**HW 5 – CS 4321, Fall 2015**

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**Questions – Lesson 6: OO Software Engineering and UML (54 minutes)**

Watch videos, type answers (leave questions), print before class and turn-in in class.

1. The author states that object orientation gives precedence to data over functions. What does this mean?

* Did items rather than functionality become the center of development activities.

1. What are the steps the author suggests to doing an object oriented analysis.

* First, you should obtain/prepare textual description of problem. The underline the nouns and that will become your classes. You will then underline adjective and these will be the attributes. Finally, you would underline the active verbs and that will become the operations.

1. A class diagram represents a class with what three parts?

* 1. Class name.
* 2. Attributes for the class.
* 3. Operations of the class.

1. Identifying attributes for a class involves reading the problem description/requirements and applying domain knowledge. What does that last part mean, “applying domain knowledge”?
2. Describe what a dependency relationship is in a class diagram. Also, what symbol is used?

* Described as X uses Y. The symbol used is a dashed directed line “- - - > “

1. Describe what an Associations/Aggregations relationship is in a class diagram. Also, what symbol is used?

* X has Y, meaning that x contains a y. If it is an associate, you use a solid undirected line. If aggregation, it is the same, except with a diamond on one of the ends.

1. Describe what a generalization relationship is in a class diagram. Also, what symbol is used?

* X is a Y. Expresses inheritance. Uses a solid directed line with a large open arrow head at the end.

1. How can we adorn an association with more information?

* You can use labels to describe the nature of the relationship including a triangle pointing in the direction it needs to go for further clarification. You can also use multiplicity to add more clarification.

1. Describe what an aggregation relationship is in a class diagram. Also, what symbol is used?

* A relationship between 2 classes in which one represents a bigger class as a whole which consists of smaller classes which are the parts of this whole.

1. Why are good class names important?

* They communicate the intent of the class, and clarify what the class refers to.

1. Doing OOA, we focus on \_\_\_\_\_ and don’t focus on \_\_\_\_\_?

* Focus on HWAT, and don’t focus on HOW.

1. Consider the authors definition of a component. How do we implement a component in Java?

* By declaring it and its variable within the class it is to be used.

1. What is a deployment diagram used for?

* Provides a static deployment view of a system. It is about the physical allocation of components to computational units.

1. What is a behavioral diagram in UML?

* Has to do with the behavior, the dynamic aspects of the system, rather than the static ones.

1. Describe the purpose of a use case diagram

* Represents the sequence of interactions of outside entities (actors) with the system. The second thing is that the system actions that yields an observable result of value to the actors.

1. What three types of flow should a use case description detail?

* 1. Exceptional flow of events.
* 2. Normal flow of events.
* Alternative flow of events.

1. What can use cases be used for?

* Capturing and validating the requirements, determining what the scope of the system is, using it for planning and testing, and writing a user’s manual or help system.

1. Describe what a sequence diagram is used for.

* Emphasizes how objects communicate and the time ordering of the messages between objects.

1. Describe what a state transition diagram is used for.

* For each relevant class in the system. It describes the states of the class, the events that cause a transition from one state to another, and actions that resulted from a state change.