

## 5. Summary

This master thesis indicates that Wicket is the most suitable J2EE-based presentation layer development framework for replacing the presentation layer of the proposed architecture. On the first step, seven frameworks were chosen based on popularity and general web framework criteria in order to roughly filter out the low quality web frameworks from this research paper scope. Those frameworks are Spring MVC, Java Server Faces (JSF), JBoss Seam, Apache Wicket, Apache Struts2, Apache Tapestry, and Stripes. The main criteria of this research paper is the requirements gathered from the developers who had experience in using any system based on the existing architecture (proposed architecture). The requirements were gathered, prioritized, and analyzed into four main prioritized requirements and became the main criteria for the second round selection. Against requirements and general web framework criteria, seven frameworks were analyzed and compared. The result was four frameworks were chosen for the prototypes implementation. Those frameworks are Seam, JSF, Wicket, and Struts2. The purpose of the prototypes implementation is to prove the concepts and frameworks comparison in the same environment. All prototypes' structures were based on the structure of the existing system, Customer and Contract Management System. The result is Seam prototype implementation which was a failure and the rest were successes. Finally, all results indicate that Wicket is the most suitable framework to replace the proposed architecture.

One aspect of the future research and development is to research and implementation of the model-based generation, which is the fifth requirement from the requirement gathering meeting. Based on the structure of Wicket, if the custom components are developed and well-structured, the code generation is possible. In this master thesis, this aspect were overlooked because, it is optional and also, out of scope.

Moreover, another interesting aspect is the testing tools and technology evaluation. Test is one of the most important factor related directly to software project quality and user satisfaction, which leads to the project succession. According to this master thesis, the research reflects that there are variety of testing tools and libraries, which simplifying the web development testing by providing the environment (i.e. allow test outside the container) and some of them designed specifically for a specific framework. Wicket Tester API is one of those testing tools.

