Faculty of Science, Engineering and Technology

Enterprise Development

Software Design Document(s) for Distinction (D) Software

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

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

**Submission for Feedback: 6 June 2016 (Monday of Week 14) 9:00am**

**Tutor’s feedback: 8 June 2016 (Wednesday of Week 14) 5:00pm**

**[Final Submission]**

**Submission for Portfolio: 13June 2016 (Monday of Week 15) 9:00am**

**Instructions** - This document is for students aiming to achieve Distinction (D) or above.

**Intended Learning Outcomes (extracted from Unit Outline)**

ILO1. Use a range of APIs and technologies to build enterprise applications and explain why the APIs and technologies were selected to develop the applications

ILO2. Perform independently research into a range of APIs and technologies so as to select appropriate technologies (with justification) to build enterprise applications; during the research process you should be able to present your findings and reasoning why such decisions are made

ILO3. Design (with justifications) and describe an enterprise architecture for a software solution to a given business scenario. The justification should ideally include at least the following topics:

1. the choice of any APIs and technologies
2. the selection of architectural patterns and the use of any best practices
3. any security issues and concerns and how to mitigate the potential threats

ILO4. Develop end-to-end features of enterprise applications to given business scenarios. Ideally, you should demonstrate your understanding of at least the following topics

1. The choice of any APIs and technologies
2. The selection of architectural patterns and the use of any best practices
3. The choice of enterprise technologies to mitigate any potential threat raised by security issues and concerns

**Software Title: <Your Software>**

**Introduction**

<A brief introduction to the software application you want to develop>

**Business Scenario**

<**A description of the business scenario** that requires you to develop the software application. You need to provide enough context to justify the functionalities of the software to be listed in the Functionality section>

1. **Software Requirements**

**1.1 Requirements Justification**

<This is basically your functionalities / features that you want to implement. You need to explain / justify why you need each of these functionalities / features from the business context.>

1. <Describe an end-to-end function / feature of your software>
2. <Describe another end-to-end function / feature of your software >
3. <…>
4. <…>
5. <…>

**1.2 Functionality and Technology Matrix**

The following table shows the relevant technologies discussed in this subject that could be used to implement the functionalities as suggested in the Functionalities section above.

|  |  |
| --- | --- |
| Functionality | Related Technology discussed in this subject |
| F1 | <a brief description of how you would utilize the related technologies discussed in this subject to implement the required functionality> |
| F2 |  |
| F3 |  |
| F4 |  |
| F5 |  |
| <create more | rows if needed> |

1. **Software Design**

<This section documents your software design. You need to have at least the following:

1. an overall architecture of your software (e.g. is it a 3-tier system or 4-tier system) – What are they? What are their responsibilities?
2. What are the software components in each tier? What are the roles and responsibilities of each of these components in each tier?
3. An explanation of why you made such design choice. Why it is a good one? Or, an explanation that this is not a good design but to implement a better one needs mastering more advanced Enterprise Development programming techniques …

Remember to accompany your descriptions with diagrams, here is some suggestions:

1. Architecture diagram
2. Software Component diagrams in each tier and how they interact with each other
3. Class diagram>
4. **Sample Coding**

<This section documents some samples of your coding that shows the interactions of your software components. For example, if your MDB does not have any business logic (as expected), show the relevant “coding” to demonstrate this.>

1. **Software Testing Results**

<This section documents the results of your testing with the software. Also, you need to demonstrate that you use a “comprehensive” set of test cases to scrutinize your software.>