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Flickr Images: What & Why Museums Share

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ABSTRACT

This paper presents the results of a study which explored the use of Flickr by cultural heritage institutions. The study examined two aspects of museums' use of Flickr: the content of images posted by museums, and the reasons behind sharing their images to the social media site. Images were categorized by the researchers into nine classes based on their visible content, and a brief questionnaire was used to gather data about the image sharing process from museum personnel. The findings reveal that imagery of people visiting the museum and taking part in museum events predominated in the total number of images posted by museums (54% of the total). The images posted to Flickr were most often selected by a single individual at the institution. The particular images posted to Flickr were chosen for a variety of reasons, the most common of these being that they were newsworthy recent events at the museum (e.g. openings, exhibitions, lectures, etc.), or that the staff found the images to have strong affective characteristics. In the responses from museum staff regarding the motivations behind posting the images to Flickr two replies were most commonly given: to provide access to the images, and to take advantage of the technical benefits provided by the photo-sharing service.

Keywords

Image sharing, museums, cultural heritage imagery, Flickr, social media

INTRODUCTION

Museums and other cultural heritage institutions have taken advantage of social media services and have become visible to a wider audience as a result. Flickr, one of these social media services, is an online photo-sharing system which allows account-holders to post (i.e. upload) and describe their images, create groupings of images and engage with the visual content of others. Depending on the settings indicated by the account-holder, images they have posted to Flickr may be searched, viewed, tagged, commented on, and downloaded by other users. This creates a situation

with markedly different parameters than the often inaccessible content contained in collection management systems used to store information and images associated with a museum and its holdings. As this approach has the potential to alter the traditional, restrictive boundaries around museum imagery (Cameron & Mengler, 2009) an exploratory study of the kinds of images and their image sharing behaviors was warranted.

While many studies of Flickr have been undertaken, much of the literature resulting from these efforts has been concerned with aspects that fall outside of the current study's purview. By far the largest body of research surrounding Flickr has examined image tagging practices (Nov & Ye, 2010; Stvilia & Jorgensen, 2010; Chung & Yoon, 2009; Beaudoin, 2007; Rafferty & Hidderly, 2007; Zollers, 2007) and motivations for image sharing (Garduno Freeman, 2010; Miller & Edwards, 2007; Van House, 2007).

Perspectives of why cultural heritage institutions share their images can be gleaned from publications concerning the Library of Congress' use of Flickr (Springer, et al., 2008; Library of Congress, 2009) and the development of Flickr Commons (Garvin, 2009). Several publications stated that the Library of Congress' pilot project to mount images on Flickr increased public awareness about their collections and provided the public with visual information about places and periods in history (Kenyon, 2010; Springer, et al., 2008; Library of Congress, 2009). In return for their efforts the Library of Congress received updated information concerning their imagery and increased their understanding of how and why users interact with their collection holdings (Library of Congress, 2009). These findings were reiterated by Kalfatovic et al. (2008), in their discussion of the use of Flickr by the Smithsonian Institution. Garvin (2009), in a discussion of Flickr Commons, noted that there were two main aims in its development. These were first, to increase the exposure to content and second, to facilitate knowledge of collections through user-supplied tags and information. Vaughan (2010) extended the institutional benefits to include "building online communities, enhancing their own knowledge of their collections, and testing the 'no known copyright restrictions.'" Further discussions of cultural heritage imagery in the networked environment discuss how images become objects which mediate between the

institution and the individual in novel and unique ways (De Rijke & Beaulieu, 2011) and how enthusiastic amateurs can contribute in significant ways to the access and understanding of cultural materials (Terras, 2011).

Far fewer studies have been published on the topic of the image content on Flickr, with only a single article being discovered on the topic (Angus, Stuart & Thelwall, 2010). These authors examined image content with an eye toward determining the potential usefulness of the resource for academic image needs. These authors indicate that their typology is the first to examine the image content of Flickr, and that this work is needed in order to provide "insights into how and why Flickr is useful," (p. 269). They conclude that Flickr can be a useful resource for various academic domains, but that they found a strong informal / formal divide in the content of the images. As they state, "images of friends on nights out sit alongside more serious shots of famous scientists and renowned architecture," (Angus, Stuart & Thelwall, 2010, p. 277).

STUDY DESIGN

This mixed-methods study examined two aspects of museums' use of Flickr: the kinds of content found in the images posted by museums, and the basic aspects of posting their images to the social media site, as expressed by the museums' staff. Qualitative methods were used in the classification of the image content, while descriptive statistics were employed to disclose patterns found in the image content and the responses of the museums' staff members.

Research Questions

As the study sought to explore specific aspects of how museums were using Flickr, several research questions were developed to focus the investigation. These questions centered on examining the museums' image content, selection process and their stated motivations for image sharing.

Q1: What image content are museums sharing via social media?

Q2: Who selects the images, and how are the images selected?

Q3: What are the motivations for sharing museum imagery via Flickr?

Data Collection

To begin the process of data collection Flickr was searched for user accounts containing the name "museum". Accounts were chosen based on several criteria. The first criterion was that all museum user accounts examined in the study must have 200 or more images posted to them. Additionally, each museum account had to in fact be a cultural heritage institution. This was checked by searching for information concerning each institution to verify its status. When an account met these criteria the name of the institution, its Flickr and web site urls, number of posted

images, country location, and language were recorded in an Excel spreadsheet.

Two different kinds of data concerning the museums' user accounts on Flickr were collected for analysis. The first data set consisted of information concerning the image content collected from 52 museum user accounts. All of the available images from these accounts were examined for image content and coded. The coded data was collected and stored together with the account information in a spreadsheet. The total number of items examined was 49,154 images. The second data set consisted of responses to a brief questionnaire sent via FlickrMail to each of the 52 museum user accounts. 25% (13 of 52) of those polled returned their questionnaires. The responses were collected, sorted by question and stored together with their account information in a second Excel spreadsheet.

Data Analysis
Image Content Analysis
Using Glaser and Strauss' (1967) grounded theory, analysis was carried out on the content that was seen in the images. The researchers developed category codes and definitions from examinations of the images. Each image examined was assigned to a single category. These categories are presented with their definitions in Table 1. The first step in the analysis was a listing of all of the basic kinds of image content for twelve of the museum accounts by both researchers. From this list basic groupings of image content were developed. As the images for this group of museum accounts were examined and re-examined, the researchers discussed and then modified the categories. Categories continued to be modified and refined during this iterative coding process as needed for images examined from additional museum accounts. For example, in some instances it was clear that the main subject of an image was people even though the individuals were seen within the context of an exhibition. Since there were categories for each (People and Exhibitions) it was determined that the category Exhibitions would not contain people. People also appear in old photographs, and so it was determined that imagery with individuals from a clearly distant past would all be categorized as Historic. After several hundred images had been coded and recoded by both researchers, it was clear the category coding scheme was able to capture the content for nearly all of the images viewed. It was agreed that the nine image categories developed using this method was sufficiently descriptive of the image content to analyze the remaining images.

Category	Definition
People	Images of individuals and groups interacting within the context of the museum (e.g. engaged in openings, performances, events, classes, etc.).
Historic	Images of people, places and objects from the distant past.
Objects	Images of single works, such as a painting, sculpture, weaving, pot, etc.

Exhibitions	Images with views of multiple objects displayed together. These may show rooms, gardens, courtyards, galleries, walls, etc. where multiple items are displayed.
Logos	Images of commercial art, signs, logos, typography, promotional posters, etc.
Architecture	Images of entrances, interior spaces, plans and remodeling without art, or with art secondary to architectural view.
Marketing	Images which "sell" the facility for events such as weddings and other sorts of receptions. Can show rooms / galleries with objects, but the spaces have clearly been set up for an event (e.g. wedding cake, food displays, set tables, etc.).
Installations	Images of sculptural works that transform the space into unique environment.
Other	Images that cannot be categorized in any of the above categories are considered "Other".

Table 1. Categories of Image Content

Questionnaire

A brief questionnaire was sent via FlickrMail by the first author to each of the 52 Flickr museum user accounts chosen for image content analysis. The questionnaire asked about who chose the images that were posted, how the images were chosen, the reason or motivation behind why they posted the images, and what the responder's position or relationship was to the museum. 25% (13 of 52) of the accounts emailed via Flickr returned their questionnaires. The first two questions, which examine who is responsible for selecting the images and what their role is within the museum, provided a single response per institution. The next two questions, which examine why particular images were chosen, and the reasons behind the use of Flickr, required more nuanced responses and had multiple potential reasons. For these latter two questions multiple responses were allowed, and each response was added to the number of institutions indicating that particular response.

Inter-Coder Check

In order to judge whether the categories were sufficiently descriptive of the images' content, 10 individuals were asked to categorize 15 images from across the 9 image categories using the coding scheme developed and applied by the researchers. The coders, all MLIS students, received coding instructions with a list of the categories of image content and their descriptions, and a spreadsheet containing urls to the 15 images and a column to record a category code for each image. Their codes were recorded and returned to the researchers in a spreadsheet which contained a column for the image urls and another for the image categories they provided. The overall inter-coder agreement rate was found to be 82%. While the majority of the categories performed remarkably well, several of the categories (Architecture, Installations, Objects, and Other) were found to be more difficult for the coders to determine because of the similarity between several categories. For

example, an image of an architectural space with a sculptural work would sometimes be coded as Architecture and at other times coded as Installations. These difficulties persisted with the categories for Objects and Other. For example, a ceramic tile might be coded as Other, while a living plant was categorized as Object.

FINDINGS

Image Categories

The findings of this study revealed several interesting patterns. The most notable finding was that imagery showing people visiting the museum, taking part in museum events, performing, or etc. predominated in the total number of images posted by museums (54% of the total). Historic photographs of people, places and objects accounted for the next largest category of image content (18%), with more recent imagery of objects (14%) following closely behind in terms of category frequency. These three classes together accounted for 86% of all image content posted to Flickr by the museum user accounts.
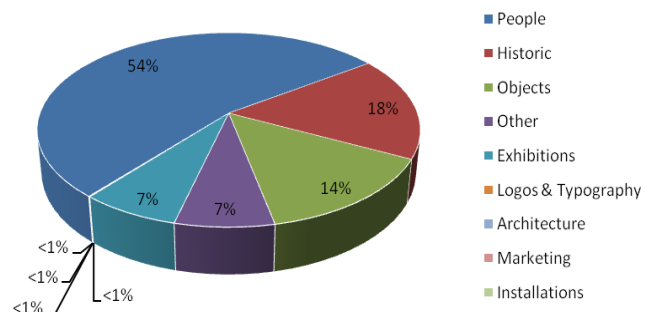

Figure 1. Image content across Flickr museum accounts

While a great deal of variation was found across each of the museum accounts in terms of the proportions of each category of image content, it was clear that people were the single most frequently encountered category of image content across all of the museum accounts examined. Figure 2 illustrates the variation in the percentage of images of people across all 52 accounts examined. Half of the accounts examined (26 of 52) posted images of people as their main content for 50% or greater of their images on Flickr. Another interesting finding concerning the image content of people posted by museum accounts is that roughly 43% of all of the "people" images examined involved people taking part in events (openings, festivals, lectures, etc.) at the museum.

As can be seen in Figure 3 the image categories Historic and Objects followed classic Zipfian distributions, with a few accounts posting many images with these categories. The remaining museum accounts posted a steadily diminishing number of items with image content falling into the categories of Historic and Objects.
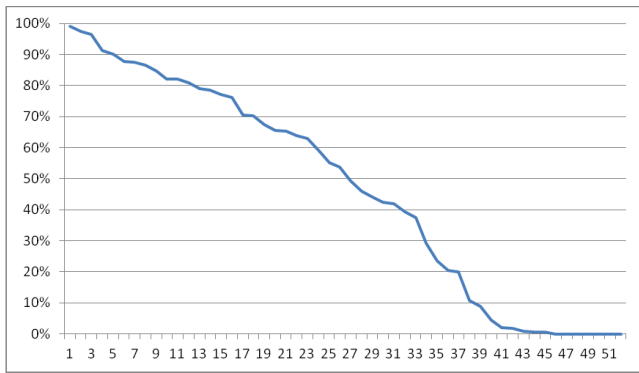
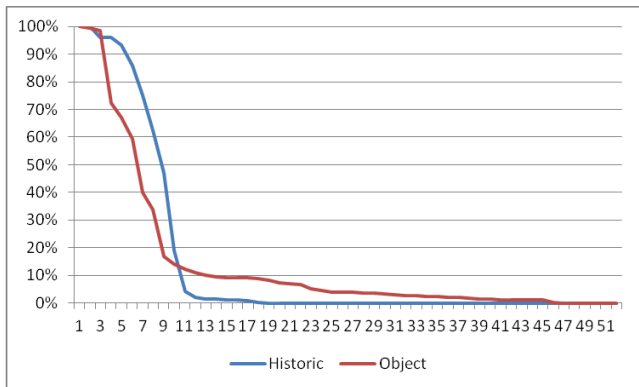**Figure 2. Images categorized as People**

Figure 3. Images categorized as Historic or Objects

The remaining categories accounted for a small percentage of image content across all of the museum accounts. The distribution of the images with content categorized as Exhibitions, while modest in every account, was present across two-thirds of the accounts. The category Other was found to have particularly high numbers of images among only a few museum accounts. When these were examined it was clear the images were outliers that didn't fit in previously defined categories, or were objects that defied categorization (e.g. post-it notes, photographs of cooking processes, individuals describing their lives, etc.). Each of the remaining categories, Logos, Architecture, Marketing, and Installations accounted for less than 1% of the total number of images across the 52 museum accounts examined. As was found with the category Others, a few museums had a higher percentage of one of these categories (e.g. for one museum account Marketing imagery accounted for nearly 97% of all items posted, while another museum posted architectural images that accounted for 25% of their total), but for most accounts this content was found infrequently, if at all.

Selection of Images
Who Selects?
The responses of the Flickr museum account holders were analyzed to determine if the selection process was carried out by a single individual, or if posting museum imagery was a group effort. From the responses received (fig. 4) it

appears as if the latter is the case. While the majority of respondents (~85%, 11 of 13) noted multiple individuals were responsible for the selection process, in actuality only a few museums (~31%, 4 of 13) selected images in consultation with other museum staff. The remaining ~69% (9 of 13) of the institutions' images were selected and posted by sole individuals. Several institutions were found to have multiple individuals using a single museum Flickr account, with each individual responsible for posting images relating to particular events or projects.
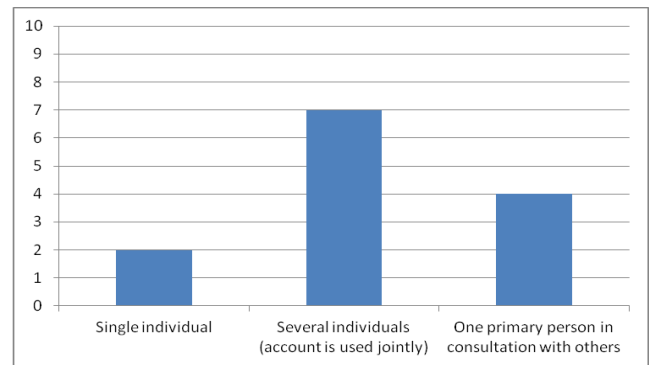

Figure 4. Who selects images? (N=13)

Institutional Role of Image Selectors
A number of positions within museums were noted in the responses of those who were selecting and posting images for the institutions (fig. 5). There appears to be a strong recognition among museums that social media plays an important role in their operating efforts as half (6 of 12)[1] of the respondents to this question indicated their role consisted of managing the institution's social or digital media (e.g. Head of Digital Collections and Services, Director for Innovation and Digital Engagement). Other responses were received from individuals whose roles consisted of communicating news and events (e.g. Marketing/Communications Officer, Program Manager), curating exhibits (Curator) and managing operations (e.g. Director).
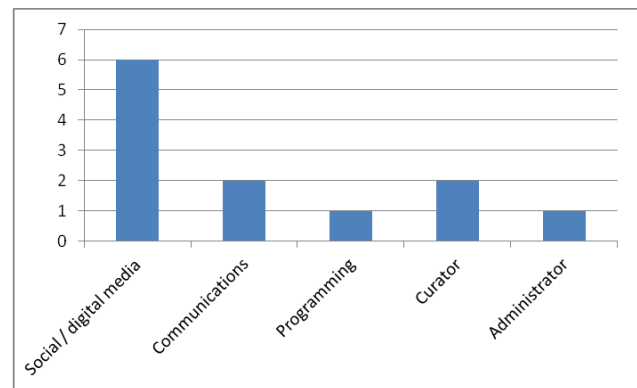

Figure 5. Institutional role of image selector (N=12)

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[1] One museum failed to answer this question.

Why These Images?

The replies of the Flickr museum account respondents to the question concerning why they chose the images posted to Flickr indicate that there were several reasons at play in the selection process (fig. 6). The most often stated reason, found in more than half (~54%, 7 of 13) of the museums' responses, was that the images were a way to disseminate information about current events and exhibitions currently occurring at the museum. Images chosen to be posted to Flickr were also noted to have strongly affective characteristics. Several institutions (~31%, 4 of 13) responded that they chose images that were enjoyable, engaging, interesting, and / or visually appealing. Several responses (~23%, 3 of 13) stated that the images were selected because they were illustrative of rich stories or that they had a strong narrative quality to them. A few museums responded (~15%, 2 of 13) that they aimed to provide informative or historically important imagery to their viewers by posting them to Flickr. A single response indicated that since they had already posted so many images now they attempt to select images based on the fact that they will add variety.
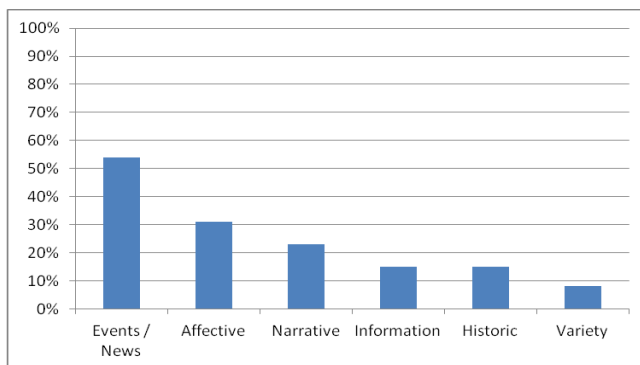

Figure 6. Reasons for selecting images

Motivations for Image Sharing

A final question posed in the questionnaire asked why the museums were posting images to Flickr. A number of reasons were given by the individuals responding (fig. 7). Two reasons, Access and Technical, were the most often provided responses with approximately 62% (8 of 13) of the museums noting both of these motivations. The stated motivation of access is understandable given that these institutions are charged with providing access to the items held (and produced) by them. Several responses were indicative of the strong ethos surrounding sharing images. For example, one museum responded "[t]he motivation is … allowing this previously unpublished content to reach a really committed audience that we know will engage with our images," [Museum 9]. While the museums clearly wanted people to be able to access the images they had posted, there were technical motivations behind posting images to Flickr as well.
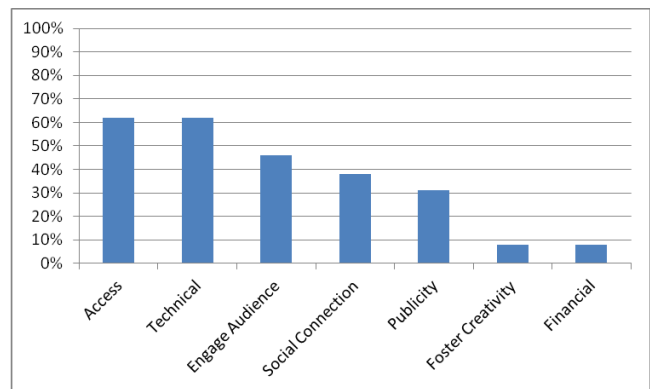

Figure 7. Why museums post images to Flickr

Museums are aware of, and benefitting from, the technical advantages provided through the photo-sharing service. The responses of the museum staff point to a number of technical motivations for using Flickr. These include providing better museum content retrieval through search engine indexing of Flickr than what is possible using their in-house content management system, providing the institution increased image storage capabilities, the ability to use their posted images in widgets and apps, and the service's ease of use. Their responses suggested that the museums were truly appreciative of the technical aspects of Flickr that improved the museums' abilities to be discovered, interacted with, contributed to, and shared.

Associated with the technical advantages were those features of Flickr that allowed easy audience interactions with their institutions' images. Nearly half (~46%, 6 of 13) of the museum respondents noted that their motivations to post their images to Flickr was an attempt to engage their audiences. Getting people involved in tagging, communicating about museums, their images and happenings, and linking to the museums' images were all noted as motivations for posting their visual content. A variation on the theme of user engagement was found in the responses which noted the social connections that were created through the use of Flickr. For a number of museums (38%, 5 of 13) connecting to people to create a community was of primary importance. In response to why they post images one respondent simply stated, "[c]ommunity, community, community," [Museum 2]. Another response indicated that the images were posted so that the museum could be a "part of the Flickr community and to invite people to join groups," [Museum 13]. The ability of images to allow people to engage with and network around museums' content was acknowledged through the responses of these individuals.

Beyond having a purely social function, an interest in connecting to people could have additional motivations. Publicity was noted as a primary reason for posting images by several museums (~31%, 4 of 13). For them an increase in the numbers of people viewing and interacting with their content meant more publicity for their institution. This

seemed to be particularly critical to the small museums who sought the support that an increased audience might provide. As one respondent indicated "[t]he museum needs publicity. It gets very little support from [our] local government and thus needs to join the digital age and get its message out there given that comparatively small numbers of people walk through the museum doors each day," [Museum 12]. A theme that appears to be closely related to publicity in the above passage is financial motivations. A clearly financial theme was mentioned by a sole respondent in the study, but only in the context of saving the museum the costs of materials and man-hours in having to fulfill image requests received from the general public. A final single response indicated that the images were posted to support their creative reuse.

DISCUSSION AND FUTURE WORK

This study revealed several intriguing findings that offer insight into museums' use of social media for images. First, contrary to the image content one would expect to find associated with museums, namely their holdings, the majority of the visual content posted to Flickr from these cultural institutions contained people taking part in institutionally sponsored activities. Although there were museums who were sharing images of their holdings in the form of historic photographs or various objects in their collections, this was found in a limited number of museums (15 to 20%). The vast majority of museums were not providing access to their collections via this social media route.

In the past, sharing images of museums' holdings was limited based on technological and intellectual property rights restrictions. However, in today's world the technological limitations have largely been removed. While intellectual property rights remain a contentious and problematic issue in the cultural heritage sector, particularly in the case of works created in the recent past, it appears that museums are either choosing to continue to operate within the traditional, restrictive boundaries around museum imagery or they are unaware that the public is interested in seeing images of their holdings **and** of current goings-on at their cultural institutions of choice. There was an acknowledgement of the strong news and event focus in the responses of more than half of the museum account holders who provided an answer to why the images posted to Flickr were selected, but when asked what motivates them to share their images the majority of responses said they want to provide access to their institution's content. As the content analysis of the images illustrates, this aim is not currently being supported unless individuals are more inclined to want to view pictures of themselves and others in the community rather than collection holdings of a museum. This may in fact be the case considering the social nature of Flickr. Additional research is needed to discover what imagery museum audiences would like to view and interact with via social media sites. When this is determined we will truly be able to provide an enlightened view of engaging visual experiences for museum audiences.

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