University of Ontario Institute of Technology

Department of Electrical, Computer, and Software Engineering

Faculty of Engineering and Applied Science

SOFE 3650-Fall 2018

Software Design and Architectures

Project Description and Deliverables

Abstract:

This document presents a description of the project expectation and deliverables.

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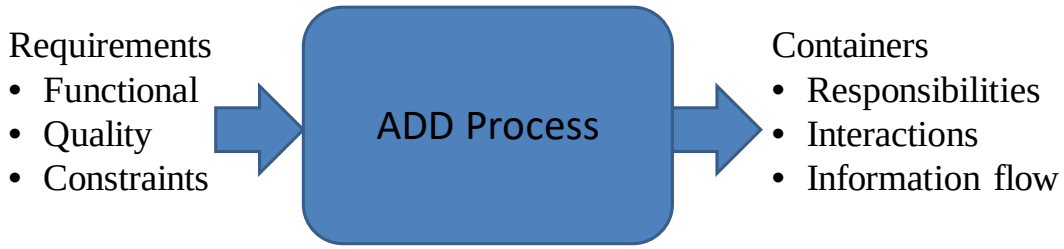
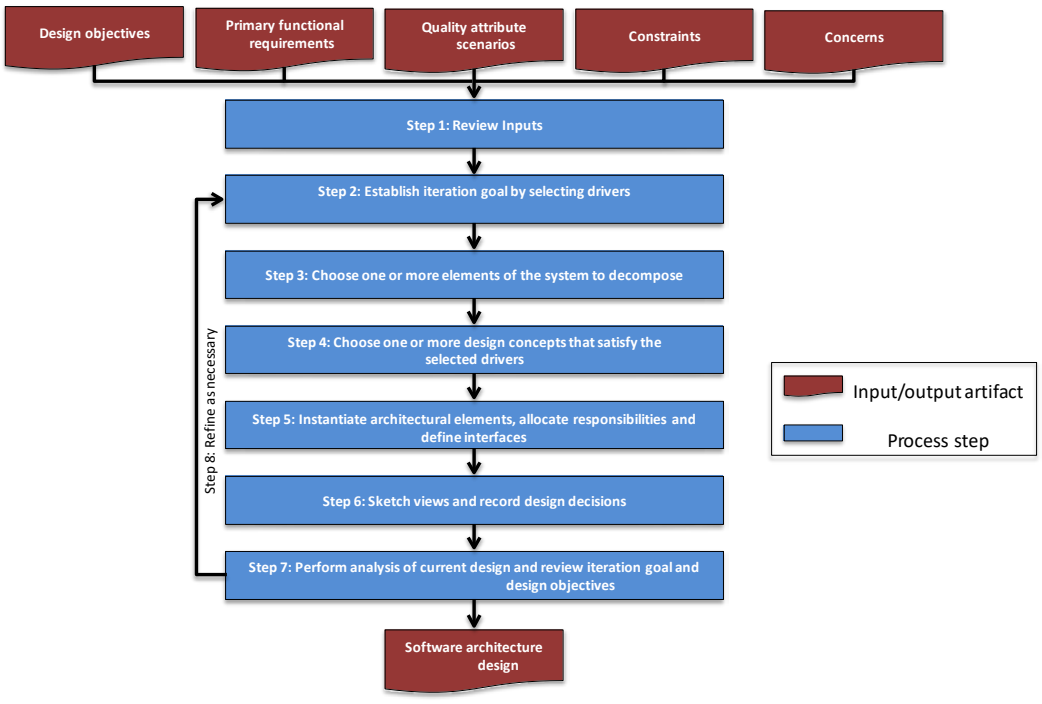
Objective and the ADD process

The goal of this project is to demonstrate a methodological set of steps in the design of a software architecture for a set of requirements provided by your instructor. The expected design approach to take is the Attribute Driven Design (ADD) presented in some detail in the book "Designing Software Architectures: A Practical Approach" by Humberto Cervantes and Rick Kazman and covered in the course. The ADD process takes a set of requirements as inputs and expects an architecture design and description as output as shown in the diagram below.

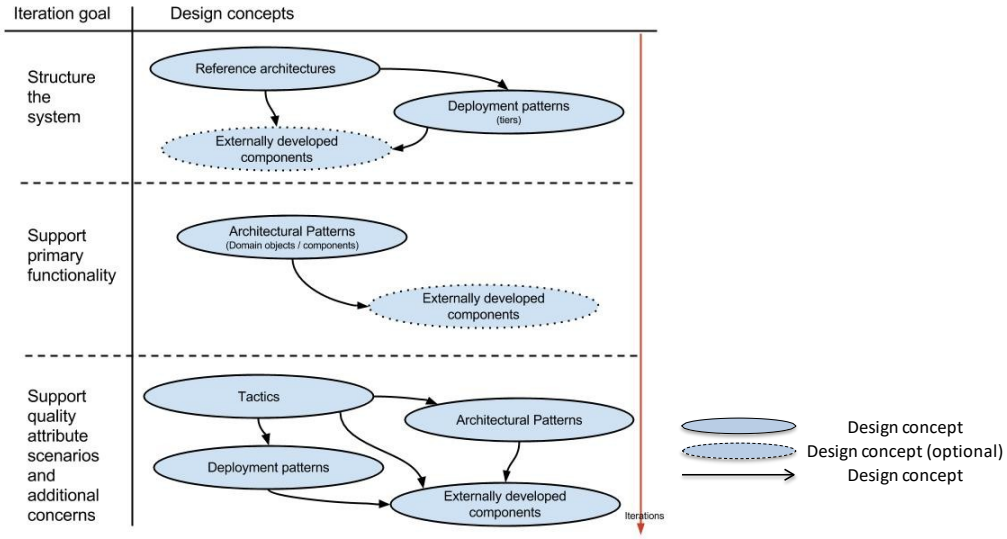


The ADD is a 7 step process as shown in the figure below with the expectation of 2-3 iteration steps of the process.



One of the most common types of software systems is the greenfield systems in mature domains type of system that is a new system but based on existing architecture patterns and styles. In this type of sys them the norm is to perform 3 iterations of the ADD method with the respective goals of i) defining the structure of the system, ii) defining the components of the architecture to achieve the functional requirements of the systems, and iii) refactoring the architecture to achieve the quality

requirements of the system. These goals and design concepts for each iteration is shown in the figure below.



Deliverables

The expectation is to submit a document that demonstrates the ADD steps as applied to the design of an architecture for a Course Management System (CMS). The deliverables are divided into 2 submissions. The first submission is part of a question in assignment 2 which includes capturing the use cases, quality attributes and constraint requirements of the CMS and is submitted prior to the CMS design stage that is part of the deliverables of the project.

The project deliverable should follow the format presented in the FCAPS case example in the book "Designing Software Architectures: A Practical Approach" by Humberto Cervantes and Rick Kazman. What is very important is to include the Design Decisions and rationale for the steps as is done in the FCAPS example.

All deliverables should be uploaded to a GitHub repository that will automatically be created for the project as an assignment and you will receive an invitation to join as a group. Your progress in the project will be graded the based on GitHub commitments of the deliverables and use of the KanBan project board available in GitHub. A good way to manage your project is by leveraging the Issues tagging available through GitHub and the automated KanBan project board.

Team Assessment Feedback

As a requirement of the project there is a team assessment evaluation that should be completed. The purpose of this team evaluation is for the team to demonstrate success in a team based project. This will be assessed by assessing the individual members' contribution to GitHub.

Grading Scheme

1. Report appearance and readability – 10 marks
2. ADD Iteration 1 – 15 marks
3. ADD Iteration 2 – 15 marks
4. ADD Iteration 3 – 15 marks
5. Team and individual contribution – 5 marks