access to art museums on-line: a role for social tagging and folksonomy?

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Archives & Museum Informatics
DC2008 Berlin | September 2008

access to collections
From: J. P. xxxxxx@xxxxxx.com
Date: Sat, 26 Aug 2006 11:24:43 -0700
To: timeline@metmuseum.org
Subject: Looking for a painting

Please help:

I have been looking on and off for years for this painting. The painting is of a very well dressed renaissance man standing in a room (a library) in front of him on a table is a large hour glass. The painting has very rich colors. I have talked to a lot of people and they have said they have seen this painting but can't remember its name or the name of the artist.

Could you please use your resources to find this painting?
**What “J. P.” knows**
- painting
- Renaissance
- standing man
- very well dressed library
- hourglass table
- rich colors

**What a Met curator knows**

*Portrait of a Man*, ca. 1520–25
Moretto da Brescia (Alessandro Bonvicino) (Italian, Brescian, born about 1498, died 1554)
Oil on canvas; 34 1/4 x 32 in. (87 x 81.3 cm)
Rogers Fund, 1928 (28.79)

Provenance:
- Maffei, Brescia (by 1760, as “Ritratto d’uomo con carta in mano, ed Orologio, di Callisto da Lodi”); by descent to contessa Beatrice Erizzo Maffei Fenaroli Avogadro, Palazzo Fenaroli, Brescia (by 1853–at least 1857, as by Moretto); her daughter, contessa Maria Livia Fenaroli Avogadro, later marchesa Fassati, Brescia (in 1862); her son, marchese Ippolito Fassati, Milan (by 1878–at least 1912); Elia Volpi, Florence, by 1915–16; sold to Knoedler; [Knoedler, New York, 1916–28; sold to MMA]

**What they both know ...**

**Volunteer supplied tags**
- bangs
- beard
- border
- cape
- contemplation
- elbow
- hourglass
- landscape
- learned
- man
- mountain
- moustache
- nobleman
- painting
- portrait
- ring
- robe
- Renaissance

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http://www.archimuse.com
**What questions do visitors ask of museums?**

- Access to Collections

**How do users search on-line collections?**

- Access to Collections
How do users search on-line collections?

Only one shark

Describing works of art

Access to Collections

label text

curatorial analysis

Description

The Oil (222791) appears to be a copy of the painting produced by the artist more than two decades earlier, probably in the 1920s. The painting is accented by the play of light and shadow on the surface of the canvas, creating a sense of depth and dimension. The figures are depicted in a naturalistic style, with a balance of light and dark tones that enhances the overall composition.

http://www.archimuse.com
Access to Collections

Mis-match between vocabulary of visitor and the museum
...not searching for "museum" content; they were searching for "calligraphy" content.

C. Alexander, et al., Beyond Launch: Museum Videos on YouTube, Museums and the Web 2008

there's no such thing as "museum content"

discovery is institution agnostic
Can social tagging and folksonomy improve online access to art collections?

Research Questions

A Model of Tagging
**Research Questions**

Users Tag Works of Art

- balloon sleeves
- black bracelet
- cape
- evening dress
- elegant red
**Research Questions**

Users Tag Works of Art @ MMA

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**Vocabulary Sources**

- Folksonomy
- Users
- What kinds of terms are assigned?
- How many terms?
- Works of art
- Terms assigned 1
- Terms assigned 2
- Museum records
- Art and Architecture Thesaurus (AAT)
- Union List of Artists Names (ULAN)
- Searches on art image databases
- Works of art

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**Research Process**

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**J. Trant, February 2008**

Based on Trant 2006
the experiment and our findings

Research Questions: Tagging

What was tagged?
Research Questions: Tagging

Characterizing Tagging: Works Tagged

Multi-Institutional Tagger: Works by Institution

- The Metropolitan Museum of Art (14%)
- Tate Modern (3%)
- Skirball (9%)
- San Francisco Museum of Modern Art (9%)
- Rubin (6%)
- Minneapolis Institute of Arts (14%)
- Los Angeles County Museum of Art (11%)
- Cleveland Museum of Art (7%)
- Denver Art Museum (4%)
- Indianapolis Museum of Art (13%)
- Los Angeles County Museum of Art (11%)

1,784 works
11 museums
Research Questions: Tagging

Characterizing Tagging: Works Tagged

Range of media
**Research Questions: Tagging**

- What kinds of terms are assigned?
- Who assigns terms?
- How many terms?
- How does users' tagging differ?

**Study Terms Assigned**

<table>
<thead>
<tr>
<th></th>
<th>All Works</th>
<th>Work 1</th>
<th>Work 2</th>
<th>Work 3</th>
</tr>
</thead>
<tbody>
<tr>
<td># of works</td>
<td>1,784</td>
<td>251</td>
<td>56,399</td>
<td>21,557</td>
</tr>
<tr>
<td># of tags</td>
<td>36,981</td>
<td>1,194</td>
<td>1,621</td>
<td></td>
</tr>
<tr>
<td># of users</td>
<td></td>
<td></td>
<td></td>
<td>690</td>
</tr>
</tbody>
</table>

**Multi-Institution Tagger**

- 1,784 works
- 36,981 tags
- 11,944 distinct tags
- 1,621 total tags

**Single-Institution Tagger**

- 251 works
- 56,399 tags
- 21,557 distinct tags
- 690 total tags

**Descriptive Statistics**

- Tagger velocity
- Tag variation

**22 tags / user**

**82 tags / user**
registered users tag more
Characterizing Tagging: Sessions per Registered User

- 1 session: 68%
- 2 sessions: 20%
- 3 sessions: 6%
- 4 or more sessions: 6%

Characterizing Tagging: Tags per Work by Object Type

- Average Tags / Work
- Linear (Average Tags / Work)

Research Questions: Tagging

J. Trant, Archives & Museum Informatics
Multi-Institutional Tagger: Tags per Work, Average by Object Type

Characterizing Tagging: Tags Per Work by Object Type

Characterizing Tagging: Vocabulary Stabilization?

Research Questions: Tagging

84% novel

16% redundant
Research Questions: Tagging

Characterizing Tagging: Vocabulary Stabilization?

- 84% novel
- 16% redundant

36,981 tags
11,944 distinct

Are tags new terms?

http://conference.archimuse.com/jtrants
Research Questions: Museum Documentation

Do user tags differ from museum documentation?

J. Trant, February 2008
based on Trant 2006
Museum Documentation: Catalogue Records On-line

Tuesday, September 23, 2008

http://www.archimuse.com
Do user tags differ from museum documentation?
Do user tags differ from museum documentation?

photograph
Do user tags differ from museum documentation?

Research Questions: Museum Documentation

Multi-Institutional Tagger: Terms Not Found in Museum Documentation

31,949 terms
86% not found
**Research Questions: Museum Documentation**

Multi-institutional Tagger: Terms Not Found in Museum Documentation

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**Top 100 Not Matched**

<table>
<thead>
<tr>
<th>Term</th>
<th>Times Assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>subject</td>
<td>39</td>
</tr>
<tr>
<td>genre</td>
<td>27</td>
</tr>
<tr>
<td>color</td>
<td>10</td>
</tr>
<tr>
<td>geo-cultural</td>
<td>10</td>
</tr>
<tr>
<td>material</td>
<td>9</td>
</tr>
<tr>
<td>style/period</td>
<td>5</td>
</tr>
</tbody>
</table>

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**Do user tags differ from museum documentation?**

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**Research Questions: Extended Museum Documentation**

Are Other Forms of Museum Documentation More Useful?

**Genres**

- Gallery Label Text
- Docent Tour Talking Points / Tour Scripts
- Special Exhibition Catalogue Entries
- Permanent Collection Guidebook Text
- Curatorial Analysis or Notes
- Scholarly Article
- Web Site ‘Feature’ Texts
- Audio Tours or Podcasts
- Newspaper/Popular Article

*both scholarly + general public*
Research Questions: Extended Museum Documentation

- 11 documents
- 19 distinct tags
- Found 138 times
- 51 relevant
- 87 not relevant
- 63% false matches

...the house where he grew up ...

- Extended documentation not better than online museum documentation
- Text mining not algorithmic
- Public genres not much better than scholarly
Do Museum Professionals find tags useful?

Research Questions: Usefulness

- Users who assigns how many terms?
- Folksonomy: what kinds of terms are assigned?
- Terms assigned 1
- Terms assigned 2
- Works of art

Vocabulary sources:
- Museum records
- Art and Architecture Thesaurus (AAT)
- Union List of Artists Names (ULAN)
- Searches of art image databases

Terms applicable to:
- Works of art

J. Trant, February 2008
Based on Trant 2006
Steve Term Review

36,931 terms

IF YOU FOUND THIS WORK USING THIS TERM IN A QUERY WOULD YOU BE SURPRISED?
**Research Questions: Usefulness**

**Would Terms Be Useful for Searching?**

- **88% yes**
- **12% no**

**Sample Works: Useful Terms**

- **Multi-Institutional Tagger: Useful Terms?**
  - [36,931 Terms: 32,609 useful]

**Research Questions: Usefulness**
Research Questions: Usefulness

In-depth study of a sample

J. Trant, February 2008 based on Trant 2006

Research Questions: AAT/ULAN

Are tags in Museum Vocabulary Sources?

J. Trant, February 2008 based on Trant 2006
Research Questions: AAT/ULAN

Are tags in Museum Vocabulary Sources?

- Matched: 70.2%
- Unmatched: 29.8%

☑️ representational

Multi-institutional Tagger: Terms Found in AAT
[36,981 Terms; 25,978 Matched Some Field in AAT]

29.8% unmatched

70.2% matched
Multi-institutional Tagger: Terms Found in AAT: Distinct Terms

- 11,944 distinct terms
- 4,448 matched some field in the AAT

37.2% matched
62.8% unmatched

Research Questions: AAT/ULAN
Are tags in Museum Vocabulary Sources?
Multi-institutional Tagger: Full Matches to AAT by Hierarchy

Materials

Styles and Periods

Associated Concepts

Are tags in Museum Vocabulary Sources?

Research Questions: AAT/ULAN

- 2% full match
- 34% partial match
- 64% unmatched

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Are tags in Museum Vocabulary Sources?

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ULAN Name: Green Terms are Unambiguous

Research Questions: AAT/ULAN

Multi-institutional Tagger: Full Matches to ULAN

[Top 562 of 698 Terms - assigned 3 or more times
only eleven (11) of 33 distinct terms are unambiguous artists names]
Research Questions: Searching

Are tags useful for searching?

Could tagging improve on-line searching for works of art?
**J TRANT: SOCIAL TAGGING AND FOLKSONOMY**

**RESEARCH QUESTIONS: SEARCHING**

**Could tagging improve on-line searching for works?**

Tags could improve search.

**Search Terms**

- Museum Documentation

**Tags**

- New Tags
- Redundant Tags

**Unsuccessful Searches**

- Museum Documentation not used in search

**Successful searches**

**Tags**

**Museum Documentation**

**Could tagging improve on-line searching for works?**

**Do Tags Match Search Terms?**

- Search
  - shark
  - Works of Art
  - Advanced Search

![Search Interface](http://www.archimuse.com)
Do Tags Match Search Terms?

Research Questions: Searching

Multi-Institutional Tagger: Search Terms in Logs

- Duplicated Search Terms
- Distinct Search Terms

MIA SFMOMA

Duplicated Search Terms

Distinct Search Terms

Duplicated Search Terms that Match

Distinct Search Terms that Match

few tags match

Multi-Institutional Tagger: Matches to Search Terms in Logs
Do Tags Match Search Terms?

SFMOMA and MIA: Top 100 Search Terms: Compare Frequency by Category

mostly artists

Do Tags Match Search Terms?

Searches by Category: MIA
Searches by Category: MIA

Do Tags Match Search Terms?

mostly artists
genre and culture

Searches by Category: SFMOMA

Do Tags Match Search Terms?
**Research Questions: Searching**

**Do Tags Match Search Terms?**

- Mostly artists
- Subject + work
**Research Questions: Searching**

*J Trant: Social Tagging and Folksonomy*

**Do Tags Match Search Terms?**

<table>
<thead>
<tr>
<th>Category</th>
<th>MIA</th>
<th>SFMOMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>artist</td>
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<tr>
<td>color</td>
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</tr>
<tr>
<td>exhibition</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>date</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Percentage matches:
- 0.0%
- 5.0%
- 10.0%
- 15.0%
- 20.0%
- 25.0%
- 30.0%
- 35.0%
- 40.0%
- 45.0%

**Could You Search Using Tags?**

- Colour: 66%
- Genre and subject: 25.0%
- Others: 30.0%

**J Trant: Social Tagging and Folksonomy**

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http://www.archimuse.com

DC2008
Could You Search Using Tags?

85%+ Tags Are Not Found in Museum Documentation
60%+ Don’t Match Vocabularies
Most Tags Can’t Be Mined From Other Sources
Some Tags Are Found in Search Terms, but ...
Can we learn from tagging?

Understand what users see + what they're looking for

user generated metadata
Public Vocabulary is Different. Tagging does Contribute.

Thank you.

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