A Study of Users’ Requirements in the Development of Palm Leaf Manuscripts Metadata Schema

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Abstract. This paper presents the users’ behavior, their needs and expectations with respect to palm leaf manuscripts (PLMs) which are ancient Thai documents. We focus on access tools, access points and how users select PLMs. The data were collected by in-depth interviews of 20 users including researchers, local scholars and graduate students who are working on research in the field and using PLMs for information and knowledge resources. The research results present two important characteristics of user behaviors: previous knowledge of items, and exploratory searches. Users adopt a 4-step pattern in searching for the PLMs. Finally, we discuss the important information in searching for the PLMs and we compare this with the frequently consulted bibliographic elements and Dublin Core elements.

Keywords: User studies, User behaviors, User requirements, Metadata schema development, Palm leaf manuscripts, Ancient documents, Cultural heritage.

1 Introduction

User needs and expectations are important in determining the elements of a metadata schema, especially for access points and links to relevant items in order to respond to user needs [1], [2], [3]. Furthermore, the research results in these areas of user studies indicate that the types of information need and information seeking behavior of scholars vary from one discipline to another [4]. Geser [5] observed that even as cultural institutions pour effort into exposing metadata about their resources, the endeavors tend to fail possibly because there is a fundamental mismatch between the services and user expectations (the effectiveness in discovery and use). Therefore, user studies can help to reduce a mismatch between new developed metadata schemas for the description of cultural heritage objects and what users actually want to know about the content and physical characteristics of these objects.

The PLMs themselves, by nature, like other ancient documents have specific characteristics in terms of their physical features (e.g. scripts, languages, number of fascicles, number of stories in each fascicle), and contents (e.g. various stories or content topics could be recorded in one PLM/fascicle or one PLM could be expressed in many literary styles). Current users are mostly academics and local scholars, in particular groups, who are familiar with these manuscripts. However, when PLMs are
digitized and transcribed into modern languages, services should be expanded to allow access to the public, so as to maximize the application of the knowledge recorded in the PLMs which is another way to preserve the cultural heritage.

Using suitable metadata schema will gain more efficiency in the management of digitized PLMs collections. The related literature in the area of user studies mentions that understanding the users can help to develop information systems and services. For this reason, it is necessary to study the behavior and needs of users of PLMs in searching for these manuscripts.

The purpose of this study is to discover the basic information to be used for metadata needs such as determining the qualifications of the desired metadata that could be of help and to expand their searches and access to the desired PLMs and its contents.

2 Related Works

Today, exploring information seeking behavior in ancient documents and cultural heritage context is limited. It is mostly found in the user studies in the domain of Humanities and Social Sciences, digital libraries and digital museums [6], [7], [8], [9], [10], [11], [12], although these kinds of documents contain a vast amount of knowledge and have value for various academic areas. Furthermore, some of them record the contents that can be used to develop competency and strengthen economic and social foundations for the long-term, sustainable growth of the country. Recently, scholars in these areas have been the main users and they are familiar with these kinds of documents; also ancient books are important resources for humanities scholars and researchers [10]. The subjects of the studies include academic scholars, graduate students, experts in cultural heritage (researchers in museums, curators, registrars, IT personnel in museums and librarians). These researches are based on transaction logs, monitoring search behavior, interviews, think-aloud techniques, or the use of surveys. And some research uses multi approaches, such as monitoring search behavior and interviews, or conducting surveys and follow-up interviews.

Similar to other researches in this domain [6], [9] Buchanan and et al. [7] reveal that humanities information seeking demonstrates a strong use of human support, as well as a more intensive use of printed or merchandised seeking tools. However, they have a greater degree of satisfaction with seeking information from digital libraries and the internet. Wu and Chen [10] draw similar conclusions, namely that humanities