

# Software Design

## Guessing Game Use Case

**Due Date: Friday, September 2** (at the end of the day)

**Points:** 20 points

### Use Case Diagrams

From the description of the guessing game attached to this assignment, produce a UML Use Case diagram for the game.

You must use an electronic tool to produce the diagram. Violet is free software that can be used to produce UML diagrams. You can download Violet here:

<http://alexdp.free.fr/violetumleditor/page.php>

### Game code

Make these changes to the guessing game code you completed for Tuesday

1. Add a Guess class that will keep information about a single guess. The instance variables for this class should be an x and y location (or row, column), a Boolean value that indicates if the guess was successful or not, and another int that is the distance that guess is from a hotspot. The class only needs to have a single constructor which takes parameters for each of the instance variables and “accessor” methods for each of the instance variables which returns the value of that instance variable.
2. Add a Player class that will keep information about a single player. The class should have instance variables for the name of the player, the number of hotspots they guessed correctly and a list of the guesses they have made (you can use an array, or Java’s ArrayList or LinkedList classes). The class should have a single constructor method to initialize the instance variables. Only the name needs to be passed as a parameter. Initialize the number of hot spots guessed and the list of guesses made to an appropriate value. It should have accessor methods to get the player’s name and the number of hot spots guessed. It should also have “mutator” methods to add 1 to the number of hot spots guessed and to add a guess to the list of guesses.
3. Change the main method of the driver class to create a Board and two players. Prompt for all the needed information and then have each player make 10 guesses (alternating the guesses). After each player has made 10 guesses print out how many hot spots each guessed correctly and say who won (guessed the most hot spots).