

Modeling a Digital Collaboration for America's National Collections



America's National Collections

National Archives

The National Archives and Records Administration is the nation's record keeper, safeguarding and preserving the records of the United States Government and ensuring that the American people can discover, use, and learn from this documentary heritage. In addition to the Archives facilities in the Washington, DC area, there are 14 regional Archives facilities and 13 Presidential Libraries around the country. We have over 10 billion records in our holdings. Our holdings occupy over 4 million cubic feet of space and 100 terabytes of electronic storage.



Smithsonian Institution

The Smithsonian Institution—the world's largest museum and research complex — includes 19 museums and galleries and the National Zoological Park. The total number of artifacts, works of art and specimens in the Smithsonian's collections is estimated at 137 million. The bulk of this material—more than 126 million specimens and artifacts—is part of the National Museum of Natural History. In addition, the Smithsonian Libraries maintains 1.9 million library volumes, including rare books; and 89,000 cubic feet of material are held in archival collections.



Smithsonian
Institution

Library of Congress

Today's Library of Congress is an unparalleled world resource. The collection of more than 144 million items includes more than 33 million cataloged books and other print materials in 460 languages; more than 63 million manuscripts; the largest rare book collection in North America; and the world's largest collection of legal materials, films, maps, sheet music and sound recordings. By providing these materials online, those who may never come to Washington can gain access to the treasures of the nation's library.



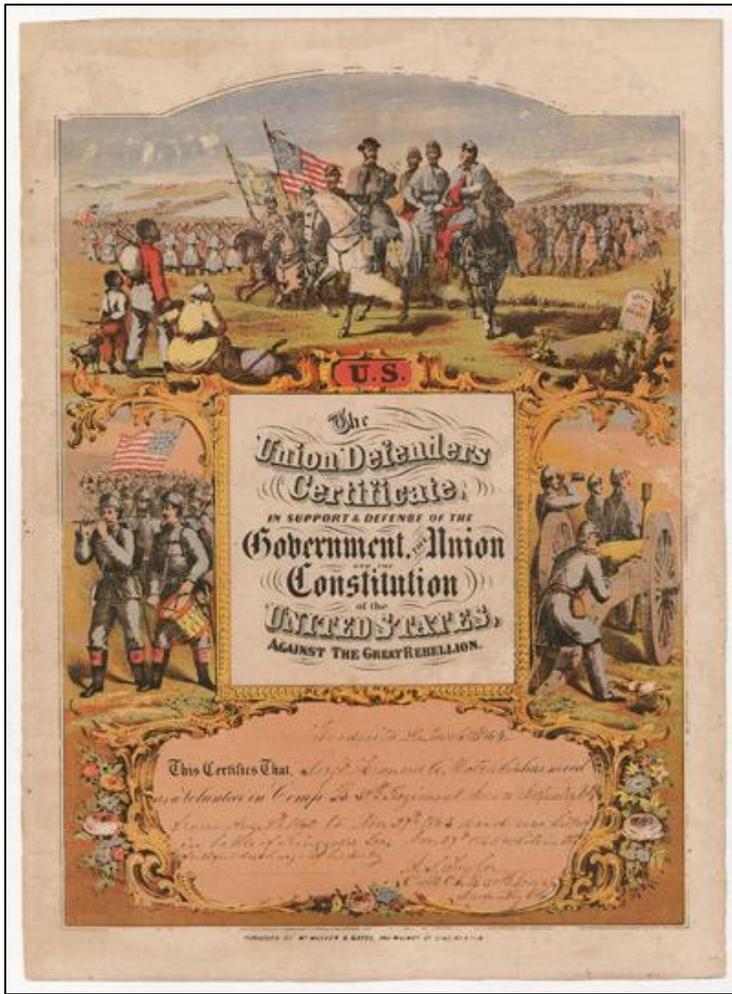
LIBRARY OF
CONGRESS

The importance of participating in the DPLA, and especially of showing the ability of three of the nation's public institutions to collaborate in making their collections accessible drove the project. For the *Beta Sprint*, we selected a small set of records that would show some of the breadth of our collections.



Abraham Lincoln's Hat
Smithsonian Institution





Each of our individual collections uniquely contribute to America's National Collections. In the short time of the Beta Sprint, it was not possible to build a fully working implementation of an interface to the disparate collections of the Smithsonian Institution, the Library of Congress, and the National Archives.

Proof of Union Service
National Archives

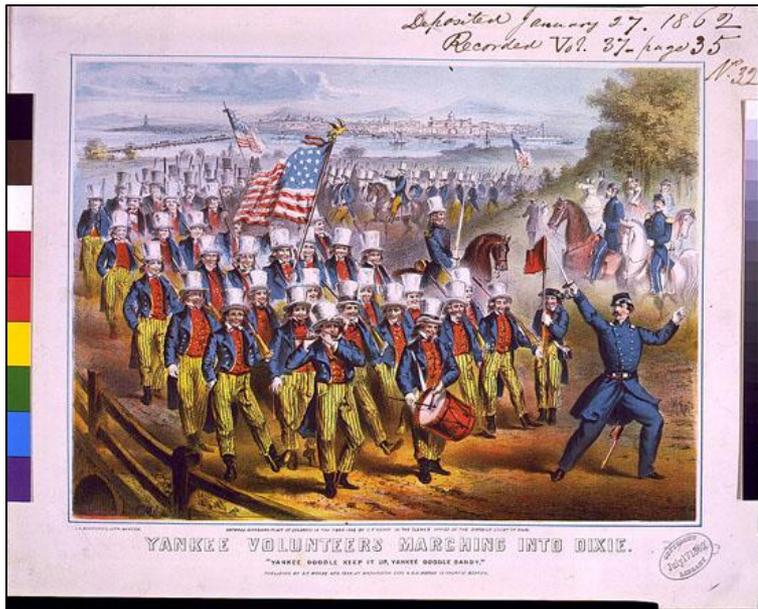


Smithsonian
Institution



LIBRARY OF
CONGRESS

For the purpose of the DPLA Beta Sprint, staff from the Smithsonian Institution, the Library of Congress, and the National Archives modeled a faceted search aggregator using the Smithsonian's Enterprise Digital Asset Network (EDAN) as a starting point.



Yankee volunteers marching into Dixie
Library of Congress



Smithsonian
Institution



LIBRARY OF
CONGRESS

Using the Smithsonian's existing EDAN metadata schema for the proof of concept, staff from the Library of Congress and the National Archives selected a small number of records for manual conversion to the schema by Smithsonian staff. These records were then ingested into EDAN for display through the Smithsonian Collections Search Center to show how having content from each of our collections could interact on the same platform.

Guidelines for the geoLocation tag

```
<geoLocation>
<L1 type=[Continent | Ocean]>
<L2 type=[Country | Nation | Sea | Gulf | Bay | Sound]>
<L3 type=[State | Province | Department | Country |
District | Republic | Sea | Gulf | Bay]>
<L4 type=[County | Island]>
<L5 type=[City | Town]>
<Other type = [anything: examples = Neighborhood, Street,
Desert, Park, etc.]>
<points label=[text] dates="yyyy-yyyy">
<point>
<latitude type=[decimal | degrees]>
<longitude type=[decimal | degrees]>
</point>
<point>
<latitude type=[decimal | degrees]>
<longitude type=[decimal | degrees]>
</point>
<point>
<latitude type=[decimal | degrees]>
<longitude type=[decimal | degrees]>
</point>
</points>
</geoLocation >
<geoLocation >
Blah blah
</geoLocation >
```

Example of a portion of the EDAN XML schema

As part of this proof of concept, a selection of records, with associated digital assets were drawn from the collections of the Library of Congress and the National Archives. Only a small set from the Library of Congress and National Archives were selected to test data mapping.

The eleven records from NARA represent a sampling of documents from the Online Public Access (OPA) system, including 19th-century photographs, patents, drawings, and correspondence.

The screenshot shows the National Archives OPA website interface. The header includes navigation links for Home, Research Room, Contact Us, Using OPA, and Search Tips. The main search bar contains the text "Search Online Public Access" and a search button. Below the search bar, the results for "Photograph of Navajo Indian Code Talkers Henry Bake and George Kirk, 12/1943" are displayed. The record group is identified as "Records of the U.S. Marine Corps, 1775 - 9999". The series is "Photographs of Navajo Indian 'Code-Talkers' in the U.S. Marine Corps, 1943 - 1948". The item is "Photograph of Navajo Indian Code Talkers Henry Bake and George Kirk, 12/1943". A thumbnail image of the two men in military uniforms is shown. The image number "64389-3" is visible at the bottom of the photo.

Example searches from LC and NARA websites

2nd Annual Dance for Spain [concert program]

Title

2nd Annual Dance for Spain [concert program]

Place of Publication/Creation

New York

Date Issued

February 5, 1939

Publisher

The Medical Bureau and North American Committee to Aid Spanish Democracy

Form

concert program

Physical Description

16p., 8 in. x 11 in.

Permissions note

Reproduced with permission of Martha Graham Resources, a division of The Martha Graham Center of Contemporary Dance, www.marthagraham.org.

Repository

[Music Division](#)



Last Updated: 07-15-2010

The ten records from the Library of Congress were drawn from the Performing Arts Encyclopedia, including music manuscripts of composer Johannes Brahms and several pieces of 19th century sheet music.

These joined the 7.44+ million records with 570,000+ images, video and sound files, electronic journals and other resources from the Smithsonian's libraries, archives & museums in a test site for the *Beta Sprint*.

DATE MADE: 1955
ID NUMBER: 2007.0204.01
DATA SOURCE: National Museum of American History, Kenneth E. Behring Center

Narrative of the United States exploring expedition. During the years 1838, 1839, 1840, 1841, 1842. By Charles Wilkes... In five volumes, with thirteen maps.

AUTHOR: Wilkes, Charles 1798-1877
SUBJECT: United States Exploring Expedition (1838-1842)
PHYSICAL: 5 v. fronts. (v. 1-2, ports.) illus. (incl. plans, music) plates, maps (part) DESCRIPTION: (fold.) 26 cm
TYPE: Books
PLACE: Oceania
South America
Hawaii
Oregon
Antarctica
DATE: 1849
TOPIC: Discovery and exploration
Description and travel
LL NUMBER: Q115 W68 1849
NOTE: Half title: United States exploring expedition
DATA SOURCE: Smithsonian Institution Libraries

Voyage of the U.S. Exploring Squadron, commanded by Captain Charles Wilkes, of the United States Navy, in 1838, 1839, 1840, 1841, and 1842; together with explorations and discoveries made by Admiral d'Urville, Captain Ross, and other navigators and travellers; and an account of the expedition to the Dead Sea, under Lieutenant Lynch / by John S. Jenkins ... ; with numerous illustrations
AUTHOR: Jenkins, John S (John Shilwell) 1818-1852
PHYSICAL: 517 p. : ill. (steel engravings), map; 24 cm

sorted by relevancy | grid view | slideshow | print results | expand all | share

Search Results
177814 documents - page 1 of 8891

archive > **online media: true**

Earth Lodge n.d expand

PHYSICAL: 1 Photograph 003 in x 004 in
DESCRIPTION: TYPE: **Archival materials**
DATE: nd
LOCAL NUMBER: NAA INV 01598600
DATA SOURCE: National Anthropological **Archives**

Test Record SIA 216637 1846- expand

TYPE: Mixed **archival materials**
DATE: 1846
LOCAL NUMBER: xxx
DATA SOURCE: Smithsonian Institution **Archives**

Records, 1989 expand

CREATOR: Smithsonian Institution Office of Smithsonian Institution **Archives**
Photographic Survey Project
PHYSICAL: 7 cu. ft. (7 record storage boxes)
DESCRIPTION: TYPE: Manuscripts

COLLECTION DATE: 22 JUN 1978
TAXONOMY: Scaridae : Animalia : Chordata : Actinopterygii : Perciformes : Scaridae
USNM NUMBER: 346053
DATA SOURCE: NMNH - Vertebrate Zoology - **Files** Division

Scaridae expand

EPIDEMIOLOGY: SP-78
COLLECTION DATE: 22 Jun 1978
TAXONOMY: Scaridae : Animalia : Chordata : Actinopterygii : Perciformes : Scaridae
USNM NUMBER: 346052
DATA SOURCE: NMNH - Vertebrate Zoology - **Files** Division

Cichlasoma synspilum expand

TAXONOMY: Cichlasoma synspilum : Animalia : Chordata : Actinopterygii : Perciformes : Cichlidae
USNM NUMBER: 395058
DATA SOURCE: NMNH - Vertebrate Zoology - **Files** Division

Rypticus expand

TAXONOMY: Rypticus : Animalia : Chordata : Actinopterygii : Perciformes : Serranidae : Epinephelinae
USNM NUMBER: 270278
DATA SOURCE: NMNH - Vertebrate Zoology - **Files** Division

LIBRARIES

Smithsonian Libraries
collections

Example search retrieving digital books and other library collections from the Smithsonian's Collections Search Center.

ARCHIVES

Smithsonian archival
collections

Photographs, papers, online finding aids and other archival collections are available through the Smithsonian's Collections Search Center

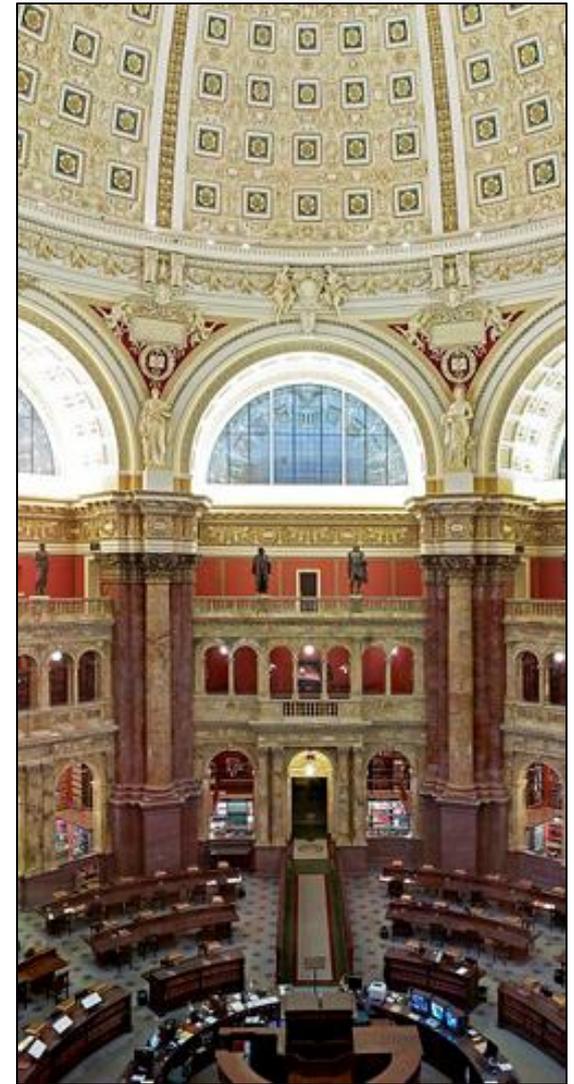
MUSEUMS

Smithsonian museum
collections

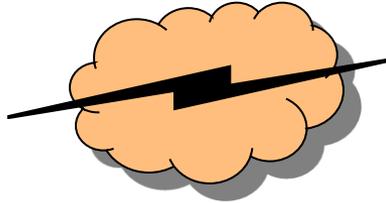
Scientific specimens as well as artworks and historical artifacts are findable through the Smithsonian's Collections Search Center.



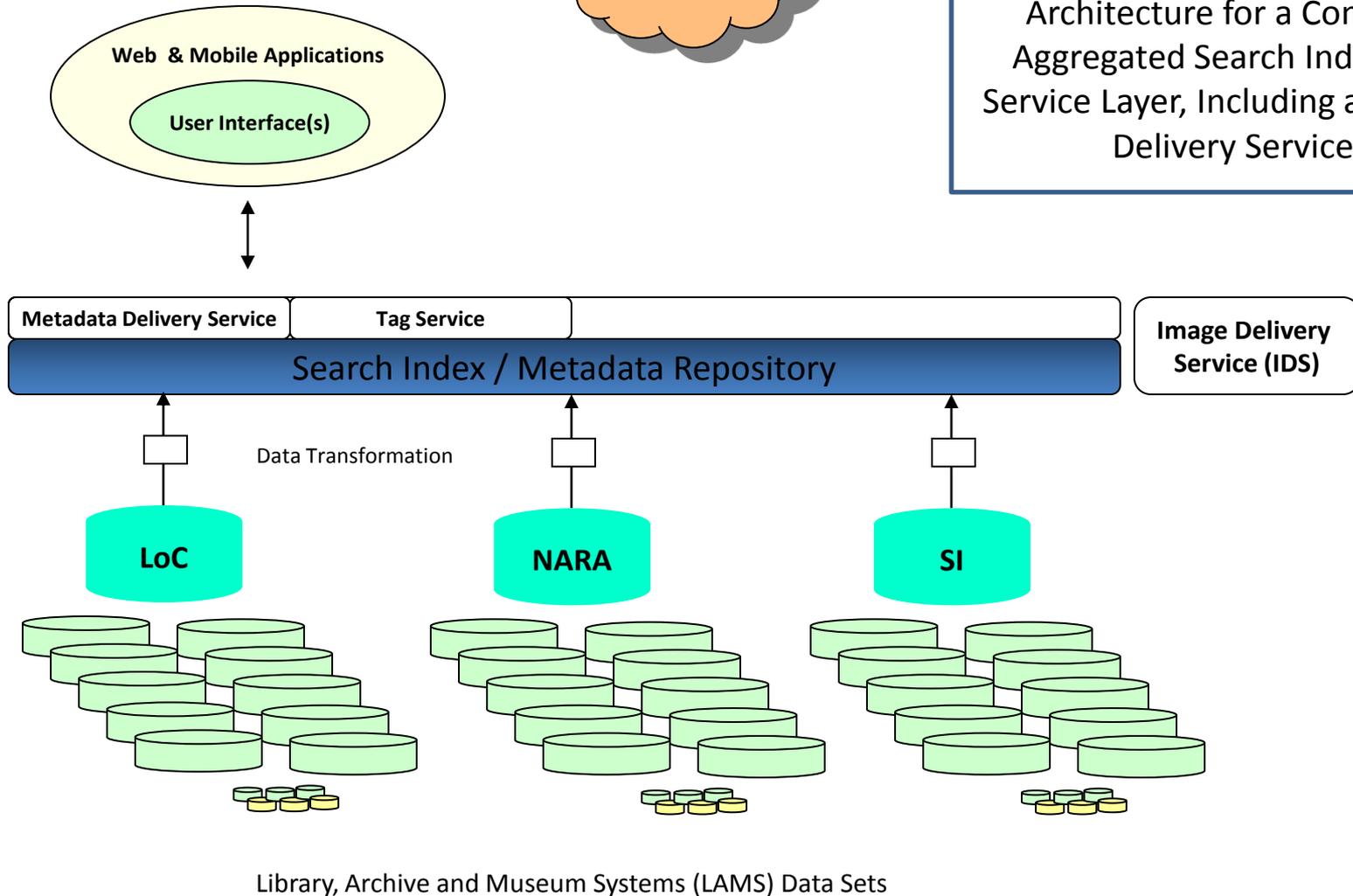
The following two slides depict a proposed Conceptual and Technical High Level Architecture (HLA) for the faceted search aggregation used in the Beta Sprint.



The World Wide Web



DPLA
Conceptual High-Level
Architecture for a Common
Aggregated Search Index and
Service Layer, Including an Image
Delivery Service





End Users

DPLA
 Technical High-Level Architecture
 for a Common Aggregated Search
 Index and Service Layer,
 Including an Image Delivery
 Service
 – Cloud-hosted –

Web or Mobile Application / User Front-End



MDS, IDS
Handler

Metadata Delivery Service (MDS)
Image Delivery Service (IDS)

MDS
Back-end +
Master Index

Request handlers, Response handlers,
Update handlers



Master Lucene Index / Metadata Repository

IDS Back-end



Image Store(s)

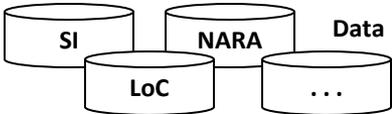
Pre-Processing

Raw Index



- jetty (admin for Solr)
- update handlers
- Ingest / pre-processing repository

Data Ingests
XML



Screen shots of a proof of concept DPLA faceted search aggregator Library of Congress, National Archives, and Smithsonian data

1. A Digital Public Library of America Search Interface
2. Search results: List view with thumbnails
3. Search Results: Grid view with thumbnails
4. National Archives result, expanded record
5. Library of Congress expanded record
6. National Archives item, detail with image
7. Library of Congress item, detail with image
8. Smithsonian result, expanded record
9. Smithsonian item, detail with image

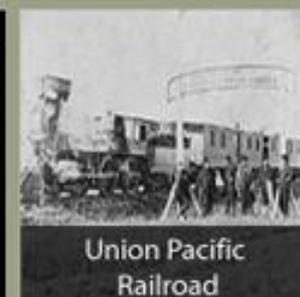
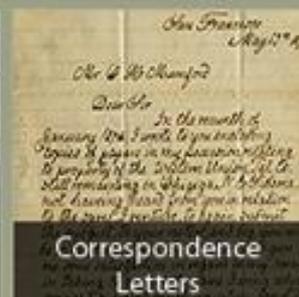
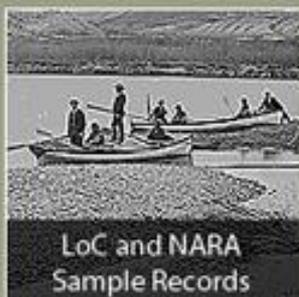


[New Search](#) [Tutorial](#) [Search Collections](#) [Search History](#) [Browse Collections](#) [Blog](#)

Search catalogue records with images, video and sound files, electronic journals and other resources from the Smithsonian, Library of Congress and National Archives.

Only return results with images and media files

Include visitor tags BETA [help](#)



Browse Collections

[Types](#) [Topics](#) [Taxonomy](#) [Place](#) [Name](#) [Culture](#) [Language](#) [Datasource](#)

Below is a subset of the most commonly used types in the Smithsonian Collection. You can access the full listing by clicking [see all types](#).

Books (571450)	Landscapes (183327)	Sculpture (visual work) (105753)
Paintings (466456)	Portraits (181609)	Exhibitions (events) (85422)
Taxonomic type specimens (445095)	Paratypes (137733)	Artist files (73827)
Photographs (393727)	Exhibition catalogs (137216)	Trade catalogs (68572)
Archival materials (296521)	Halophanes (120019)	Articles (63941)

Search Results: List View

Modify Your Search

Search Term

 Only return results with online media Include visitor tags**BETA**

Narrow By

Online Media

Frequency Alphabetical

Images + - (18)

Type

Frequency Alphabetical

Archival materials + - (11)

Correspondence + - (4)

Scores + - (3)

Manuscripts + - (2)

Music + - (2)

Architectural drawings + - (1)

Patent drawings + - (1)

Photographs + - (1)

Pictorial works + - (1)

Topic

Name

Culture

Language

Place

Date

Data Source

sorted by relevancy ▾

grid view

slideshow

print results

expand all

share

next >

Search Results

21 documents - page 1 of 2

DPLA

Caire. Interieur de l'eglise cophte Ste Serge [graphic] / Bonfils

collapse



PHOTOGRAPHER: Maison Bonfils (Beirut, Lebanon)

PHYSICAL DESCRIPTION: 1 photographic print . : albumen. ;

TYPE: Graphics
Albumen printsPLACE: Egypt
CairoDATE: 1867
1899
"[between 1867 and 1899]"
1860-1900TOPIC: Copts—Structures
Iconostases
ChurchesNOTES: **DPLA** test records
Title from item
No. 1129

SUMMARY: Interior of St. Sergius Coptic Church with panel of icons over lattice iconostasis

DATA SOURCE: Library of Congress

view

print

share

add tag

[11 more](#)

Thema mit Variationen / von Johs. Brahms

expand

AUTHOR: Brahms, Johannes 1833-1897

PHYSICAL DESCRIPTION: [7] p. of ms. music, bound ; 24 x 33 cm

Modify Your Search

Search Term

DPLA

Only return results with online media

Include visitor tags **BETA**

apply

Narrow By

Online Media

Frequency Alphabetical

Images + - (18)

Type

Frequency Alphabetical

Archival materials + - (11)

Correspondence + - (4)

Scores + - (3)

Manuscripts + - (2)

Music + - (2)

Architectural drawings + - (1)

Patent drawings + - (1)

Photographs + - (1)

Pictorial works + - (1)

Topic

Name

Culture

Search Results

21 documents - page 1 of 2

sorted by title

list view

slideshow

print results

share

next >

DPLA

6 more



Ade / [Text] Siegfried Kapper (nach dem Bo^hmische ...

view print share add tag

1 more



Alexander Graham Bell's Telephone Patent Drawing a ...

view print share add tag



Caire. Interieur de l'eglise co ...

view print share add tag



Civil War Veterans, Fourth of July or Decoration D ...

view print share add tag

1 more



Directors of the Union Pacific Railroad on the 100 ...



Drawing of the Incandescent Light Bulb by Thomas E ...

1 more



Enlistment paper of William F. Buffalo Bill Cody



The friends we love : song and chorus / by Alice H ...

Search Results: Grid View

Civil War Veterans, Fourth of July or Decoration Day, Ortonville, Minnesota ..., ca. 1880

collapse



CREATOR: Farrington, H. L.

PHYSICAL: 1 photonegative

DESCRIPTION: 1 photoprint, reference copy

TYPE: Two-dimensional graphics

PLACE: Orntonville (Minn.)

DATE: ca 1880
1880-1890

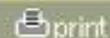
TOPIC: Fourth of July
Veterans

NOTES: Original negative made into a positive for viewing purposes
Forms part of: H. L. Farrington Collection, ca. 1900-ca. 1960
DPLA test records

SEE MORE ITEMS IN: [H. L. Farrington Collection, ca. 1900-ca. 1960](#)

DATA SOURCE: National Archives and Records Administration

view



print



share

add tag

**National Archives Result
Expanded record**

Walt Whitman, ca. 1860-1865

expand



CREATOR: War Department Office of the Chief Signal Officer

PHYSICAL: 1 photonegative

DESCRIPTION:

TYPE: Two-dimensional graphics

DATE: ca 1860-1865

DATA SOURCE: National Archives and Records Administration

[1 more](#)



[Letter, 1894 March] 17, Wien [to] Ed. Hanslick / JB. [Johannes Brahms]

[collapse](#)

AUTHOR: Brahms, Johannes 1833-1897
Hanslick, Eduard 1825-1904
Library of Congress Gertrude Clarke Whittall Foundation

SUBJECT: Brahms, Johannes 1833-1897
Hanslick, Eduard 1825-1904

PHYSICAL 1 item
DESCRIPTION:

TYPE: Correspondence

PLACE: Germany

DATE: 1894

TOPIC: Composers

NOTES: **DPLA** test records
Holograph, signed

An autograph letter of Johannes Brahms, written to Eduard Hanslick, music critic, aesthete, musicologist, and Austrian civil servant

The material described in this catalog record is located in the Gertrude Clarke Whittall Foundation Collection in the Library of Congress

DATA SOURCE: Library of Congress

[view](#)

[print](#)

[share](#)

[add tag](#)

**Library of Congress Result
Expanded record**

[1 more](#)



[Postcard, 1873 Dec. 5], Wien [to] H. Levi / J Br. [Johannes Brahms]

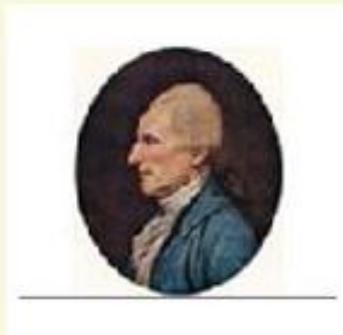
[expand](#)

AUTHOR: Brahms, Johannes 1833-1897

PHYSICAL 1 item
DESCRIPTION:

Richard Henry Lee (1732-1794), (painting)

expand



PAINTER: Peale, Charles Willson 1741-1827

MEDIUM: oil: canvas Oil on canvas

TYPE: Paintings

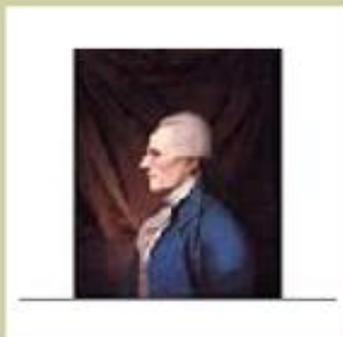
DATE: 1784

CONTROL NUMBER: IAP 46020191

DATA SOURCE: Art Inventories

Richard Henry Lee (1732-1794), (painting)

collapse



PAINTER: Peale, Charles Willson 1741-1827

SUBJECT: **Lee, Richard** Henry

MEDIUM: oil: canvas Oil on canvas

TYPE: Paintings-Replica
Paintings

ADDRESS: 8th & F Streets, N.W Washington District of Columbia 20560

DATE: 1795

1805

Ca. 1795/1805

TOPIC: Portrait male-Bust
Portrait male-Profile
Occupation-Political-Statesman

CONTROL NUMBER: IAP 08650213

NOTES: Owner, 1975

**Smithsonian Result
Expanded record**

Drawing of the Incandescent Light Bulb by Thomas Edison, Jan. 27, 1880



[fullscreen resource](#)

BETA

Add new tags to describe this record:

[submit](#)

[about tags](#)

No tags have been submitted. Be the first to contribute tags!

Catalogued Data:

TITLE: Drawing of the Incandescent Light Bulb by Thomas Edison, Jan. 27, 1880

CREATOR: Department of Commerce. Patent Office (1925 - 1975))

SUBJECT: Edison, Thomas A (Thomas Alva) 1847-1931

PHYSICAL DESCRIPTION: 1 drawing
1 print, reference copy
Patent drawings

DATE: Jan 27, 1880

TOPIC: Light bulbs

NOTES: The creator compiled or maintained the series from 1836 to 1956
Forms part of: Record of the Patent and Trademark Office, 1836-1978, Patented Case Files, 1836-1956
DPLA test records

DATA SOURCE: National Archives and Records Administration

RECORD IDENTIFIER: siris_**dpla**_970295

**National Archives Item
Detail record**

"[Letter,1894 March] 17, Wien [to] Ed. Hanslick / JB. [Johannes Brahms]"



[fullscreen resource](#)

BETA

Add new tags to describe this record:

[about tags](#)

No tags have been submitted. Be the first to contribute tags!

**Library of Congress Item
Detail record**

Catalogued Data:

TITLE: "[Letter,1894 March] 17, Wien [to] Ed. Hanslick / JB. [Johannes Brahms]"

AUTHOR: Brahms, Johannes 1833-1897
Hanslick, Eduard 1825-1904
Library of Congress Gertrude Clarke Whittall Foundation

SUBJECT: Brahms, Johannes 1833-1897
Hanslick, Eduard 1825-1904

PHYSICAL DESCRIPTION: 1 item

TYPE: Correspondence

PLACE: Germany

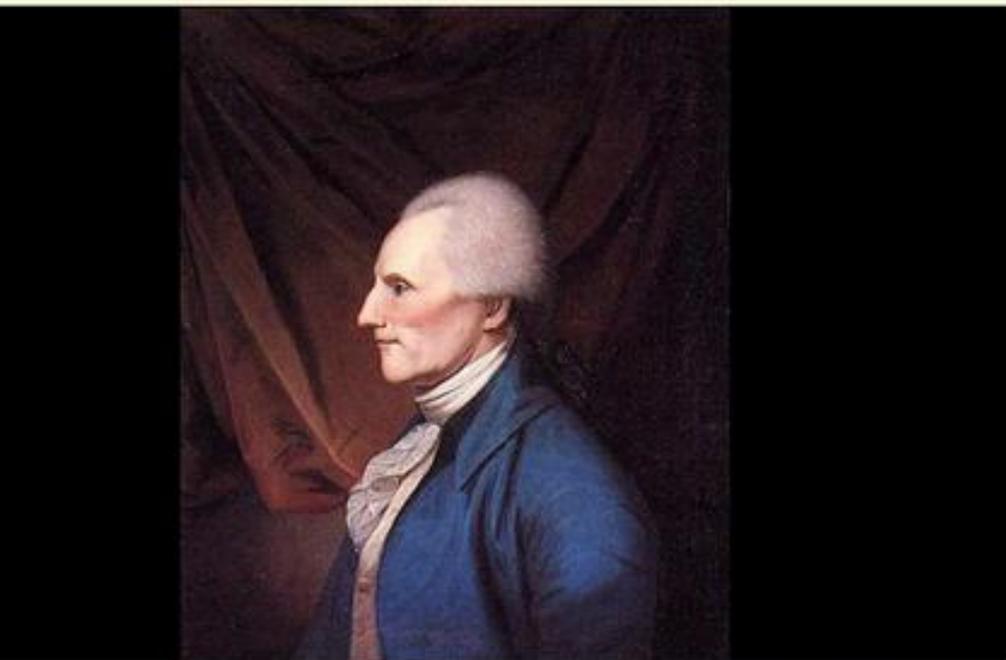
DATE: 1894

TOPIC: Composers

NOTES: **DPLA** test records
Holograph, signed
An autograph letter of Johannes Brahms, written to Eduard Hanslick, music critic, aesthetician, musicologist, and Austrian civil servant
The material described in this catalog record is located in the Gertrude Clarke Whittall Foundation Collection in the Library of Congress

DATA SOURCE: Library of Congress

RECORD IDENTIFIER: siris_**dpla**_970109



[fullscreen resource](#)

Catalogued Data:

TITLE: Richard Henry Lee (1732-1794), (painting)

PAINTER: Peale, Charles Willson 1741-1827

SUBJECT: Lee, Richard Henry

MEDIUM: oil: canvas Oil on canvas

TYPE: Paintings-Replica
Paintings

ADDRESS: 8th & F Streets, N.W
Washington District of
Columbia 20560

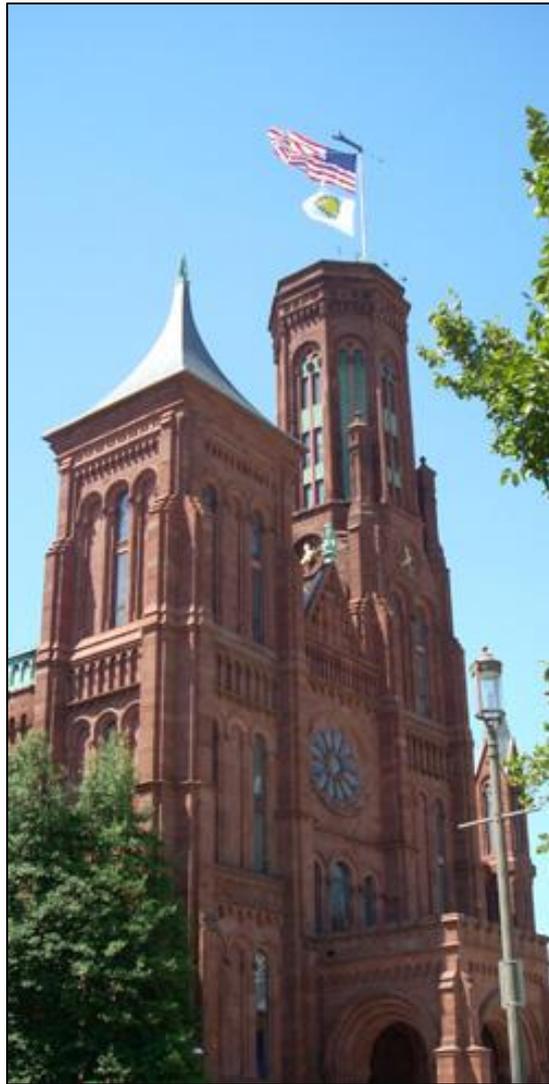
DATE: 1795
1805
Ca. 1795/1805

TOPIC: Portrait male-Bust
Portrait male-Profile
Occupation-Political-
Statesman

CONTROL NUMBER: IAP 08650213

NOTES: Owner, 1975
Antiques (Nov. 1974)
Miller, Lillian B., "The Dye Is
Now Cast: the road to
American independence,
1774-1776," Washington,
DC: Smithsonian Institution
Press (National Portrait
Gallery), 1975
"National Portrait Gallery:
Permanent Collection
Illustrated Checklist,"
Washington, D.C.:
Smithsonian Instit. Press,
1987, pg. 174

**Smithsonian Item
Detail record**



The demonstration site for the faceted search aggregator is available at:

<http://collectionstest.si.edu/search-dpla/>

(login: dpla/review)

The demonstration site will be available through 1 November 2011

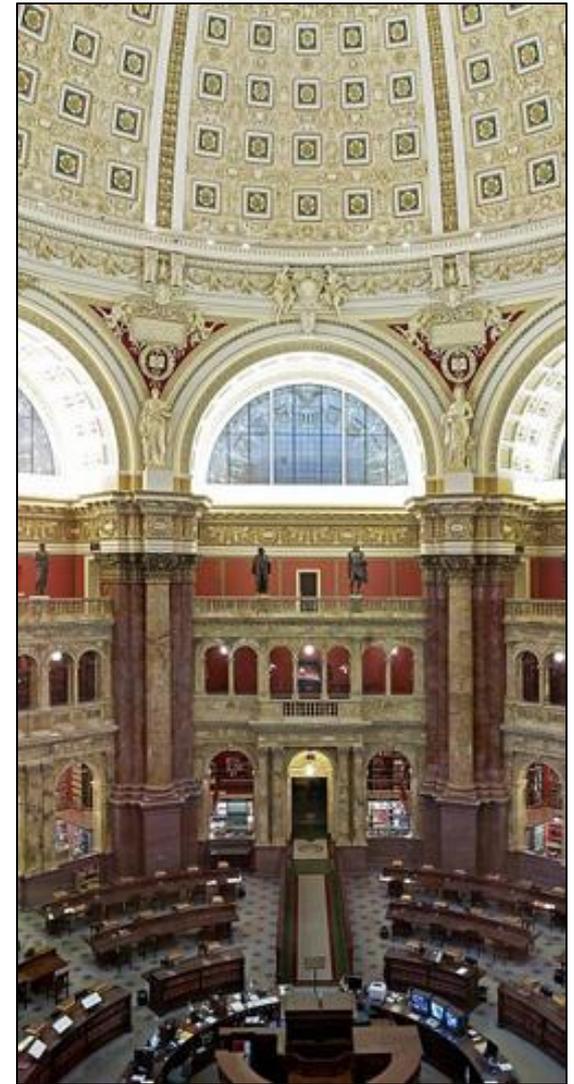
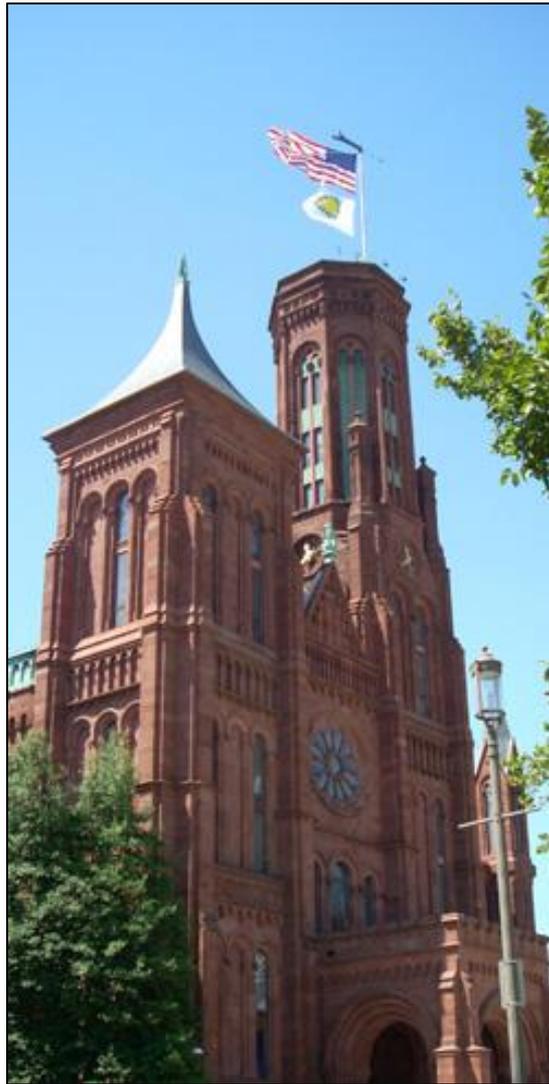
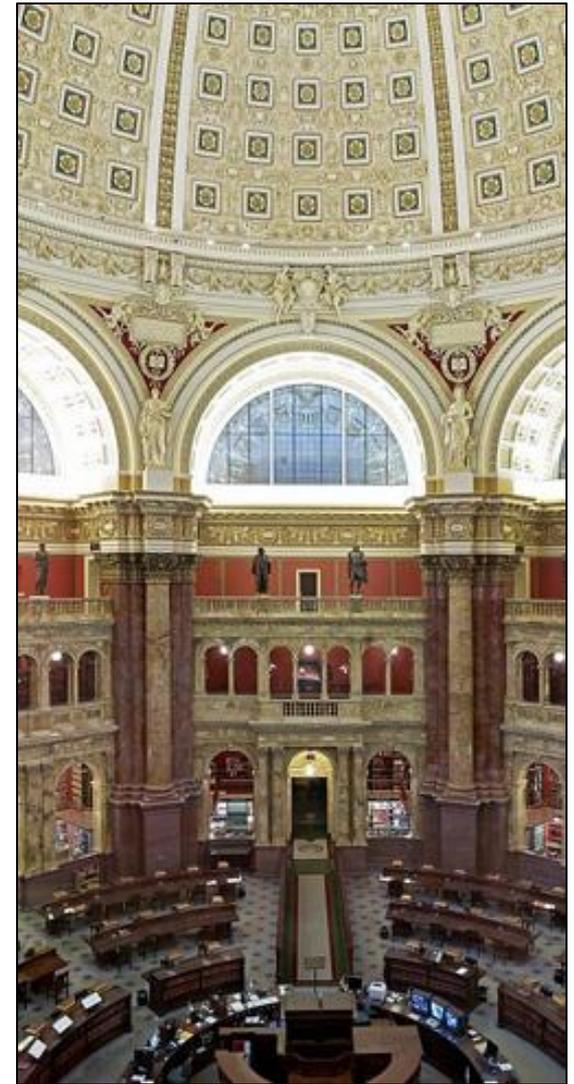
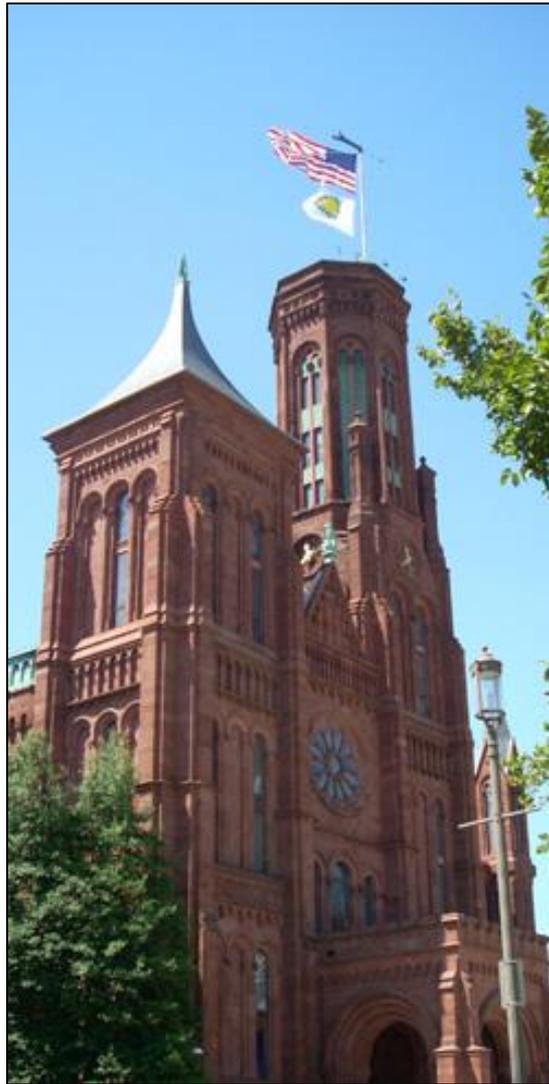


Image and site credits: [Proof of Union Service](#) (NARA) ~ [Yankee volunteers marching into Dixie](#) (LC) ~ [Lincoln's Hat](#) (SI) ~ [Smithsonian Collections Search](#) (SI) ~ [OPA – Online Public Access system](#) (NARA) ~ [Library of Congress Digital Collections](#) (LC)



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