A Tree’s Strength Is Its Trunk: IIIF as Core Operational Infrastructure

Esmé Cowles, Princeton University
Mark Matienzo, Stanford University

CNI Membership Meeting
December 4, 2020
Esmé Cowles
Princeton University Library

▸ our digital library ecosystem
▸ using IIIF to integrate digital content
the problem with monoliths

▸ long-standing software development challenge
▸ complexity and inter-dependency undermine sustainability
▸ different users with different needs

many proposed approaches for addressing these issues
the hydra model

- one "body", many "heads"
  - body: repository/storage
  - head: different use cases

- some challenges:
  - staff and end users working in each head
  - multiple implementations of workflow, ingest
  - encourages silos: go the maps app to find maps

Source: https://samvera.org/samvera-flexible-extensible/hydracontentstructure4/
trunk and branches model

- organize applications based on audience
  - authentication, workflows, discovery criteria, scale, etc.
- base: workflows and object building funnel into one platform
- branches: discovery and access in multiple applications serving different user needs
- IIIF is the trunk that connects the base of the tree to the branches

Photo by Nareeta Martin on Unsplash
IIIF, what it is & how it helps

▸ A family of APIs for working with digital content

▸ IIIF Image API
  ▶ transform images on the server
  ▶ clients only download what they need

▸ IIIF Presentation API
  ▶ combines digital content with enough metadata to build a digital object
case study: a map of yosemite

a paper map that has been scanned, accessible in different contexts:

- Library Catalog, with other print and digital resources
- Digital Collections showcase, along with thematically-related items
- Maps Portal, along with other maps and geodata
Yosemite: Wawona route via Mariposa Big Trees, Inspiration Point and Glacier Point...
1. Yosemite: Wawona route via Mariposa Big Trees, Inspiration Point and Glacier Point ... [map].
Yosemite Stage and Turnpike Company [Browse]
San Francisco: Yosemite Stage & Turnpike Co., [ca. 1904]
MAP
On-site access: Special Collections - Historic Maps Collection » HMC01.6651
Online: See the map (side 1): Digital content

United States: National Park Service [Browse]
[Washington, D.C.]: National Park Service, [2016]
MAP

3. Yosemite, CA [cartographic material]
Yosemite: Wawona route via Mariposa Big Trees, Inspiration Point and Glacier Point ... [map].

Author: Yosemite Stage and Turnpike Company [Browse]

Format: Map

Language: English

Published/Created: San Francisco: Yosemite Stage & Turnpike Co., [ca. 1904]

Description: (W 124°28'00"-W 114°07'00"/N 40°00'00"-N 32°31'00"), (W 122°00'00"-W 119°00'00"/N 38°32'00"-N 37°15'00"). 3 maps on 1 sheet: col., both sides; 57 x 41 cm. or smaller, sheet 58 x 78 cm.

Available Online

See the map (side 1): Digital content
See the map (side 2): arks.princeton.edu

Copies in the Library

Location: Special Collections - Historic Maps
Collection: Historic Maps
Call Number: HMC01.6651
Status: On-site access

Where to find it: 9

Find in other libraries from OCLC WorldCat.org
Yosemite: Wawona route via Mariposa Big Trees, Inspiration Point and Glacier Point...
Photography & the American West

The College of New Jersey began acquiring books and other materials about the trans-Mississippi West long before Western Americana was collectible and well before the 1890 U.S. Census announced the closing of the American frontier. Some accounts of early explorations, such as Jonathan Carver’s Travels through the Interior Parts of North America (1784), came to the college in 1812 with the purchase of John Witherspoon’s former library. The 1884 subject catalog of the college library lists several government publications on the exploration of the American West, such John C. Frémont’s Report of the Exploring Expedition to the Rocky Mountains, Oregon, and North Carolina (1845) and F. V. Hayden's Annual Reports of the Geological and Geographical Survey of the Territories (1874-1879). More notable, however, for their early inclusion in the holdings of the college are several collections of documentary photographs of the American West taken from the 1850s through the 1890s.

Learn more about the History of the Western Americana photograph collections

Digitized Collections

The Western Americana Photograph Collection
5342 ITEMS

The William Henry Jackson Photographs of North American Indians Collection
1025 ITEMS

The Sheldon Jackson Collection of Indian Photographs
582 ITEMS
Above the clouds on Eagle Peak, Yosemite Valley, California, U.S.A.

Yo-semite Valley photographic views: falls and valley of Yo-semite in Mariposa County California / executed by C.E. Watkins, San Francisco

Compiled map of existing and proposed roads to Yosemite Valley, 1899

Yosemite: Wawona route via Mariposa Big Trees, Inspiration Point and Glacier Point ...

Yosemite National Park, showing boundaries established by act of Congress: approved June 21, 1906

Yosemite National Park, showing changes in boundaries recommended by commission appointed pursuant to act of Congress: approved April 28, 1904
Maps Portal
Maps

Portal

12. Yosemite: Wawona route via Mariposa Big Trees, Inspiration Point and Glacier Point...

13. Compiled map of existing and proposed roads to Yosemite Valley, 1899

14. A map of California with descriptive notes
Key Benefits

- Build digital objects in one place
- Share ingest & workflow functionality
- Reuse digital content in multiple contexts to meet user needs
Mark Matienzo
Stanford University Libraries

- our digital library ecosystem
- using IIIF to integrate digital content across and beyond the institution
IIIF as the trunk at Stanford

- Supporting evolving needs and technical concerns
- Leveraging content across and outside the organization
- Reuse across contexts
Evolution of a “generic” viewer

- Provided by delivery environment
- Separation of concerns allows managing change in implementation and specifications
- All the while leveraging + supporting IIIF
Provided by delivery environment

Separation of concerns allows managing change in implementation and specifications while leveraging and supporting IIIF.

Evolution of a "generic" viewer.
Provided by delivery environment

Separation of concerns allows managing change in implementation and specifications

All the while leveraging + supporting IIIF

Evolution of a "generic" viewer

purl.stanford.edu/fw090jw3474
Provided by delivery environment

Separation of concerns allows managing change in implementation and specifications while leveraging and supporting IIIF.

Evolution of a "generic" viewer.

purl.stanford.edu/fw090jw3474
Supporting different user needs

... means supporting viewing experiences:

- “Generic” image viewing
- Comparison
- Document viewing
- Interactive experiences (e.g. in hybrid “phygital” exhibits)
Palo Alto Cal., [Sheet] 2.


Physical description: 1 map.
Image comparison
Fire insurance maps are produced to provide information to insurers about the composition and use of buildings in order to provide correct underwriting of policies. These maps, primarily produced in the United States by the Sanborn Company, are now historically important documents of the towns and cities from the start of the late 19th Century. The maps include: building footprints; building material shown by color, height and number of stories; features such as doors, windows, chimneys, and elevators; address and lot lines; uses such as dwellings, hotels, churches, and chicken coops; street widths, water pipes, hydrants, and cisterns, and occasionally the ethnicity of the occupants. These maps are now heavily used to study the history of a place by historians, genealogists, urban planners, and ethnic studies. Stanford Libraries holds maps mainly of California and has scanned those that are out of copyright.

Mission Beach, California 1929

Mission Beach in San Diego County, California has long been a tourist destination. Mission Beach Amusement Center, shown here, was built by business mogul John D. Spreckels in 1925 in hopes of stimulating development in the area where he owned real estate. Only two structures remain from the original park, the wooden Giant Dipper roller coaster and the Natatorium. The roller coaster was restored in 1989-1990 and was designated a National Historic Landmark on July 4, 1990. The Natatorium, designed by architect Frank Walter Stevenson, was built in 1925 and originally was filled with seawater. The building had a retractable roof to allow for indoor and outdoor swimming. The Natatorium, now called The Plunge, is under restoration with an expected completion in 2019. The original park included a ballroom capable of holding 5,000 dancers, a roller skating rink, a merry-go-round, a fun house, and a "wonderland." Belmont Park now is a full-fledged amusement park with rides, swimming, and a boardwalk.
Online exhibits
Adding new features

- Searching within an item’s full text
- Emerging authentication needs
On 13 December 2001, the Public Prosecutor transferred to the Court a summary autopsy report on bodies exhumed in East Timor from February 16 to August 26, 2000.

On 8 February 2002, the Public Prosecutor, the accused and their legal representatives, upon being called, attended at the hearing. After opening the session, the court asked the parties whether they were ready for the trial, in which case the Court will go ahead with the opening statement of the Public Prosecutor. All the parties told the Court that they were ready, however, the Public Prosecutor raised the issue of submission of what kind of evidence the defense intends to present for the trial. The defense replied that there were still trying to meet the witnesses and looking for the evidence to submit to the Court. The Court ordered the defense to submit what kind of evidence and witnesses to present for the trial by the 15th February 2002. The Court postponed the trial hearing of the case to 22 February 2002. As 22nd February 2002 was a UN holiday, the hearing of the case was postponed on 4 March 2002.

On 15 February 2002, the defense of the 3 accused persons submitted the list of their witnesses. The Defense of Sabino Guerreio Leite submitted a list of 3 witnesses composed of Manuel Ana Rosario da Costa, Jacaum Mont, and Pedro Noronha.


On 20 February 2002, the Public Prosecutor filed an application for leave to further amend the indictment against the accused persons, pursuant to Section 32 of UNTAET Regulation 2901/01. The application was reiterated during the trial hearing on the 4th March 2002, where the prosecutor explained the context of the motion to further amend the indictment. The Court decided to grant leave to the Public Prosecutor to amend the indictment on the 27th March 2002 and decided that the proposed amendment be part of the indictment.

The ordinary trial was scheduled on the 5th March 2002. It was conducted over 15 sessions (From 5 March 2002 until 29 November 2002).

On the 5th March 2002, the Public Prosecutor delivered his opening statement and read out the indictment in an open hearing. The Defendant Sabino...
Leveraging many trunks: encouraging implementation

- Stanford Digital Repository as campus-wide service
- Other implementations on campus (e.g. Hoover Institution Library and Archives)
- Working with external resources
From 1976 until his death in 1987, Andy Warhol (U.S.A., 1928-1987) was never without his camera. He snapped photos at discos, dinner parties, flea markets, and wrestling matches. Friends, boyfriends, business associates, socialites, celebrities, and passersby all captured Warhol’s attention.

Drawing on a trove of over 3,600 contact sheets featuring 130,000 photographic exposures acquired in 2014 from The Andy Warhol Foundation for the Visual Arts, Inc., the images document Warhol’s daily life. The collection features candid portraits of celebrities and artists of the era including: Jean-Michel Basquiat, Truman Capote, Jimmy Carter, Martha Graham, Halston, Keith Haring, Debbie Harry, Bianca Jagger, Grace Jones, Jackie Kennedy, Liza Minnelli, Dolly Parton, Robert Rauschenberg, Elizabeth Taylor, Diane Von Furstenberg, and more.

This collection of Warhol’s contact sheets – printed thumbnails from a roll of film – represents the complete range of the American artist’s black-and-white photographic practice from 1976 until his unexpected death in 1987.

Click on “Topic” in the left-hand sidebar to see a list of people, places, and subject terms in the collection.
Other implementations
Reuse across contexts

- IIIF (and oEmbed) provide “seams” for content across our platforms, allowing technical and visual consistency
- Allows for a greater return on investment in digitization and platform/infrastructure development
Thank You!

Esmé Cowles: escowles@princeton.edu
Mark Matienzo: matienzo@stanford.edu

CNI Membership Meeting
December 4, 2020