Development of a Business Tax Management Program for a Local Tax Office in Thanh Phu District, Vietnam

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***Abstract*—This thesis focuses on developing a business tax management program for a local tax office in Thanh Phu District, Vietnam. The research aims to analyze and design a system using UML (Unified Modeling Language) and Rational Rose software. The study covers the introduction of UML and Rational Rose, system analysis and design, and the user interface design of the program. The program was implemented using the C# programming language. The research highlights the challenges of tax management in Vietnam, particularly for local tax offices, and the benefits of using UML and Rational Rose for system design. The program includes functionalities such as data processing and user interface design, but its implementation was limited by time and the author's experience level.**

***Index Terms*—UML, Rational Rose, tax management, system design, business tax, local tax office**

I. Introduction

The thesis addresses the challenges of tax management in Vietnam, particularly for local tax offices. With the rapid development of the business sector, tax management has become more complex. The researcher chose to develop a business tax management program for a local tax office in Thanh Phu District, using UML and Rational Rose for system design. The study aims to improve the efficiency of tax management by applying modern software development methodologies. The program is intended to support the operations of the local tax office in Thanh Phu District, Vietnam, and to facilitate the management of business taxes. [1]

II. Methods

The research method involved an analysis of the current tax management system at the local tax office in Thanh Phu District. The UML and Rational Rose tools were used to design the system, focusing on the requirements and functionalities needed for efficient tax management. The program was implemented using the C# programming language. The design process included the creation of class diagrams, sequence diagrams, and use case diagrams to represent the system's architecture and interactions. The user interface was designed to be intuitive and user-friendly, with clear navigation and input fields for tax-related data. [1]

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III. Results

The results include a detailed system design using UML, which was implemented in Rational Rose. The design covers the main functionalities required for tax management, including data processing and user interface design. The program includes features such as data entry, validation, and reporting. However, due to time constraints and the author's limited experience, the program's implementation was not fully optimized for user experience and performance. The program was tested with sample data, and it successfully processed and reported tax-related information. The program's functionalities were implemented using the C# programming language, and the source code is available for review. [1]

IV. Discussion

The discussion highlights the benefits of using UML for system design, such as improved system modularity and easier maintenance. The design process was successful in addressing the specific needs of the local tax office in Thanh Phu District. The use of UML and Rational Rose tools proved to be a practical approach for system design in this context. However, the implementation of the program was limited by the time available and the author's experience level. The program's functionalities were successfully implemented, but further optimization and testing are recommended to ensure its full effectiveness in real-world scenarios. [1]

V. Conclusion

The thesis concludes that the developed system effectively addresses the tax management needs of the local tax office. The use of UML and Rational Rose tools proved to be a practical approach for system design in this context. The program includes functionalities such as data processing and user interface design, but its implementation was limited by time and the author's experience level. The program's functionalities were successfully implemented, and it can serve as a foundation for further development and optimization. The research highlights the importance of applying modern software development methodologies to improve the efficiency of tax management in local tax offices. [1]

References

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