

Discussion on the Construction of the Characteristic Collection Database of Libraries in Art Colleges

-----Taking the Library of Shandong College of Art as an Example

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Abstract. The construction of the framework of the characteristic collection database of Qilu art and culture is put forward, the platform selection and construction procedure of the database construction are introduced and the emerging problems and solutions in the process of the characteristic database construction are put forward on the basis of the discussion of the construction necessity and target of the characteristic collection database in artistic colleges taking the database of artistic and cultural resources of Qilu of the library of Shandong College of Art as an example.

Introduction

The characteristic collection refers to the collection system with its own unique style, which is collected by the library. It is determined according to the local cultural resources, human resources, economic situation and other factors. The key point of the characteristic collection is to show its own unique color and style. The construction of the characteristic collection is an important work of the library while the construction of the characteristic collection database is also the priority of this work.

With the rapid development of modern computer technology, communication technology and internet, electronic resources have become the main information source of society. Libraries must change their orientation, change their thinking and adjust them to the optimal state to adapt to the rapid development of the information age. In the process of the resources construction, the library of Shandong College of Art dug its own advantages, and also according to the key points of the construction of college discipline and based on its rich cultural collection of Qilu, it dug the most valuable and protective characteristic resources of Qilu culture and established a distinctive database of artistic and cultural resources of Qilu.

The Necessity of Constructing the Database of Artistic and Cultural Resources of Qilu

Qilu art and culture, as a kind of regional culture, is a valuable treasure of the Chinese nation and lays a solid foundation for the heritage and development of Qilu culture. However, the digitized degree of Qilu art and culture is not very high, and it is lack of systematic resources service system and modern information service means, which tremendously restrict the in-depth research of Qilu art and culture.

Shandong College of Art, as the only comprehensive art college in Shandong Province, has accumulated rich artistic and cultural resources with Qilu characteristics. In order to give full play to the Qilu cultural resources which are collected by our college library and provide professional discipline service for all teachers and students, the library of our college has started the construction and development of the characteristic collection database.

Constructing the Database of Artistic and Cultural Resources of Qilu by Using TPI System

The Framework Design of the Database of Artistic and Cultural Resources of Qilu. The database of artistic and cultural resources of Qilu is the database which includes text, images, audio, video, e-books and other various multimedia technologies. According to the discipline construction

of our college and the characteristic collection of our library, the main framework of the database of artistic and cultural resources of Qilu is shown in figure 1:

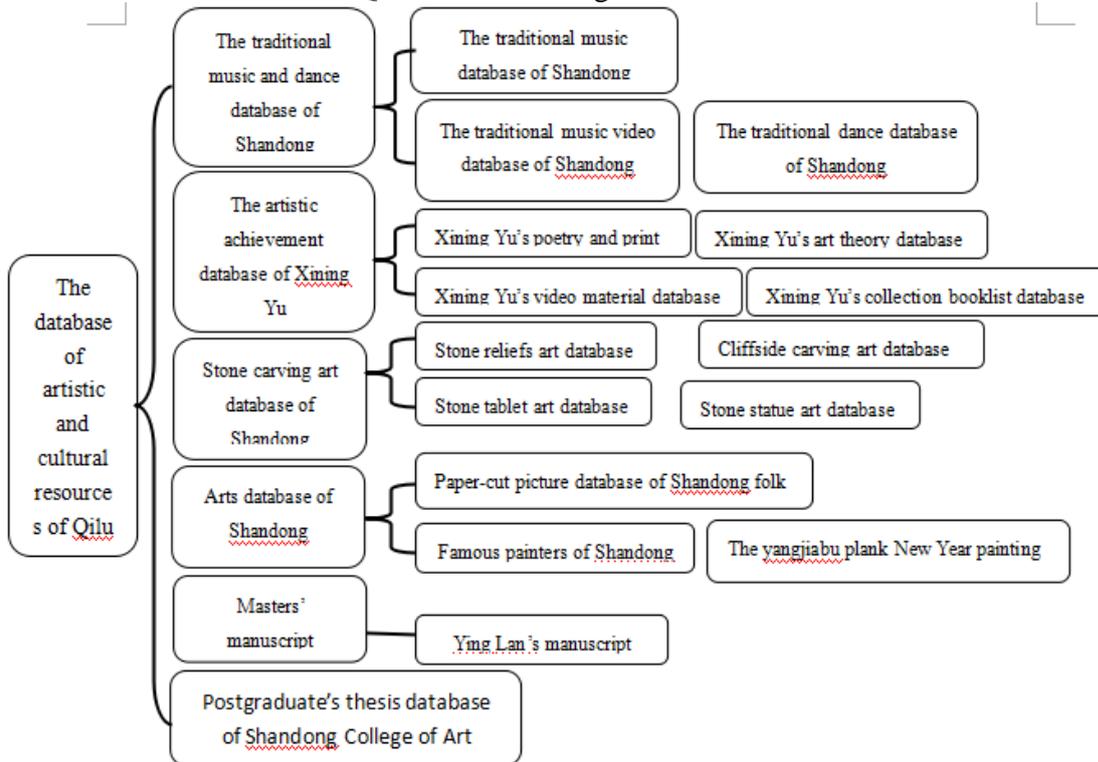


Figure 1. The main framework of the database of artistic resources of Qilu

The Introduction of TPI System. The TPI system, called the Tsinghua Tongfang's digital library management and construction platform, is a tools software system which is developed by Tsinghua Tongfang CD Co.,Ltd based on the Internet and is used to create, produce, manage, maintain and release information. The TPI system is the content management system which is managed and developed based on non-structured document. It takes the KBASE(full-text retrieval system) as the core and adopts the popular retrieval mode of B/S browser and three-layer C/S construction. Also it can simultaneously manage various multimedia information with different formats, such as text, image, audio, video and so on so as to realize the integration of information resources. TPI system provides e-book making, metadata processing and indexing, full-text retrieval, data conversion, the dynamic release of a web page and other services. TPI system has the characteristics of rapid creation, convenient management, immediate release and effective access and retrieval.

TPI system has the following main performance:

- (1) Fully compatible and commonly used MARC standard and the latest DublinCore standard.
- (2) Z39.50 service which is supported, the latest OAI protocol, the latest METS protocol and 11 CALIS metadata templates.
- (3) It supports the dynamic and real-time information processing.
- (4) It has the advanced security mechanisms.
- (5) It provides a unified retrieval platform.

The Construction Process of the Database of Artistic and Cultural Resources of Qilu. Construction standard is the soul of database norm construction. In the construction of the platform, we should follow the standards and norms about the information processing, resource description and resource organization. Among them, "the standards and operational guidance for digital resources processing" is an important reference material for guiding our library to carry out the construction of the database of artistic and cultural resources of Qilu. The standard construction flow of the database of artistic and cultural resources of Qilu is shown in figure 2:

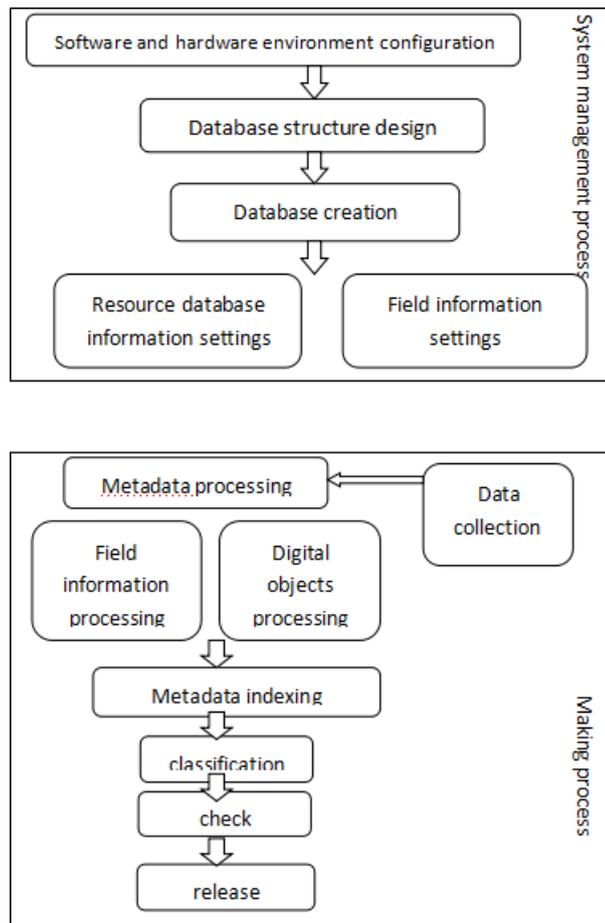


Figure 2. The construction flow chart of database

The process can be divided into the system management process and the making process.

The database of artistic and cultural resources of Qilu is the database which includes text, images, audio, video and other various multimedia technologies. According to the different characteristics of different databases and combined with the integrity and practicability of database information, we construct different kinds of sub-databases which are images, e-books, video, audio and so on in the database and set the field information that matches the sub-database.

We take the Shandong folk paper-cut pictures database as an example. In order to completely present the whole information of paper-cut to readers, we set the paper-cut database as the picture database. According to the characteristics of paper-cut and referring to the CNMARC cataloging format requirement, the field information of paper-cut picture database is set as: the collection location, introduction, keywords, size, provenance, collector, the introduction of collectors and collection number.

The making process can be divided into data collection process, metadata processing, the indexing and classification of the metadata and database release. The first one is the data collection process. Data are the core and foundation of the database. The quality of the database depends on the quality of data, therefore, we should pay more attention to the data collection work of database. We take the collection of our library as the data foundation and divide it into three work parts: The first one is that we use the digital camera to take pictures for the collection and process pictures into picture digital resources through picture process software. The second one is the paper resources of the collection. We use the scanner to process pictures to obtain the picture digital resources. The third one is that through the text conversion tool, the digital resources of the CAJ e-book format are made. The second one is the metadata processing. The metadata processing is divided into field information processing and digital objects processing. The field information processing mainly adopts the metadata processing tools which are provided by TPI system and write the corresponding field information according to the structure which is set by the database. The digital objects

processing is to upload the collected digital information (including pictures, e-books, audio and video) one by one. The third one is the indexing and classification of the metadata. Metadata indexing is to fill in some parts of the record with appropriate values to index this record, so that readers can retrieve this record by field information index. The indexing of the data depends on the retrieval efficiency of database, thus, the indexing method and the selection of keywords are very important. The fourth one is the database release. The database of artistic and cultural resources of Qilu is the database which includes text, e-books, video, audio and other various multimedia technologies. Therefore, according to different types of documents, we have established images, e-books, video, audio and other sub-databases in the database. TPI system provides various database release types and we can choose appropriate release template according to different sub-databases. Taking the traditional music database of Shandong as an example, we choose the CNKI template to make the music scores into e-books. In the TPI database release system, overview and perusal field can be set according to the practical demand and also the retrieval and query functions which are suitable for sub-databases can be provided. Thus, readers can retrieve conveniently.

The Existing Problems in the Construction Process of the Database of Artistic and Cultural Resources of Qilu by Using TPI System

The first one is that the resource integration capability of TPI system is not good enough and data templates can't be compatible with each other---that is, building one sub-database metadata can only be a kind of data resource of template setting types, which can not embody the diversity and characteristics of database resource forms.

Taking the traditional music database of Shandong in our library as an example, the original assumption of establishing the database is to include song's music score, audio and video so as to completely present a whole song to readers. However, it can't be realized in a sub-database in TPI system. We can only respectively establish three sub-databases, which are a music score database, an audio database and a video database. These three sub-databases are integrated together through the method of adding hyperlink in every record to form Shandong folk music special subject database.

The second one is that the resource release page of TPI system is simple and single. It just focuses on the release of the single picture, video, text and other materials and it can't present the characteristics of resources of our art colleges directly.

The third one is that the compatibility of data objects in TPI system is poor. It only supports partial images and video format, for example, the video class only supports mp4 and flv format, the picture class only supports jpg format and the other formats can't show normally. In the process of constructing a database, we should use batch picture format conversion software and video conversion software to convert unsupported pictures and videos into TPI compatible formats.

Conclusion

The establishment of the database of artistic and cultural resources of Qilu provides convenient and quick retrieval platforms of artistic and cultural resources of Qilu for college teachers and students, supplements and perfects the informatization foundation data of art speciality of the literature safeguard system of the Shandong higher education and the literature safeguard system of the national higher education, comprehensively presents the characteristics and achievement of Qilu culture and art and develops the Qilu culture. It also improves the utilization of collection resources and further improves the service quality of libraries.

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