CptS 322 Software Engineering Principles I

Spring 2017

Project Milestone 5

(Due Monday/April 10th, 2017 on Blackboard)

Milestone Description:

Proceed with the architectural design, now develop design details for each component thereof. This milestone focuses on component-level design as part of design modeling. Your team will retrieve the design classes related to each component, identify data attributes and operations in each component as well as component interface to be exposed. Then, you will elaborate the behavioral models (mainly sequence diagrams and statechart diagrams) obtained from requirements analysis, and use the elaborated analysis models to elaborate the component and all its related design classes, considering data types and initial values for each data attribute and processing logic for each operation/interface as such that the next step (i.e., implementation) will be readily done based on the design. The component level design will result in elaborated design classes and elaborated component representation.

What to submit:

A single PDF, where you:

1. Include elaborated class diagram for each design class, with data type and initial value annotated for each data attribute, and with processing logic elaborated for each operation that contains non-trivial steps. (That is, for some very simple operations, the implementation would be just a few lines of code, thus the processing logic does not have to be elaborated here.)
2. Draw the elaborated component diagram for each component, with attributes and operations added and interface clearly indicated, by using the elaborated design classes associated with the component. (The elaborated behavioral models are used as intermediate resources for deriving component-level details, but you don't need to include those elaborated behavioral models in this submission.)

*Software design is a highly creative activity, and essentially there is no absolute golden formula to follow. The general guideline here is that the design should be made so that you (and someone else on your team), by following the design diagrams, can realistically convert the design to code in a programming language.

(Tips: regularly use your project repository on github, not only for maintaining code but also these milestone work products.)