New direction of Library Service Innovation Based on mobile Internet

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Abstract. The main application device of mobile Internet is mobile smart phone. There is no doubt that smart phones have opened a new era for our lives. Electronic reading mode has become the main way for young people to read journals[1]. A lot of electronic reading software has also appeared. In order to effectively improve the national cultural quality, the library service innovation using mobile Internet technology has become a new research direction. Many schools have joined the research. This paper briefly analyzes the characteristics of mobile Internet. This paper puts forward the innovation of mobile Internet and library service. This paper also puts forward the innovative construction of University Library and mobile Internet.

Keywords: Mobile Internet, Library, Service, Innovation

1. Introduction

With the gradual popularization of advanced intelligent technology, smart phones have become an important part of people's life. There is no doubt that smart phones have changed people's living conditions. However, experts gradually realize that literature has been gradually forgotten. This is a very serious problem. Chinese traditional virtues cannot be forgotten. On this basis, technicians study the new literary mode of electronic reading. In the process, online novels, academic articles and other publications are popular in various software of smart phones. On this basis, in order to improve students' literary quality, the school uses mobile Internet to innovate library services.

The content of information resources in traditional school library is limited. It is difficult for students to learn a lot of extra-curricular knowledge in the library. The connotation of library has been ignored by people. Through the update of computer technology, people have gradually established a digital library (see Fig 1). The popularity of smartphones has changed that balance[2]. People use the library service of mobile Internet to create more e-reading mode. People can browse all kinds of books in the library in smart phones. This paper analyzes the characteristics of mobile Internet. This paper explains the new direction of Library Service Innovation of mobile Internet. Hope to give you some help.

2. Analysis of the main characteristics of mobile Internet

2.1. Existence of mobility characteristics
The information carrier of mobile Internet is smartphone. Mobile information will be limited by the device environment. However, the existence of mobility features makes it more beneficial. Mobile Internet can break through the limitation of time and space. In reality, mobile Internet covers all parts of our lives. Users can accept any kind of information service according to their own needs. This is very convenient.

2.2. Carrier form of mobile terminal equipment
The information service of mobile Internet comes from network platform. Mobile Internet is invisible. Mobile phone is its carrier. Network platform is mainly used in mobile phone information service. In addition, another carrier form of mobile Internet is computer equipment. However, mobile terminal is more commonly used. With the rapid upgrading of smartphones, the Internet is also undergoing great changes. It has changed the development of the times.

2.3. Personalized service
Mobile Internet has personalized service function. Everyone has a different habit of using a smartphone. Their behavior on the Internet is also different. Everyone has a specific cell phone number. Each mobile phone number has its own mobile internet terminal. The Internet can achieve the goal of precision service. According to the needs of different people, mobile Internet can provide different kinds of information and information sources.

![Digital library supported by mobile terminal](image)

**Figure 1.** Digital library supported by mobile terminal

2.4. Main decision objects in the future
Mobile Internet has occupied our lives. It has become an integral part of our lives. Today's life and work depend on the Internet to be able to run perfectly. People's life and the Internet have a seamless docking phenomenon. More efficient information service has become the decision-making object of the future era. Mobile Internet has become the main direction of the development of science and technology in the future.

3. The comprehensive development of smart mobile phones and smart libraries

3.1. micro library on mobile phone
Library is a traditional information service organization. It is a service intermediary of information. People use mobile Internet to extend information services[3]. The application of Intelligent Library in smart phones is an inevitable phenomenon. Digital library services will be extended to mobile terminals. Mobile phones can complete all kinds of Library contents. Such as book borrowing, mobile reading and personalized services. Library services will be concentrated on mobile phones.

3.2. Mobile Internet can expand library services
The development direction of digital content of mobile phone micro library. In fact, the use of mobile Internet can also expand other library services. It can expand the application of Library in education. The library can carry out the task of information transmission at any time with the help of mobile phone service. It can make the mobile phone have two-way interaction function. Mobile phones can also turn library services into active services.

3.3. Establishment of Digital Library
Different from the traditional library, the digital library needs to establish a special resource library. Resource library includes not only book resources, but also academic resources. Digital library needs to share resource network with modern library. The library should produce a lot of website links. Smartphone users can log in to these sites to find different text resources. Foreign book resources sharing channels should also be established.

3.4. Lending system of physical library
The lending system of physical library can be built in the Internet application of school. Students can use the mobile terminal to log in to the school information portal. Through the sharing channel of information portal, students can directly enter the e-library. Students can also borrow physical books from physical libraries through sharing channels. In the school information portal, students can also find their own borrowing history.

4. The new direction of Library Service Innovation Based on mobile Internet

4.1. Development of digital application services
Digital application service should include information search, information arrangement and information transmission. Information search belongs to the process of resource exploration in digital library. It can link foreign library resources with domestic library resources. The function of information arrangement means that the library can sort out some useful information and discard some useless information. Information transmission refers to the mobile sharing channel of information library (see Table 1).

Table 1. The charge situation of modern library and the sharing channel of main mobile mutual benefit network

| Modern Library          | Service type | Charging method |
|------------------------|--------------|-----------------|
| Guangzhou University Library | SMS          | Free            |
| Harbin Library         | SMS          | Free            |
| Guangzhou Library      | WAP          | Charge          |
| Guangxi Library        | WAP          | Free            |

4.2. Development of public digital services
The object of public service is the public. In fact, there are many types of public service. The general public service of digital library should include directory display and registration service[4]. These two service models are the most important. Catalog display can help readers find the location of various books. The application object of registration service is the user of mobile terminal. Registration services can also be targeted at school students.

4.3. Development of electronic resource content
There is no doubt that the resource content of digital library will become more and more. The network link of digital library will become less and less. The content management system of mobile terminal will be upgraded. Security management should be included within the content management system. He can manage the security of the core information. The service management of content should be diversified. The library function of mobile terminal should tend to service type.
4.4. **Service means of we media type**
A lot of people hate we media. They think we media are all means of marketing. However, we media will bring new opportunities to the library[7]. We media provides a good way to integrate resources. We media service weakens people's demand for library resources. In fact, commercial we media has been in the forefront of digital library. There is a small number of commercial media.

5. **The development status of library service based on mobile Internet**

5.1. **Limitations of mobile service**
The technical level of mobile terminal has great limitations. Unlike a large computer, the cost of making a cell phone chip is very high. The process of making chips for some mobile phones is very complicated. The technical level of the internal structure of mobile phones in China is relatively low. Although the popularity of smart phones is very high, the application of mobile Internet in mobile phones is still difficult to achieve. This is a huge limitation.

5.2. **Economic constraints**
The traditional library service system is provided free of charge. This is the main reason why many people like physical libraries[5]. Mobile Internet library platform is provided by mobile network operators. Operators will charge some intermediary fees. This leads to a lot of mobile Internet supported digital libraries need to pay to use. There is a great conflict between the commonweal and the interest of the library.

5.3. **Constraints on users' habits**
Compared with computer equipment, the area of mobile phone screen is very small. Many middle-aged people's eyesight can not meet the basic requirements. It's hard for them to see what's on the screen. This has led to their unaccustomed use of digital libraries. Moreover, some users who are not coordinated will not operate the mobile phone. Nowadays, the phenomenon of aging in China is very serious, and the restriction of users' habits is a common phenomenon.

5.4. **The guarantee of safety is uncoordinated**
There are many loopholes in the security system of mobile phone's internal data. Therefore, as a new carrier of information, the application standard of mobile phone digital library is relatively low. Compared with computer equipment, the security measures of mobile phone can not be guaranteed. The digital library has many links to websites[8]. However, the security of these links cannot be guaranteed. This is a very serious problem.

6. **The application strategy of University Library Based on mobile Internet**

6.1. **Ensure the information compatibility of mobile Internet**
The structure of mobile Internet is complex. Many mobile terminal applications have the characteristics of compatibility. Information websites created by mobile Internet also have system compatibility. We have to make sure that the mobile phone application system is stable. Mobile phone system programs should also be updated. The information compatibility of mobile Internet is very important[9]. If incompatibility occurs, the information output system of the mobile phone will crash.

6.2. **Reader service system based on social software**
The reader service system of Digital Library Based on mobile terminal can use social software to complete the task of handover. It can use QQ to push some news. It can also use WeChat's official account to show users' borrowing history. Students can check the opening hours and closing times of the digital library through the official account of WeChat. During this period, students can query any book information.
6.3. Construction of Library Information Portal Based on mobile Internet

The university library is of entity type. However, the number of seats in the library is limited. Many students will fight for the right to use their seats[6]. The library can set up an independent information portal[10]. Students can reserve seats in the digital system. Students can also reserve books. Students can query e-books and academic articles in the information portal.

7. Conclusion

Mobile Internet is the key network for mobile terminal. The operation of libraries supported by mobile Internet can be manipulated. Although China's mobile Internet library technology is in the primary stage, we still need to work harder to complete the tasks.

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