



# International Image Interoperability Framework

Japan - October 2017

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Where did it come from?

UNITED NATIONS  
ECONOMIC AND SOCIAL COUNCIL

PREPARATORY COMMITTEE

of the

INTERNATIONAL CONFERENCE ON TRADE AND EMPLOYMENT

Verbatim Report

of the

FIFTH MEETING

of

PROCEDURES SUB-COMMITTEE

of

COMMITTEE II

held at

Church House, Westminster, S.W.1.

on

Monday, 4th November, 1946

THE CHAIRMAN: I have been asked to make this announcement: In case delegates have not seen a notice which appeared in the Journal on Thursday, performances of the films "Henry V" and "Brief Encounter" are being given this afternoon and on Wednesday afternoon by the courtesy of the J.R. Rank Organization Limited for members of Delegations and their staffs. Tickets can be obtained from Miss Cunyngame-Robertson, Room 511.

Now, I think that we were still discussing Article 8, paragraph 2, when we finished our last meeting, and I think we had reached the stage where it had been agreed that we could work on the existing draft of paragraph 2 of Article 8 in the United States Charter, and that it could be accepted subject to the deletion of reference to the dates there and the insertion of a phrase something to the following effect: "Elimination of any preference in the ordinary import customs duty which does not exceed a preference in force in any Member country on a date to be agreed between participating countries" - or words to that effect. I think it was suggested that the precise wording should be left for formal approval of the Committee after our newly-appointed Rapporteur had had an opportunity to examine the draft.

MR ALAMILLA (Cuba): It was arranged that both Mr Hawkins and myself would try, in the absence of the Rapporteur, to reach agreement on the wording,



acutis unguibus frequent̄ parere non posse.  
viciant̄. n̄. misericors se mouētib; catulis.



**A**ñal qđ d̄ autalops. acerrimū

**Global**

# International Image Interoperability Framework

**Image-based  
resources:  
books, images,  
newspapers,  
manuscripts,  
scrolls, maps,  
music, art,  
et al.**

**Mutually  
usable;  
simpatico**

**APIs  
Software  
Content  
Community**

# Images are fundamental information carriers for cultural heritage



...day was a big happy Mel  
overanxious to please.  
XXXXXXXXXXXXXXXXXX sev  
another wild day began.  
...iled into that and took  
...dy did the explaining---  
He stank. I found out w  
truck. Freddy always ha  
about things. He always  
go!" And he went. He





# But image delivery is...

...too hard

...too slow

...too idiosyncratic

...too disjointed

...too ugly

...and we all suffer because of it.

What **if**?


# Deep zoom with large images



# Cite and share (even regions of interest)

Back About this item help bookmark changeLayout fullScreen settings

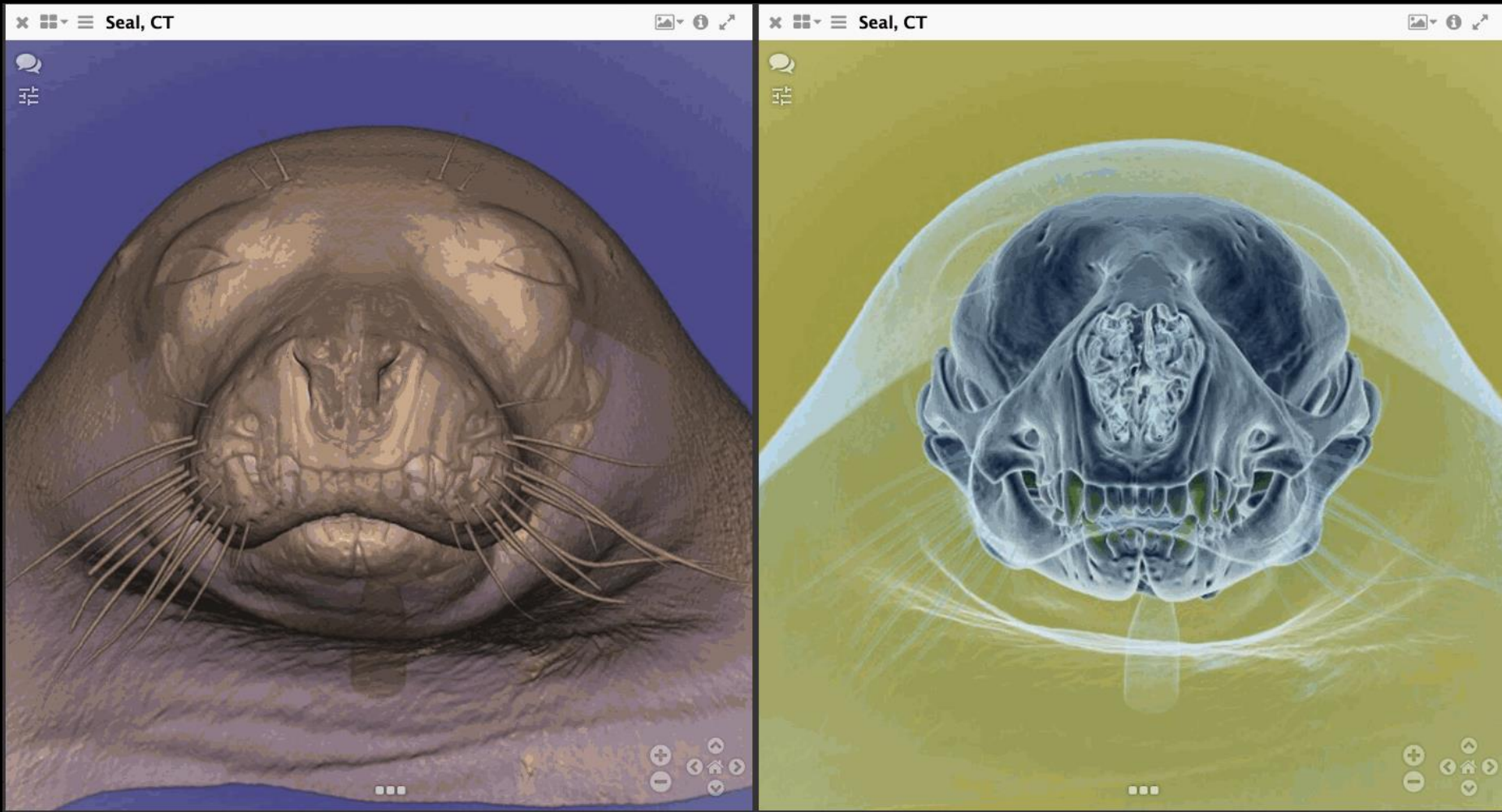
Buidhean coisidheadh ag dul tre shráid-bhaile Franncach



Front de la MARNE : Régiment d'Infanterie traversant un Village.

Buidhean coisidheadh ag dul tre shráid-bhaile Franncach.

# Compare images



Computed Tomography (CT) scans of the head of a seal from the Wellcome Library

<https://wellcomelibrary.org/item/b20433141> | <https://wellcomelibrary.org/item/b2043313x>

# Across sites

The image displays two side-by-side browser windows. The left window is the Digital Bodleian website, showing a historical game board titled "Historical pastime or a new game of the..." with a central portrait of King George III. The right window is the Stanford SearchWorks catalog, showing a search result for "Shakespeare, William" with a portrait of the playwright.

**Digital Bodleian Metadata:**

- ID:** 32bb9aa4-43ce-4bf7-b0fb-c9452ca8e40c
- Title:** Historical pastime or a new game of the history of England from the Conquest to the Accession of George the Third
- Creator:** Harris, J. [author] | Wallis, J. [author]
- Format/extent:** single sheet, 566 x 493 mm
- Date:** 1803-12-01
- Language:** English
- Alternative title:** New game of the history of England from the Conquest to the Accession of George the Third | Hastings | W.I. 1066 | Briton | Norman | Dooms-day book | New Forest | Holy Land | W.I. 1087 | Robert D. of Normandy | Royal Forest | Death of Wm. | H.I. 1100 | Henry seizing his brother's treasures | Anselm | Will | S. 1135 | War | Matilda | H.I. 1154 | Becket assassinated by four barons
- Collection:** Ephemera
- Description:** Game of 1803 entitled Historical pastime or a new game of the history of England from the Conquest to the Accession of George the Third | has 158 circles, each depicting an aspect or event of history. The first twenty are indexed, as examples
- Source:** bodjo001-ay-0001-0
- Rights:** <http://creativecommons.org/licenses/by-nc-sa/3.0/>
- Permalink:** <https://digital.bodleian.ox.ac.uk/inquire/p/43ce-4bf7-b0fb-c9452ca8e40c>

**Stanford SearchWorks Catalog:**

- SearchWorks catalog**
- Menu**
- Shakespeare, William**
- WY SHAKSPEARE.**

Shakespeare-related resources from Oxford, Stanford & Yale

<https://digital.bodleian.ox.ac.uk/inquire/p/32bb9aa4-43ce-4bf7-b0fb-c9452ca8e40c>

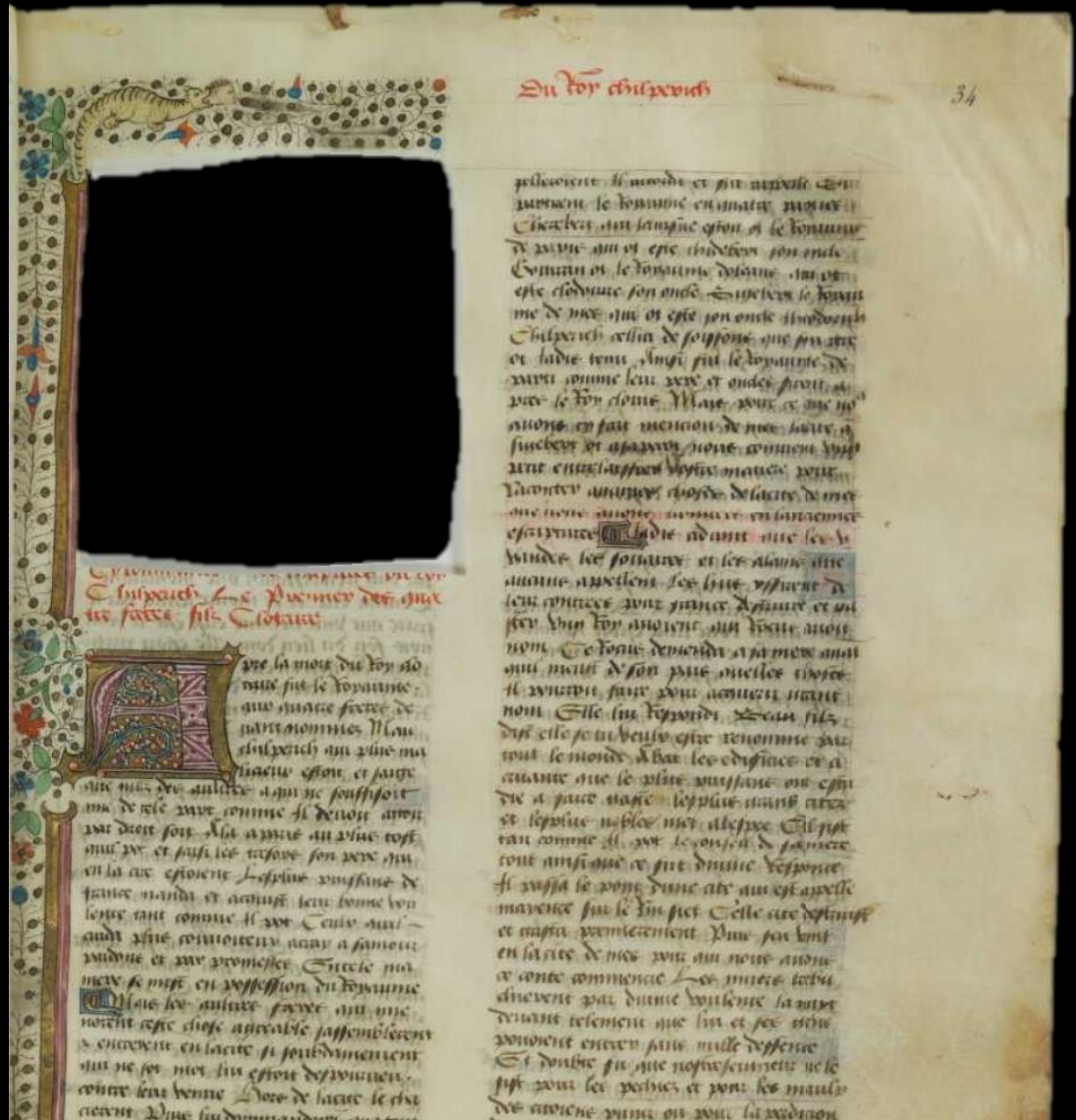
<https://searchworks.stanford.edu/view/zj784pt2430> | <http://collections.britishart.yale.edu/vufind/Record/1667254>

# Collect items that belong together



Le manuscrit 5 de la  
Bibliothèque municipale de  
Châteauroux, c. 1460

Folio in BVMM  
Miniature in the BNF






# Reunify


Biblissima <sup>li</sup>    PROJET    ↓ OUTILS    DÉMOS    DOC

Démos <sup>li</sup>    f    t    u    o

Proto-BBMN 1713    Prototype    Bibliothèque de Florus    **Grandes Chroniques de France**    Mirador    Atelier RDF/SPARQL 2014

**A propos**     Afficher les miniatures <sup>?</sup>            

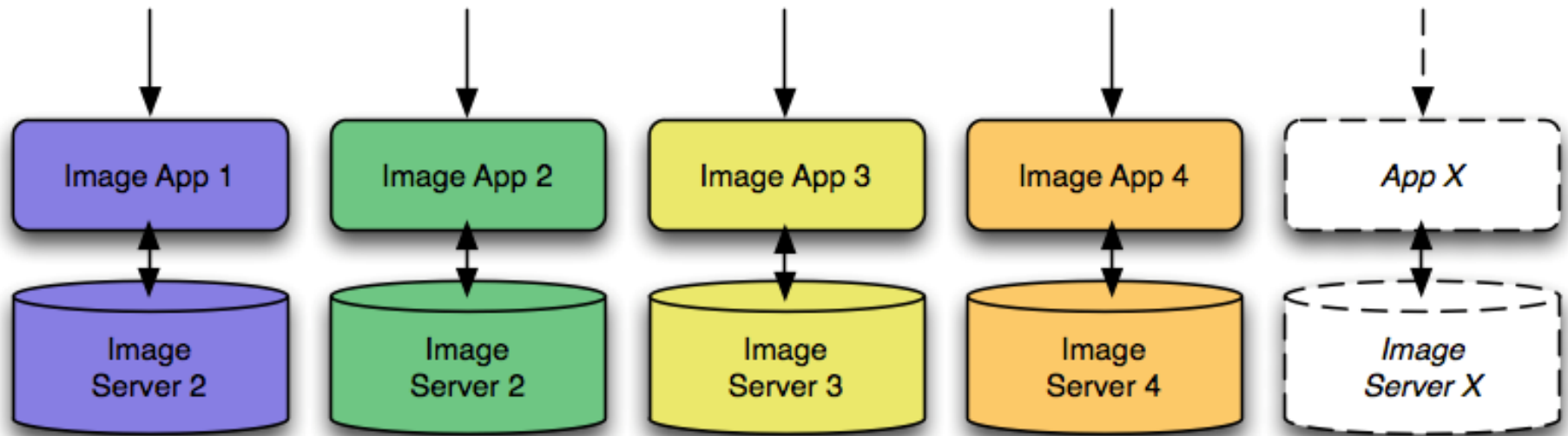
[Mort de Gondovald. Entretien entre Gontran et Childebert]





What ?

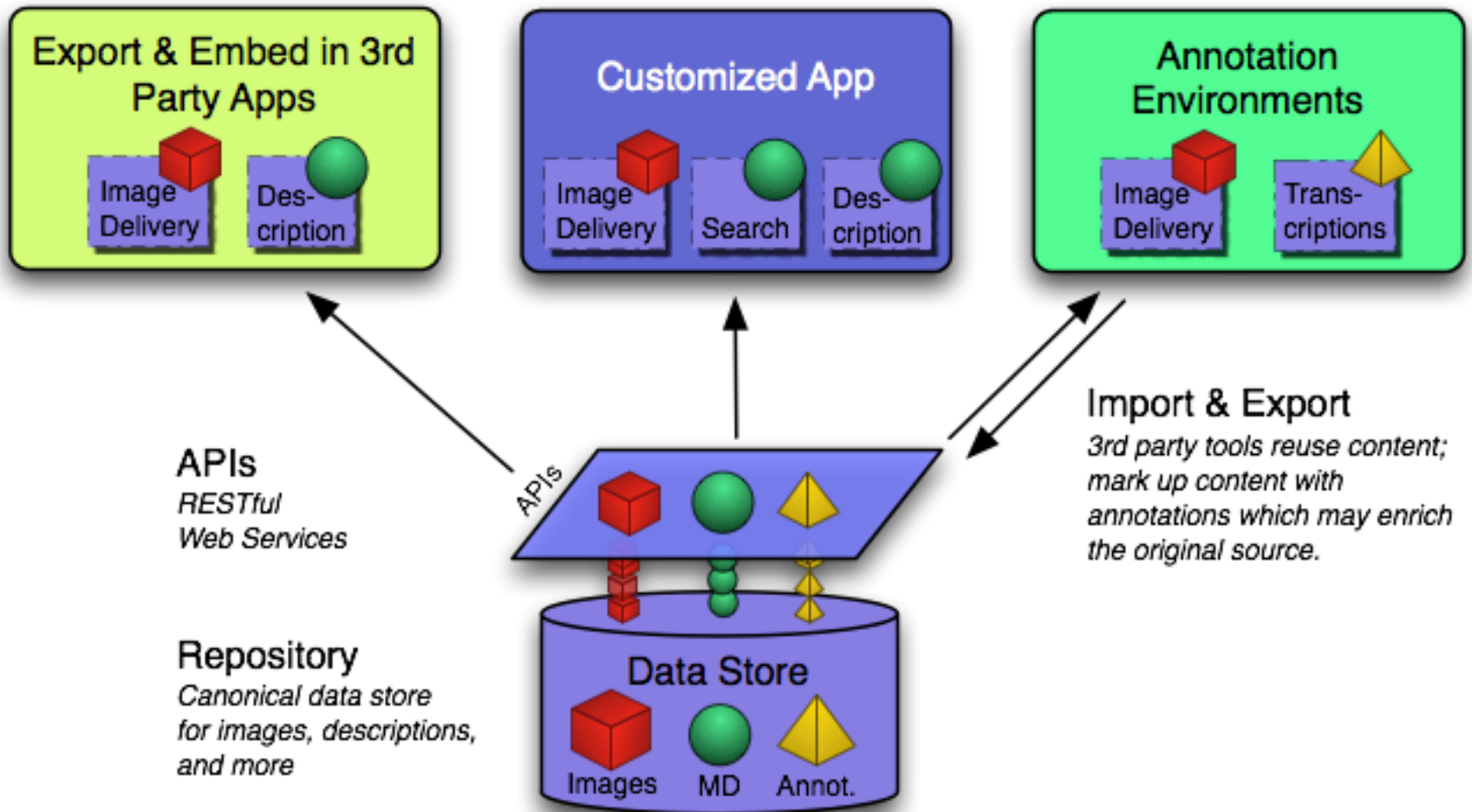
# A world of silos & duplication



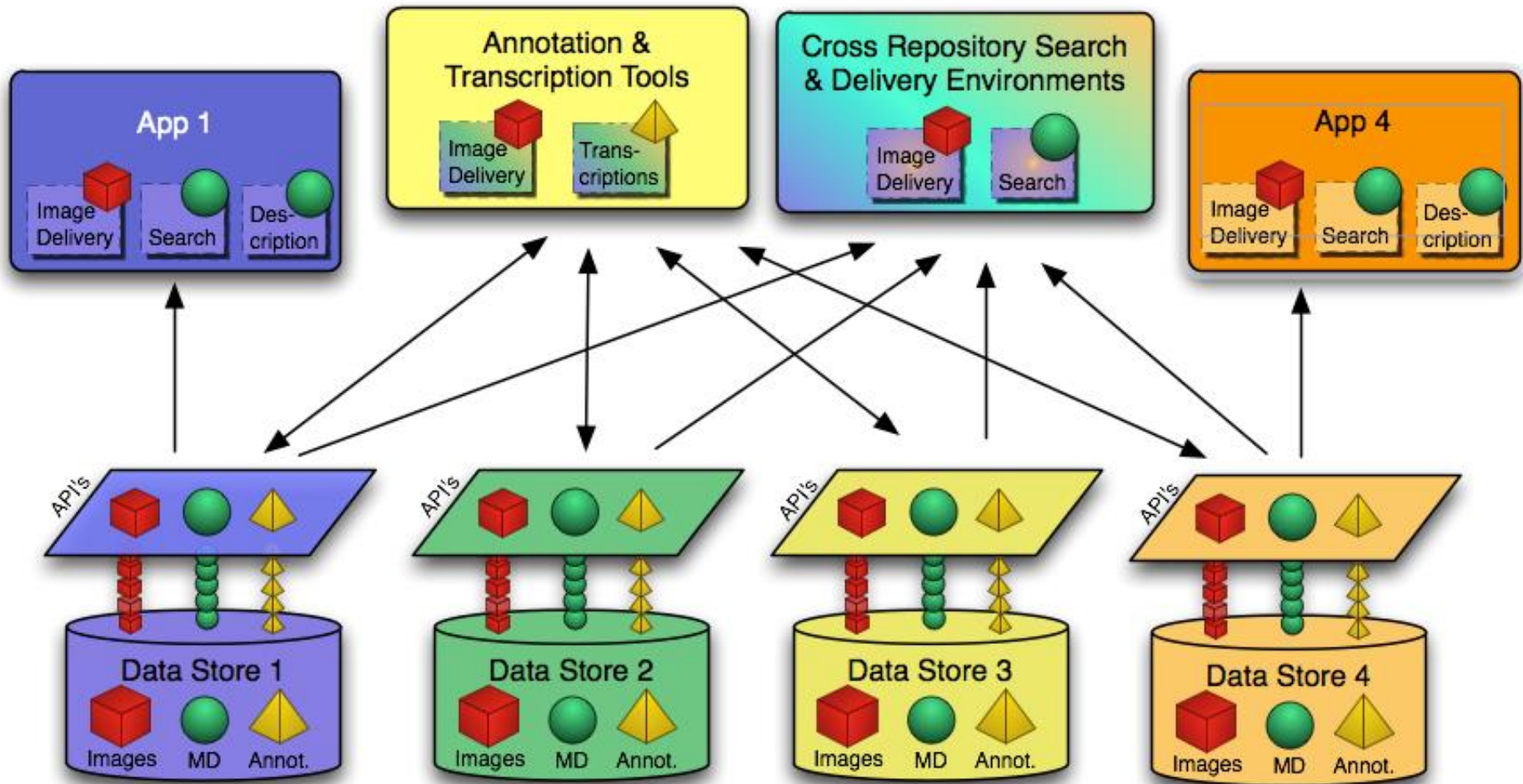
- Every site a silo (→ no interoperability)
- Every app a one-off (→ overhead to code and keep)
- Every user forced to cope (→ many UIs, little integration)



# APIs enable reuse



# APIs -> Framework -> Ecosystem



# IIIF Vision

Create a global framework by which image-based **resources** (images, books, maps, scrolls, manuscripts, musical scores, etc.)

...from **any** participating institution can be delivered in a standard way

...via **any** compatible image server

...for display, manipulation and annotation in **any** application,

...to **any** user on the Web.

# IIIF Vision, continued

- with **tens of millions** of image-based resources
- backed by a consortium of **world-leading cultural heritage and research institutions**
- supported by a rich and growing suite of **software tools**
- incorporating the **best of current image delivery technology**, and **leveraging Web standards**

# IIIF dramatically reduces the friction of delivering image-based resources on the Web

- Bigger, better, faster, deeper, cheaper, more modular and more flexible
- Plug-and-play server and client software
- Publish once, reuse often
- Support for attribution and access control



IIIF creates radical new capabilities to do more than **view** resources

- Zoom, pan, interact, manipulate
- Compare, reunite, remix & mash up
- Cite and share
- Annotate
- Apply machine learning and AI



So What Is IIF?



**A Community**  
that develops **Shared APIs**,  
implements them in **Software**,  
and exposes interoperable **Content**



## **A Community**

that develops **Shared APIs**,  
implements them in **Software**,  
and exposes interoperable **Content**

IIIF is a  
**community-driven**  
framework




# Institutions AND Individuals




IIIF Working Group Meeting, New York, May 2016

# IIF is a Global Community



 IIF APIs in production

 IIF adoption in progress



A Community

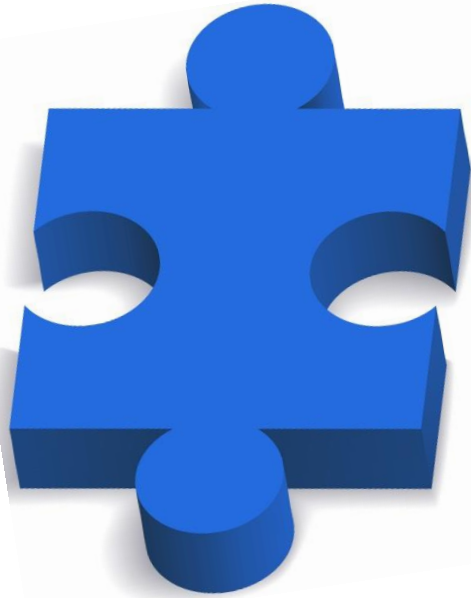
that develops **Shared APIs,**

implements them in **Software,**

and exposes interoperable **Content**



# IIIF: Two Core APIs



## **Image API**

“get pixels” via a simple, RESTful, web service



## **Presentation API**

Just enough metadata to drive a remote viewing experience

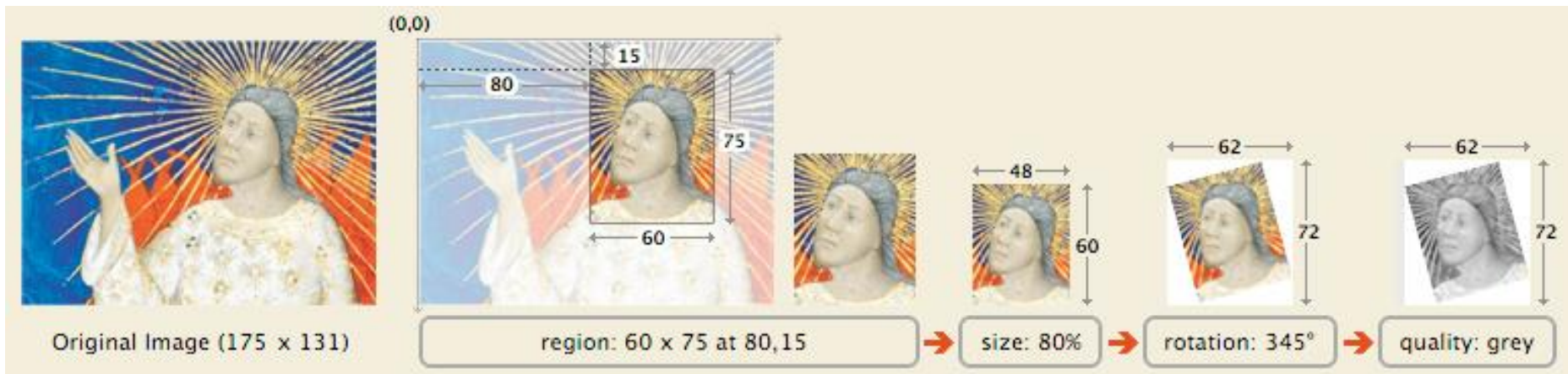


# Image Delivery API

## Order of Implementation

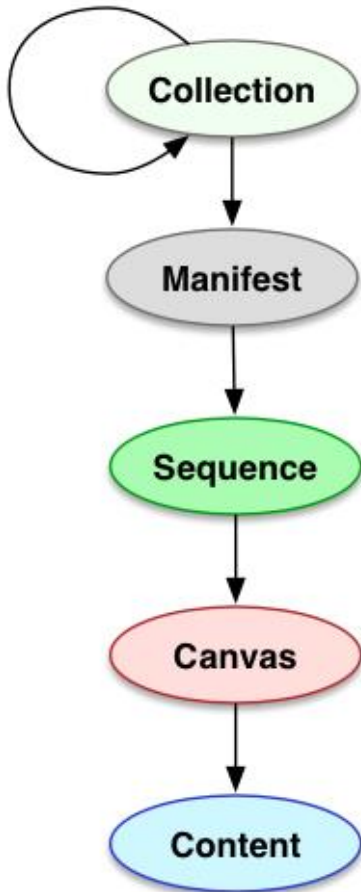
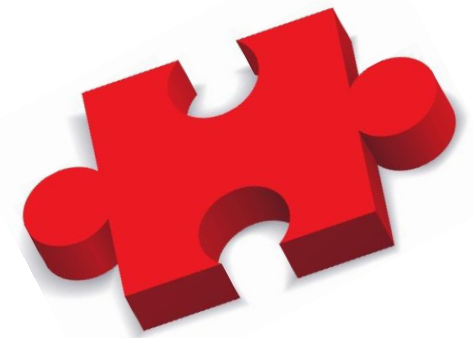
<http://www.example.org/image-service/abcd1234/80,15,60,75/pct:80/345/grey.jpg>

region      size      quality  
rotation      format



<http://iiif.io/api/image/2.1/>

# Presentation API



- **Structure**
  - Collection, Item, Sequence, Parts
- **Properties**
  - Labels, description, license, attribution, links

<http://iiif.io/api/presentation/2.1/>



# Image + Presentation = Object

Bookmark Options Switch Workspace

MS Richardson 7. Houghton Library, Harvard University. Heures d...

- Hours of the Cross (ff. 21-35)
  - Matins (ff. 21-23v)
  - Prime (ff. 23-24v)
  - Terce (ff. 25-26v)
    - f. 25: Flagellation
    - f. 25v.
    - f. 26.**
    - f. 26v.
  - Sext (ff. 27-28v)
  - None (ff. 29-30v)
  - Vespers (ff. 31-32v)
  - Compline (ff. 33-35)
- Passion (ff. 35v-36v)
- Hours of the Holy Spirit (ff. 37-46v)

Et ton no preculx deue + ignouuer.  
**D**ne exaudi  
oraison exauce sire pto amo.  
**E**t clamor meus.  
ffing deue toy perueigne ma  
clamour. **Oratio.**  
**D**ne ihesu xpe.  
fils de dieu le uis amoureux  
ihesu xpe pour eldore tourmens  
gemissementes + cris entre lame de moy  
mer + to iugement ta passio ta mort  
+ ta croix humblement de pit + a leur  
qui me faura mourir ton fait ange  
loit pres pour elle secourir sire le  
tra suppl. et repartir ta place.

f. 24v. f. 25: Flag... f. 25v. f. 26. f. 26v. f. 27



# Image + Presentation = Object

The screenshot shows a digital manuscript viewer interface. At the top, there is a browser-like header with 'Bookmark', 'Options', and 'Switch Workspace' buttons. Below this is a red-bordered box containing the title 'MS Richardson 7. Houghton Library, Harvard University. Heures d...'. The main content area is divided into two parts: a left sidebar and a central image viewer. The sidebar, also outlined in red, lists the manuscript's structure under the heading 'Hours of the Cross (ff. 21-35)'. It includes sections for 'Matins (ff. 21-23v)', 'None (ff. 29-30v)', 'Vespers (ff. 31-32v)', 'Compline (ff. 33-35)', 'Passion (ff. 35v-36v)', and 'Hours of the Holy Spirit (ff. 37-46v)'. A red-bordered box highlights the 'Presentation API' section, which lists: '• Title Label', '• Structure (TOC)', and '• Sequence'. The central image viewer, outlined in blue, displays a manuscript page with a large decorated initial 'D' and a floral border. A blue-bordered box highlights the 'Image API' section, which lists: '• Image Data'. At the bottom, a red-bordered box shows a thumbnail strip of manuscript pages, with labels for 'f. 24v.', 'f. 25: Flag...', 'f. 25v.', 'f. 26.', 'f. 26v.', and 'f. 27v.'. Navigation arrows are visible on the left and right sides of the image viewer.

MS Richardson 7. Houghton Library, Harvard University. Heures d...

Hours of the Cross (ff. 21-35)

- Matins (ff. 21-23v)
- None (ff. 29-30v)
- Vespers (ff. 31-32v)
- Compline (ff. 33-35)
- Passion (ff. 35v-36v)
- Hours of the Holy Spirit (ff. 37-46v)

**Presentation API**

- Title Label
- Structure (TOC)
- Sequence

**Image API**

- Image Data

f. 24v. f. 25: Flag... f. 25v. f. 26. f. 26v. f. 27v.

# IIIF: Three More APIs



## **Search API**

Search within an object, such as the full text of a book or newspaper



## **Authentication API**

To support login, and differential access to resources.



## **A/V API**

Deliver time-based media (audio, video)



A Community

that develops Shared APIs,

implements them in **Software,**

and exposes interoperable **Content**

# IIIF Compatible Software



Cantaloupe

High-performance dynamic image server in Java

go-iiif



OpenSeadragon



 [dhlab-basel / Sipi](#)

Riiif

gem version 1.7.0 coverage 93%

A Ruby IIIF image server as a rails engine



divajs

 [uoregon-libraries / rais-image-server](#)

KLOKAN TECHNOLOGIES

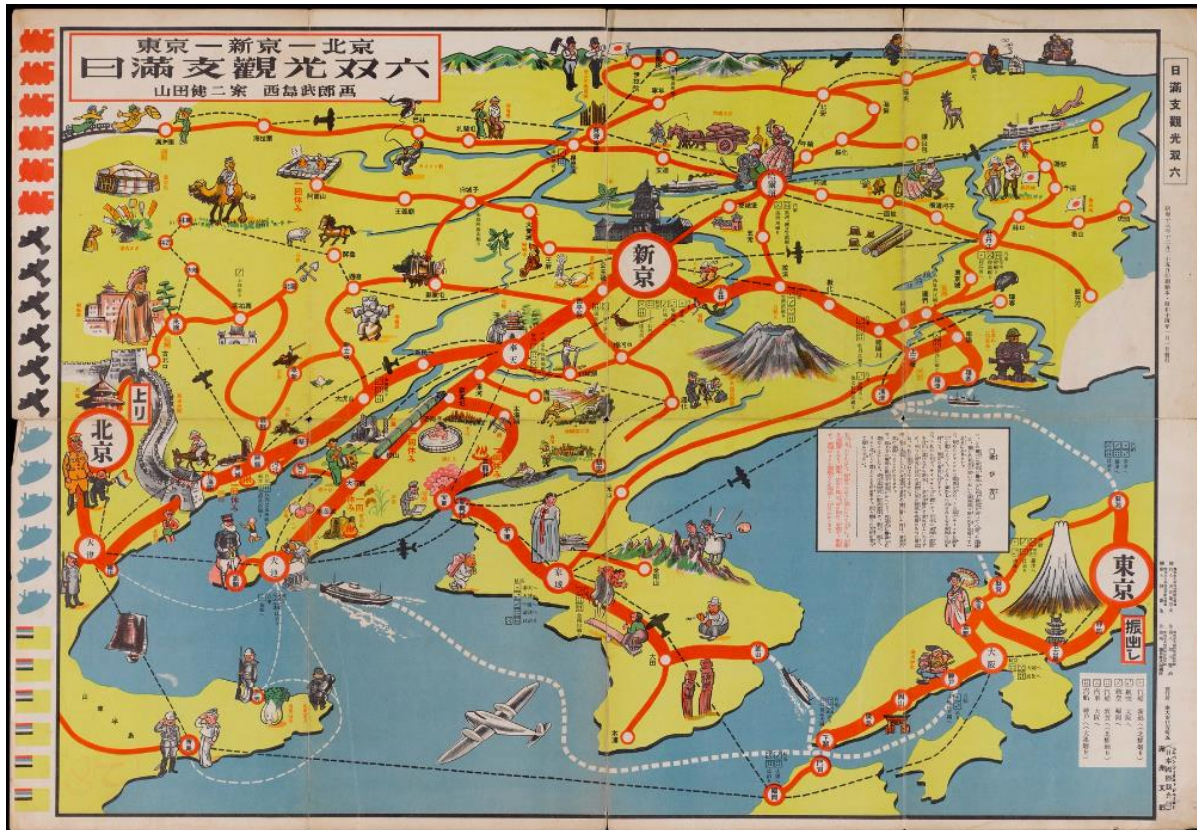




A Community  
that develops Shared APIs,  
implements them in Software,  
and exposes interoperable **Content**

# IIIF Content – Digital Images

- Example: Nichi-Man-Shi kanko sugoroku (Japan-Manchuria-China sight-seeing board game), from Princeton University



# IIIF Content - Texts

- Example: Illustrierter Sonntag (Der gerade Weg), 22.09.1929, from the Bavarian State Library



# IIIF Content – Scientific Images



- Example: *Acacia* - *Fabaceae*, from the Natural Sciences Institute of the National University of Columbia

# IIF Content – Cultural Heritage

- Paintings
- Maps
- Manuscripts
- Photographs
- Scrolls
- Sculpture
- Sheet Music
- Any kind of image content



Compatible Content

**400,000,000+**  
**Images**

**from**

**100+ Institutions**



Scores of adopters  
Dozens of applications  
Millions of digital objects  
**Revolutionary promise**



That's great.

How do I use it?



# IIIF Viewers

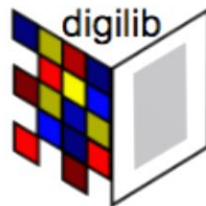
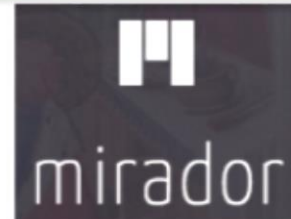
Featuring the Universal Viewer  
& Mirador



Cantaloupe

High-performance dynamic image server in Java

go-iiif



OpenSeadragon



 [dhlab-basel / Sipi](#)

Riiif

gem version 1.7.0 coverage 93%

A Ruby IIIF image server as a rails engine



 [uoregon-libraries / rais-image-server](#)

KLOKAN TECHNOLOGIES

The logo consists of the letters 'U' and 'V' in a white, sans-serif font. The 'U' is a simple, rounded shape, and the 'V' is a simple, pointed shape. They are positioned side-by-side.

Universal Viewer



mirador

# IIIF Image API Test Objects

+ - ↻



**ATTRIBUTION** ✕

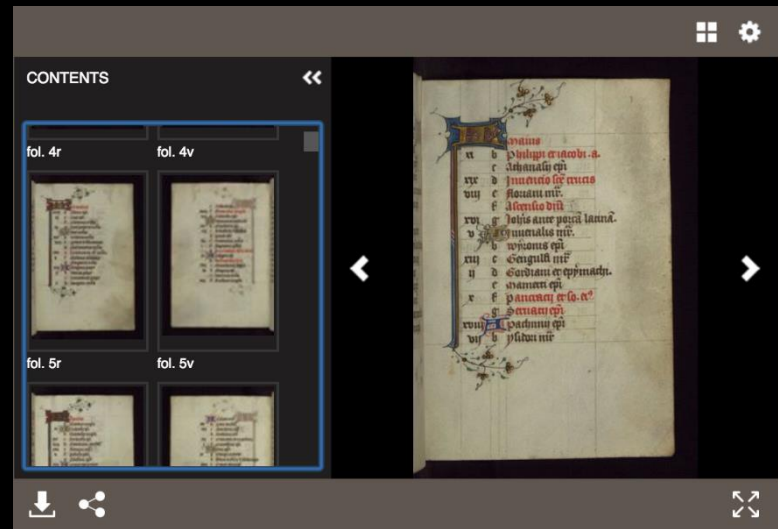
Provided by the Stanford University Libraries



Universal Viewer = many formats



Simple Image Viewer



Book / Manuscript Viewer



PDF Viewer



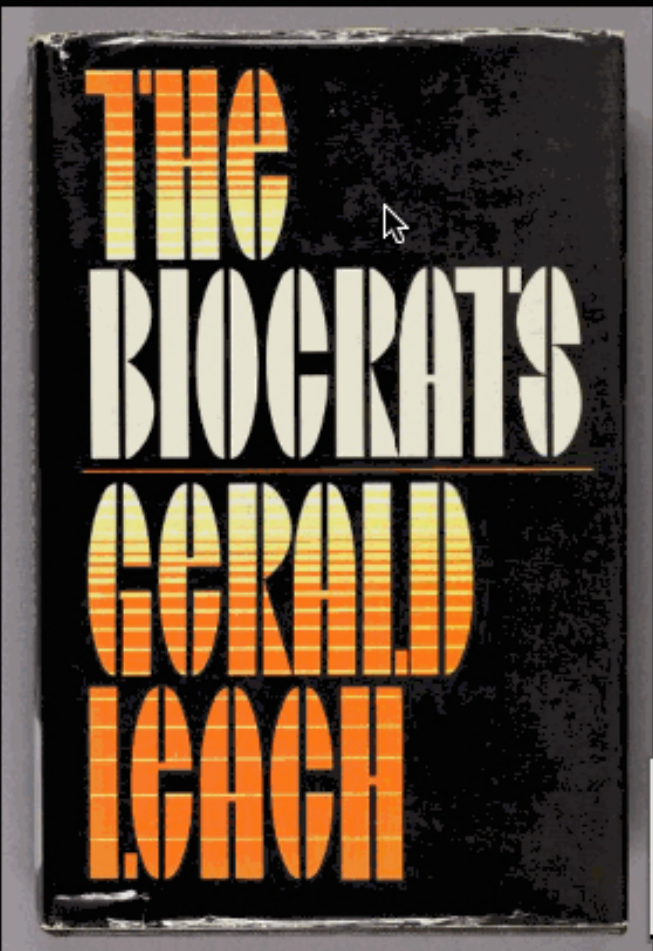
Audio/Video Player

CONTENTS <<

The biocrats

+ - ↻

Index Thumbnails



MORE INFORMATION <<

Search within this item:





hc941fm6529

+ -



≡ MORE INFORMATION

**ATTRIBUTION** ×  
Stanford University



# Universal Viewer Roadmap

- Adoption and support by
  - Digirati & Holoscene
  - Wellcome Library
  - National Library of Wales
  - British Library
  - Stanford University
  - Princeton University
  - Villanova University
  - National Library of Norway
- Future directions
  - Adoption of IIIF Presentation API v 3.0
  - Enhanced support for PDF, 3D objects, Office documents.
  - Improvements to UI, accessibility.



mirador

# Mirador: 3 Primary Functions

This screenshot shows the 'Load' function of the Mirador interface. It displays a vertical list of digital collections from various institutions:

- Yale University:** New Haven, Beinecke Rare Book and Manuscript Library, Yale University, Beinecke MS 10
- Bodleian Libraries:** MS. Lat. th. c. 2 (R)
- Harvard Art Museums:** Buddhist Triad: Amitabha Buddha on a Throne with His Hands Held in Prayers and Flanked by Two Standing Bodhisattvas, Harvard University
- Harvard Art Museums:** Griffin Protome from a Cauldron, Harvard University
- National Gallery of Art Collection:** National Gallery of Art
- Stanford University:** BNF NAF 6221

Load

This screenshot illustrates the 'View' function. It shows a digital view of a manuscript page titled 'MS. Lat. th. c. 2 (R)'. The page features a complex diagram with circular nodes and connecting lines, overlaid on a background of text. Navigation arrows are visible on the left and right sides of the image.

View

This screenshot demonstrates the 'Annotate' function. It shows a 3D model of a bust of Pope Sixtus IV. A pink circle highlights the ear of the bust. An annotation window is open over the bust, containing the following text:

**B I** [List Icon] [Link Icon] [Image Icon] [Text Icon] [Z Icon]

Listening hole

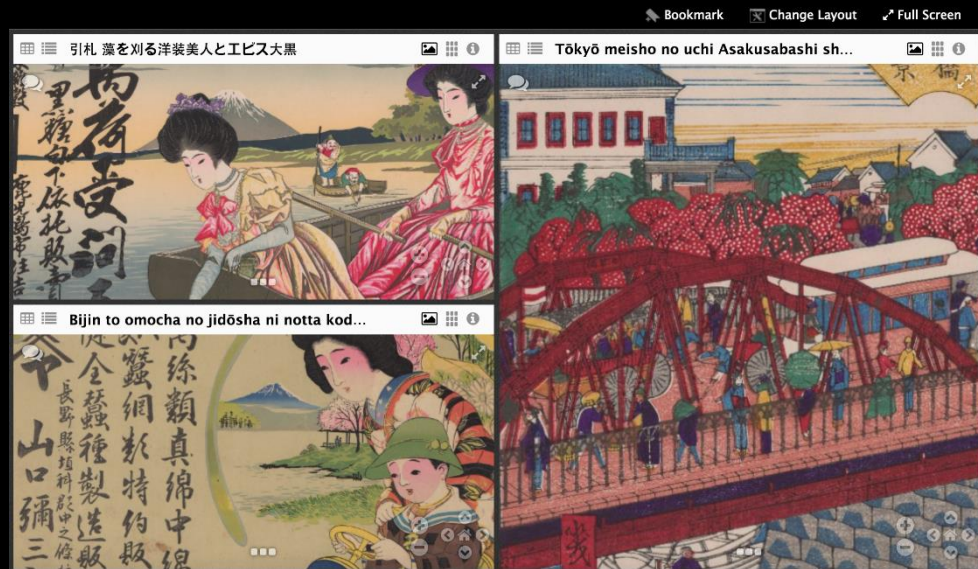
Ear

[Cancel] [Save]

Annotate

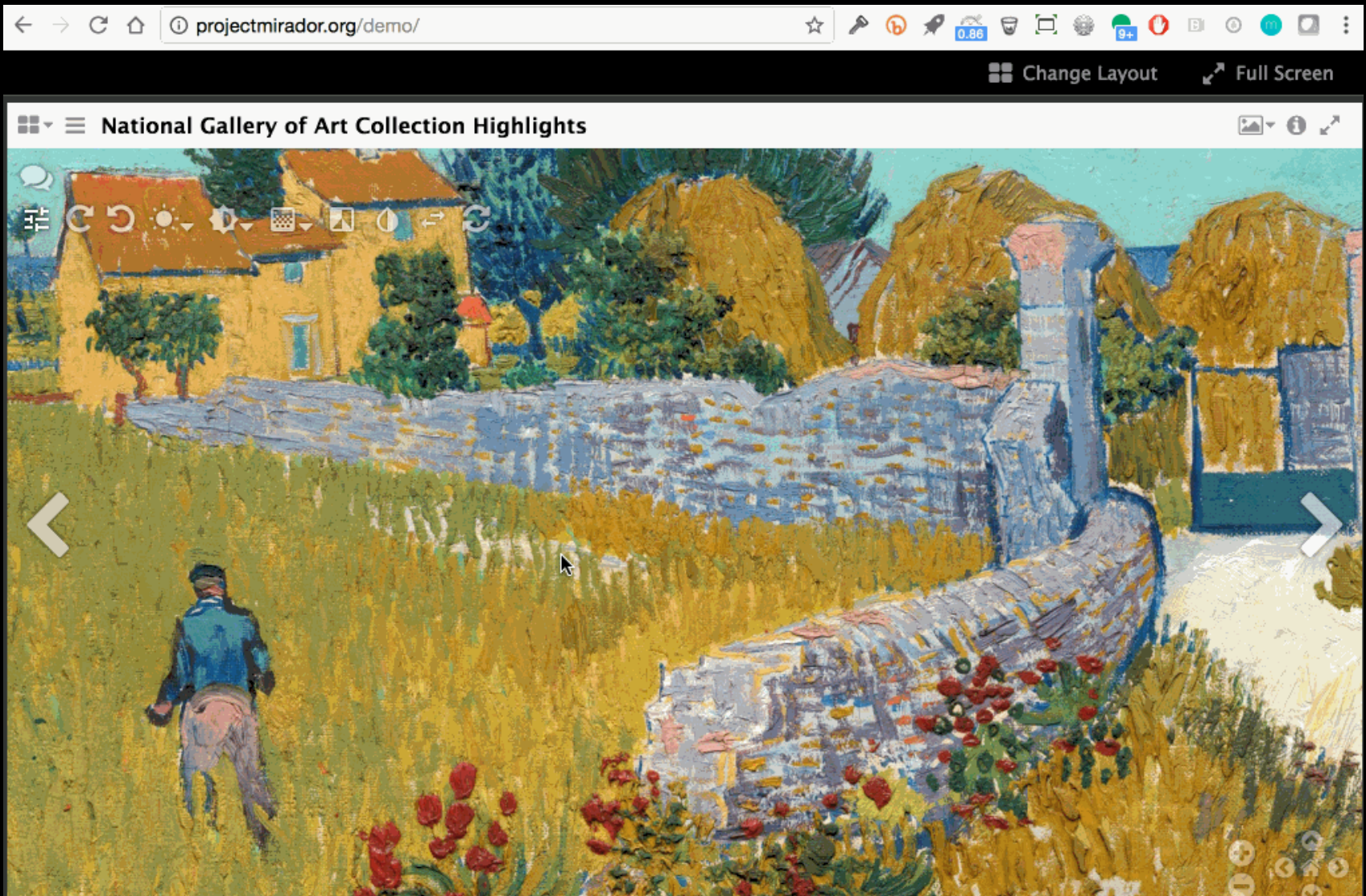
# How people are using Mirador...

- Viewing
- Comparison
- Annotation
- Transcription
- Unification
- Computational imaging
- Teaching
- Research
- Exhibits

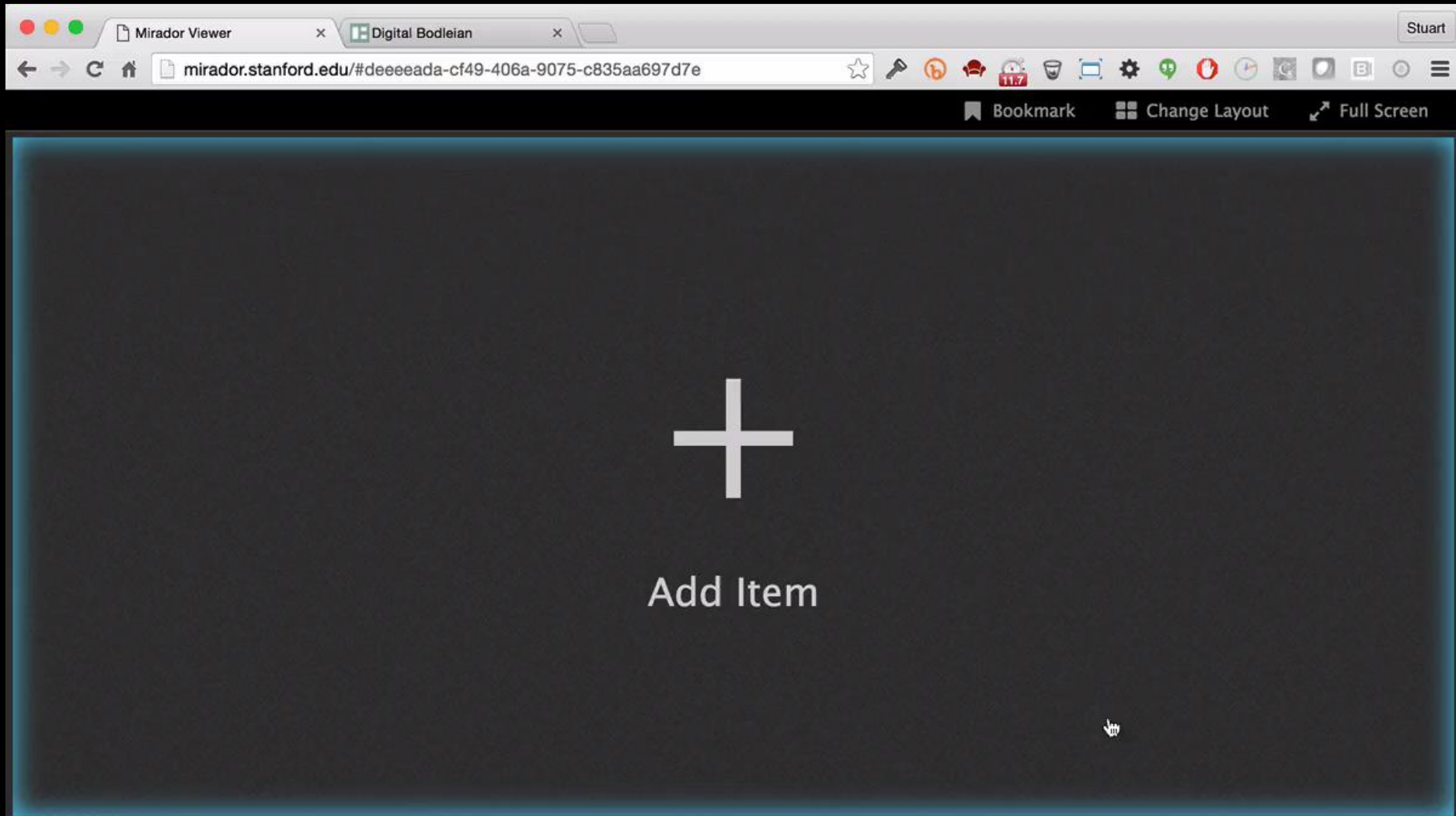


- *Embedded*
- *Stand Alone*
- *Scholars Workbench*

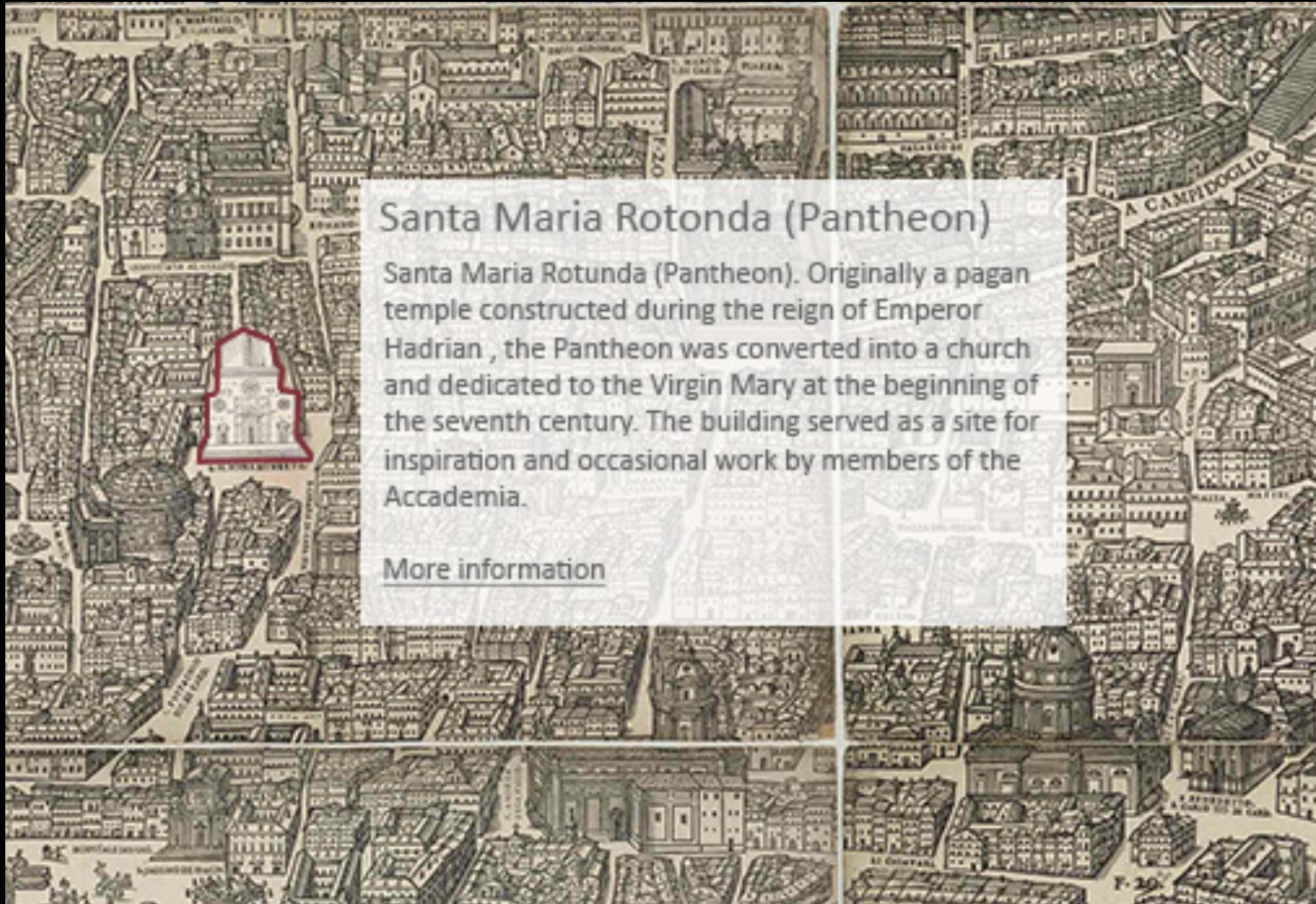
# Zoom and analyze images



# Compare & Contrast



# Annotate



## Santa Maria Rotonda (Pantheon)

Santa Maria Rotonda (Pantheon). Originally a pagan temple constructed during the reign of Emperor Hadrian, the Pantheon was converted into a church and dedicated to the Virgin Mary at the beginning of the seventh century. The building served as a site for inspiration and occasional work by members of the Accademia.

[More information](#)

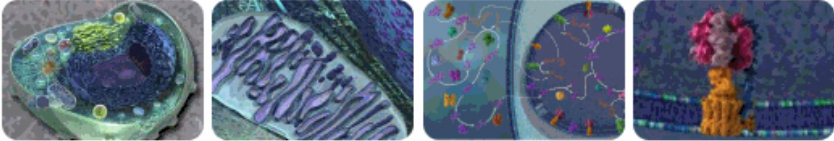


# Annotate

Course CellXplorer Syllabus and FAQs

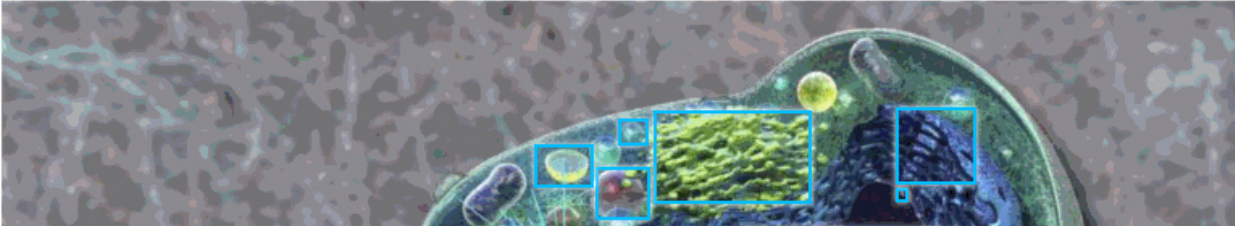
CellXplorer is an interactive and annotated graphic that you can navigate. You can click on the buttons below to zoom in. As each week's content becomes available, you can also navigate to the lesson associated with that part of the cell! The graphic below can sometimes take some time to load.

Support

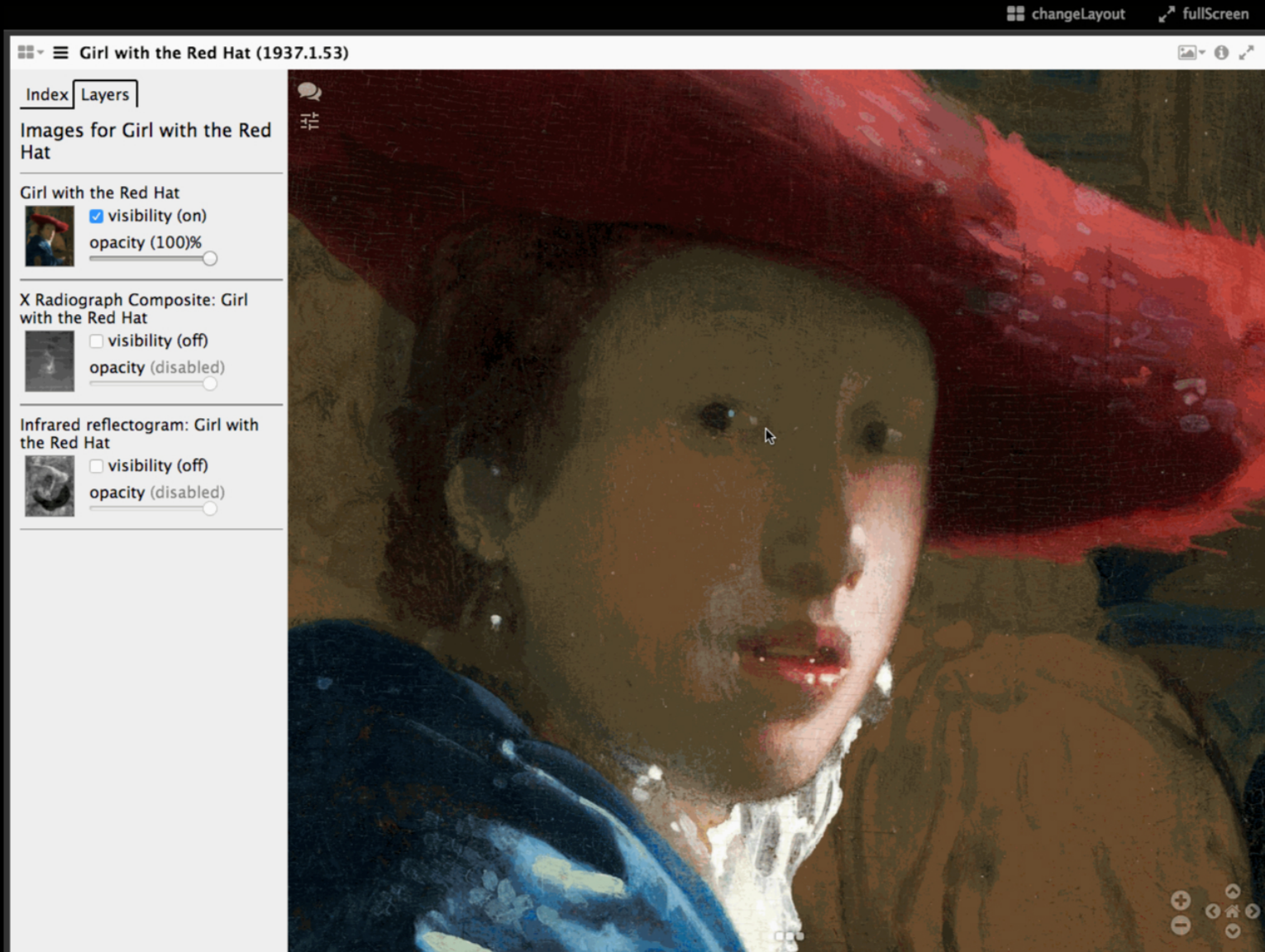


Show Annotation List

CellXplorer (eukaryotic and prokaryotic cells)



# Analyze layers



Vermeer's Girl with the Red Hat, from the National Gallery of Art (US)

# Right-to-left reading (thanks to Kiyonori Nagasaki!)

The screenshot shows a web browser window with the URL [projectmirador.org/demo/](http://projectmirador.org/demo/). The browser's address bar and toolbar are visible at the top. Below the browser, a web application interface is shown. The page title is '唐糸草紙' (Tang Ito Koushi). The main content area displays a document page with the following text:

NIKI - 099-0014

---

書名 唐糸草紙

---

写 2冊

---

所蔵者 国文学研究資料館

(備考)

---

図号 99 - 14

---

撮影 (紙)ニ子マイ  
東京都文京区本郷 1-10-9 TEL.03-3815-1231

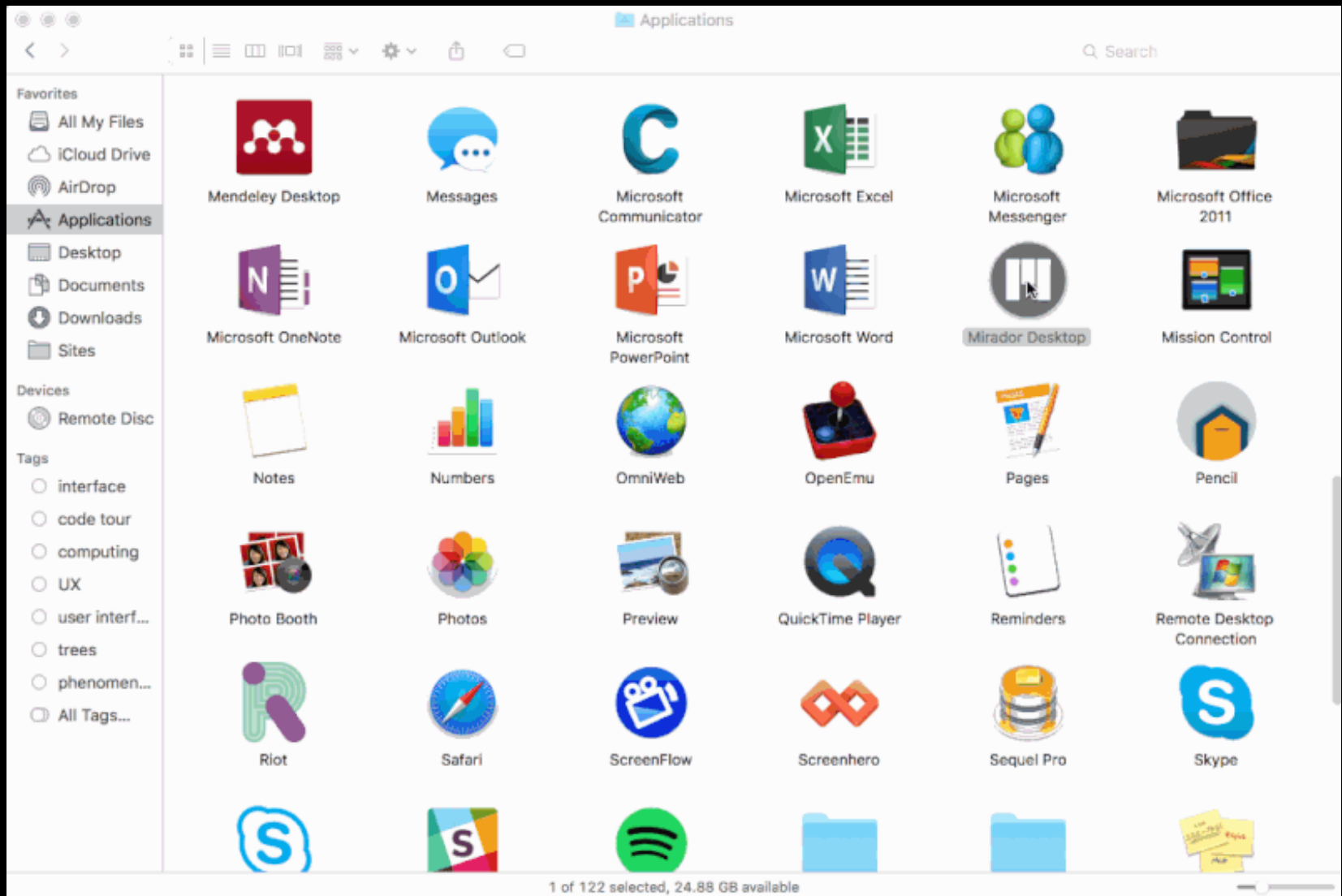
---

平成 年 月

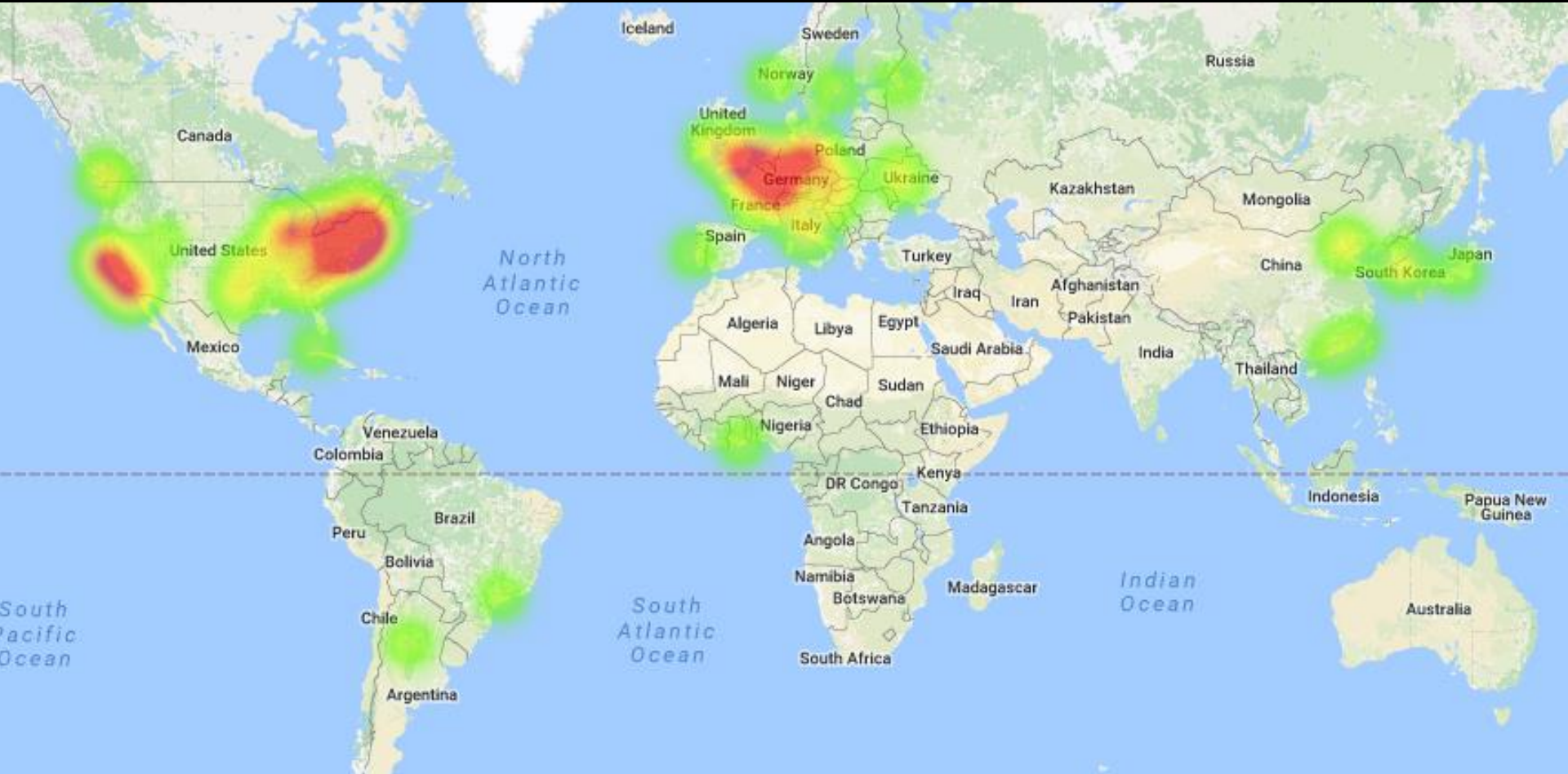
国文学研究資料館

The interface includes a navigation bar at the top with a hamburger menu icon and the text '唐糸草紙'. On the right side of the navigation bar, there are icons for image, information, and full screen. On the left side, there is a large back arrow icon. At the bottom right, there are zoom and navigation controls.

# Mirador Desktop



# Mirador Github Activity Worldwide



<http://jrvis.com/red-dwarf/?user=projectmirador&repo=mirador>

# Mirador Contributions

In a Nutshell, mirador...

... has had 1,777 commits made by 45 contributors representing 63,941 lines of code

... is mostly written in JavaScript with an average number of source code comments

has a young, but established codebase maintained by a very large development team with stable Y-O-Y commits

... took an estimated 16 years of effort (COCOMO model)

starting with its first commit in April, 2014 ending with its most recent commit 6 months ago

<https://www.openhub.net/p/mirador>

- Stanford
- Harvard
- National Gallery of Art
- Yale University
- UCLA
- BnF/Biblissima
- BSB
- University of Tokyo
- University of Toronto
- St. Louis University
- The Frick
- Johns Hopkins
- Hill Museum & MS Lib
- Sirma
- *Et al.*

# Mirador Roadmap

- Mirador 3 planning
  - Major UX and visual redesign
  - Major upgrade to technical underpinnings
    - Easier to customize
    - Easier to integrate into other applications
  - Better documentation and tests
  - Desktop and mobile versions



# Try It and Get Involved

<http://projectmirador.org/>

<http://github.com/projectmirador>

<https://github.com/ProjectMirador/mirador-desktop>

[mirador-tech@googlegroups.com](mailto:mirador-tech@googlegroups.com)



# Leaflet-IIIIF and integration in other applications

Jack Reed | @mejackreed

<https://github.com/mejackreed/Leaflet-IIIIF>

# What is Leaflet-IIIF?

- Leaflet-IIIF is JavaScript plugin for the interactive map library Leaflet
- It allows you to create performant interactive images using IIIF Image API endpoint

GitHub

FOURSQUARE

*Pinterest*

facebook



EVERNOTE

Etsy

flickr

500



DATA.GOV



European  
Commission

The Washington Post

FT.com  
FINANCIAL TIMES

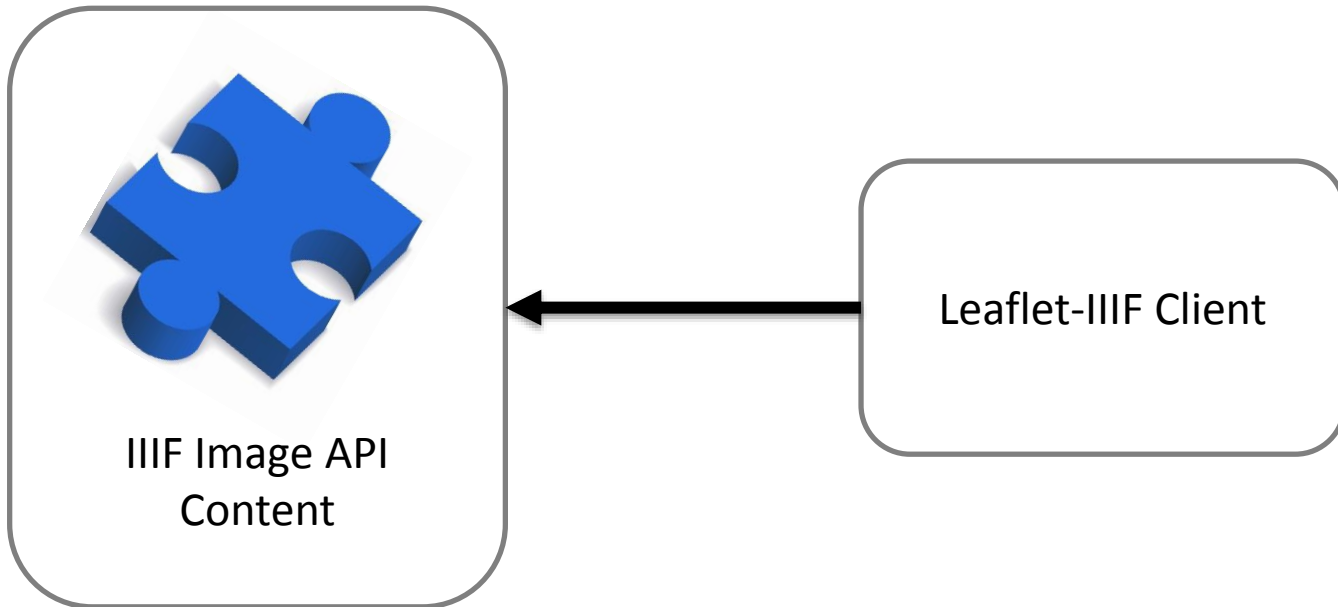
npr

USA TODAY



IGN

- [leafletjs.com](http://leafletjs.com)



# Leaflet-IIIF - Basic example



<https://bl.ocks.org/mejackreed/b0aba2ff6f5a54f197767313fbc5a26e>  
[bit.ly/leaflet-iiif-basic](https://bit.ly/leaflet-iiif-basic)

# So what is so special about Leaflet?

“Leaflet is designed with simplicity, performance and usability in mind.”

- [leafletjs.com](https://leafletjs.com)

- > 530 contributors
- Very lightweight < 40Kb
- Chrome, Firefox, Safari +5, Opera +12, IE 7-11 Support
- Excellent mobile support
- Accessibility
- Object-oriented programming principles
- No external dependencies

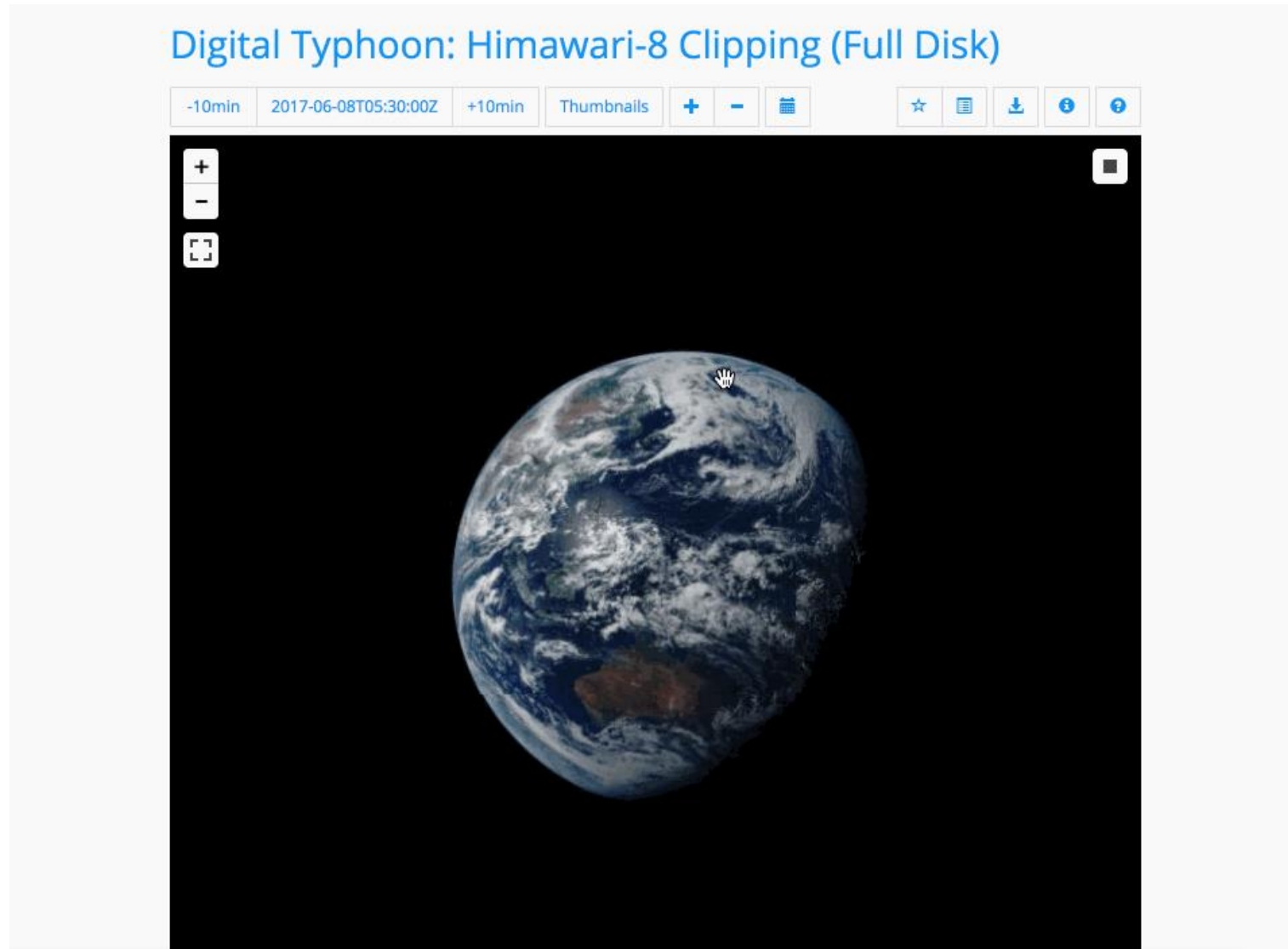
But the big advantage...

Plugin architecture with over

400 plugins



# Digital Typhoon: Himawari-8



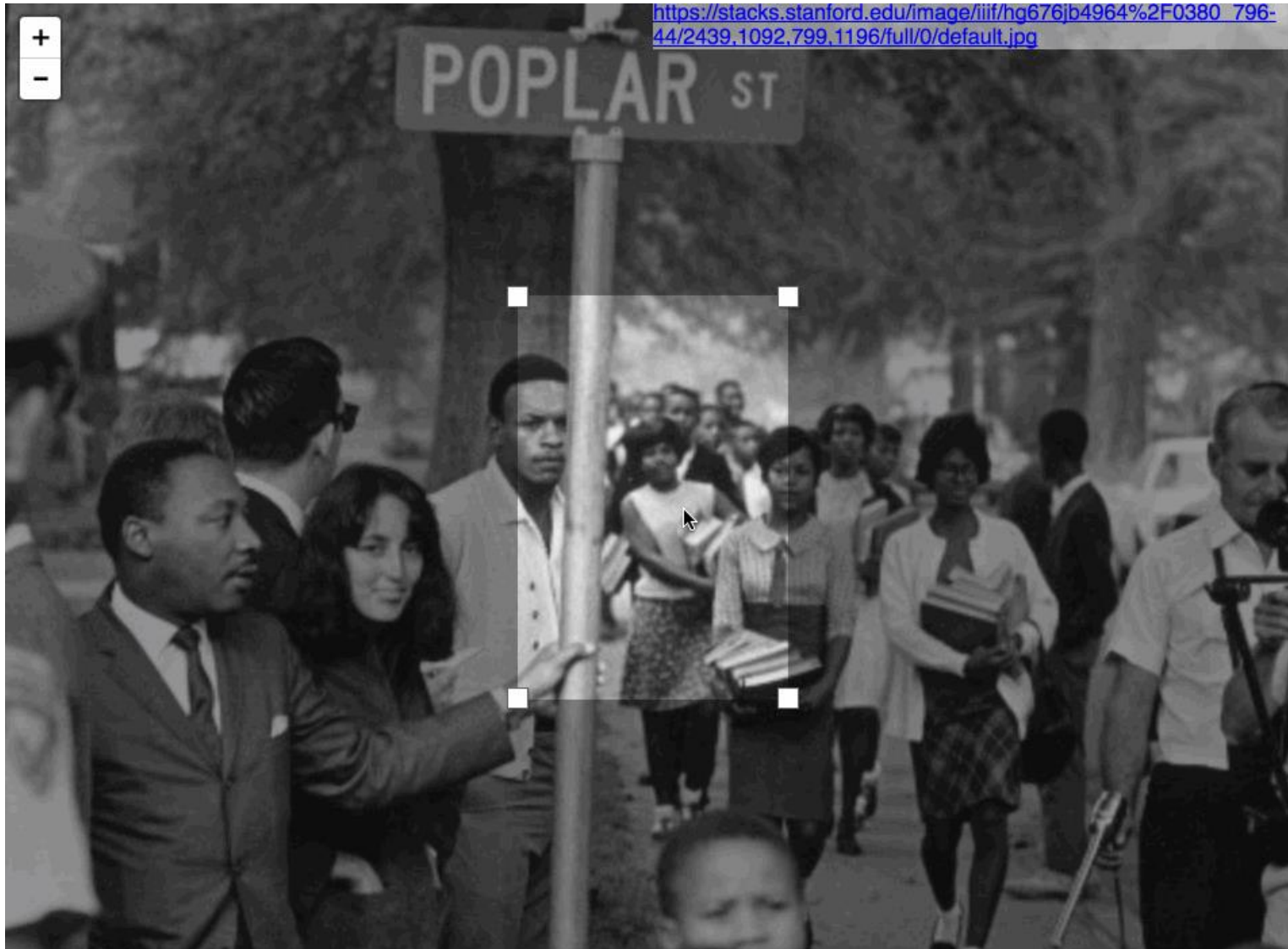
<http://codh.rois.ac.jp/software/iiif-curation-viewer/>

<http://agora.ex.nii.ac.jp/digital-typhoon/himawari-3g/clipping/index.html.en>

# Leaflet-IIIF – Layering



# Cropping images using Leaflet-IIIF



# Cropped images being used in other applications

## The Bob Fitch Photography Archive Movements for Change

HOME EXHIBIT CATALOG BROWSE ABOUT

Search...



### Martin Luther King, Jr. Gallery

Trained to be a Protestant minister, Bob Fitch's career as a photojournalist began in 1965 when he joined the Rev. Martin Luther King Jr.'s organization, The Southern Christian Leadership Conference, as a staff photographer. As Fitch notes, "I worked for two intense years as the volunteer photographer for Dr. King and the SCLC, crisscrossing "Black Belt" states to document his people-to-people speaking tours promoting get-out-the-vote campaigns"



<https://exhibits.stanford.edu/fitch>  
<https://github.com/projectblacklight/spotlight>

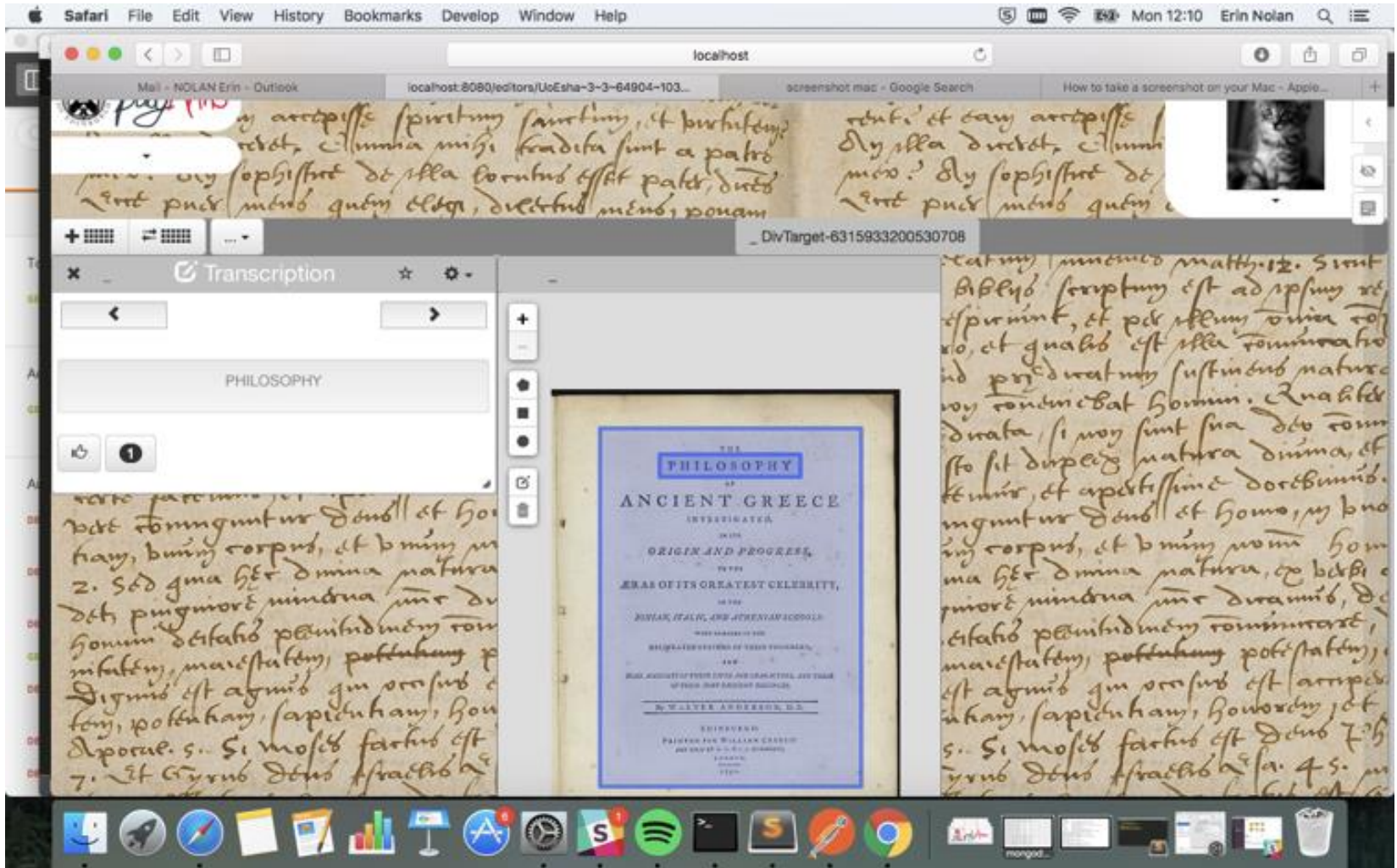
# Europeana

The screenshot shows the Europeana website interface. At the top, there is a navigation bar with the Europeana logo, links for 'Collections', 'Explore', 'Exhibitions', and 'Blog', a 'OUR SITES' button, and a 'LANGUAGE' dropdown menu. Below the navigation bar, there is a breadcrumb trail: 'Return to Home / Results / Item' and a search bar with the placeholder text 'Search by keyword here'. The main content area displays a digital image of a manuscript page. The text on the page is in German and discusses the Lenten fasts (Goltfasten). The text is written in a Gothic script with large, decorated initial letters in blue and red. The text reads: 'süecung des verndes·sunder das wie gepauchen des ewigen frides Sprechē wie alle· Amen :- Hienach ist zu merken von den vier Goltfasten· **D**y erst Goltfast· **V** erst goltfast ist an dem nechsten Mitwochen nach dem Escher mitwoch· **D**y ander **V** ander goltfast ist an dem nechsten mitwochen nach dem heiligen ysingstag· **D**y drit goltfast· **D**y drit ist an dem nechsten mitwochen nach des heiligen kruz tag als es erhaben ward· **D**y vierd **V** vierd goltfast ist an dem nechsten mitwochen nach sant Lucie tag :- :-

Below the image, there is a 'Media Metadata' section and a 'FEEDBACK' button. The page number '8 / 574' is visible at the bottom of the image area.

[http://www.europeana.eu/portal/en/record/07931/diglit\\_wordsworth1841.html](http://www.europeana.eu/portal/en/record/07931/diglit_wordsworth1841.html)

# PolyAnno

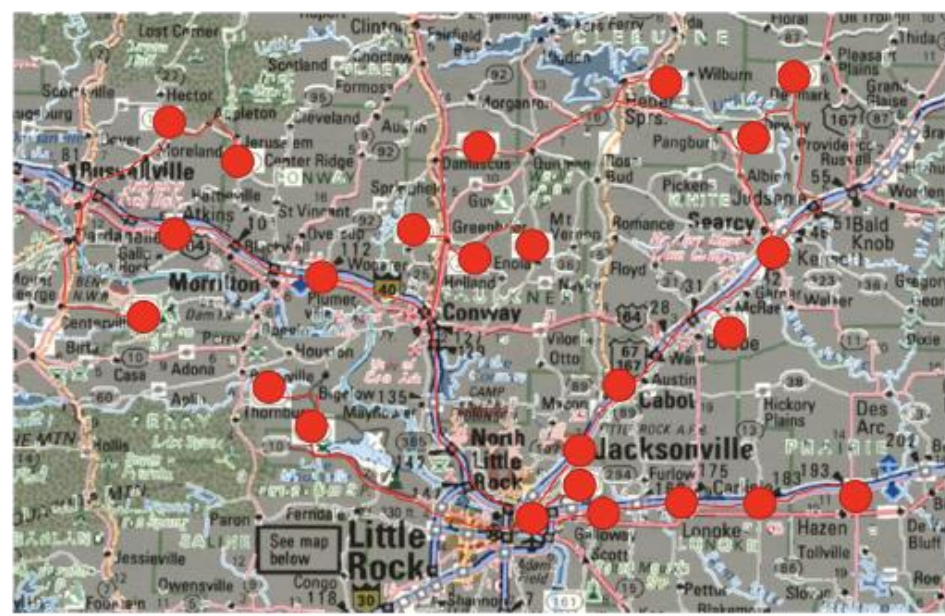
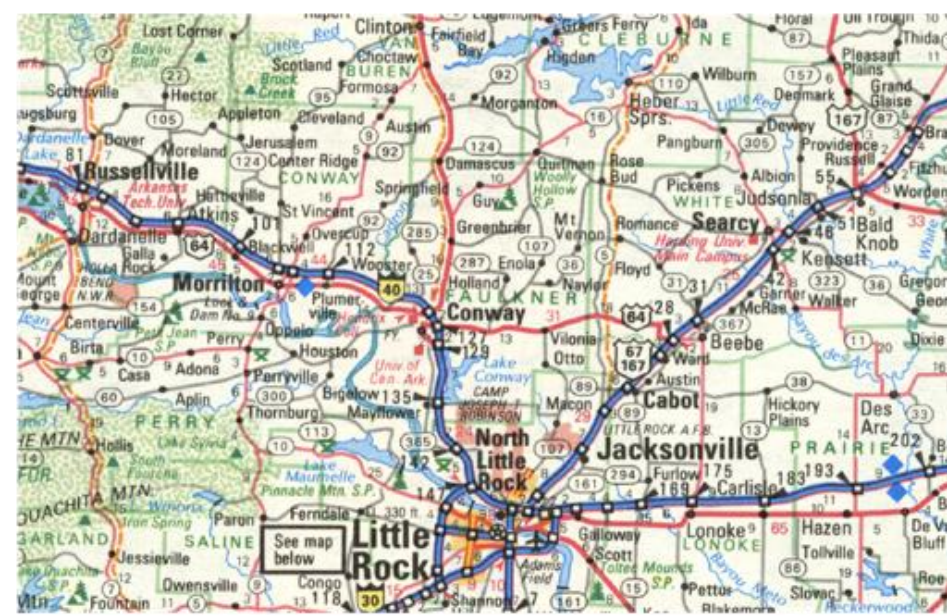


<https://pigeonsblue.com/2016/08/22/polyanno-adventures-in-annotation/>

# Machine learning, computer vision, and IIF

- IIF image content is ripe to develop machine learning and computer vision applications
  - Web native API's provide a consistent way to access images (and parts of images)
  - IIF speaks annotations out of the box, useful for classification and shape detection
  - Provides an interoperability opportunity for image processing collaboration

# Histonets – Computer vision and machine learning with IIF



<https://github.com/sul-cidr/histonets>



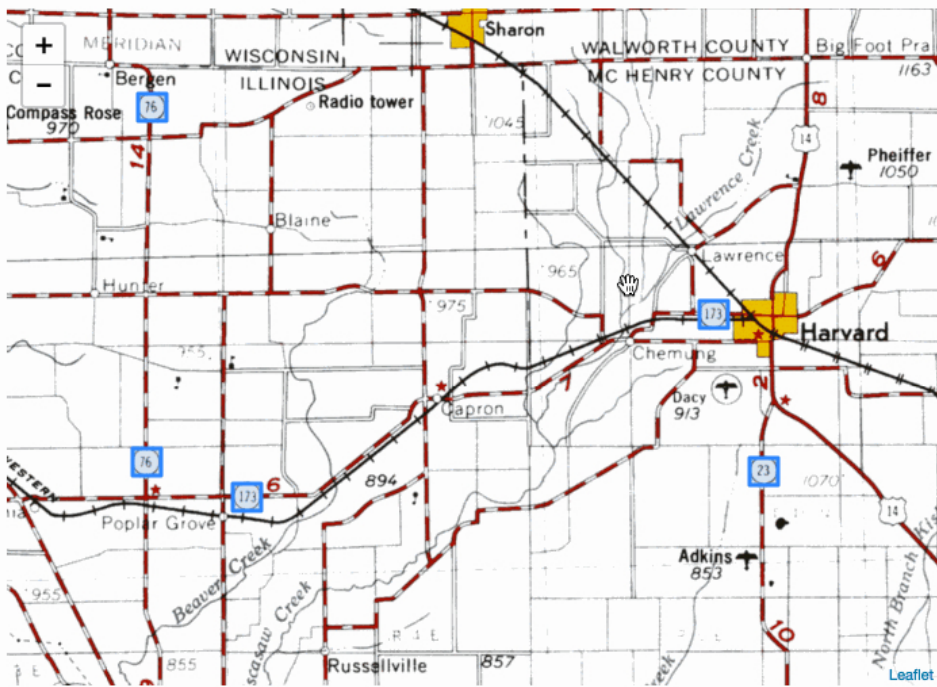
Select a Collection

Default Collection ▾

Next Step

<https://github.com/sul-cidr/histonets>

# Review Template Match Results



Next Step

Create Image Templates



Change Layout Full Screen

Drop to Load Manifest

Provider

- Clarifai 3154
- Microsoft 3154
- Google 3152

Labels

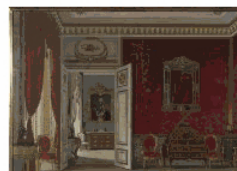
- Painting 4702
- Art 3024
- People 2611
- Adult 2263
- Portrait 1900
- One 1866
- Man 1691
- Woman 1625
- Wear 1538
- Illustration 1496
- Religion 1424
- No Person 1213
- Person 1151
- Print 1109
- Veil 905
- Renaissance 870
- Group 853
- Picture Frame 808
- Old 749
- Tree 706
- Saint 645
- Indoor 644
- Two 615
- Water 591
- Landscape 511
- Image 504
- Outdoor 491
- Furniture 488
- Mammal 483
- Nature 481
- Antique 467
- Outdoors 467
- Indoors 465
- Travel 454
- Vintage 436
- Baby 427
- Leader 424
- Text 421
- Child 417

[About this project](#)

9460 results found

Relevance ▾

Clear all filters

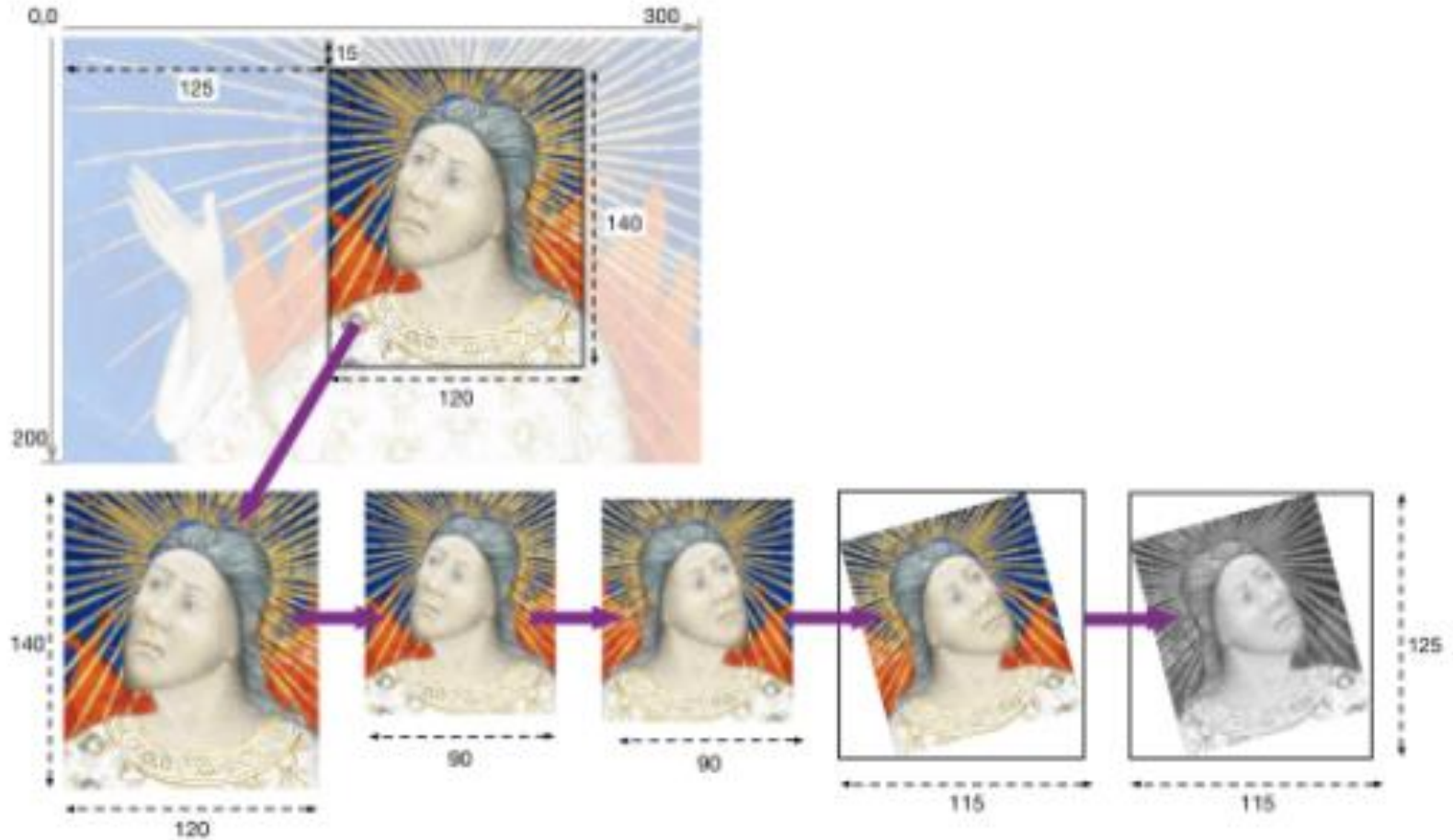


# IIIF APIs & Demonstrations

Michael Appleby  
Head of Information Technology  
Yale Center for British Art  
[@mikeapps](mailto:mikeapps@yale.edu)

**YALE  
CENTER  
FOR  
BRITISH  
ART**

# Image API



**1** region=125,15,120,140 size=90, rotation=!345 quality=gray  
.../125,15,120,140/90,/!345/gray.jpg

# Victoria & Albert Museum Compariscope: Constable's Hadley Castle

Home -> Collections -> Search -> Hadleigh Castle

## Search Details

**Creator** John Constable, 1776–1837, British

**Title** Hadleigh Castle

**Alternate Title(s)** Sketch of Hadleigh Castle  
Verso: Study of Five Horned Castle  
Il Castello di Hadleigh

**Date** 1828 to 1829

**Medium** Oil on millboard

**Dimensions** 7 7/8 x 9 7/16 inches (20 x 24 cm) Frame: 10 1/2 x 12 inches (26.7 x 30.5 cm)

**Credit Line** Yale Center for British Art, Paul Mellon Collection

**Accession Number** B2001.2.141

**Collection** Paintings and Sculpture

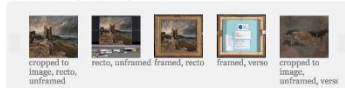
**Link to This Record** <http://collections.britishart.yale.edu/vufind/Record/1668069>

**Subject Terms** architecture | birds | castle | clouds | impasto | landscape | Medieval | meteorology | Norman | ocean | rock | Romantic | ruins | science | sky | storm | tower (building division) | wind

**Place Represented** England | Essex | Europe | Hadleigh | Hadleigh Castle | Thames | Thames Estuary | United Kingdom



cropped to image, recto, unframed  
Public Domain | Zoom | Download



Request additional photography



Home -> Collections -> Search -> Hadleigh Castle, The Mouth of...

## Search Details

**Creator** John Constable, 1776–1837, British

**Title** Hadleigh Castle, The Mouth of the Thames—Morning after a Stormy Night

**Alternate Title(s)** Hadleigh Castle  
Il Castello di Hadleigh

**Date** 1829

**Medium** Oil on canvas

**Dimensions** 48 x 64 3/4 inches (121.9 x 164.5 cm) Frame: 59 1/2 x 76 1/4 inches (151.1 x 193.7 cm)

**Credit Line** Yale Center for British Art, Paul Mellon Collection

**Accession Number** B1977.14.42

**Collection** Paintings and Sculpture

**Curatorial Comment** In the famous letter of 23 October 1821 to his friend Archdeacon Fisher, John Constable reported: "I have not been idle and have made more particular and general study than I have ever done in one summer, but I am most anxious to get into my London painting room, for I do not consider myself at work without I am before a six foot canvas" (Constable, "Correspondence", p. 76). To some extent, the scale of Constable's great "six-footer" landscape paintings reflected both his high aspirations for landscape in general, and his desire for professional recognition and financial security. Yet Hadleigh Castle, which comes relatively late in the sequence of six-footers, in 1829, is among



cropped to image, recto  
Public Domain | Zoom | Download



Request additional photography



More search options  Only records with images  Best quality records including image and detailed description

Or are you looking for Search the Archives?

Back Print this record

## Hadleigh Castle, near Southend

**Object:** Drawing

**Place of origin:** England (made)

**Date:** 1814 (made)

**Artist/Maker:** John Constable, born 1776 - died 1837 (artist)

**Materials and Techniques:** Pencil

**Credit Line:** Given by Isabel Constable, daughter of the artist

**Museum number:** D.234-1886

**Gallery location:** Prints and Drawings Study Room, level C, case MB2A, shelf DR83

Download image

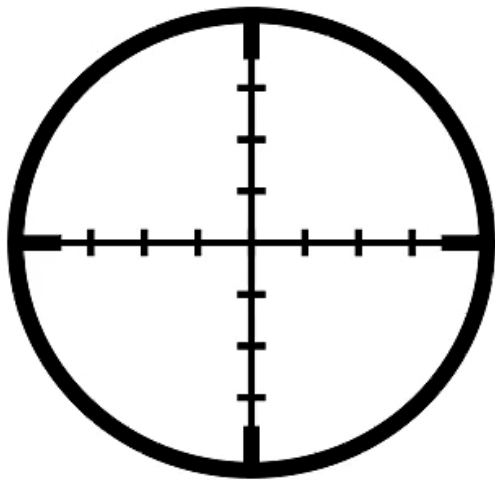
More information Map Download PDF version

### Physical description

Page from a sketch book. Pencil drawing of Hadleigh castle.

### Place of Origin

England (made)



I



Preview

# Constable – the process



In preparation for the V&A's 2014 major exhibition, 'Constable: Making of a Master' a number of the Museum's oil sketches by John Constable were remounted and reframed. The process revealed many surprising discoveries, including a previously unrecorded work. hidden by an old canvas lining.

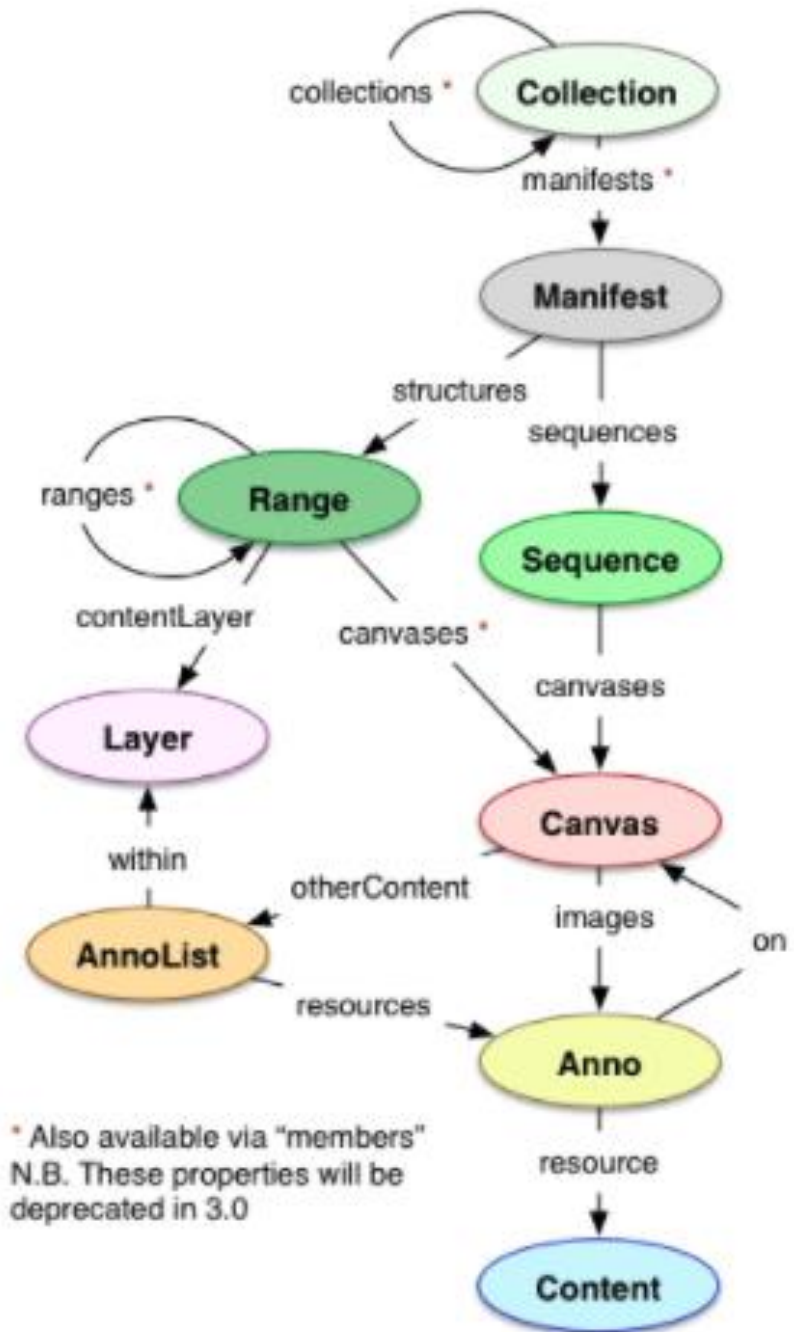
SHARE





# Presentation

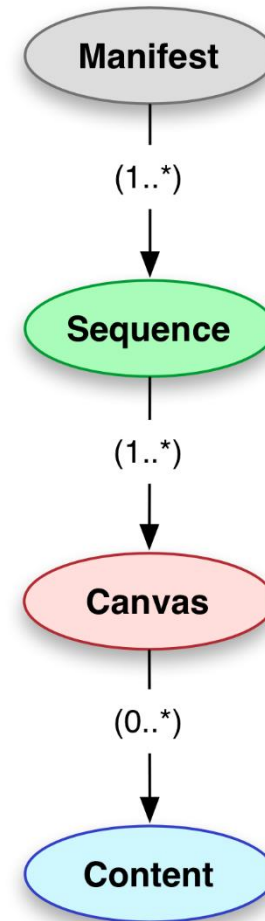
“The objective of the IIIF Presentation API is to provide the information necessary to allow a rich, online viewing environment for primarily image-based objects to be presented to a human user, likely in conjunction with the IIIF Image API.”



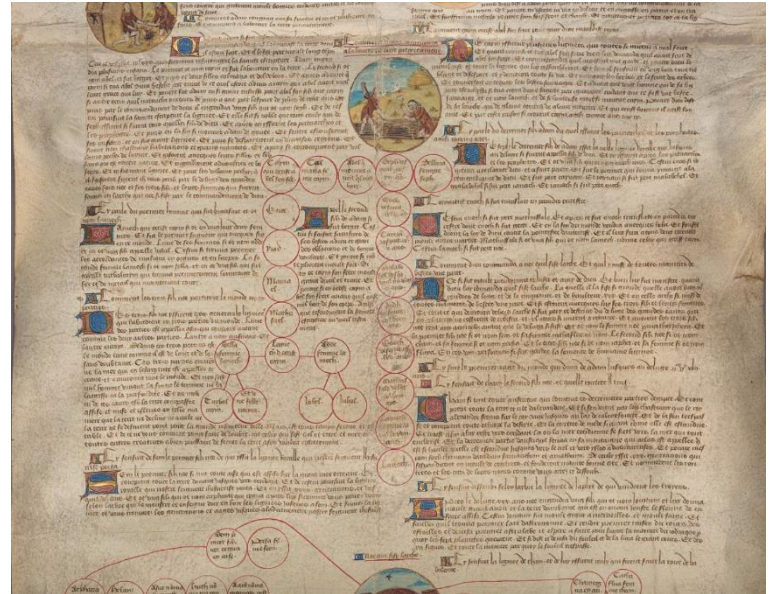
# Presentation API

The IIIF Manifest contains the data necessary to represent an object.

“**Manifest:** The overall description of the structure and properties of the digital representation of an object. It carries information needed for the viewer to present the digitized content to the user, such as a title and other descriptive information about the object or the intellectual work that it conveys. Each manifest describes how to present a single object such as a book, a photograph, or a statue.”



# Presentation API



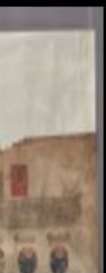
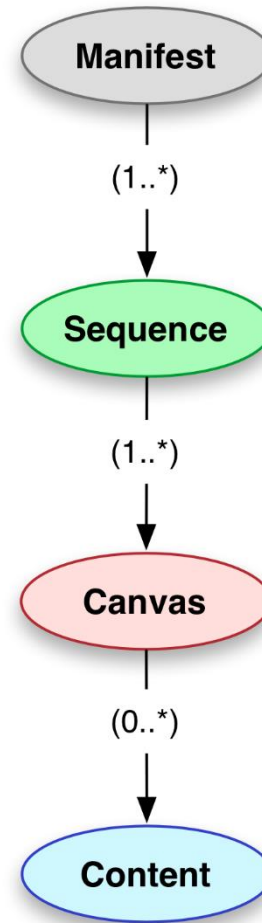
A Canvas is a coordinate space with X and Y dimensions (width and height).

Images are associated with the Canvas via Open Annotation.  
(In Presentation API 3.0, W3C Web Annotations will be used.)

# Presentation A

A Manifest contains one or more Sequences.

Each Sequence contains an ordered list of Canvases.



(seq. 2)



(seq. 3)



(seq. 4)



(seq. 5)



(seq. 6)

# Presentation API: Other Properties

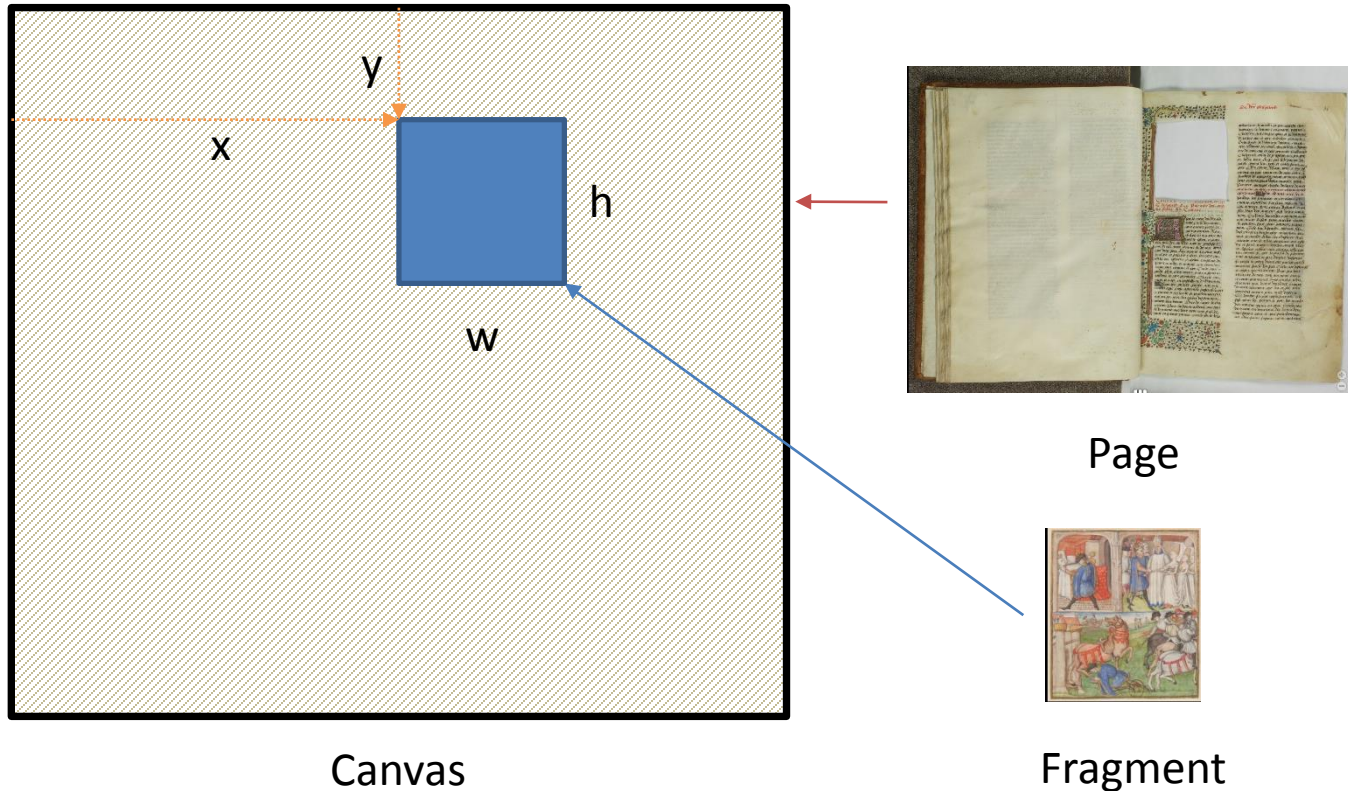
- Descriptive Properties  
(label, metadata, description, thumbnail)
- Rights and Licensing Properties  
(attribution, license, logo)
- Technical Properties  
(viewing direction, viewing hints, width, height, ...)
- Linking Properties  
(related, see also, start canvas, within, ... )
- Paging Properties  
(first, last, next, total)

# Audio-Visual

- IIF Presentation API 3.0 will expand the notion of a Canvas from an x,y space by adding a time dimension
- This will allow for annotation of audio and video onto the Canvas at specific points in time
- Images, text, and other content can also be annotated on to the Canvas
- The video on the following slide shows the combination of video, still images, and text, all annotated on to a single canvas.



# Presentation API: Reconstruction of a Manuscript Folio





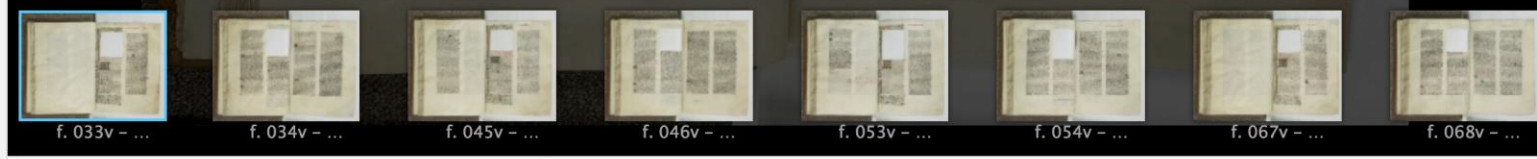
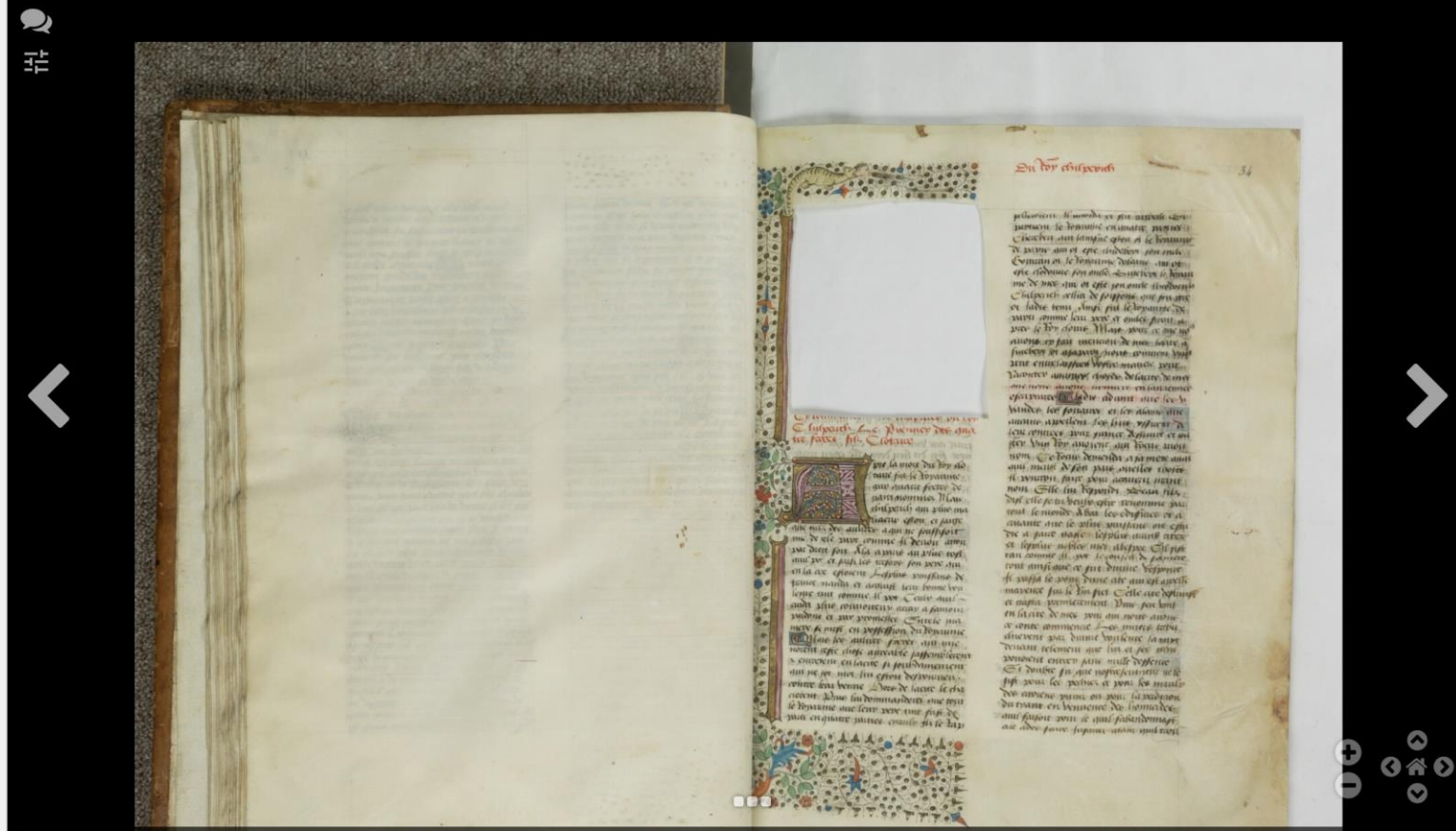
# Demonstration: Manuscript Reconstruction

Index Search Layers

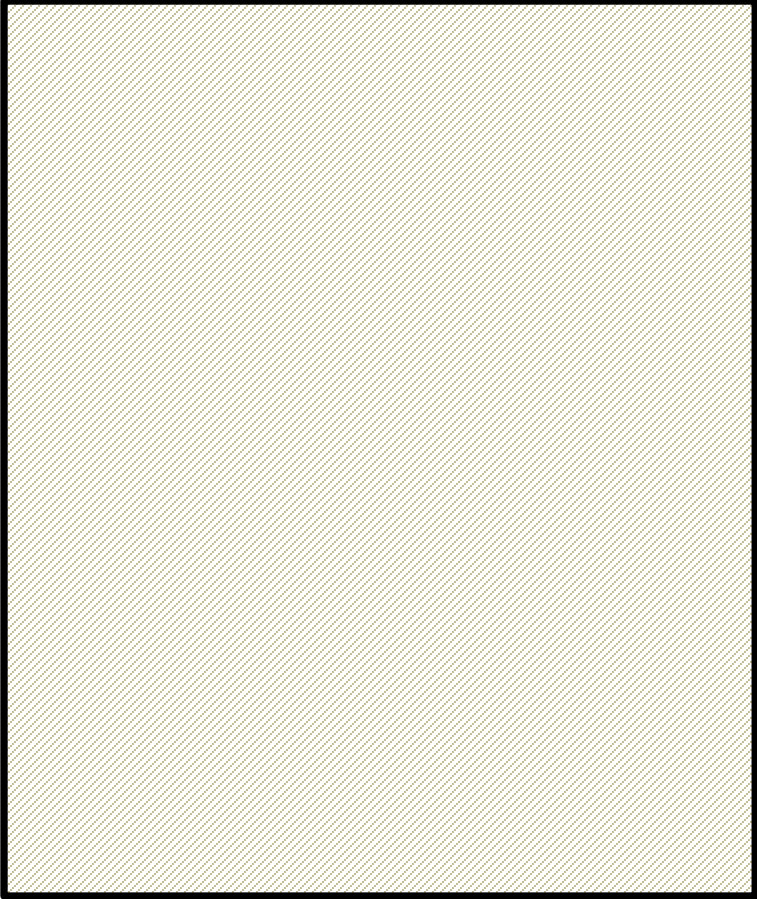
Images for f. 033v - 034

No Label  visible opacity (100%)

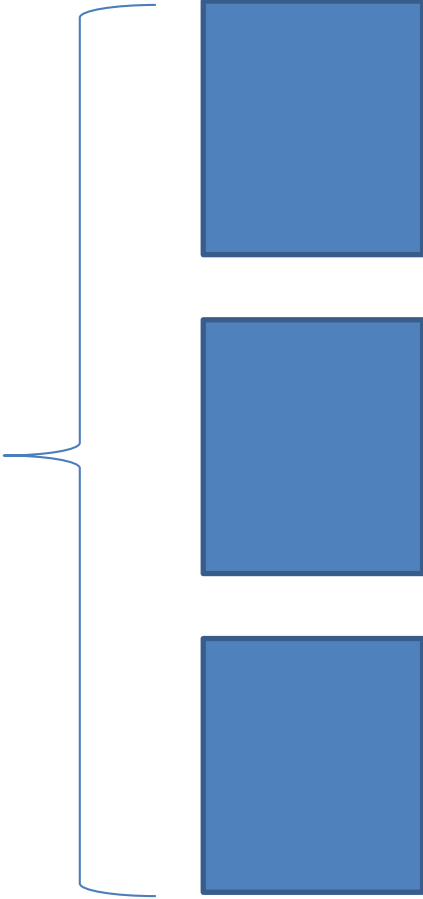
No Label  visible opacity (0)



# Multiple Images on a Single Canvas



Canvas



Images

# Demonstration: Multispectral Images

The image shows a digital library interface for the 'Osborn fa1' manuscript. The main display shows an open manuscript page with two columns of text in an early printed font. The left column starts with a large blue initial 'A'. The right column has a red heading 'Quintus'. The manuscript shows signs of age with some staining and discoloration.

At the top right, there are navigation options: 'Change Layout' and 'Full Screen'. Below the manuscript, a row of small thumbnail images represents the sequence of multispectral images taken from the page. The current view is the 7th thumbnail in the sequence, which is highlighted with a blue border. The thumbnails show the page under different spectral bands, with the current view showing a grayscale image where the text is clearly visible against the background.

On the left side, there is a sidebar with navigation options: 'Index', 'Search', and 'Layers'. Below this, there are several image thumbnails with associated controls for visibility and opacity. The first thumbnail is checked as 'visible' with an opacity of 100%. The second and third thumbnails are also checked as 'visible' but with an opacity of 0. The fourth thumbnail is unchecked as 'visible' with an opacity of 0. The fifth and sixth thumbnails are unchecked as 'visible' with an opacity of 0. The seventh thumbnail is checked as 'visible' with an opacity of 0. The eighth thumbnail is unchecked as 'visible' with an opacity of 0.

At the bottom right, there are navigation icons for zooming in (+), zooming out (-), and other controls.

# Demonstration: X-Ray and Conventional Photography

Change Layout Full Screen

Sir Joshua Reynolds RA, 1723-1792, British, Mrs. Abington as Miss Prue in "Love for Love" by William Congreve, 177...



cropped t...



recto, unfr...



framed, re...



framed, ve...



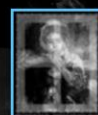
detail, recto



Composite...



cropped t...

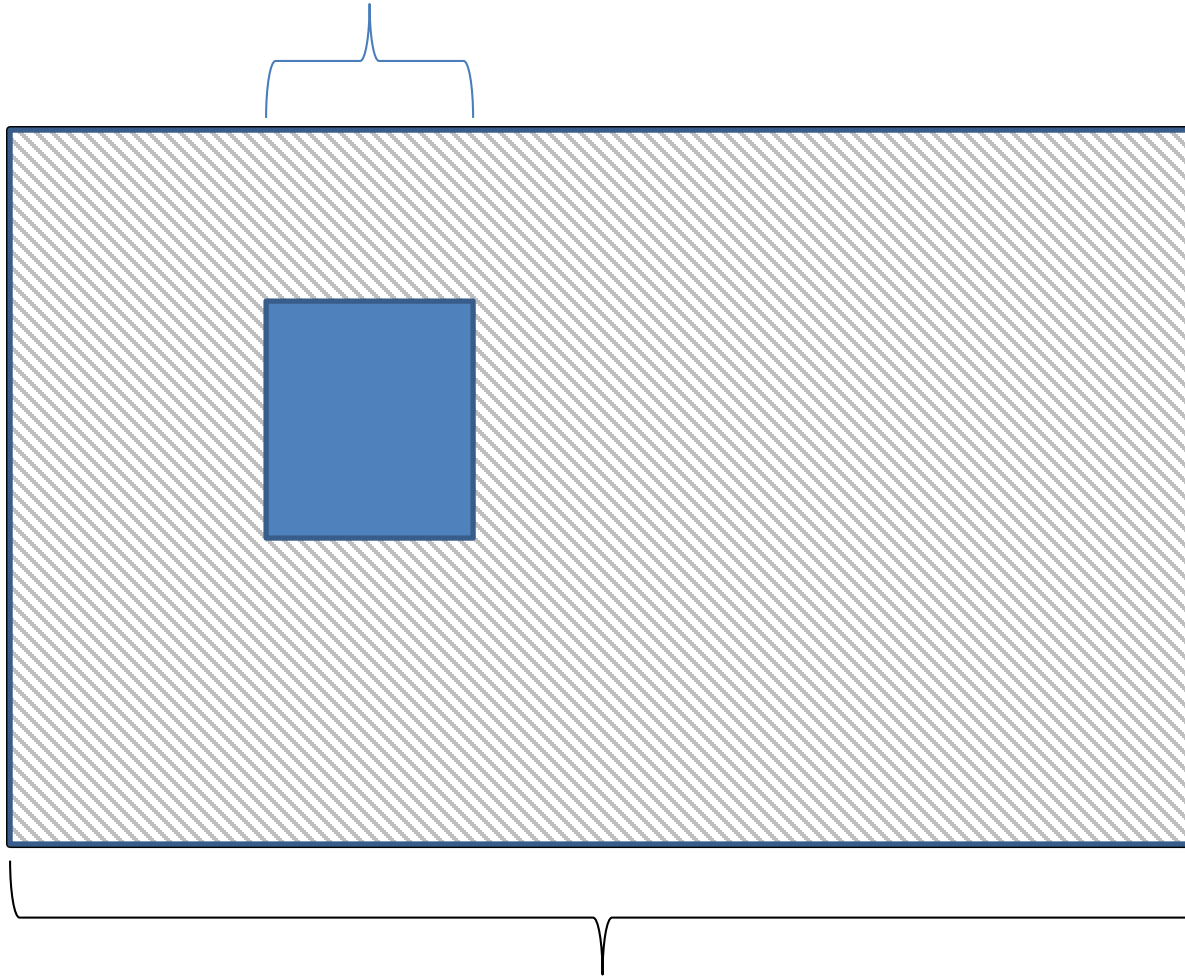


Conservati...



# Demonstration: Detail Images and Deep Zoom

Detail image width: 5284 pixels



Base image width: 6258 pixels

# Demonstration: Detail Images and Deep Zoom

John Scarlett Davis, 1804-1845, British, *The Interior of the British Institution Gallery, 1829*, Oil on canvas, Yale Center for British Art, B1981.25.212, Painting

Press **esc** to exit full screen

Change Layout Full Screen

Index Layers

Images for Conservation overlay

- after treatment, cropped to image, recto, unframed
  - visible
  - opacity (0)
- before treatment, recto, unframed
  - visible
  - opacity (0)
- before treatment, raking light, recto, unframed
  - visible
  - opacity (100%)
- before treatment, IR Peca 904, recto, unframed
  - visible
  - opacity (100%)
- before treatment, recto, unframed, UV Fluorescence
  - visible
  - opacity (disabled)
- after treatment, detail
  - visible
  - opacity (disabled)
- after treatment, detail
  - visible
  - opacity (disabled)
- after treatment, detail
  - visible
  - opacity (disabled)
- after treatment, detail
  - visible
  - opacity (disabled)
- after treatment, detail
  - visible
  - opacity (disabled)
- after treatment, detail
  - visible
  - opacity (disabled)
- after treatment, detail
  - visible
  - opacity (disabled)
- after treatment, detail
  - visible
  - opacity (disabled)



JavaScript:

UI icons: Home, Search, Refresh, Close

# IIIF – Get Involved



# How to Participate

1. Use IIF-compatible software and content
2. Expose your collections via IIF
3. Make your software IIF-compatible
4. Ask your software suppliers to become IIF-compatible
5. Join IIF communication channels - **#japan** on Slack
6. Sign up for IIF-C

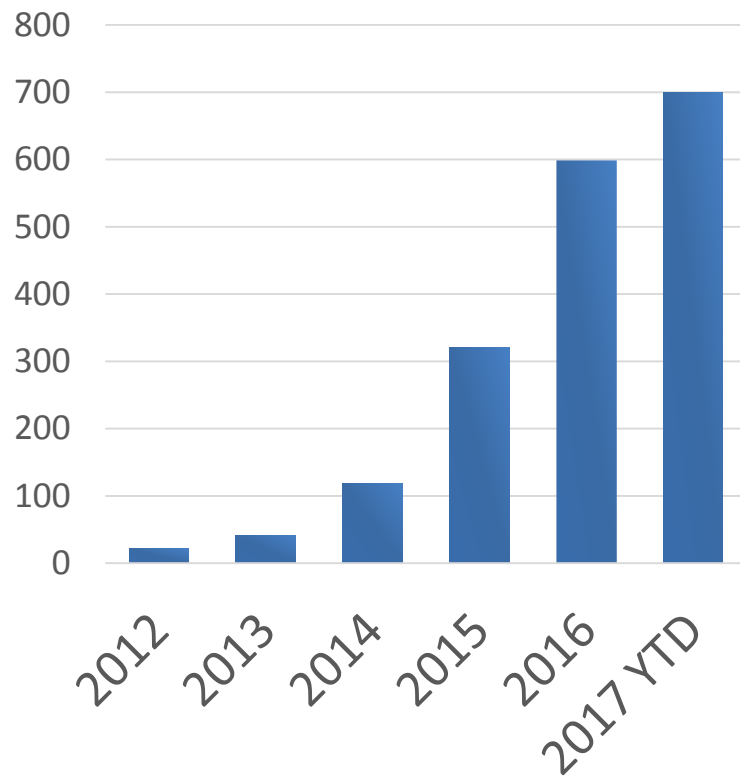


# IIIF Communication Channels

- IIIF Website: <http://iiif.io>
- [iiif-discuss@googlegroups.com](mailto:iiif-discuss@googlegroups.com)
- IIIF Slack Team – Join at <http://bit.ly/iiif-slack>
- Twitter: [@iiif\\_io](https://twitter.com/iiif_io) and [#IIIF](https://twitter.com/iiif)
- Awesome-IIIF on [Github](#)
- IIIF [YouTube Channel](#)
- IIIF Events
- Contact me: [srabun@iiif.io](mailto:srabun@iiif.io)

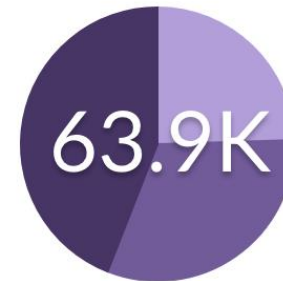
# Communication

## IIF-Discuss Google Group

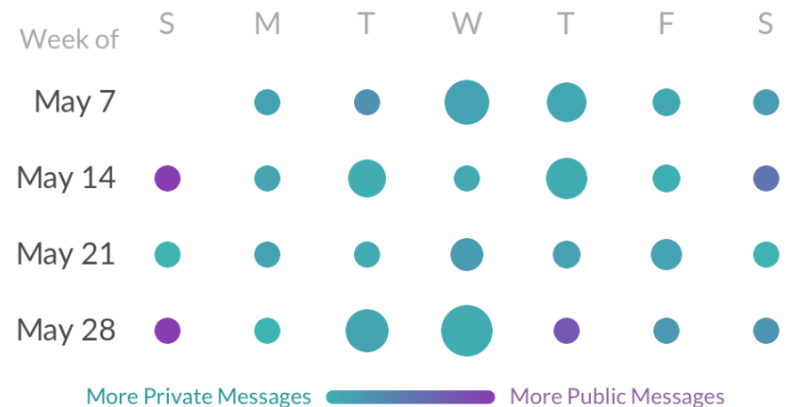


<https://groups.google.com/forum/#!forum/iif-discuss>

## IIF Slack



## Total Messages



More Private Messages  More Public Messages

<http://bit.ly/iif-slack>

# #japan in IIF Slack

The screenshot shows a Slack interface with a sidebar on the left and a main chat area on the right. The sidebar lists various channels, with #japan highlighted in green. The main chat area shows a message from knagasaki at 7:40 AM and a message from takaxp (Takaaki Ishikawa) at 7:50 AM. The #japan channel has 14 members and 1 topic.

**Channels:**

- # 3d (1 unread)
- # aac\_bootstrapping (1 unread)
- # av (1 unread)
- # coco (1 unread)
- # community-news... (1 unread)
- # curators\_of\_awesome (17 unread)
- # demos (17 unread)
- # dh\_kit (1 unread)
- # dhsi (1 unread)
- # discovery (1 unread)
- # general (1 unread)
- # iif\_io-github (5 unread)
- # japan (highlighted)
- # japan\_posse (1 unread)
- # manuscripts (4 unread)
- # mirador (1 unread)

**#japan channel details:**

- Members: 14
- Topics: 1

**Message from knagasaki (7:40 AM):**

(International Image Interoperability Framework) に関してこのブログで色々記事を書いてきましたが、それを中心しつつ、他の方々が書かれたものも含め、日本語の記事に関して情報をまとめてみました。ご参考になりましたら幸いです。なお、英語を読むことに支障がない人は、ぜひ「Awesome IIF」をご覧ください。IIFとは何か 今、まさに広まりつつある国際的なデジタルアーカイブの規格、IIFのご紹介 「デジタルアーカイブ」における画像共有のための国際規格IIFについて...

Oct 2nd at 8:43 AM

3 likes

**Message from takaxp (Takaaki Ishikawa) (7:50 AM):**

日本文化コンテンツを含む海外のIIF対応サイトもリストを共有しておきたいですね。今把握している範囲では、

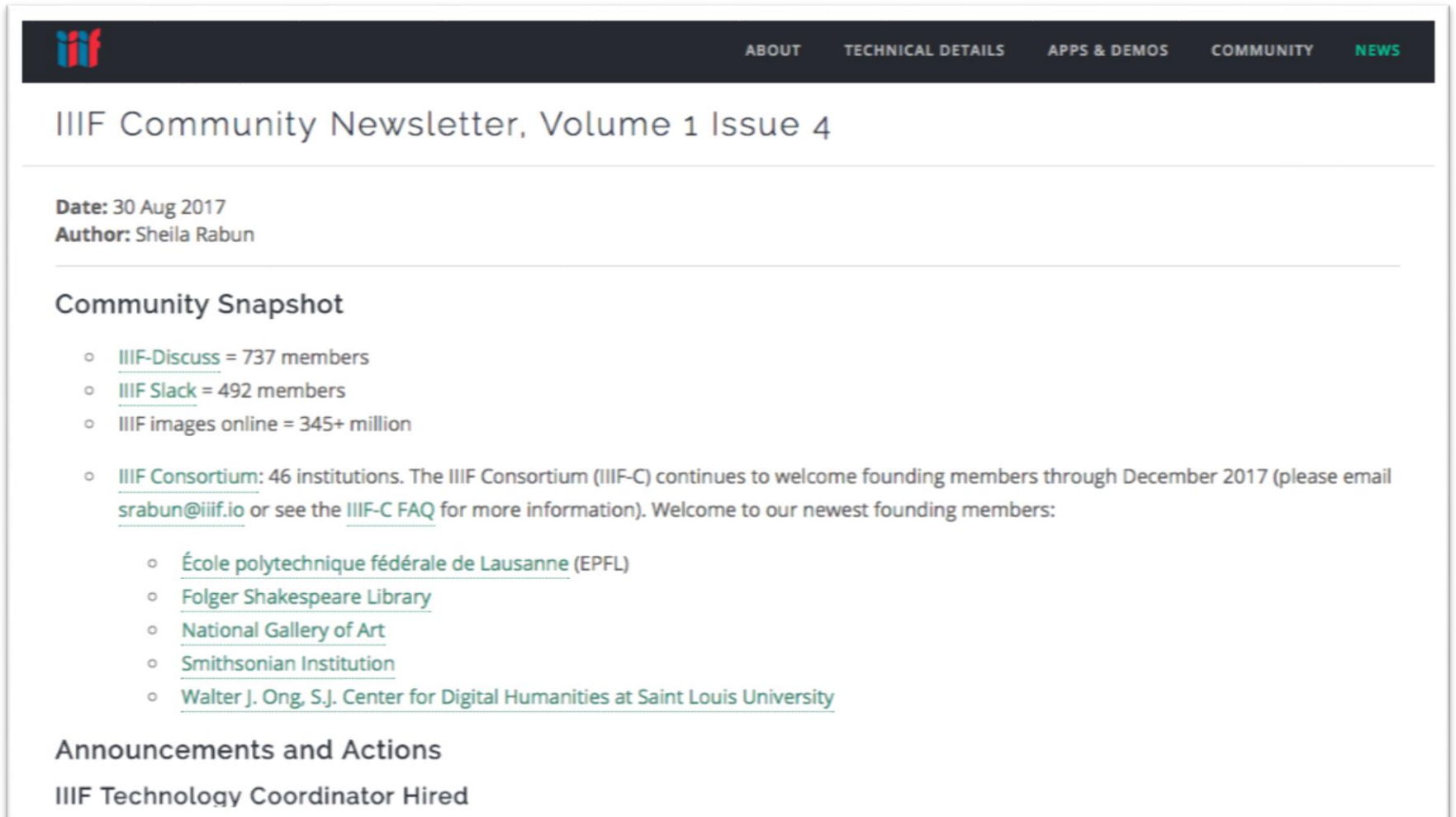
- フランス国立図書館 gallica
- ヴァチカン図書館
- ブリティッシュ・コロンビア大学図書館
- スミソニアン協会図書館

といったところですが、ハーバードも持っていそうな気がします。(ハーバードのはまだ中国のものしか把握できてません)

**Message input field:** + Message #japan

# IIIF Community Newsletter

- Learn about current activities – <http://iiif.io/news>



The screenshot shows the header of the IIIF website with navigation links: ABOUT, TECHNICAL DETAILS, APPS & DEMOS, COMMUNITY, and NEWS. The main heading is "IIIF Community Newsletter, Volume 1 Issue 4". Below this, the date is "30 Aug 2017" and the author is "Sheila Rabun". The "Community Snapshot" section includes a list of statistics and new members. The "Announcements and Actions" section features the headline "IIIF Technology Coordinator Hired".

**IIIF Community Newsletter, Volume 1 Issue 4**

**Date:** 30 Aug 2017  
**Author:** Sheila Rabun

---

### Community Snapshot

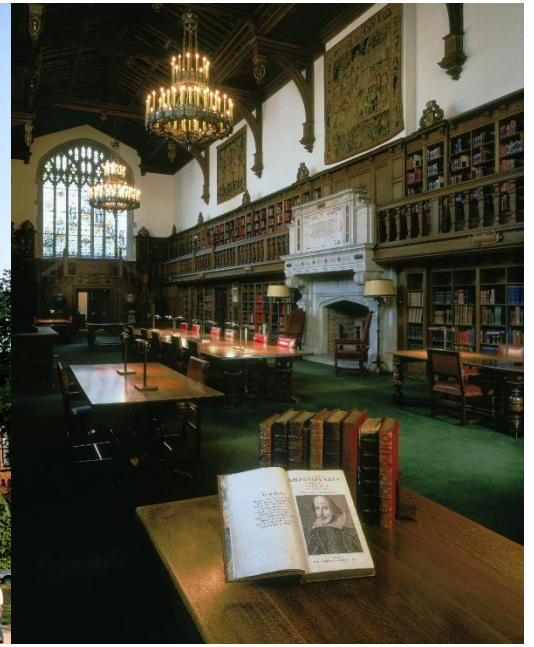
- [IIIF-Discuss](#) = 737 members
- [IIIF Slack](#) = 492 members
- IIIF images online = 345+ million
- [IIIF Consortium](#): 46 institutions. The IIIF Consortium (IIIF-C) continues to welcome founding members through December 2017 (please email [srabun@iiif.io](mailto:srabun@iiif.io) or see the [IIIF-C FAQ](#) for more information). Welcome to our newest founding members:
  - [École polytechnique fédérale de Lausanne \(EPFL\)](#)
  - [Folger Shakespeare Library](#)
  - [National Gallery of Art](#)
  - [Smithsonian Institution](#)
  - [Walter J. Ong, S.J. Center for Digital Humanities at Saint Louis University](#)

### Announcements and Actions

**IIIF Technology Coordinator Hired**

# 2018 IIF Conference in Washington, DC

- May 21-25, 2018
- Co-hosted by the **Library of Congress**, **Smithsonian Institution**, and **Folger Shakespeare Library**



# IIIF Consortium

- <http://iiif.io/community/consortium>
- 47 institutional members
- Sustainability and steering for IIIF
- Additional Founding Members – through 2017
- Leading a revolution in digital access

*Please consider joining!*

# IIIF-C Founding Members to Date

- Artstor
- Bavarian State Library (BSB)
- British Library
- Brown University
- Cambridge
- Chinese U. of Hong Kong
- Cornell
- Data Futures
- Ecole Polytechnique Federale de Lausanne (EPFL)
- Europeana
- Folger Library
- J. Paul Getty Trust
- Johns Hopkins
- Harvard University
- Hong Kong University
- Indiana University
- **Kyoto University Library Network**
- MIT
- National Gallery of Art (US)
- National Library of France
- National Library of Israel
- National Library of Norway
- National Library of Poland
- National Library of Scotland
- New York University
- North Carolina State University
- Ohio State University
- Oxford
- Penn State University
- Princeton
- Saint Louis University
- Smithsonian Institution
- Stanford
- University of Basel
- University of Edinburgh
- University of Göttingen
- University of Leiden
- University of Michigan
- University of Notre Dame
- University of Pennsylvania
- **University of Tokyo**
- University of Toronto
- Vatican Library
- Wellcome Library
- Yale University  
(incl. Yale Center for British Art)



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