CS375 Winter 2008 Final Exam Version MOCK Print your name here _____

(200 points maximum, 40% to total for class, 120 minutes)

You may use a calculator and a single piece of 11><8 paper with notes on both sides. No wireless communication and no computers. Put answers on the exam paper. Diagrams don't have to be tidy but spelling is important. Partial credit is given for incomplete answers and working -- cross out but do not erase working. An answer can continue over the page. There are 10 questions. Read them all before you start -- many refer to the same project! One question per page. Each is worth 20 points maximum. Attempt all 10 questions. Do your **best** question first. Leave the table below blank.

Qn #	1	2	3	4	5	6	7	8	9	10	Total
Score											

Question 1 (20 points max). Domain Models

Draw a domain model for a Tic-tac-toe game**.** It should show the classes, associations, generalizations, attributes, and multiplicities implied in the following description -- and not much else.

Tic-tac-toe is played on a Board with nine(9) Squares by two(2) Players. Each Square has a Mark. This is initially blank. Each player has a Mark -- either 'O' or 'X'.Players put their marks on the Squares that are blank. A Win is scored when a player has their Mark on all three Squares in a Row, Column, or Diagonal.

Can you draw the domain model from your project?

Question 2 (20 Points max). Requirements

Name (1) a plausible **functional** and (2) a plausible **non-functional** requirement for a program that plays Tic-tac-toe.

Can you list similar requirements from your project?

Question 3 (20 points). Use Case Models

a. Draw a use case diagram that shows three different ways that the computer can play Tic-tac-toe: (UC1) Tracking the game with two users, (UC2): One human player vs the computer, (UC3): The user observes to simulated players playing the game.

b. Write an informal scenario for one of these use cases -- **pick the easiest**!

Can you draw the use case diagram from your project? Can you describe a scenario in it?

Question 4 (20 Points). Interaction Diagrams

a. Draw an SSD of the scenario you wrote in question 3b -- don't forget to show the data that is included in messages.

b. Draw an interaction diagram showing a plausible internal response to one of the steps in your SSD in 4a.

Question 5(20 Points). Design Class Diagrams

Draw a Design Class Diagram that supports the interaction diagram in question 4b.

Can you draw the DCD from your project?

Question 6 (20 points max). GRASP

List all the Grasp patterns. Go back and mark your answer to 4b with GRASP patterns.

Do you know the GRASP patterns in your project?

Question 7 (20 points max). GoF Patterns
a. Name any GoF pattern.

b. Draw diagrams of the pattern you named.

c. Explain how GRASP applies to this GoF pattern.

Question 8 (20 points). Logical Architecture and Packages
See the first question in the last quiz.

Can you draw a package diagram from your project.

Question 9 (20 points). Deployment
a. Draw a deployment diagram that show Tic-tac-toe running with a web interface.

b. Draw a deployment diagram that shows Tic-tac-toe running in a hand-held device.

c. Draw a deployment diagram that shows Tic-tac-toe being tested on a Comp Sci Lab machine running Linux.

Can you draw a deployment diagram from your project.

Question 10 (20 points). Planning and Process
See previous quizzes: Unified Process (UP), iteration, phases , disciplines...