

San José State University
Department of Computer Engineering

CMPE 135
Object-Oriented Analysis and Design

Fall 2017

Instructor: Ron Mak

Assignment #2

Assigned: Thursday, September 7

Due: Tuesday, September 15 at 11:59 PM

Team assignment, 100 points max

Design Specification

Write the first draft of the design specification for your team project. Your specification should include:

- **UML class diagrams** for your classes. Show the relationships between classes using the appropriate connectors. Show any multiplicity. Include some important attributes (member variables) and methods (member functions).
- **UML sequence diagram** that shows the communication patterns among your objects at run time for key operations of your application. Suggestion: Pick one of your use cases and diagram its sequence.

Include at least six important classes in your UML diagrams. Use a UML drawing tool to create the diagrams and insert the diagrams into your specification. Two free UML drawing tools:

- Violet : <http://horstmann.com/violet/>
- StarUML: <http://staruml.sourceforge.net/en/>

Design tips

Some points to consider as you design your application.

- Use the requirements and use cases from your functional specification to discover classes and their attributes and methods.
- Make sure your classes are cohesive and loosely-coupled.
- What will change in your design? How will you encapsulate what changes?

What to turn in

Each team should create a Microsoft Word document or a PDF containing the design specification. Submit it into Canvas: **Assignment #2**

This is a team assignment. Each member of the team will receive the same score.

Rubric

Your design specification will be graded according to these criteria:

Criteria	Max points
<ul style="list-style-type: none">• Well-designed classes (at least 6)<ul style="list-style-type: none">○ Good names (each a singular noun)○ Good attributes (member variables)○ Good methods (member functions)○ Cohesive (each class has one primary responsibility)○ Loosely-coupled (minimum dependencies among classes)	<ul style="list-style-type: none">• 50<ul style="list-style-type: none">○ 10○ 10○ 10○ 10○ 10
<ul style="list-style-type: none">• UML class diagrams<ul style="list-style-type: none">○ Good class relationships (dependency, aggregation, inheritance)	<ul style="list-style-type: none">• 25
<ul style="list-style-type: none">• UML sequence diagram<ul style="list-style-type: none">○ For one key operation or use case	<ul style="list-style-type: none">• 25