Preliminary Knowledge Report on WIS Testing Before Course Enrollment

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# Executive Summary

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# Revision Table

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| **Revision Number** | **Date** | **Description** |
| 1.0 | 18/02/2025 | Initial draft. |
| 1.1 | 19/02/2025 | Little corrections and added more information. |
| 1.2 | 20/02/2025 | Final version before delivery. |

# Introduction

This report outlines our prior knowledge of testing in Web Information Systems (WIS) before undertaking this subject. It will describe our understanding of fundamental testing concepts, methodologies, and tools applicable to software testing, as well as our initial perception of how testing is conducted in WIS environments.

By establishing a baseline of our knowledge, this document serves as a reference point for assessing our learning progress throughout the course and identifying areas where further understanding is required. Moreover, we aim to compare our previous insights with the more specialized techniques and approaches to testing within WIS, with the goal of enhancing our skills in the domain.

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## 4.1 Prior Knowledge of Software Testing.

Before undertaking DP-II, every member of this group completed DP-I. In this course, we gained foundational knowledge of various testing techniques and methodologies to apply in Information Systems, with a particular focus on Unit Testing.

Unit Testing, as the name suggests, involves testing individual units of a system. This type of testing has the lowest level of granularity and is primarily White-box testing, meaning it is designed based on an in-depth understanding of the software's internal implementation.

The definition of a "unit" can vary depending on the programming paradigm. For example, in functional programming, a unit typically refers to a function, while in Object-Oriented Programming (OOP), it could refer to the public interface of each production class.

For our practical work, we used JUnit 5, a globally recognized standard for testing. Throughout the course, we also learned about best practices in Unit Testing, such as parameterizing tests, ensuring tests remain focused, and maintaining a clear cause-and-effect relationship between test cases and expected results.

## 4.2 Prior Knowledge of WIS Testing.

Prior to undertaking this subject, we had no experience with Web Information Systems (WIS) testing. However, through our current learning, we have come to understand that WIS testing primarily involves End-to-End (E2E) testing. E2E testing focuses on verifying the entire application’s workflow from the user’s perspective, ensuring that all components function correctly together.

In WIS testing, scripts are used to simulate real user interactions with the application. These scripts allow us to execute the system as a user would, enabling the detection of potential errors or issues during the process. Additionally, the execution of these scripts is recorded, allowing us to observe how the system reacts to changes and ensuring consistency over time.

This form of testing is essential for identifying issues that might not be caught during unit or integration testing, as it assesses the system as a whole. However, prior to this course, we had no knowledge of the specifics of WIS testing or the tools and practices associated with it.

# Conclusions

In conclusion, this report has outlined our prior knowledge of software testing and WIS testing before undertaking this subject. While we already had a solid understanding of testing practices, particularly in the realm of Unit Testing, our knowledge did not specifically extend to testing in Web Information Systems (WIS). We were familiar with concepts such as functional and non-functional testing, but had no prior exposure to the unique aspects of End-to-End testing and the use of user simulation scripts in WIS environments.

# Bibliography

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