# Construction of a Software Management System for Farms Based on the OCOP Agricultural Model

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***Abstract*—This thesis presents the construction of a software management system for farms based on the OCOP agricultural model. The author explores the development of a desktop application using C# and MySQL, along with the use of phpMyAdmin for database management. The project covers theoretical knowledge in software development, including C# overview, MySQL and phpMyAdmin, and the three-layer architecture. Practical outcomes include the creation of a demo product and improved skills in software development and documentation. The system includes functionalities such as user registration, login, employee management, and inventory management. However, the product is noted to be a demo version with limited real-world application.**

***Index Terms*—C#, MySQL, phpMyAdmin, three-layer architecture, OCOP model, software development**

## I. Introduction

The thesis introduces the construction of a software management system for farms, focusing on the OCOP agricultural model. The author delves into the theoretical foundations of C#, MySQL, and the three-layer architecture. The project aims to develop a desktop application that can manage farm operations more efficiently. The introduction outlines the importance of the OCOP model in enhancing the competitiveness of agricultural products in Vietnam. The author also discusses the challenges faced in developing such a system, including the need for a robust database management system and the complexity of integrating various functionalities [1]. Published books on the methods and subject of this project provide context for this English summary [3], [4].

## II. Methods

The author developed a desktop application using C# and MySQL, and utilized phpMyAdmin for database management. The project involved creating use cases, defining actors, and detailing the system architecture. The author explored the C# language, including its syntax, data types, and variables. The MySQL database was used to store and manage farm-related data, while phpMyAdmin was employed for database management and administration. The three-layer architecture was implemented to ensure a modular and scalable system. The author also conducted a thorough analysis of the requirements and functionalities needed for the system, including user registration, login, employee management, and inventory management [1].

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## III. Results

The thesis reports on the development of a software management system for farms, covering theoretical knowledge and practical implementation. The product is a demo version with limited real-world application. The system includes functionalities such as user registration, login, employee management, and inventory management. The author successfully implemented the use cases and defined the actors involved in the system. However, the product is noted to be a demo version with basic development processes and limited practical application. The author also documented the development process and provided a detailed explanation of the system architecture [1].

## IV. Discussion

The author discusses the theoretical and practical outcomes of the project, highlighting the development of skills in software development and documentation. However, the product is noted to be a demo version with basic development processes and limited practical application. The author acknowledges the limitations of the project, including the need for further testing and validation of the system. The author also suggests that the system could be improved by incorporating more advanced features and functionalities, such as real-time data synchronization and automated reporting. The author concludes that the project has improved their understanding of software development processes and documentation, but the product is a demo version with limitations in practical application and development knowledge [1].

## V. Conclusion

The author concludes that the project has improved their understanding of software development processes and documentation. However, the product is a demo version with limitations in practical application and development knowledge. The author acknowledges the need for further testing and validation of the system. The author also suggests that the system could be improved by incorporating more advanced features and functionalities, such as real-time data synchronization and automated reporting. The author plans to continue learning and improving their skills in software development and documentation [1].

# References


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