Adaptation and Localization: Metadata Research and Development for Chinese Digital Resources

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ABSTRACT

Presented is the metadata research and development in China. Beginning in the 1980s, the research project aimed at developing Chinese metadata standards, schemes, and specifications was first launched in 1997. Since then, many metadata-related projects have been conducted and completed. This paper summarizes the achievements of these projects, and introduces Chinese metadata standards, schemes, and specifications in digital libraries, archives management, and digital resources management in some specific domains. Specifically, it introduces a series of CDLS (Chinese Digital Library Standards) metadata standards based on Dublin Core (DC), the metadata standard for Chinese administrative electronic records, and gives an overview of Chinese metadata standards for digital resources in various specific domains. The paper attempts to draw a holistic picture of metadata research and development in China.

Keywords: Archives Management, China, Digital Libraries, Digital Resources, Metadata Schemes, Metadata Specification, Metadata Standards

INTRODUCTION

Metadata is a structured data for facilitating data management, discovery, and sharing in a distributed digital environment. In general, there are three types of metadata, such as descriptive metadata, structural metadata, and administrative metadata. Here, we focus on descriptive metadata, the most important metadata in helping information organization and retrieval.

Recognizing the significance of metadata to digital information resources of a country, Chinese central government and researchers have invested a great deal of funding and effort to establish Chinese metadata standards and specifications. Though in China researchers have never conducted a project whose fundamental goal is merely to establish metadata schemes, metadata projects are usually associated with different research projects on digital libraries. Due to the deep involvement of the central government, metadata development in China is greatly motivated and sponsored by

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Chinese government. National Library of China, Peking University library, Tsinghua University library, Shanghai Library, and other leading libraries play a significant role in the metadata development in China.

The first project involved metadata research is ‘the National Pilot Digital Library Project’ (NPDLP), which launched in 1997 as the first digital library project in China (Liu, 2003). Based on this project, Liu and Zhao (1998) finished a report and proposed a two-tier metadata scheme based on Dublin Core (DC). Some other digital library projects, such as China Academic Library & Information System (CALIS) funded by Ministry of Education since 1998, China National Knowledge Infrastructure (CNKI) since 1999, National Science and Technology Digital Library (NSTDL) funded by Ministry of Science and Technology since 2000, and so on. More or less these projects involve metadata research and development. Among these digital library projects, two most influential metadata-related research projects are ‘Chinese Digital Library Standards (CDLS)’ sponsored by the Ministry of Science and Technology since 2002 and ‘National Digital Library Engineering’ (NDLE) sponsored by Chinese National Library. The former involves several sub-projects on metadata, such as ‘Basic metadata standard and specification,’ ‘Special metadata standards and specifications,’ ‘Metadata standard and specification open registry,’ ‘Collection metadata standard and specification’, and so on. The latter involves several sub-projects, for example, ‘National Library metadata specification,’ ‘National Library core metadata element standard,’ ‘National Library specific metadata standards and specifications,’ and so on. Both projects produced a series of metadata schemas, standards, and specifications that is based on but beyond DC, for precisely describing Chinese digital resources.

Archives management is a big system in China. Most of archives management agencies are administered by the State Archives Bureau of China. For these agencies, preservation and confidentiality is the first priority rather than utilization. The metadata research and development is not as established as in digital library area, though some standards have been developed. In addition to metadata schemes for digital libraries and archives management, researchers have developed metadata standards and specifications for some specific domains, for example, environmental data resources, geographical data resources and so on. This is also an important part of metadata research and practice in China. To draw a holistic picture of metadata research and development in China, in addition to digital library area, the paper involves the current status of metadata research and development in archives management and specific domains as well.

This paper attempts to present the achievements of metadata research and development in China in recent years and how DC is adapted to and localized for various Chinese digital resources. For the history of metadata research and practice in China, please refer to Liu (2003) and Liu (2004).

This paper is organized as follows: it first gives an overview of metadata research in China, and then addresses different metadata standards and specifications for organizing Chinese digital resources in digital libraries. It then presents metadata research and development in Chinese archives management. Other domain-specific metadata schemes, standards, and specifications are also discussed. Finally, a summary of metadata research and development in China concludes the paper.

AN OVERVIEW OF METADATA RESEARCH IN CHINA

Figure 1 shows how metadata research in China has ever evolved since 1984. We conducted a comprehensive literature search from CNKI (China National Knowledge infrastructure) and Chongqing VIP, both of which are important databases in China. Since 1980s, information scientists, librarians, and computer system experts in China have paid lots of attention to metadata. With the accomplishment of various digital library projects funded by Chinese central