Using IIIF and Wikibase to syndicate and share cultural heritage material on the Web

Jeff Mixter

Software Engineer

OCLC Research

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Background

- **IIIF** – International Image Interoperability Framework: Consortium designed to create both community of practice as well as APIs for describing and sharing digital material on the Web

- **CONTENTdm** - OCLC's digital repository service for building and showcasing cultural heritage digital collections

- **Wikibase** – Infrastructure for working with semi-structured data (used to support Wikidata)

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MASS AGGREGATION

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Data Harvest

- Developed a prototype of the IIIF Change Discovery API for 13 Million CONTENTdm items

- Harvested the metadata

- Reconciled string headings to linked data URIs
  - Only looked at strings that were associated with Dublin Core fields
  - Limited those strings to ones that occurred more than 2000 times

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Data exploration

- Built a prototype application to search and explore the 13 Million harvested CONTENTdm records
    - https://researchworks.oclc.org/iiif-explorer/

Search for images of people, places, events, and more.

Louis Armstrong

🔍 ✕

Type ⌄

Audience ⌄

Creator ⌄

Contributor ⌄

Subject ⌄

Place ⌄

Publisher ⌄

Organization ⌃

☐ Oberlin College
72

☐ Missouri State Library
50

☐ Houston Public Library
34

☐ Hamilton College
32

☐ Illinois State Library
30

☐ Michigan Department of Natural...
27

☐ University of Nevada, Las Vegas
24

☐ Indiana Historical Society
19

☐ Gonzaga University
16

☐ Digital Horizons - North Dakota ...
13

☐ Ohio History Connection
12

☐ Denver Public Library
12

← 1 TO 20 OF 517 →

Louis Armstrong

Houston Public Library

Image Collections

🖼 VIEW ⌄

Louis Armstrong

Temple University

John W. Mosley Photographs

🖼 VIEW ⌄

Louis Armstrong

CSUC (Consorci de Serveis Universitàris de Catalunya)

Fons fotogràfic del Palau de la Música Catalana (Orfeó Català)

🖼 VIEW ⌄

Louis Armstrong

Indiana Historical Society

Duncan Schiedt Collection

🖼 VIEW ⌄

[Louis Armstrong]

Pikes Peak Library District

African Americans In Colorado Springs

🖼 VIEW ⌄

Louis Armstrong

Louis Armstrong

Louis Armstrong

Louis Armstrong

Louis Armstrong

☰   Louis Armstrong   ⋮

◁   ▷

1 of 1 • Louis Armstrong

View in CONTENTdm: https://cdm16002.contentdm.oclc.org/digital/collection/p15037coll17/id/60

Louis Armstrong

Subject

singer
musician
jazz musician
African Americans
United States of America
jazz

Type

Image

Organization

Temple University

Collection

John W. Mosley Photographs

More Like This

Findings

- It was exciting to find unexpected things in unexpected places

- Reconciliation was limited based on
  - Scale of the data
  - Heterogenous nature of metadata
  - Algorithmic approach to matching

- Exercise in harvesting and mapping record-based data for discovery

LINKED DATA FROM THE GROUND UP

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Data Harvest

- Worked with 5 CONTENTdm users and selected 3 collections from each

- Manually reviewed, mapped, and reconciled metadata

- Imported the data into a Wikibase instance for management

Data explorer

- Built a new prototype application to search and explore the data ingested into the Wikibase instance

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Search for images of people, places, events, and more.

louis armstrong

🔍

about ⌃

Jazz ⑨

African American men ⑨

Philadelphia ⑨

Musicians ⑨

African Americans ⑧

Composers ⑧

Entertainers ⑧

African American pioneers ⑧

African American entertainers ⑧

Jazz musicians ⑧

African American icons ⑧

classification used ⌄

depicts ⌄

part of ⌄

photographer ⌄

1 to 10 of 10 results for *louis armstrong*.

Louis Armstrong

READ MORE

Louis Armstrong

READ MORE

Louis Armstrong

READ MORE

Louis Armstrong

Louis Armstrong

Louis Armstrong and Jake Armstrong

Search for images of people, places, events, and more.

🔍

☰ Louis Armstrong ⋮

1 of 1 · Louis Armstrong

View in CONTENTdm | View in the Pilot Wikibase
IIIF Presentation Manifest viewer provided by Project Mirador
http://rightsstatements.org/vocab/InC/1.0/

Louis Armstrong

Daniel Louis "Satchmo" Armstrong was a musician, composer, jazz trumpeter, bandleader, singer, soloist, film star, and comedian. Considered one of the most innovative and influential artists in jazz history, Armstrong is known for songs like "West End Blues," "Black and Blue," "La Via En Rose" and "What a Wonderful World." By the time of his death in 1971, the man known around the world as "Ambassador Satch," was widely recognized as a founding father of jazz. His influence, as an artist and cultural icon, is universal, unmatched, and very much alive today.

date created
1944

height
8 inch

width
10 inch

part of
John W. Mosley Photograph Collection

classification used
Photographs

process or format
Black and white prints

about
Philadelphia | Entertainers | Musicians | Singers | Jazz | African Americans | Composers | African American entertainers | Jazz musicians | African American men | African American pioneers | African American icons | Composers--United States | Innovators

depicts
Louis Armstrong

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about ⌃

classification used ⌃

Photographs ⑧

depicts ⌃

part of ⌃

photographer ⌃

process or format ⌃

1 to 8 of 8 results for *depicts:Q161624*.

Louis Armstrong

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Louis Armstrong

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Louis Armstrong

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Louis Armstrong and Jake Armstrong

READ MORE

Louis Armstrong Outside of the Pyramid Club

READ MORE

Louis Armstrong

READ MORE

Louis Armstrong and Jake Armstrong

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Louis Armstrong

READ MORE

Search for images of people, places, events, and more. 🔍

☰ Louis Armstrong ⋮

PLEASE
DO NOT SPIT ON
THROW CIGARETTES
OR MATCHES ON
THIS FLOOR.

‹ ›

1 of 1 • Louis Armstrong

View in CONTENTdm | View in the Pilot Wikibase
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about
Philadelphia | Entertainers | Musicians | Singers | Jazz | African Americans | Composers | African American entertainers | Jazz musicians | African American men | African American pioneers | African American icons | Composers--United States | Innovators

depicts
Louis Armstrong

More Like This

Louis Armstrong (Q161624)

American jazz trumpeter, composer and singer
Satchmo | Pops | Armstrong, Louis

▼ In more languages ^{Configure}

Language	Label	Description	Also known as
English	Louis Armstrong	American jazz trumpeter, composer and singer	Satchmo Pops Armstrong, Louis

All entered languages

Constraint Violation Report View

Statements

type	person ⮂
	1 reference

website	http://www.louisarmstronghouse.org/
	1 reference

sex or gender	male ⮂
	1 reference

birth date	4 August 1901 *Gregorian*
	1 reference

Context and Background

Louis Armstrong (August 4, 1901 – July 6, 1971), nicknamed
Satchmo or Pops, was an American trumpeter, composer, singer
and occasional actor who was one of the most influential figures
in jazz. His career spanned five decades, from the 1920s to the
1960s, and different eras in jazz. Coming to prominence in the
1920s as an "inventive" trumpet and cornet player, Armstrong was a foundational
influence in jazz, shifting the focus of the music from collective improvisation to solo
performance. With his instantly recognizable gravelly voice, Armstrong was also an
influential singer, demonstrating great dexterity as an improviser, bending the lyrics and
melody of a song for expressive purposes. He was also skilled at scat singing.
Renowned for his charismatic stage presence and voice almost as much as for his
trumpet-playing, Armstrong's influence extends well beyond jazz music, and by the end
of his career in the 1960s, he was widely regarded as a profound influence on popular
music in general. Armstrong was one of the first truly popular African-American
entertainers to "cross over", whose skin color was secondary to his music in an America
that was extremely racially divided. He rarely publicly politicized his race, often to the
dismay of fellow African-Americans, but took a well-publicized stand for desegregation
in the Little Rock Crisis. His artistry and personality allowed him socially acceptable
access to the upper echelons of American society which were highly restricted for black
men of his era.

Sources: DBpedia   Wikipedia   Wikimedia Commons

⊞ UPDATE THE ENTITY

● About ○ Depicts — Philadelphia 🗑

● About ○ Depicts — Entertainers 🗑

● About ○ Depicts — Musicians 🗑

● About ○ Depicts — Singers 🗑

● About ○ Depicts — Jazz 🗑

● About ○ Depicts — African Americans 🗑

● About ○ Depicts — Composers 🗑

● About ○ Depicts — African American entertainers 🗑

● About ○ Depicts — Jazz musicians 🗑

● About ○ Depicts — African American men 🗑

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- ● About ○ Depicts — Philadelphia
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- ○ About ● Depicts — Musicians
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- ● About ○ Depicts — Jazz
- ○ About ● Depicts — African Americans
- ● About ○ Depicts — Composers
- ○ About ● Depicts — African American entertainers
- ○ About ● Depicts — Jazz musicians
- ○ About ● Depicts — African American men

UPDATE THE ENTITY

Depicts

○ About
● Depicts — Jazz musicians

○ About
● Depicts — African American men

● About
○ Depicts — African American pioneers

● About
○ Depicts — African American icons

● About
○ Depicts — Composers--United States

● About
○ Depicts — Innovators

○ About
● Depicts — Louis Armstrong

+ ADD A DEPICTION

depicts

African American entertainers 🔗   ✎ edit

▾ 0 references

+ add reference

Jazz musicians 🔗   ✎ edit

▾ 0 references

+ add reference

African American men 🔗   ✎ edit

▾ 0 references

+ add reference

Louis Armstrong 🔗   ✎ edit

digital representation URL   https://cdm16002.contentdm.oclc.org/digital/iiif/p15037coll17/60/2029,969,2712,3385/full/0/default.jpg

▾ 0 references

+ add reference

Trumpet 🔗   ✎ edit

digital representation URL   https://cdm16002.contentdm.oclc.org/digital/iiif/p15037coll17/60/3092,1682,1649,1119/full/0/default.jpg

▾ 0 references

+ add reference

+ add value

Findings

- It takes a lot of human effort to create the structured data
- Wikibase is a powerful and flexible infrastructure for creating, managing, and curating structured data
- There is a lot of potential for enhancing existing metadata about cultural heritage items

Opportunities for further research

- Evaluate how to better balance algorithmic record conversion with domain knowledge expertise

- Determine how to pull apart contextual metadata and descriptive metadata

- Explore how to leverage the new contextual metadata in end-user applications

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Questions?

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