

CS 151: Object-Oriented Design

Fall Semester 2013

Department of Computer Science
San Jose State University
Prof. Ron Mak

Assignment #2

Assigned: Thursday, September 12
Due: Tuesday, September 24 at 11:59 PM
Team assignment, 100 points max

Design Specification

Write the first draft of the Design Specification for your Rock-Paper-Scissors application. Your specification should include:

- **CRC cards** for your classes. You do not need to turn in actual index cards or to draw boxes to represent the cards. For each card, simply give the name of the class and then list the class responsibilities and list the collaborators (dependent classes).
- **UML class diagrams** for your classes. You can optionally put the class diagrams inside UML package diagrams. Show the relationships between classes using the appropriate connectors. At this early design stage, you don't need to show attributes and methods in the class diagrams, and you don't need to label associations with attribute names. However, you should show any multiplicity.
- **UML sequence diagram** that shows the communication patterns among your objects at run time for key operations of your application.

At this early design stage, you should probably not have more than 10 to 12 classes and interfaces. You should 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.

- The way each player's choice (rock, paper, or scissors) is input will change. Early versions of the program will be command-line-based and later versions will be GUI-based.
- You will soon explore different algorithms for how the computer makes its choice.

Therefore, make sure your design encapsulates what will change.

Updates to your Functional Specification

As you're doing this assignment, you most likely will want to make updates to your Functional Specification from Assignment #1, such as to add or modify requirements or use cases, etc. When you modify your Functional Specification, make sure "Track Changes" (under the "Tools" menu) is turned on so that the changes to the document are obvious.

What to turn in

Each team should create a Microsoft Word document or a PDF containing a Design Specification. Also include your updated Functional Specification with the changes clearly marked. Email both as attachments to ron.mak@sjsu.edu. Do not email any executable files because some mailers will reject the entire message.

Your subject line must say **CS 151 Assignment #2** followed by your **team name**. CC all the team members so that I can do a "Reply all" when I send out your score.

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