

User-centered Evaluation of Metadata Schema for Murals: Preliminary Results from A Survey Study

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Abstract. There has not been a well-accepted metadata schema for murals as an important type of cultural heritage. This paper reports an ongoing study and preliminary results on evaluating a draft metadata schema of murals from the end-user perspective. Based on the results of an earlier interview-based evaluation, a questionnaire was designed and 185 effective responses were collected from potential users. “Work type”, “Title”, and “Creation date” were identified as the most important metadata elements, as well as the most useful elements for supporting the searching, browsing, and organizing of information about murals. Findings of this study will contribute to the improvement of the metadata schema for murals, and provide empirical evidence for user-centered evaluation of metadata schema.

Keywords: Murals, Metadata Schema, User-Centered Evaluation, Survey.

1 Introduction

Non-movable cultural heritages are of unique and high historical and cultural values, but could be inconvenient for access and prone to natural and/or man-made damages. Preservation and documentation of these heritages call for the need to digitize them [1]. Metadata is therefore crucial for the organization and access of physical and digital information of cultural heritages. The most notable metadata standards for cultural objects and visual resources include CDWA and VRA Core [2], based on which other standards were also implemented to facilitate the practices of visual resource access and preservation in cultural heritage institutions such as museums and monuments.

China houses heritages with high historic and cultural values, while metadata schemas on such heritage collections as arts and images in China are relatively insufficient and immature. Murals are one of the seven major categories of non-movable cultural heritages identified by the “Cultural relics protection law of the People’s Republic of China”. There has been initial work on designing metadata schema for murals. For instance, Yang et al. [3] established a pioneering metadata schema for murals back in 2003, which included 9 elements: *title*, *keywords*, *description*, *type*, *format*, *identifier*, *data source*, *coverage*, *disposal history*. Notwithstanding the fundamental values of these earlier studies, in recent years, as digitization becomes increasingly important in

preserving cultural heritage information, new metadata schemas suitable for digitized information are needed, particularly for murals where a standard is lacking.

Multiple methods have been proposed for measuring the quality of metadata schemas, such as internal examination and peer review. Considering that metadata providers and end users may have different information needs, to promote a better use of the digital resources, it is essential to invite end users in early development and testing of metadata schemas [4]. During the evaluation process, both experts and non-expert users would be invited to provide feedback to the schema. In this study, user-centered evaluation is adopted to evaluate a drafted metadata schema for murals which was developed for facilitating digitization and preservation of murals. Initial evaluation was conducted through in-depth interviews with scholars and professionals [5]. This study aims to further evaluate the schema with a larger sample of participants, through a questionnaire survey. This study addresses the following research questions:

RQ1: Which metadata element(s) about murals is/are important from end-user's perspective?

RQ2: Which metadata element(s) is/are useful for searching, browsing, and organizing mural information?

2 Method

This study adopted the quantitative approach for collecting extensive feedback on the metadata schema through an online questionnaire. It was structured into three sections. The first aimed to collect demographic information of survey respondents. In the second section, respondents were asked to rate their perceived importance of each core element of the metadata schema as "Very important," "Important," "Uncertain," "Not important," or "I don't understand". In the third section, they were asked to rate their perceived usefulness of each metadata element for searching, browsing, and organizing of information about murals. Ratings included "Not useful", "Not useful personally" (meaning it can be useful for others) and "Useful". To avoid confusion caused by complex terminologies and jargons, all metadata elements (e.g., "Identifier") are defined, explained, and exemplified. A convenience sample of respondents were recruited through invitations to targeted institutions (e.g., museums, libraries), on various social media platforms, and people in the authors' professional and social networks.

3 Findings

A total of 185 responses were collected, 95 were from mainland China and 90 from Hong Kong, with 33.5% being male. Among the survey respondents, 54.6% were 23 – 27 years old, 13% were 18 to 22, 12.4% were 28 to 32, 7.6% were 33 to 37, and the rest (12.4%) were 38 years old or above. Most respondents (97.5%) either received or were receiving higher education. In terms of their occupations, 43.2% were students, 20% were information professionals (i.e., librarians, archivists, and information managers), 12.6% were scholars (e.g., researchers, university teachers), and 8.4% were school teachers. Despite only 28.4% reported that their work was related to cultural heritage,

89.5% of all participants had an interest in cultural heritage. Figure 1 shows the distribution of respondents in terms of their perceived importance of each metadata element for murals. Elements considered very important by a large proportion of respondents included “Title” (42% of all respondents), “Work type” (36%), “Creation – Creation date” (36%), “Description” (30%), and “Current location – Geographic location” (29%). On the other hand, those regarded as not important were “Identifier” (32% of all respondents), “Current location – Geographical coordinates” (31%), “Copyrights / Restrictions” (24%), and “Priority level” (16%).

To offer a preliminary answer to the second research question of this study, the number of responses for “Useful” were counted for each of the metadata elements. Figure 2 displays the results. In terms of supporting *both* the searching and browsing of information about murals, “Work type”, “Title”, “Creation – Creation date”, “Current location – Geographic location”, and “Subject” were elements seen as largely useful, and the former four elements also corroborated with their perceived importance. For facilitating organization of information about murals, “Work type”, “Title”, “Creation – Creation date” were still the top three elements. However, “Identifier” and “Creation – Creator” were two other more dominant elements in this aspect.

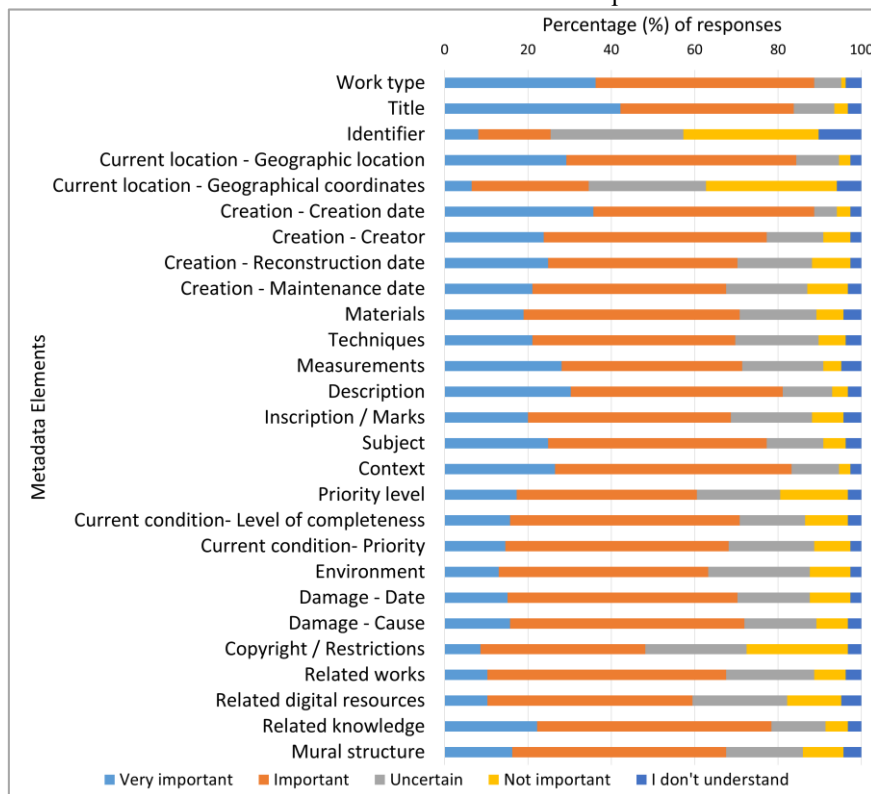


Fig 1. Perceived Importance of Metadata Elements for Murals

4 Future Work

As an ongoing study, more in-depth analysis will be conducted to compare opinions from professionals and public users. Also, open-ended responses of the survey will be analyzed. These series of investigations contribute suggestions for refining the metadata schema for murals, and provide empirical evidence for user-centered metadata schema evaluation, especially for cultural heritage information.

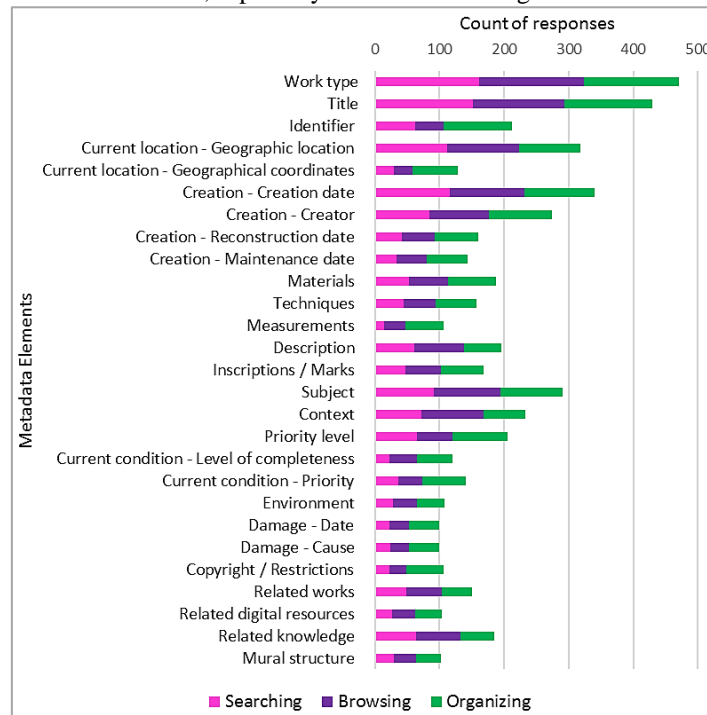


Fig 2. Perceived Usefulness of Metadata Elements for Murals

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