**Assignment 02 – Due on 09/13/18, 1.00pm**

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**Question 1**

A software architecture is most useful when “programming in the large” or “programming in the small”? Why?

Software architecture is most useful on programming in the large. Mainly because small projects don’t require such intense design decisions. Also, small projects would not have the funds or resources to do a good job creating a well-designed architecture.

**Question 2**

How does a layered pattern make use of abstraction and encapsulation? What is a strictly layered pattern, provide an example of its usage.

Each layer below provides functionality to the layers above. This ensures the lowest layers have the most functionality available to them, so security and locks are installed on the top layers. Ensuring the low layers are the only ones who have access to sensitive tasks. Strick layering means only adjacent layers can communicate. Any layers that are not directly touching cannot communicate.

**Question 3**

Provide definition and examples of “stakeholders” of a software system. How do they influence an architect? What skills are desirable for an architect to be successful?

Stakeholder – any person who will benefit from creation of a software system

Examples:

1. End user
2. technical manager
3. member of board of directors
4. CTO, CFO, CEO
5. Legal staff (Lawyers)

Ways Stakeholder Influence Design:

1. They bring functional needs to the table
2. Add funds to the project
3. They might set the deadline for the project
4. Drive business to use this new system

Architect skillset:

1. strong communication skills
2. clear and concise writing style
3. patience to resolve conflicts
4. Technical skills
5. Business understanding
6. Leadership skills for influence

**Question 4**

Whatis a quality attribute workshop? Briefly list the various steps used in this method.

The QAW is a facilitated, stakeholder-focused method to generate, prioritize, and refine quality attribute scenarios before the software architecture is completed.

The QAW is focused on system-level concerns and specifically the role that software will play in bunnies

QAW Steps

Step 1: QAW Presentation and Introductions.

facilitators describe the motivation for the QAW and explain each step of the method.

Step 2: Business/Mission Presentation.

Present what need the system will fulfill, in terms of business objectives

Step 3: Architectural Plan Presentation.

The architect will present the system architectural plans as they stand.

Step 4: Identification of Architectural Drivers.

The facilitators will share their list of key architectural drivers

Step 5: Scenario Brainstorming.

Each stakeholder expresses a scenario

Step 6: Scenario Consolidation.

Similar scenarios are consolidated where reasonable.

Step 7: Scenario Prioritization.

each stakeholder ranks the scenarios

Step 8: Scenario Refinement.

The top scenarios are refined and elaborated.

**Question 5**

Textbook Page 60, 3.10 Discussion Question# 2.

**Question 6**

Textbook Page 60, 3.10 Discussion Question # 4.