



# CS 341

## Software Design

### Project Assignment 2

### Existing System Design

### Due: Nov. 1, in class

#### Objectives

- To gain experience in understanding the design of an existing system
- To begin to understand how your application will take advantage of the existing system

#### Assignment

You should prepare a document describing the portions of the design(s) of the existing system(s) that are relevant to your application. You should do the following for each library that you are using that you are not already familiar with. For example, this should be done for the Java 3D API and also for any Java packages that you need to use and are not already familiar with. Your document should include:

- An overview of how the existing system supports the needs of your application.
- A textual description of the **relevant portions** of the existing systems. This should describe the overall architecture of the system. What are the important classes? What functionality do they provide? How do they relate to each other? If the system uses design patterns that we have discussed in class, describing those relationships in terms of the design patterns is very helpful.
- A more detailed description of the main classes that you will need to work with. What abstractions do they represent? How can you manipulate them?
- Class diagram(s) highlighting the static relationships between classes in the system. This should serve as a concise and precise summary of your textual descriptions, focusing on the classes that are relevant to your application.
- Sequence diagram(s) describing relevant and non-trivial operations whose behavior you need to understand to build your extension. This is most relevant in situations where your code needs to fit into some sort of framework. For example, if there are template methods that you will need to define hook methods for, it is necessary for you to understand how the template methods work so you know what kinds of hooks to provide. It is possible that this doesn't apply to your project.

After writing this documentation, you should be starting to specialize in different parts of the system. It's not necessary for you to all understand everything to the same level of detail. Collectively, you should feel that you understand the system that you are working with well enough to design your application...the next assignment.

## Grading

Overview of relationship to your application	10 points
Description of relevant parts of system(s)	25 points
Detailed discussion of relevant classes	35 points
Class diagrams of significant classes	20 points
Sequence diagrams of interesting operations	10 points

## Turning in your work

Please turn in a paper document for this assignment.