



CHEMICAL INFORMATION MANAGEMENT SYSTEM (CIMS)

muRata

Author: Kanoklak Prommin | 650510596

Advisor: Assistant Professor Dr. Wijak Srisujjalertwaja

ABSTRACT

This cooperative education project seeks to analyze, design, and develop a Chemical Information Management System (CIMS) for Murata Electronics (Thailand) Co., Ltd. to solve problems associated with outdated chemical information, complexity, and usability constraints of the current system.

The developed system is grounded on legal standards associated with hazardous materials, with a focus on managing chemical information through CAS Numbers (CAS No.) and reference data associated with safety. The system is designed to be user-friendly, less complex, more accurate, and amenable to organizational-level use.

TECHNOLOGY



Vue.js



Tailwind CSS



Flask



Rest API



MySQL



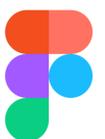
GitHub



Git Bash



VS Code



Figma

INTRODUCTION

Murata Electronics (Thailand) Co., Ltd. is an industrial company that uses a wide range of chemicals in their production processes. As such, an efficient information system is needed to handle chemical information in a precise manner, maintain it up to date, and comply with the legal regulations governing such information.

The problem with the current system was that it had limitations in terms of system design, complexity of interfaces, and maintainability. As such, the author was tasked with the responsibility of designing a new Chemical Information Management System (CIMS) that would facilitate the storage, retrieval, and management of chemical information.

METHODOLOGY



Get Requirement and Analyze



System Design



System Development

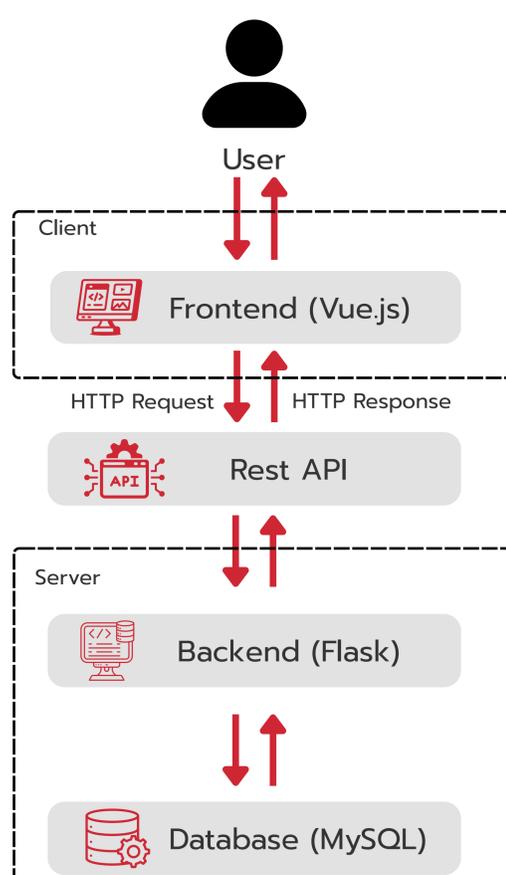


Deployment



System Testing

ARCHITECTURE



CONCLUSION

The developed Chemical Information Management System (CIMS) helps in increasing the efficiency of storage, search, and management of chemical information in the organization. It also helps in decreasing the complexity of operations and increasing the accuracy of data.

In addition, the system helps in supporting legal requirements for chemical information, as well as decreasing the time of operations for users. This makes the processes of managing chemicals in the organization more efficient and accurate.

REFERENCES

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- [3] Department of Industrial Works. (2025). Hazardous chemical regulations. Retrieved July 31, 2025, from <https://www.diw.go.th/webdiw/law-haz>