Preliminary Knowledge Report on WIS Architecture Before Course Enrollment

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# Executive Summary

This section is expected to have from 50 to 250 words in most cases.

# Revision Table

| **Revision Number** | **Date** | **Description** |
| --- | --- | --- |
| 1.0 | Monday 16, February 2025 | Initial draft |
| 1.1 | Wednesday 19, February 2025 | Incorporated conclusions |
| 1.2 | Thursday 20, February 2025 | Adherence to the template |

# Introduction

This report presents an assessment of our prior knowledge of Web Information System (WIS) architecture before taking this subject. It outlines our understanding of fundamental web development concepts and software design principles related to WIS.

Although we had experience in frontend and backend development, databases, and the client-server model, our knowledge was limited to small-scale applications, and we lacked exposure to enterprise-level architectures.

We were also familiar with the Model-View-Controller (MVC) pattern, using it to structure applications. However, we had not explored its role within a multi-tier WIS infrastructure or its integration with application servers, middleware, and distributed databases.

This report is structured as follows: Section 4.1 describes our prior knowledge of web technologies, focusing on development, databases, and system interactions. Section 4.2 examines our understanding of the MVC pattern. The conclusion summarizes our overall level of knowledge and key areas where we lacked expertise.

# Contents

## 4.1 Prior Knowledge of Web Technologies

Before this subject, our group had a solid foundation in software development, covering both frontend and backend technologies. We were familiar with HTML, CSS, and JavaScript for frontend development and had experience with backend programming using languages like Python, Java, and JavaScript (Node.js). We understood the client-server model, where the frontend interacts with the backend through HTTP requests and APIs, and we had worked with RESTful services in some projects.

Additionally, we had experience with SQL-based databases like MySQL, understanding how CRUD operations are performed and how data is structured within a relational database. However, our experience was mostly limited to small-scale applications, and we had little exposure to distributed databases, performance optimization, and large-scale system integration.

## 4.2 Prior Knowledge of the MVC Pattern

We were familiar with the Model-View-Controller (MVC) pattern, having applied it in software development projects. We understood how the Model manages data, the View handles the UI, and the Controller processes business logic, allowing for better organization and maintainability of applications.

While we understood how controllers handle user requests and interact with models and views, we had not explored how an MVC-based application fits within a larger WIS infrastructure, particularly in relation to application servers, middleware, and database management systems. Additionally, our experience with MVC did not extend to deployment considerations, such as scalability.

# Conclusions

Before undertaking this subject, our understanding of Web Information Systems (WIS) architecture was largely based on our software development experience. Although we had used the Model-View-Controller (MVC) pattern in previous projects, we had only applied it in small, isolated software applications.

In summary, while we had a strong foundation in software engineering and web development, our understanding of WIS architecture as a structured, scalable, and integrated system was incomplete. As a result, we had not yet developed a structured understanding of these concepts.

# Bibliography

If there’s no relevant bibliography, write “intentionally blank”.