

# CSSE 374 – Software Architecture and Design I

## Homework 6

### Objectives

Practice GRASP principles by applying four new ones (Polymorphism, Indirection, Pure Fabrication, and Protected Variations) to designing portions of a Video Store Design.

Practice tradeoffs in making design decisions with respect to GRASP.

### Due Date

5 p.m., Tuesday, Week 7, January 26<sup>th</sup>, 2010.

### Tasks

1. Review the attached Domain Model for the Video Store. Identify four different system operations that would be sensible in this domain (e.g., beginRental, returnVideo) where you could apply the GRASP principles Polymorphism, Indirection, Pure Fabrication, and Protected Variations. If a system operation that you used for Homework 5 also serves to illustrate one of the new principles, then feel free to reuse the diagram.
2. For each system operation listed in Task 1, sketch a (partial) design class diagram and an Interaction Diagram (either Sequence Diagram or Communication Diagram), and briefly describe the tradeoffs and rationale for your design decisions as follows:
  - a. For one operation, describe how you used the Polymorphism GRASP principle in your design.
  - b. For a second operation, describe how you used the Indirection GRASP principle in your design.
  - c. For a third operation, describe how you used the Pure Fabrication GRASP principle in your design.
  - d. For a fourth operation, describe how you used the Protected Variations GRASP principle in your design.

As always, please provide accompanying text and/or embedded notes indicating what you did in your modeling. Please recall that scans of neatly drawn pen and paper sketches are adequate for homework (though not for projects). There is a scanner in F217.

### Submitting Your Work

Please submit your GRASP on Video Store assignment as a single document to your individual SVN repository for this course. Please submit a **pdf** file. Name your document *HW6-GRASP2-Video.pdf*.

