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RFID self-service innovation of reader service in University Library. Take Baise University as an example

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Abstract. Taking Baise University as an example, this paper introduces in detail the University Library in order to better serve readers, keep pace with the times, implement innovative service mode, and apply RFID self-service for innovative service. RFID is a kind of wireless communication technology, which can identify specific targets and read and write relevant data through radio signals without establishing mechanical or optical contact between the identification system and specific targets. It is also called RFID self-service machine that readers use RFID machine to borrow and return books by themselves at the screen terminal of RFID reader. The self-service of university library not only facilitates readers, but also saves time, improves the level of management technology and work efficiency, and promotes the development of university library work.

Keywords. University Library; readers; service mode; innovation

Preface

University library is the soul of a school, and reader service is the most important function of university library. With the development of the times, great changes have taken place in the service mode of university library. There are some innovations in the service methods and service mode. It is an important way to improve the service quality of the library to improve the service consciousness of the librarians, innovate the service mode and upgrade the service function. In order to improve the service efficiency and management level, Baise college has introduced RFID self-service system, which greatly facilitates the readers, and also provides readers with more accurate Book location, which greatly saves the time to find books.

Self service for readers in university library is a new innovative service mode in recent years. It was originally introduced from abroad. It is called "radio frequency identification, abbreviated as RFID" in English and applied in library management. Since the late 1990s, many foreign libraries and library system suppliers began to study the application of RFID in library management. Checkpoint company of the United States, 3M company, tagsys company of France, bibliotheca of Switzerland, stlogi track of Singapore and other companies have launched HF based RFID Technology, such as self-service loan and return system, book on shelf / search system, security detection system, has been widely used. RFID is a kind of wireless communication technology, which can identify specific targets and read and write relevant data through wireless signals without establishing mechanical or optical contact between the identification system and specific targets. Reader self-service of university library

is the application of RFID technology to library. RFID is a new invention. Readers borrow and return books on the screen terminal of RFID reader by using RFID machine, so it is also called RFID self-service machine.

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RFID self-service is a new innovative service mode which has been put into use in recent years. The self-service system can self-borrow and return, put books on shelves, take books off shelves, search books, put books on shelves, check books, etc. Self-service of university library is the application of RFID technology in the library. Readers can borrow and return books at the screen terminal of RFID reader by using RFID self-service machine, and readers can return books at any time without time limit. This is a new type of innovative service, is to meet the readers of a self-service model, also known as reader self-service.

The self-service of readers in university library greatly facilitates readers, enables readers to borrow and return books freely in a spacious, bright and comfortable environment, meets the personalized needs of readers, creates a "reader first" atmosphere in the library, strengthens readers' love for the library, improves the book borrowing rate, and makes the circulation of library borrow and return from the original librarian operation service into a new one The new service mode makes readers have a new reading experience.

RFID self-service changes the original manual operation mode, which not only reduces the work intensity of teachers, but also saves the time of readers, and plays a certain role in promoting the modern management of university library.

2. Basic functions of RFID self-service system

RFID self-service system mainly includes: RFID tag conversion system, RFID inventory system, RFID self-loan system, RFID intelligent security detection system, etc. All the above functions of Baise college library have been put into use.

2.1 RFID tag conversion system

RFID tag conversion system is mainly to read, write and encode the RFID tag. Firstly, the staff pastes the RFID tag into the book, and uses the RFID tag conversion system to read and write and edit the book information. That is to say, the RFID tag information is transferred to the public search machine, and the readers can search on the search machine to find the specific location of the books they need.

Readers input the required book name, or bar code number, readers and other information on the search machine, then you can see the distribution information of each floor in the reading area, the specific location information of books, and there will be pictures to show, so that you can find the required books at a glance. For example: to query the romance of the Three Kingdoms, the reader first enters the romance of the Three Kingdoms in the search machine, searches, sees the book name, and then clicks on the book name to display the collection information of the book. On the right side of the menu bar, "positioning" will appear. Click positioning to display the specific placement information of the book, and a three-dimensional picture will be displayed to get the specific book location, that is, the location of the book Accurate positioning: the book will be placed in the library, the location of the library, the floor of the building, the number of shelves, columns, floors and books will be displayed on the pictures. Readers can quickly and accurately find the books they need to borrow according to the prompt icon, which is very convenient and fast.

2.2 RFID book inventory equipment

RFID inventory equipment is a combination of RFID system, infrared scanning gun and positioning display instrument. It can locate and inventory books on bookshelves, update book information in time, and have the functions of sorting, loading and reversing. It is through the infrared scanning gun to scan the shelf mark on the bookshelf, and then scan the books with electronic labels on the bookshelf, check and inventory the books, and deal with the problems in time.

The operation of RFID inventory equipment is also simple and convenient. First, open the positioning display to download the collection of RFID electronic tag books, then take the infrared scanning gun to scan the bookshelf layer label, and then scan the books on the bookshelf layer to check, collect and process the book data. If the book data of the positioning display instrument is red, it means that the books on this layer are disordered, then use the scanning gun to scan all the books on this layer, check and collect the book data, find out the disordered books, and take out the disordered books and put them on the shelves again according to the shelf number. If the positioning indicator shows green, it means that the book shelving is all correct. If the book data displayed by the positioning display is white, it means that the book is not on the shelf, most of which are borrowed by the readers but not returned. In some cases, the book data has not been converted from the original data management system to the current RFID system, or the magnetic stripe in the book is not pasted or damaged. The administrator makes different treatment according to the specific situation.

The above is the use of RFID inventory equipment for book positioning, book on shelf, book off shelf, book on shelf, book down shelf method. The inventory system can not only count the number of books, but also carry out the inventory, greatly reducing the inventory time.

2.3 Self-service book borrowing and returning system

RFID tags store the information needed for identification, including book number, book name, search number, borrower information, borrowing time and so on. The functions of the RFID software of Baise college self loan and return system include:

2.3.1 Self-loan

Book borrowing refers to the operation that readers use campus card, that is, borrowing card, to borrow books and documents by using RFID system. First of all, click to borrow books, the page will display the menu of inputting the borrowing card, the reader will put the borrowing card in the designated position of the RFID borrowing card, input the password, this will appear a I know, OK, I know, put the spine of the book to be borrowed inward, put it on the borrowing tablet, the book information will be displayed, check the information, and click OK to borrow. A green check mark indicates successful borrowing. Click exit.

2.3.2 Self-service book return

Book return refers to the reader through the RFID system. Return some borrowed books and documents. According to the circulation rules of the library, the RFID system will display the final return operation results. First of all, click to return the book, put the spine of the book you want to return inward, and put it on the sensing plate of the borrowed book. The book information will be displayed. If the information is correct, click OK to return it.

2.3.3 Renewal

Renewal refers to the reader through the RFID system has been borrowed books to extend the borrowing time operation. According to the circulation rules of the library, the RFID system will display the final operation results.

2.3.4 Query

The RFID system will get the borrowing information of the current readers through the personal center menu according to the login reader information. It is convenient for readers to check readers' information and borrowing time.

3. Intelligent security system

Intelligent security detection system is also called access control system, which is installed in the main entrance of Baise University Library facing south. All books and documents lent by readers must go out through this door. If the reader has not finished the operation of the self-service machine, when the reader passes through the monitoring channel with the book, the access control will sound, indicating that there are books that have not gone through the access control procedures. The system will give an alarm automatically.

4. Innovative service mode of library applying RFID

The library of Baise University will introduce RFID technology in 2020. In short, RFID is a kind of RFID for electronic tags, which transmits information at the receiving end and the sending end of the signal through the microwave RF signal. It is a technology to realize the contactless automatic identification. In recent years, great changes have taken place in the library of Baise University. From the traditional paper open shelf borrowing to the automatic borrowing of the database built by our librarians, now it has developed into an innovative RFID self-service lending service, which provides readers with more convenient borrowing conditions.

It is a detailed and complex project to set up RFID system equipment according to the layout of our school library. Since the start of the system, RFID innovation services have emerged, showing a variety of advantages.

4.1 Time saving

It provides the readers with simple and rapid self-service, avoiding the crowding in the peak period. If the reader used to use the morning interval time long, afternoon after class time long line up to borrow books. Now readers can borrow books whenever they go into the library. It can also return books and renew books by themselves. Readers can borrow and return books by themselves, and RFID can borrow more than one copy at the same time. Make the book borrowing and return process simple and easy to save time. The procedure of borrowing and returning books is simplified, and the circulation of books resources and the utilization rate of books resources are accelerated. The paper explores the value of library literature resources and maximizes the function of knowledge dissemination.

4.2 Improve reader satisfaction

Due to the characteristics of Library's RFID automatic innovation service of independent borrowing and returning books. In the continuous opening time, the effective borrowing time of the library is longer. No matter in the time or in the location of reading books, it greatly facilitates the readers, greatly brings into play the service convenience of the library for readers, speeds up the circulation speed of books, shortens the time spent in the circulation

of books, and relies on the support of RFID technology to borrow and return books. The process becomes very simple Single. Let the reader operate on the RFID terminal, the self-service innovation service of the book borrowing and returning system not only makes the reader experience a more free borrowing environment and the digital and modern innovation service of books, but also protects the reader's reading privacy, meets the reader's individual needs, and enhances the reader's sense of ownership. It improves the readers' satisfaction with the library's innovative service demand.

4.3 Improve work efficiency

At the same time, due to the innovative service characteristics of RFID inventory equipment in the library. Teachers are liberated from the previous heavy physical labor, and can locate, count, sequence and reverse shelves through RFID inventory equipment. Because RFID inventory equipment for these operations are composed of warehouse data and electronic automation conversion. So the teacher used the time to help students borrow and return books in front of the computer, and used it in a series of work processes, such as book sorting, book reversing, inventory and Book positioning. So that they can be liberated from repetitive work, and have more time to guide readers to read the literature of patriotic heroes, celebrity biographies and scientists' inventions and creations, so as to show them in a positive image.

4.4 Efficient and fast

The scale of the library is large, and the readers carry out the book circulation work on the self-service borrowing and returning machine. Convenient and fast. It can meet the needs of readers with high index. The outstanding feature of RFID innovation service is to borrow and return books as they arrive, so as to prevent readers from queuing up to borrow and return books in rush hours. It breaks the previous service restriction of borrowing and returning books, which is efficient and fast, and can completely alleviate the contradiction of insufficient Librarians in the service peak.

4.5 Accurate positioning

Under normal circumstances, the innovative service of RFID autonomous borrowing and returning system basically realizes the new way that librarians do not need to participate in the borrowing and returning work, but the readers operate by themselves, and achieves the utilization rate of book resources and readers demand with high indicators. The nature of Librarian's work has changed. RFID system undertakes the work of book code scanning, shares the work of circulation, and changes the original working mode, such as book flipping and bar code scanning. Using RFID tags, readers can not only query the bibliographic information and borrowing information, but also search the exact location of specific collection materials in the library by themselves on the query machine, so that readers can show which reading area, which shelf and which specific location of the books they search, so that readers can find the books they borrow accurately, with high standard and high efficiency Complete the process of borrowing and returning books.

Conclusion

Since the application of RFID in Baise University Library, many advantages have been highlighted. Independent innovation service is the trend of library service development. RFID self-service loan and return system provides a new innovative service mode. It is an innovative service concept for the modernization of University Library in the information age. It gives readers a more free borrowing environment and improves the quality of University Library's

reader service. With the continuous improvement of the book self-service borrowing and returning system, the reader centered service concept of the library will get better development. RFID will also be more widely used in university libraries, and it will be developed into more automatic self-service in the near future.

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