tags in recommender systems and suggested that not all tags are useful for recommendation systems, but that the incorporation of content and context related tags does improve the results whereas self-organisational and subjective tags do not.

Terras (2011) investigated the use of collections of digital images of cultural and heritage materials on Flickr by cultural heritage institutions. Flickr provided a useful entry point for cultural heritage institutions to share their collections online with an existing and expanding online community and allowed users other ways to explore and interact with these same collections. Neal (2010) examined affective tag usage on Flickr. She found the differences between most and least relevant pictures in specific emotional categories were statistically significant. She found that "happy" pictures formed the most common emotional category on Flickr and that these pictures were more popular generating more social interaction between Flickr users (Neal, 2010).

LC and Flickr Commons Studies

Some studies have focused on LC's Flickr collections or the Flickr Commons specifically. (Natanson, 2012;Clark, 2008; Springer et al., 2008; Springer & Michel, 2008; Vaughan, 2010). The objectives of those collaborations are to encourage not only free access to the images but also interactions among online users. Clark's (2008) research on the partnership between LC and Flickr indicates that one of the benefits is the ability to seek additional information from online users such as clarifying descriptions of a photographs that lack adequate identification from LC. Stvilia and Jörgensen (2010) evaluated the complementary works of online users by examining the quality of tags in LC's historical collection on Flickr, in terms of accuracy of terms and relevance to the image (Stvilia & Jörgensen, 2009, 2010). LC has found this collaboration so useful that they have continued to expand their Flickr collections and have encouraged other cultural heritage institutions to join an expanded Flickr Commons (Springer & Michel, 2008). Dalton (2010) examined the New York Public Library's use of the Flickr Commons and described their work in combining their own metadata, especially subjects, with that of users tagging or commenting on items. Kipp, Buchel, and Neal (2012) and Kipp, Choi, Beak, Buchel, and Rasmussen (2013) examined tags, comments and notes on images and discovered that many users were contributing local geographic and historical knowledge to the data set.

In this study, we analyzed the results of a survey of Flickr users to attempt to determine the motivations of Flickr users for contributing to the LC Flickr collections, not only tagging, but also other types of interactions such as commenting or favoriting an item. The motivations we identified are based directly on user survey responses using an open coding method.

Methods

We chose to study pictures on the LC Flickr site with the maximum possible set of librarian created metadata

including subject headings in order to provide additional comparison between librarian created metadata and any metadata or other information provided by users of the LC Flickr site. Therefore all images with assigned subject headings listed in their Flickr descriptions were selected from the LC Flickr collection using the Flickr API Explorer (https://www.Flickr.com/services/api/explore/?method = Flickr.photos.search) in 2011. Our methodology was in two parts: a) a survey sent to all the Flickr users listed in our sample collection of LC Flickr images and b) an analysis of the tags, comments, notes and other social network activity left by users of Flickr on the LC Flickr images. In this article, we are reporting on the analysis of the data from the survey.

The survey consisted of 19 questions (see Appendix A) regarding use of Flickr (Questions 1–6), a series of demographic questions such as current location, language, country, and educational level (Questions 7–15), local knowledge (Questions 16–17), and motivations for participating in the LC Flickr project (Question 18). We included demographic questions to explore how users' backgrounds influence user's motivations for tagging, commenting, or favoriting an item. Previously, inter-indexer consistency studies have shown that a user's background affects choice of indexing terms (Markey, 1984). Question 11, *what is your occupation/job title?* was asked to examine whether people in certain occupations contributed more to the LC Flickr project than others. We provided seven preselected categories: Librarian, Archivist, Cataloger, Photographer, Graphic artist, Artist, or Historian, all of whom are traditionally involved in creating or describing information, and Other as an option to collect information from people in all occupations. Given the images are historical and distributed by the LC, we expected that certain occupational fields such as librarian, historian, or archivist might be more common than others. However, 70% of users chose other. This answer demonstrates that social media has attracted the attention of many users who have not traditionally participated in describing information.

Question 18 asked why users tag, mark-up, comment, or "favorite" the Library of Congress's Flickr images. We used an open-ending question so that the data were generated in the users' own language. In this paper we analyzed the answers from Questions 1–15 and Question 18 covering users' motivations for using the LC Flickr collection as well as the questions on demographics and use of social media.

The survey was created in Qualtrics and made available to participants via a URL. The survey was distributed in English, although a few users contributed responses in other languages (mainly French). We distributed the survey through Flickr mail in Fall 2012 to each participant individually, a total of 7,563 participants. The authors each sent some surveys as Flickr mail has strict limits on the number of users that can be contacted per day and per week. The survey took several months to distribute via this method, but this method did guarantee that all users contacted were still or had been Flickr users and had actually contributed to the LC Flickr collection at some point in the past. We completed