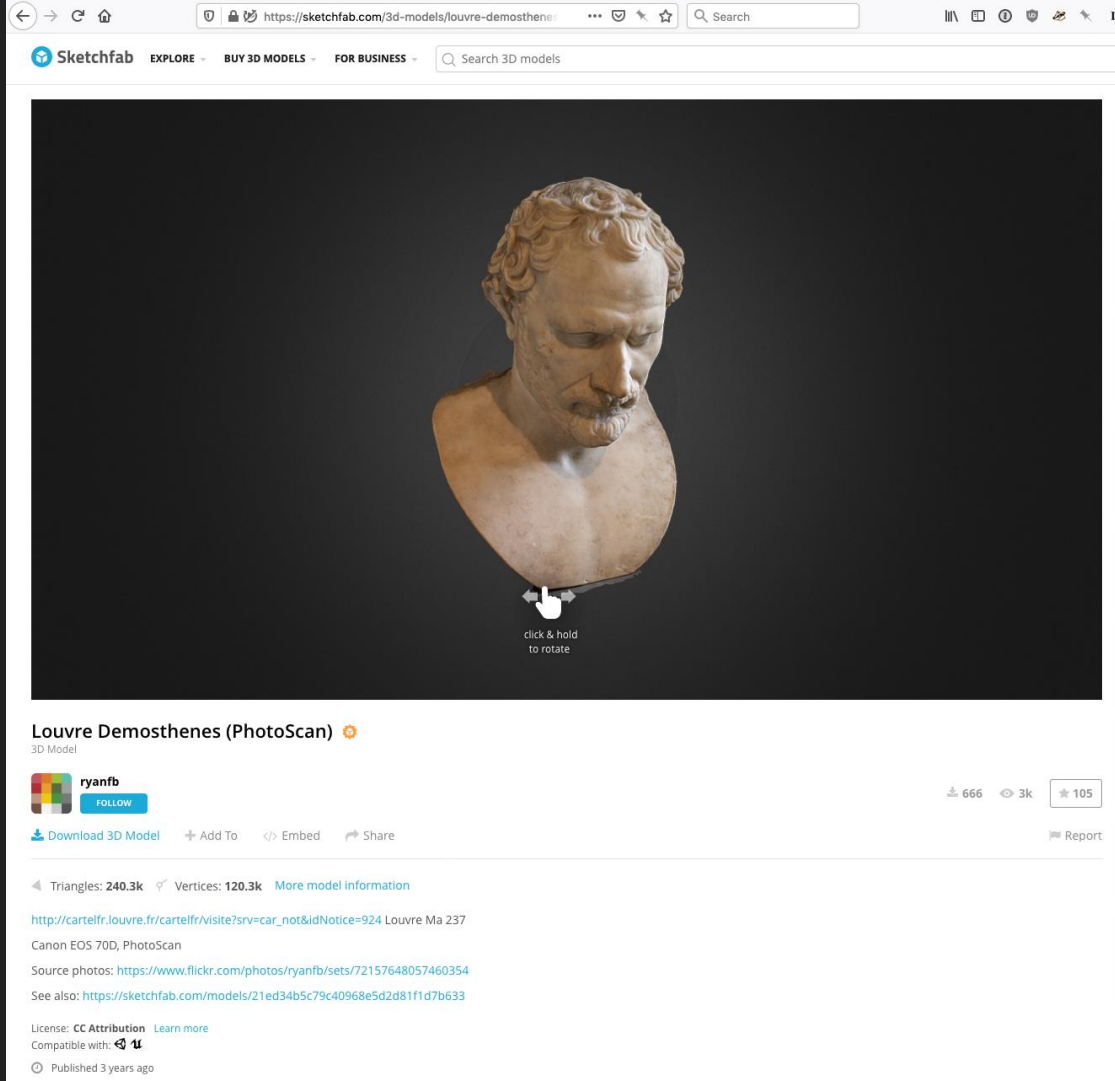
✓ On the web with an open licence

✓ Machine readable data

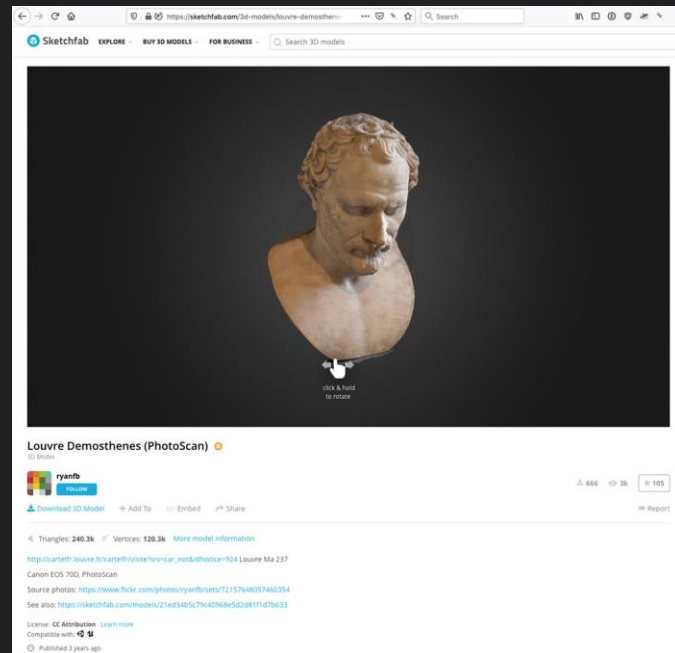
✓ Non-proprietary format

X RDF

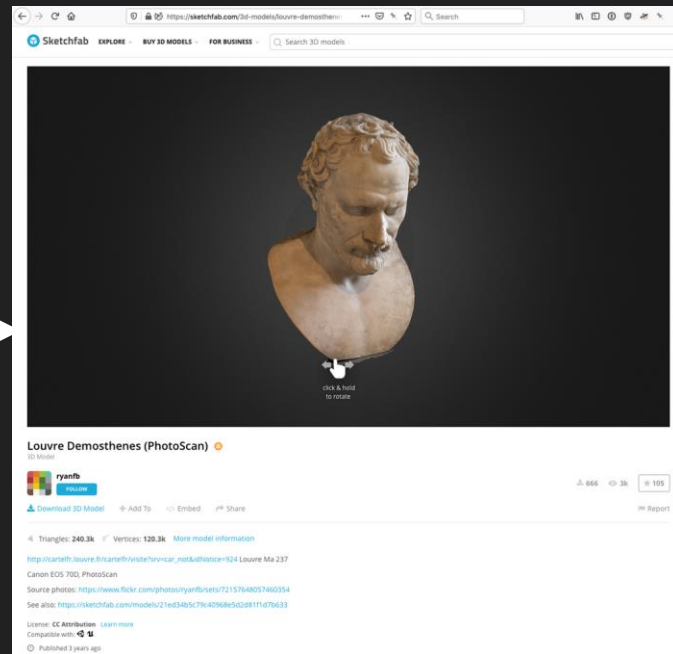
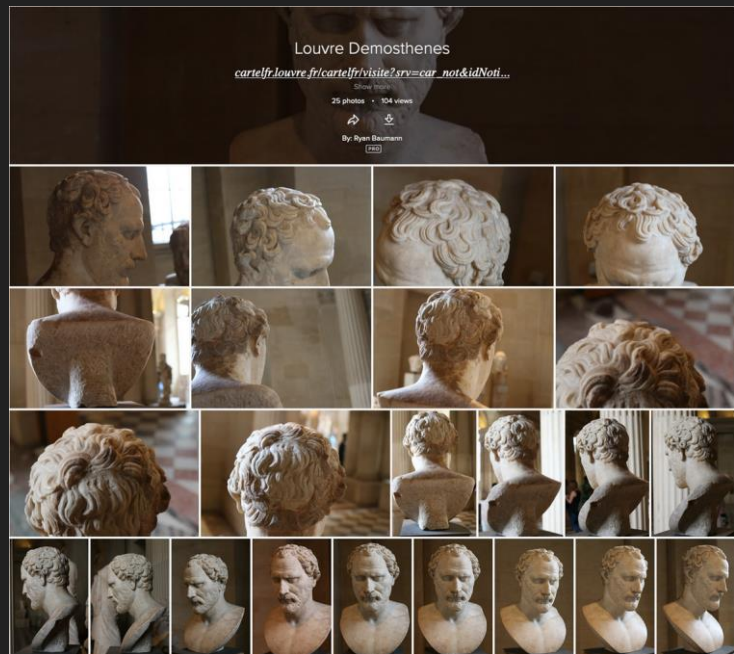
X Linking to other people's data



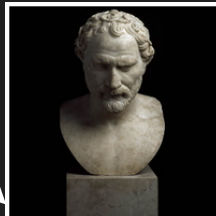
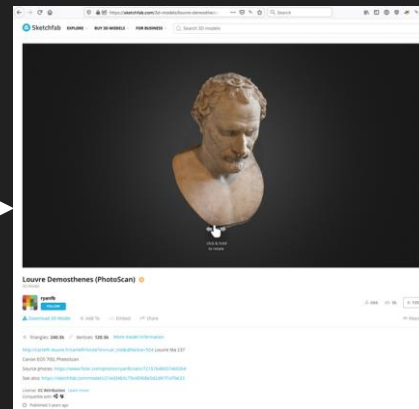
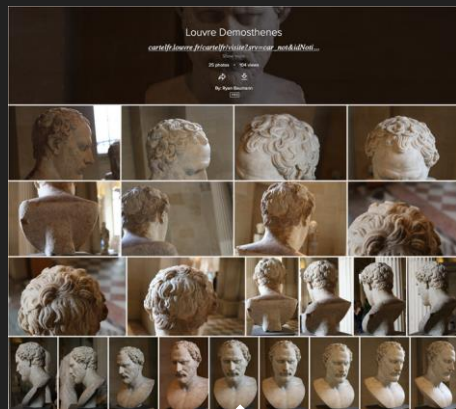
# Imaging Data vs. Processed Data



# Imaging Data vs. Processed Data



# Linking to Other People's Data



© Musée du Louvre, dist. RMN - Grand Palais / Daniel Lebée et Carine Deambrosio

Sully  
Rez-de-chaussée  
Dieux et Héros du Monde  
grec antique : Apollon,  
Artémis, Dionysos  
Salle 348



D'après Polyeuctos (actif à Athènes vers 280 avant J.-C.)

**Portrait de Démosthène, homme politique athénien (384-322 avant J.-C.)**

2<sup>e</sup> siècle après J.-C. ?, d'après un original grec en bronze vers 280 avant J.-C.

Italie

Marbre

H. : 44 cm.

Achat, 1815, ancienne collection Albani.

Département des Antiquités grecques, étrusques et romaines

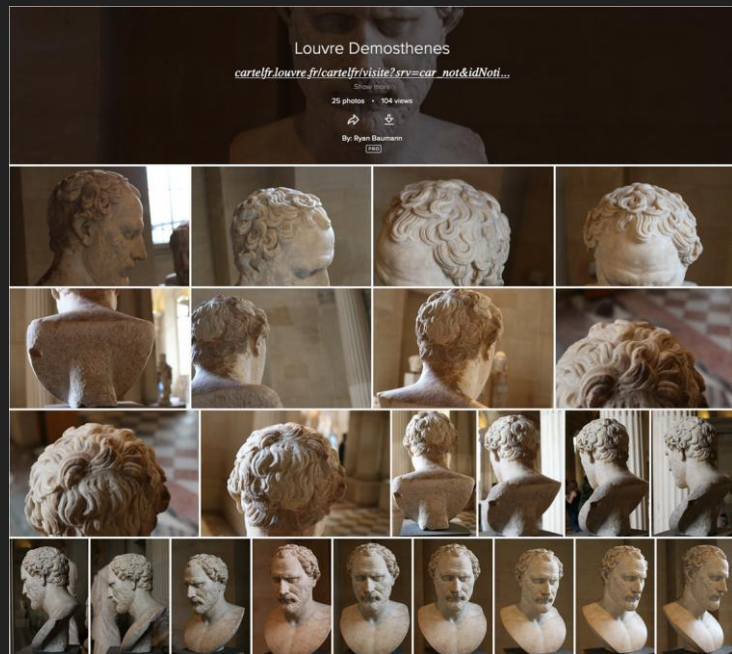
Inventaire MR 458 (n° usuel Ma 237)

# Getting from Islands of Data to 5-Star Linked Open Data

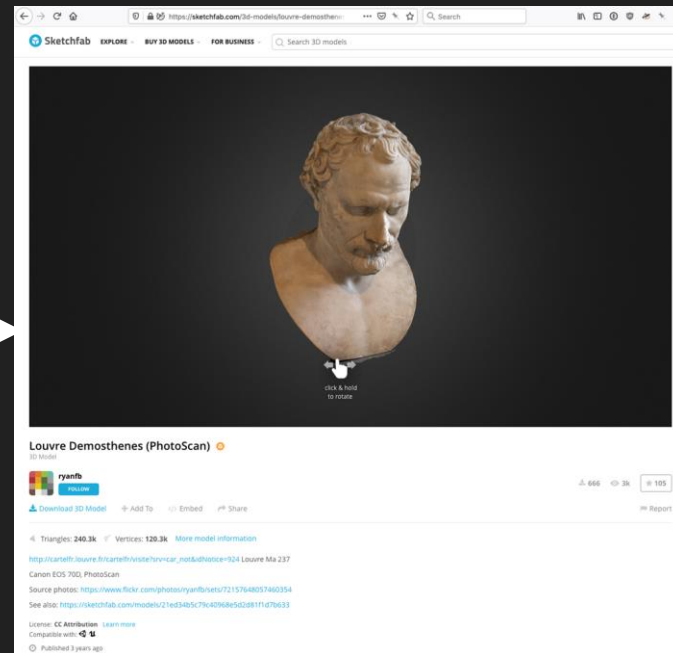
- Publish imaging data on the web! (covers 1 through 3)
- Link your data together!
- Use RDF & stable URLs so that people can link to your data!
- Link to other people's data!




# Imaging Data vs. Processed Data



???



# MorphoSource



MORPHO  
SOURCE  
BY DUKE UNIVERSITY

ABOUTBROWSEDASHBOARD

LOGIN/REGISTER

## Getting Started

Find & Download Datasets


BROWSE or

enter search terms

LOGIN OR REGISTER

Useful Info

- [About MorphoSource](#)
- [Information for Users](#)
- [Information for Contributors](#)
- [Terms](#)
- [User Guide](#)

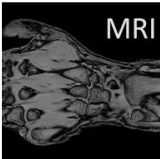
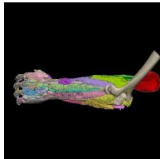


*foot of Daubentonia madagascariensis scanned at 30micron resolution at Duke Evolutionary Anthropology department's new high resolution microCT facility. [Click here if you are interested in details on the facility](#)*

## Recently Published

The integrated digital human forearm and hand

[See all project specimens](#)  
[Read the published article](#)



## Welcome

MorphoSource is a project-based data archive that allows researchers to store and organize, share, and distribute their own 3d data. Furthermore any registered user can immediately search for and download 3d morphological data sets that have been made accessible through the consent of data authors.

The goal of MorphoSource is to provide rapid access to as many researchers as possible, large numbers of raw microCT data and surface meshes representing vouchered specimens.

File formats include tiff, dicom, stanford ply, and stl. The website is designed to be self explanatory and to assist you through the process of uploading media and associating it with meta data. If you are interested in using the site for your own data but have questions about security or anything else contact the site administrator. Otherwise please download whatever data you need and check back frequently to see what's new.

MorphoSource

English

rfbaumann@gmail.com

HOMEABOUTHELPCONTACT

Search MorphoSource

Enter search terms

Go

All

Welcome to MorphoSource 2.0, alpha! We hope you enjoy the new look and functionality. Please be patient as this version is only meant to showcase specimen record pages, media file pages, and new improved 3D previews with measurement and annotation support. Even this home page is just a place holder. Only a small subset of the media available on MorphoSource 1.0 is currently available here and the only way to explore it is by visiting the collections page. That is, search and browse utilities are not yet available. Finally, file uploading and editing is not yet enabled. We look forward to your feedback on the features we have implemented so far! We are aiming for a more fully featured beta version by October 2019.

Share Your Work

Terms of Use

Featured Works

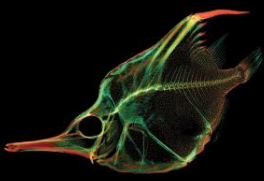



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View all collections

No works have been featured



1.0

2.0 (beta)

# MorphoSource 2.0 Data Model

Cultural Heritage Object



Imaging Event



Media



Processing Event



Media

# RDF Ontologies for 3D Data on the Web

- MorphoSource 2.0 uses a DuraSpace Fedora repository for the backend
- Every metadata property has to have an RDF URI predicate
- We've minted our own URIs where necessary, but reused as much as possible
- Imaging Event metadata handles photogrammetry, 3D laser, X-Ray, MRI
- Happy to share and collaborate on defining RDF ontologies to use in this space, to make the process easier and more universal

# Takeaways

- Put your imaging data online
- Put your imaging data online!!!
- ...under an open licence
- ...and link it to/from your processed data
- ...and link it to other people's data
- ...using RDF

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