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**COMP4910 Senior Design Project 1, Fall 2019**

**Advisor: Gizem Kayar**

**POF: Performance Optimized Fluids**

**High Level Design**

**Design Specifications Document**

**Revision 1.0**

**8.12.2019**

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# Revision History

|  |  |  |
| --- | --- | --- |
| **Revision** | **Date** | **Explanation** |
| 1.0 | 8.12.2019 | Initial high level design |

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# 1. Introduction

The purpose of the software project is to develop the XYZ Web Application in C++ and in LINUX and MySQL environment, to do mainly the following.

1. ……………………..
2. ………………………..

The design is based on XYZAPP Requirements Specification Documant, Revision 3.5, in file Caglayan-XYZAPP-RSD-2018-01-20-Rev-3.5.doc [1]. The design process used to produce this design conforms to organizational specifications given in [2]. The notation used in this document to describe the design of XYZ Web Application is mainly UML and conforms to organizational specifications given in [3]. The ISO and TSE standards in [4], [5] and [6] are extensively used during the design.

The system architecture and overall high-level structure of XYZ Web Application are given in Section 2. Design details of all application functions and the user interface in terms of are methods of all classes will later be given in Section 3 of this document.

# 2. XYZAPP Computer System High Level Design

# 2.1. XYZAPP Computer System Architecture

* Overall computer system architecture
* Architecture of large system components, if such components with different architecture/structure exist. For example, a client-server system may have complex client and server side components with different architectures. Simillarly for peer-to-peer and/or large distributed systems/
* Discussion and justification of design decisions to choose specific architectures.

# 2.2. XYZAPP Computer System Structure

* Overall high-level structure of the computer system in terms of packages/components and classes represented by using UML Package/Component and Class Diagrams. If UML packages are used, they must provide a high level overview of classes/objects they contain )
* Discussion and justification of design decisions
* Subsection numbering such as 2.2.1, 2.2.2. etc. may be necessary if this section is rather long, covering multiple pages of the document, for a complex computer system.

# 2.3. XYZAPP Computer System Environment

* Detailed description of hardware, system software and middleware, if any, on which the XYZAPP is designed to execute.
* Complete specification of target programming language, year, version, etc to be used in implementation and testing.
* Any hardware or software tools, especially if not specified in [2].
* Perhaps a UML Deployment Diagram could be placed here.
* Subsection numbering such as 2.3.1, 2.3.2. etc. may be necessary if environement specification is rather long, covering multiple pages of the document, for a complex computer system.

# 3. XYZAPP Software System Detailed Design:

To be completed in COMP 4920, in detailed design specification document

# 4. Testing Design

* Although we do not emphasize testing design much, in case there were specific testing or acceptance requirements in the latest RSD, they should be placed here as reminders.
* Some general remarks on testing could also be placed here to remind a designer that testing design will be in this section here.

# References

1. Reference to RSD for which this design is made
2. Reference to organizational design process procedure document(s), or a generic design process procedure document(s)
3. Reference to organizational design product specification document(s), or a generic design product specification document(s)
4. Other references to additional documents, like other internal organizational documents, software project management documents, software design tool documents, etc
5. References to additional bibliographic sources, like professional books, textbooks, handbooks, patents, standards, technical reports, journal/conference papers, etc.