Research on the New Mode of Digital Library Information Retrieval in the New Media Era

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Abstract: In recent years, network media, mobile media and digital TV have developed rapidly. With their characteristics of quickness, convenience, interactivity and autonomy, they have become new means of communication with rapid growth and high popularity. These new media have brought great changes to people's lives, making it easier and faster for people to obtain information. As an information resource center, how to use new media technology to promote the information service innovation of digital library is a problem that we need to think and study. This paper introduces the concept of digital library in the new media era, discusses the mobile visual search technology of digital library, and systematically analyzes the new information retrieval mode of digital library under the mobile new media environment.

1. Introduction

As a municipal infrastructure public facility, the library not only creates a good reading space for readers, but also plays an important role in expanding thinking and expanding readers' horizons [1]. Relying on interactivity, subscription, multimedia, and low cost, new media has become a new type of communication method with fast growth and high popularity. It makes people's access to information more convenient and efficient, and also provides new development opportunities for libraries. [2].

New media refers to the use of digital technology, network technology, mobile technology, through the Internet, wireless communication networks, satellites and other channels, as well as computers, mobile phones, digital televisions and other terminals, to provide users with information and entertainment services in the form of communication and media forms [3]. At present, there are three main categories of new media we are talking about: network media, mobile media and digital TV [4]. From the initial use of new media in the media industry, it has now expanded to be widely used in many fields. Many scholars have conducted multi-angle research on new media [5]. As an important direction for the development of modern libraries, digital libraries pay more attention to the use of new technologies [6]. How to use new media technology to promote the information service innovation of digital libraries is a question that needs to be considered and explored.

Text information retrieval is one of the important tasks of digital library management [7]. The efficiency and convenience of retrieval have also received great attention from all walks of life in recent years. However, due to the current large-scale construction of the library, in order to find the information needed by users in a timely and accurate manner in a large amount of data, it is very necessary to ensure the orderliness and standardization of management activities in the process of information data resource management and organization. [8]. In order to ensure the maximum utilization of the library's use efficiency and service functions in the new media environment, the application of mobile visual search technology to the digital library retrieval management is the current stage to ensure the library's leap-forward development from position services to mobile network services Important strategic means [9].

2. Digital library in the era of new media

2.1. An overview of digital libraries in the new media era

The new media era refers to the communication era in which mobile phones, tablets and other terminals are interconnected through wired and wireless networks. In the new media age, the way of dissemination is different from traditional media. What is the content of books and periodicals in traditional media and what readers read? In the new media era, users can not only browse and retrieve massive information anytime and anywhere, but also publish information and share views and experiences with others. The traditional one-to-many communication pattern is gradually replaced by the new pattern of many-to-many [10]. In short, this kind of instant, interactive, multi-directional, initiative and communication mode focusing on reflecting users' personality in the new media era is loved by people. In the 1980s, the Internet appeared and gradually popularized, and online information retrieval came into being. Under this background, the library community put forward the concept of digital library. The proposal of this concept has promoted the further development of the library cause. With the progress of society, all kinds of information technology and media technology have been integrated into the work of the library and expanded the business of the library.

Under the background of information industry era, electronic information technology has been continuously developed and widely used. This facilitates people's daily production and life, and at the same time integrates it into public construction and development, so as to speed up the improvement of infrastructure construction. Simply put, the so-called "new media" is actually a public infrastructure that provides information and services to users through various advanced network terminals, and undertakes the tasks of inheriting human civilization and providing knowledge services. With the advent of the new media era in the library, the collection of books in the library began to transition from the initial paper resources to the state of parallel drive of paper resources and electronic resources. To a certain extent, readers can read through the mobile client without going to the library to retrieve and borrow materials. Reading time is more fragmented, ways are more diversified, and usage is more practical.

With the expansion of library business and the maturity of Internet technology, the concept of digital library is constantly developing. Some scholars believe that a library that stores and processes information in digital form is a digital library. Some scholars think that digital library is a large-scale information system. Although scholars have defined the concept of digital library from different angles, they all have one thing in common, that is, digital technology is an indispensable tool of digital library, the storage mode is digital, and it can be disseminated or queried on the Internet.

2.2. Mobile visual search technology of digital library

With the progress of science and technology, the library business is also expanding constantly, especially the appearance of digital library, which integrates new media into all the business of library and promotes the further development of library. In the current process of digital library scale construction, as a public infrastructure, the quality and efficiency of library public service have been highly concerned by all walks of life in recent years. In the application of mobile visual search technology to library retrieval management, it is urgent to ensure the maximum application benefit and the effective implementation of all retrieval work.

Mobile visual search refers to an information retrieval technology that uses mobile intelligent terminals to obtain real-world images, videos, maps and other visual objects as retrieval objects, to obtain their associated information, and to display it on mobile intelligent terminals. It is considered as an indispensable basic technology for future Internet applications. The introduction of mobile visual search technology in the field of digital library can not only help the development of information retrieval framework of digital library, but also effectively solve the problems related to the processing of visual big data resources.

From the current point of view, after the advent of the current digital reading era, the

transformation and upgrading of library services has also received great attention from all walks of life. In the management process, retrieval management is an important part of enterprise management. In order to improve the current management status, modern information technology means-mobile visual search technology is applied to practical management, and images and videos in the real world are obtained through the mobile Internet platform as search objects. The application of mobile visual search technology in the digital library has realized a comprehensive innovation of the model, concept and technology, and has realized the deep integration of the digital library and the Internet. Compared with traditional retrieval technology, the application of mobile visual search technology to the retrieval management of digital libraries can not only achieve complete collection, transmission and application of document information, but also facilitate readers to quickly obtain what they want to access. Information about the book. At the same time, the use of mobile visual search technology is of course an innovation for library services, a kind of help, and it can meet the different needs of readers.

In the era of big data, mobile visual search technology, as a modern retrieval means, not only ensures the deep integration of Digital Library and information technology, but also provides users with more convenient and intelligent optimization services. In the Internet environment, the mobile visual search of digital library has the following characteristics: (1) the cross-border integration of mobile visual search service resources enables the service process to coordinate and innovate. (2) Because the resource structure and type of visual object are relatively complex, it is very difficult to realize it. (3) The wide source of visual objects makes the service nodes of mobile visual search always in the trend of dynamic change. The network environment involved in mobile visual search is composed of mobile Internet, sensor network and Internet of things. Therefore, there are high requirements for the compatibility, scalability and reliability of the network environment, which makes the mobile visual search process always show a dynamic state.

3. New mode of text information retrieval technology in digital library

A very important part of digital library is the retrieval of text information. With the development of Internet and the emergence of HTML and XML, the hierarchical structure and attributes of documents can be reflected by tags. Structured documents appear, which can embed structured information in documents. Now the number of texts is increasing explosively, and how to quickly find the documents needed by users is the current research focus. At present, in the process of using mobile visual search technology, in order to ensure the efficient and scientific use, after storing and analyzing the visual big data resources, a scientific information retrieval platform should be built. In order to find out the information that users are interested in from massive visual big data, we must measure the similarity and dissimilarity between visual objects, and at the same time do a good job in the organization and management of information data resources, so as to quickly retrieve and match resources based on users' needs and improve the utilization rate of information resources in digital libraries.

In the new media era, digital information has the characteristics of many data types, complex data structures and huge resources. The collection and collation of information is the basic condition to ensure that it can play its corresponding role, but it is difficult to be effectively realized in the actual operation process. The process of integrating the above-mentioned numerous information resources needs to be applied to new media technologies. In practical work, digital library can use various means to strengthen the utilization and operation of information and enhance its openness, so that the user's "role" can be changed from "passive information receiver" to "active information publisher". Figure 1 shows the construction structure of library digital resources under the information ecology.

At present, the large-scale construction of digital library provides users with the required information, and at the same time, ensuring the efficiency and reliability of retrieval has become the top priority of library retrieval management. Compared with traditional libraries, visual big data in digital libraries are characterized by dispersion, heterogeneity and multi-modality. After the mobile visual search technology is applied to the retrieval system, it is an important foundation and

prerequisite for the later retrieval operation to build a domain-oriented or industry-oriented mobile visual search model and identify and acquire visual big data resources. In this environment, the promotion of personalized service ability of digital library becomes an inevitable choice. The personalized information service mentioned here mainly refers to the digital library collecting and sorting out readers' information, deeply analyzing their information acquisition needs, boldly predicting users' information needs, and actively providing customized push services for the predicted users' information needs.
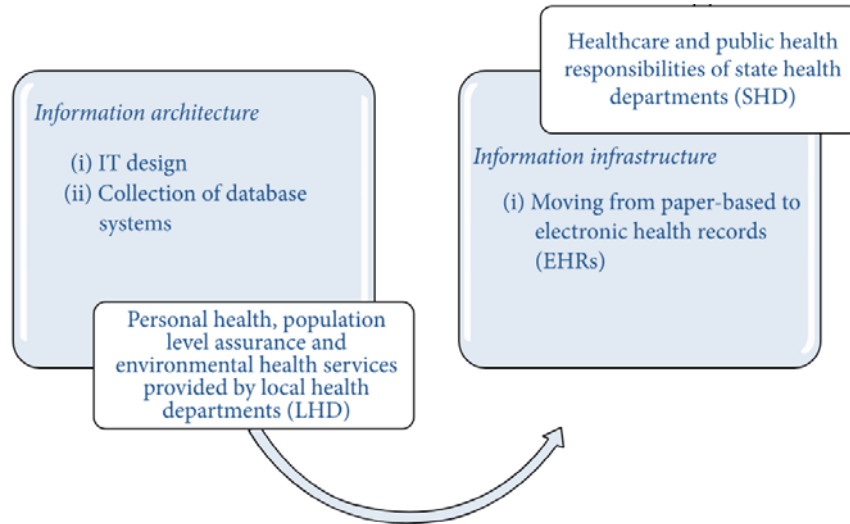

Figure 1 Library's digital resource construction structure under the information ecology

Digital library is the development trend of library construction in the future. Compared with traditional libraries, the application scope of modern information technology is constantly expanding. Therefore, it is urgent to speed up the scientific construction of information retrieval platform in order to fundamentally reduce the adverse effects caused by human operation, improve the quality and efficiency of retrieval management. According to the survey, with the large-scale development of digital library, the structure and types of data resources are also increasing. Therefore, optimizing and improving the retrieval information platform is an important foundation and fundamental premise for the stable development of digital library. The information service of digital library in the new media era is mainly to sort out and analyze new media information, such as information technology, network resources and collection information, to improve the overall utilization efficiency of data and provide effective support for data integration. In practical application, it is stored in different databases, and with the help of intelligent retrieval technology, it provides one-stop digital library services for the vast number of information demanders.

4. Conclusions

New media, as a new media, is going through a stage from start to maturity. The rapid development of new media technology has changed people's access to information, making it easier and faster for people to obtain information. The most remarkable feature of the application of new media in libraries is that it brings the digital era of libraries. Libraries should pay attention to the research and application of new media technology, and find the perfect match point between conventional services and new media technology according to the needs and habits of different readers. At the same time, we should actively expand new media channels to provide readers with more humanized and personalized information services. And deepen and improve the ways of new media services, and establish a solid theoretical foundation and good environmental conditions for the sustainable development of digital libraries and the enhancement of the radiation power of advanced social culture. Under the current new media environment, it is extremely necessary to optimize and improve the library retrieval management service in order to ensure the maximum application benefit of the library. It can not only bring diversified and personalized reading

experience to users, but also create favorable conditions for the effective transformation and upgrading of the library.

Acknowledgements

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