Midterm/Project – CS 618 Software Design

Due at start of class on March 3, 2016

You are asked to add detail to the artifacts of Assignment 2, going from domain class diagram to a more detailed class diagram as well as adding operations contracts, and design patterns.

* Detailed class diagram - add detail and explain why you made changes, ensure that you describe the class responsibilities (“Knowing” and “Doing”)
* Sequence diagrams for main success scenarios of fully dressed use cases – add detail and explain why you made changes, document the Operations contract on the sequence diagram to which it pertains
* Glossary/supplemental specification –this is where you may provide additional information such as ubiquitous language
* State diagram – Prepare a state diagram for important logic in your design, examples may include (for secondary education project) state of the enrollment period and state of a student that wants to enroll (but choose your own)

As you work, prepare a record of all important decisions made and why. Youcan do this in the diagram descriptions, using the GRASP Patterns, or other design principles that led you to the decision. For example 9for secondary education project),  "We decided that the Admissions class should create instances of Student based on the Creator Pattern"   "We decided to add a Transcripts class to store class grades to reduce complexity in Student, via the High Cohesion pattern."   In the spirit of agility, there is no need to restate principles that drove your initial domain class diagram or to state "obvious" decisions.  Note that these decisions may have been “uncovered” in the design review.  You can indicate that in the list of design decisions and not document it twice.

*This will be an iterative process (work on a class diagram, work on a sequence diagram, notice changes for domain model and go back and modify class diagram, etc.).*

Next, you should perform a review of your artifacts.  Prepare a short write up that describes what you learned in the review.

EXTRA CREDIT: - Use at least one design pattern and provide a write up on any design patterns that are used.  Include why the Design Pattern was appropriate in that instance and why the benefits are worth the cost (since the advantages and disadvantages of using a design pattern are documented as part of the pattern).  You can include this with the description of the diagrams or with the design decisions, as long as it is easily identified in the document.

**This work may be done in groups (preferably working with your group from assignments 1 and 2). We STRONGLY encourage you to team up as this is quite a bit of work.**

Deliverables:

1) Detailed class diagram

2) Sequence diagrams

3) Glossary/supplemental specification

4) State diagram

5) Log of decisions made

6) A couple of paragraphs about the artifact review

Extra credit: 7) Design pattern write-up