Faculty of Science, Engineering and Technology

COS30041 Creating Secure and Scalable Software

**Research Report for High Distinction (HD)**

**Prepared by: <Your name, student id>**

**[Optional Feedback, timeline and schedule]**

**Discussion with Tutor for Feedback: Week 10 – 12 Lab classes**

**[Final Submission]**

**Submission for Portfolio: Week 14, Monday, 9:00am**

**Instructions** - This document is for students aiming to achieve High Distinction (HD).

For **HD**, a student needs to complete the software for D grade as well as a research report. Possible options are

R1 Implement the same functionality of the software for D grade using two different technologies of the same language (e.g comparing JSF with PrimeFaces) and compare the two in terms of some criteria nominated by the student (e.g. performance or ease of development).

R2 Implement the same functionality twice (one using Java EE technologies and the other using .NET technologies), and compare the two in terms of some criteria nominated by the student (e.g. performance or ease of development)

The work in this option involves integrating Java EE applications with .NET technologies or vice versa.

R3 Other please specify (to be detailed in the research proposal)

In the research report, the student must (1) collect useful and relevant data, (2) perform their own analysis (quantitative comparison, NO qualitative comparison) and (3) draw conclusion based on their comparison.

Your research report is a free-form report. You can decide on your own sectioning. The one below is just an example. It may not suit your needs. Please feel free to customize it. However, you must present your research results in a concise and precise manner that the interview panel could understand.

Formatting guidelines: 10pt font size, single line spacing, 6 – 8 pages including diagrams, tables, figures and references.

**Research Report: <Title of your research>**

**Research Topic: <Your research topic – what you want to compare>**

<a description of what you want to compare, and hence form the basis of your research >

**Research Option: <R1 / R2 / R3>**

<which option of research you want to pursue>

**Introduction**

<a brief introduction to your research topics; a brief description of why this research topic interests you or why you want to do research on this topic>

**Research Methodology**

<a description of your research methodology; how you carry out your research including planning, actual implementations, your comparison criteria etc.>

**Research Plan**

<a description of how you carry out your research, including data collection, analysis and write up the conclusion>

**Research Work**

<a description of how you carry out your research, including data collection, analysis and write up the conclusion>

**Comparison Criteria: <Performance / Ease of Development / …>**

<a description of how you would compare your research and why; e.g. I choose to compare the performance >

**Results and Observations**

<a description of your results and observations, including but not limited to tables and graphs; Include here also is your analysis>

**Conclusion**

<a conclusion about your research>

**References**

<a list of references, books, online resources, blogs, …>

Remember to include those that you have cited in your article. Your references can be online or offline, books, articles from libraries / digital libraries, or even blogs but no forum opinions. Do not include the references that you have not cited in your article.

The format of the citation / references should follow the IEEE citation style (Please see <http://guides.lib.monash.edu/citing-referencing/ieee> for your references, the one in the IEEE web site is more complicated than necessary).

If you are writing your article using Microsoft Word, it is strongly recommended that you use EndNote to manage your citation and references. Please see the link “Referencing & EndNote” on Blackboard. The “EndNote guide 2016 (Windows)” shows how to use EndNote with IEEE referencing style.

In case, you are using LaTeX, you can use BibTeX to do this. You should be able to figure it out as you already know what you are doing in Desktop publishing.