Library Management Program

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***Abstract*—This thesis presents a library management program developed using Java and Microsoft SQL Server. The program aims to enhance the updating of information in the library and facilitate the borrowing and returning of books. The system is designed to manage books and readers, including adding, updating, and searching for books and readers. The program also includes features for staff management, such as updating staff information and managing book borrowing records. The system is designed with a user interface that allows for easy interaction with the library's database.**

***Index Terms*—Java, SQL Server, Library Management, UML, Database**

I. Introduction

The thesis introduces the development of a library management program using Java and Microsoft SQL Server. It highlights the importance of information technology in modern library management, emphasizing the need for a modern and efficient system to replace traditional methods. The program aims to improve the efficiency of library operations and provide a user-friendly interface for staff and readers. The system is designed to manage books and readers, including adding, updating, and searching for books and readers [1]. Related earlier ICTU undergraduate theses provide context for this English summary [5], [6], [7], [8]. Published books on the methods and subject of this project provide context for this English summary [9], [10].

II. Methods

The program is developed using Java for the front-end and Microsoft SQL Server for the back-end. The design process includes the analysis of use cases, class diagrams, and sequence diagrams. The system is designed to manage books, readers, and staff, with functionalities for adding, updating, and searching for information. The program successfully implements features for managing books and readers, including adding, updating, and searching for books and readers [1].

III. Results

The thesis presents a library management program developed using Java and Microsoft SQL Server. The program includes functionalities for managing books and readers, such as adding, updating, and searching for information. It also supports staff management, including updating staff information and managing book borrowing records. The system design includes detailed use cases and class diagrams, ensuring a comprehensive and structured approach to the library management system [1].

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IV. Discussion

The system design includes detailed use cases and class diagrams, ensuring a comprehensive and structured approach to the library management system. The program's functionalities are designed to meet the needs of both staff and readers, providing a user-friendly interface for managing library operations. The program successfully implements features for managing books and readers, including adding, updating, and searching for books and readers [1].

V. Conclusion

The thesis concludes that the developed library management program is a useful tool for modernizing library operations. While the program covers a significant portion of library management tasks, there is potential for further development to include additional functionalities such as managing non-student readers and other types of library materials. The program successfully implements features for managing books and readers, providing a user-friendly interface for staff and readers [1].

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