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## A study on the measures and models of regional library knowledge base constructing in central China

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### ABSTRACT

This paper elaborates the construction of knowledge base to integrate the resources of Central China region library and promote the cultural construction and economic development of the Central China region. Building the Central China region knowledge base can make people to understand the history and current situation of the various resources of the region quickly and easily, thus it externally plays an important role in propagandizing the cultural resources and attracting investment and developing tourism resources and promoting economic development. At last, the paper analyzes the strategies and service models of developing Central China regional library knowledge base.

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### KEYWORDS

Knowledge base;  
Central china;  
Library;  
Measures;  
Models.

### INTRODUCTION

Knowledge base is a knowledge cluster which is structured, easy to operate, easy to use, comprehensive and organized in knowledge engineering. It is the collection of interrelated knowledge pieces which is stored, organized, managed and used in the computer memory by adopting a certain Knowledge Representation Model, aiming at solving problems of an area. These knowledge pieces include theoretical knowledge and factual data which are related to one field, and heuristic knowledge which comes from expertise experience, such as some related definitions, theorems, algorithms, and common-sense knowledge in one field.

### THEORY FRAME

#### Definition of regional library knowledge base in the central china

Knowledge Base (Knowledge Base) is a knowledge cluster which is structured, easy to operate, easy to use, comprehensive and organized in knowledge engineering. It is the collection of interrelated knowledge pieces which is stored, organized, managed and used in the computer memory by adopting a certain (or certain) Knowledge Representation Model, aiming at solving problems of an (or some) area. These knowledge pieces include theoretical knowledge and factual data which are related to one field, and heuristic knowledge which comes from expertise experience, such as some

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related definitions, theorems, algorithms, and common-sense knowledge in one field. At present, there are three types of Knowledge Base: institutional base, disciplinary knowledge base and thematic knowledge base. Institutional base is a Knowledge Base which collects and saves knowledge resources of a single university or a community of several universities, it plays a key role in various elements of the reform of the scholar communication system, it expands the ability of accessing research resources and creates the necessary conditions for improving the scientific, social, economic concerns on the research activities, as well as enhancing the visibility, status and public value and other aspects of research institutions. The content of disciplinary knowledge base is organized in strict accordance with the classification of disciplines. The disciplinary knowledge service of university library is based on the professional knowledge of librarians and the knowledge of information science. Aiming at satisfying the demands generated by users during the process of knowledge acquisition, knowledge selection, knowledge absorption, knowledge utilization, and knowledge innovation, it searches, organizes, analyzes, and reorganizes the professional knowledge of relevant disciplines, then provides the required professional knowledge service to teachers and students. Thematic knowledge base describes the collection of knowledge of a particular thematic area, for example, the knowledge base system of thematic areas of Zhang Jian research is a Knowledge organization and management system which describes the thematic areas of Zhang Jian. The construction of Central China regional library culture system knowledge base takes paper documents, the database datum, documents on Web, and documents of historical figures in the Central China region as the sources of knowledge, and takes a knowledge unit as a fundamental store object, and expresses, stores, manages the knowledge of the field of Central China region by using computers, and uses knowledge to solve the problems in that field. It is a knowledge application system based on knowledge processing.

### **Integration features of resources of Central China region by using knowledge base**

The situation of resources construction of Central China region shows that the resources construction of

Central China region is quite scattered in disorder and it is not systematized. Therefore, to build a Central China region knowledge base can integrate the resources of Central China region, and make the resources dispersed disorderly in the Central China region to be sorted systematically and orderly and to be mined deeply. And by spreading and using through the network, literature resources can be re-reflected and realize the knowledge value, and this plays a good role in inheritance, spreading and communication, promoting development of history, culture, art and other aspects of the Central China region, and this also offers a wealth of literature references for the Central China region. Central China Knowledge Base forms on the basis of some related concepts including the Library Consortium, institution-locality cooperation, information sharing. It takes service as the basic unit to organize the information resources of Central China region, and it has the characteristics of virtual and dynamic. Virtual: there are no special requirements for the physical location of the service resources; it can form logical units or system cross-regionally through the network. Dynamic: According to the information needs and tasks of users, it uses the resources in Service Alliance and compounds the service system dynamically. Such features ensure the Central China Knowledge Base to adapt to the user's dynamic information needs and to respond rapidly, thus to achieve the flexible collaboration of the Knowledge Service System. From the perspective of the service providing system, the Central China featured knowledge base service emphasizes the connection and polymerization of the members which participate in the service.

### **Promote method for cultural construction and economic development of the Central China region by using knowledge base**

Knowledge Base research is to study the establishment of the knowledge acquisition mechanism and the knowledge transform mechanism and to support readers to acquire knowledge and refine knowledge and create knowledge effectively. In the field of knowledge management, a lot of researches have focused on the acquisition, storage, dissemination, innovation and service mode of knowledge resources. The effect which Knowledge acts on users is difficult to calculate accu-

rately, under normal circumstances, the effect can only be measured by qualitative analysis and semi-quantitative detection, and a lot of theories of information effect detection can't be applied to the knowledge effect detection. Theory research of knowledge effect detection helps to analyze the scientific of building Knowledge Base and the optimization of knowledge resources, thus contributes to the optimization of knowledge services. Promoting the local culture construction and economic development is an important duty of the library, the Central China region belongs to the backward areas in the central region, the library of the Central China region should also make its due contribution to local economic development and culture construction. Building the Central China region Knowledge Base can make leaders at all levels, foreign experts, readers quickly and easily understand the history and current situation of the various resources of the Central China region, it externally plays an important role in propagandizing the cultural resources and attracting investment and developing tourism resources and promoting economic development; internally it can also provide convenience to the experts and scholars who study the culture of the Central China area and provide a reference for local leaders to do the scientific decision-making.

### MEASURES AND STEPS OF REGIONAL LIBRARY KNOWLEDGE BASE CONSTRUCTING IN CENTRAL CHINA

#### The knowledge organization strategies of knowledge base of regional library in Central China

Knowledge organization means a series of organizations including sorting and processing, and guiding, and revealing, and controlling the local literature thematic knowledge objects through the knowledge subject, and according to a certain structure ordering and forming a literature thematic knowledge base, and then the knowledge can be provided to specific users through the Knowledge Base, in order to promote the inheritance and innovation of the local literature knowledge in the network environment. The content organization of Central China region Knowledge Base should be based on ontology; the organization of library resources is a

scientific knowledge system which is with knowledge content, level, relevance, organization.

#### The structural relationship of knowledge base of regional library in Central China

TRS is the abbreviation of the English letters Text Retrieval System (text retrieval system), and it is the registered trademark of TRS and the abbreviation of the company's name, it is also the brand of products of TRS. The connotation of the TRS has been far beyond the scope of the full-text search, TRS has become the unified identity of the full-text search, and search engines, content management and knowledge management, core technology and products which are all developed by the company independently. As a national software brand which owns independent core technology and intellectual property, TRS condenses its people's pursuit of independent innovation. Central China region Knowledge Base takes the product of TRS as a platform which is used to create, publish and manage the characteristic thematic.

#### The data collection of knowledge base of regional library in Central China

The ways of collection may include the following: obtaining the firsthand information or the correlation data through on-the-spot investigation; obtaining works, research reports, videos, audios, and some folk craft which describe the Central China region from libraries, museums, archives, city and county annals offices, Department of Cultural Affairs, Tourism Bureau and other units, research reports, video, audio; using related websites and various databases such as CNKI and VIP database to find papers which study the Central China region.

#### The digital resources processing of knowledge base of regional library in Central China

In the process of arrangement and processing, we fully consider the needs for information organization, knowledge navigation and knowledge retrieval and other aspects of the knowledge base, and organize, process, sort, and regulate the data gradually, and reveal the literature resources deeply by titles, authors, keywords, author's institutions and so on. The data with different forms needs a unified treatment, for example, we can use the Adobe software to convert the format of the

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data to PDF, an international common format, and can use TRS to realize the integration of information resources with different formats [9].

### **Cataloging of knowledge base of regional library in Central China**

In the process of constructing the knowledge base, we select the OPAC system to integrate the content of knowledge base. The OPAC can achieve the integration of several databases such as Superstar eBooks, Founder Electronic Library, Netlibrary eBooks, China journal net, dissertations, EBSCO, Springer in the library catalog, and it can achieve the full-text links from the Library Catalog to the corresponding electronic books. OPAC can also achieve the integration of search engines, and we can also use the OPAC to integrate the resources of Google, Baidu and some professional websites, in order to lay a good foundation for the realization of Knowledge Base Cooperative Founding and Sharing [10].

### **Thematic library publishing, retrieval and management of library knowledge base in Central China**

The TRS WCM content collaboration platform is used for managing; it launches a network content management software which is based on Java and browser technology. These are the advanced concepts and technologies with its own content management of TRS, which can realize the content creation and edition all in the browser interface and the content distribution based on the template. The users can obtain the content through the site, mobile phones, wireless intelligent sides, and e-mails, and because of realizing the content publishing and push-delivery through multiple channels, users can easily access the information they need. The core technology of TRS full-text database is full-text retrieval technology, it provides a powerful content retrieval function for users to help them retrieve the content which they need fast and accurately, and it also provides power for the storage, management and retrieval of documents with a variety of formats.

### **The Strategies of library knowledge base in Central China**

How to select the influential people and events and matters topics with Central China cultural characteristics as the topics according to the history, culture,

economy, politics, and nature of Central China area is the focus of building the Central China Knowledge Base. Central China regional Knowledge Base can be divided into the following special databases.

### **The special database of farming culture and commercial culture**

The farming culture and commercial culture are both born of water. The archaeological findings suggest that since the middle and late Neolithic age Gan Po Basin is not only the most developed region of culture in Jiangxi Province in ancient times, but also the center of culture intercommunications of the northern and southern cultures in the middle reaches of the Yangtze River in ancient times. All kinds of cultures contact, collide, develop together and combine in this region. The wisdom enlightened by the benefit of the water of Central China has nourished the survival and development of the human. The culture of farming near water and doing business depending on water first gave birth to the concept and practice of survival, and thus formed the farming culture and commercial culture.

### **The special database of tea culture**

Central China area is the most primary tea area in China and it is also the influential tea area at the world. There are a lot of famous tea in Central China region, and there are also a variety of tea cultural events in that region. The historical resources of tea culture in the Central China region are richly endowed by nature. There has been the humanist tradition which pays much attention to the natural ecology and environmental protection since ancient times, and the tradition includes the ideals and values of ecologies such as the instinct of reverence for life, the mode of production which conforms to natural law, and the attitude of respecting for nature. Tea culture which varies from the initial tea cultivation to the spiritual tea ceremony all reflects the ideal and behavior way of ecological civilization from different aspects. These connotations are full of traditional thinking as well as modern consciousness; and they are with geographical features as well as worldwide significance.

### **The special database of ecological culture**

The green ecological environment is the greatest wealth and the biggest advantage and the biggest po-

tential in Jiangxi Province, and it is also the best soil for cultural construction and cultural development. The layout of geography and ecology in Jiangxi is unique, and Central China is one of the most important part of the economy, culture, ecology of China. The ecological advantages of the Central China provide good conditions and elements of creation for the cultural construction and cultural development of China.

### CONCLUSION

The construction of Central China regional library knowledge base takes paper documents, the database datum, documents on Web, and documents of historical figures in the Central China region as the sources of knowledge, and takes a knowledge unit as a fundamental store object, and expresses, stores, manages the knowledge of the field of Central China region by using computers, and uses knowledge to solve the problems in that field. It is a knowledge application system based on knowledge processing. The realization of the system needs deeply information platform for knowledge base research and technical research, the next step is to do a lot of research and testing and to develop a usable and efficient Central China regional library knowledge base system on the basis of the existing mature technology.

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