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AUTOMATED LIBRARY MANAGEMENT SYSTEM

This article mainly studies the design and implementation of the automated library management system, analyzes the status quo and development trend of automated library management system, and designs and implements the system based on ASP.NET based on the actual situation.

INTRODUCTION

The Automated Library Management System is a perfect combination of high-tech technology, book knowledge information and traditional history and culture. It changes the service characteristics of static books in traditional library collections, realizes multimedia access, remote network transmission, intelligent retrieval, and seamless cross-library linking, creating a new realm of spatiotemporal information services.It solves the shortcomings of traditional libraries that consume a lot of manpower and material resources.

I. AIM AND OBJECTIVES

The Automated Library Management System is an online library management system designed and developed for a university library. The research is based on the B/S mode and uses the electronic service platform of ASP.NET+SQL 2008 mode to realize online borrowing and returning.

The system contains a brief introduction to the book for readers who do not know what to read. Before going to the library to borrow books, readers can check in advance whether their favorite books are in stock, so as not to waste time on the journey. Instead of going to the library every day, readers can check on the system every day to see if the library has new books. The goal of this project web development is to create an application called an automated library management system. It is convenient for readers to easily select their favorite books online and browse the library's inventory. It is convenient for library staff to manage books, save human and financial resources, reduce workload, and reduce data loss in work. The main functions include the following parts.

- Upload Books: Librarian uploads book information
- Bookshelf: Display by book category
- Borrowing Books: Readers borrow books they like and generate a unique code for the book
- Return Books: Readers returning borrowed books

II. ADVANTAGES

The system greatly reduces the complicated and repetitive manual labor in traditional library work, and improves the efficiency of various documents. Processing and retrieval speed, and make the services provided by the library more efficient, convenient and flexible, reaching an unprecedented new level. It also greatly strengthens the statistical work of the library, and can provide various accurate and detailed statistical data in time, which is convenient for decision–making and research on the work of the library. The establishment and development of the library automation network system also helps to carry out cooperative cataloging, establishment of joint catalogues, interlibrary loan, interlibrary procurement coordination, etc, which truly realizes resource sharing and makes it more convenient for readers.

III. IMPLEMENTATION

To write an ASP.NET-based application program based on the C# language, compile, debug, and run the C# program, you first need to install Visual Studio, and download different versions according to the platform used. The background database uses Microsoft SQL Server, and it is best to download a relatively stable version. The design of this system adopts three–tier structure and Web Service technology, which makes it advanced, forward–looking and extensible in the selection of platforms and technologies, thus ensuring that the completed system has good stability and extensibility.

- Operating System: Windows 10/11
- Database:Microsoft SQL Server. Microsoft SQL Server is a comprehensive database platform that provides enterprise-class data management using integrated business intelligence (BI) tools. It has the advantages of convenient use, good scalability, and high degree of integration of related software.
- Presentation Layer: HTML, ASP.NET

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