CSE 3421

**Software Design Methods**

**Fall 2015**

# Project Assignment 3

## Due by midnight on Tuesday, September 15, 2015

This assignment is designed to bring the Requirements and Business Modeling discipline activities to a close for this iteration of the Elaboration phase and to establish a requirements analysis baseline to use as the foundation for our software design activities.

**Part 1:**

First, read Chapter 10, System Sequence Diagrams (SSD). The SSD concept is NOT a component of the Unified Process. It is Craig Larman’s idea…one that I really like. Notice in Figure 10.1 that the SSD is a product in the Requirements Discipline. Actually, it acts as a transition to the Design Discipline. Make note of the following observations:

* There is an SSD for EVERY Scenario of EVERY Use Case. The exception being trivial scenarios if faced with a large number of Use Case Scenarios to diagram.
* The “:System” represents everything that you are to implement. In the next assignment we will begin to decompose “:System” into Object Classes. Larman uses the UML Class Diagram for “:System” although “:System” is clearly NOT an Object Class.
* The Actor is outside of the system and interacts with the system through a set of arrowed lines.
* You can think of the Actor as the GUI since the solid arrowed lines coming from the Actor contain method names, e.g., enterItem(itemID, quantity).
* Data being returned to the Actor are annotated on dashed arrowed lines coming from the :System to the Actor. They are NOT expressed as methods; they are data.
* Figure 10.2 illustrates these ideas.
* Figure 10.3 is the format that I want you to use, with the Use Case positioned to the left of the diagram.

For this assignment, develop and submit the System Sequence Diagrams (SSD) for your Basic Success Scenario of the “Update Student POS” Use Case developed in Assignment 1.

* + The format for the SSD is to be that found in Figure 10.3 of our text, with the Use Case scenario placed on the left hand side of the figure.

**Part 2:**

This part of the assignment is designed to expose you to UML design notation in preparation for your initial design of the iteration 1 software. It is an exercise in the mechanics of UML diagrams.

First, read Chapters 14 and 15, *On to Object Design* and *UML Interaction Diagrams*. The unification of the various design processes resulted in two different types of Interaction Diagrams supported by the UML. Interaction refers to the interactions among the objects in your design. The first type of Interaction Diagram is the Sequence Diagram (not to be confused with the System Sequence Diagram from part 1 of this assignment). The second type is the Communication Diagram. Please read Chapter 15 carefully to determine the mechanics of these two approaches.

For this part of the assignment:

* Convert the Communication Diagrams in Figures 15.27, 15.28, 15.30 and 15.31 into Sequence Diagrams.
* Convert the Sequence Diagrams in Figures 15.12, 15.15, 15.16 and 15.18 into Communication Diagrams.

Submit the 8 converted diagrams, well-labeled, to Canvas. Hand-drawn diagrams are fine.

**Summary of submission requirements:**

* One SSD for the Basic Success Scenario
* Eight converted Interaction Diagrams.