Assignment #3 – Minesweeper in Android

**Date assigned:** Tuesday, January 14, 2014
Date due: Friday, January 17, 2014 (by Midnight)
**Points:**   50

The purpose of this assignment is to write a complete Android version of minesweeper. You have the game logic in Java. Now you can incorporate that game logic into a graphical version of minesweeper on Android devices.

Minimal Requirements:

1. The opening screen must look like. You can use colors you like.
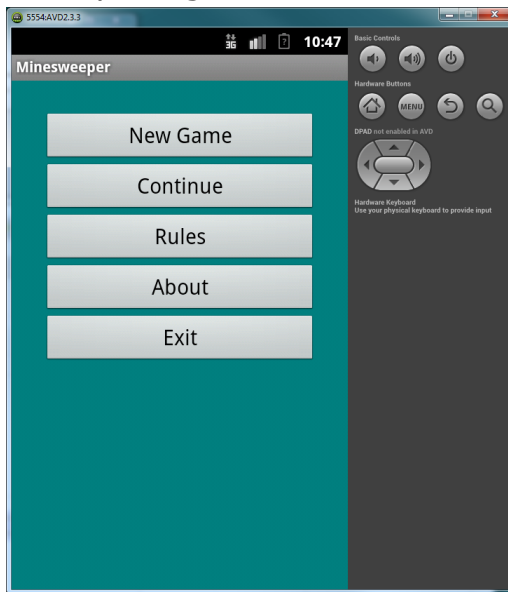
2. The **New Game** button is to create a new game of minesweeper after getting an Easy, Medium, or Hard game setting.
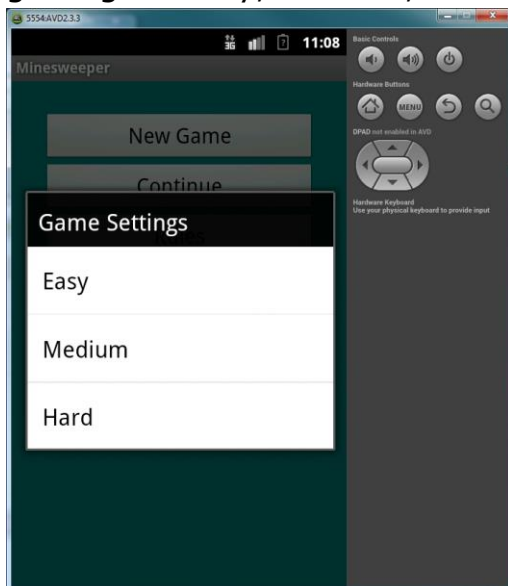
3. The **Continue** button does not need to be implemented.
4. The **Rules** button is to display the basic rules of minesweeper. Specifically, explain the number of bombs placed on the board. In a perfect world, I would like the following: (a) Easy allows the user to select

a tile and at least two uncovered tiles are displayed and no bomb is possible, (b) Medium displays at least one tile and no bomb, (c) Hard means the user can hit a bomb right off the bat. In this section, tell me whether you implement this or not.

5. The **About** button is to contain information you deem relevant regarding this application but you must be listed as the author with an email address and give a version number for the game.

6. The **Exit** button simply exits the game.

7. Assume that you have started a game and select in the upper-left corner of the screen, you must display what happened that turn. Here is an example of what your screen might look like.
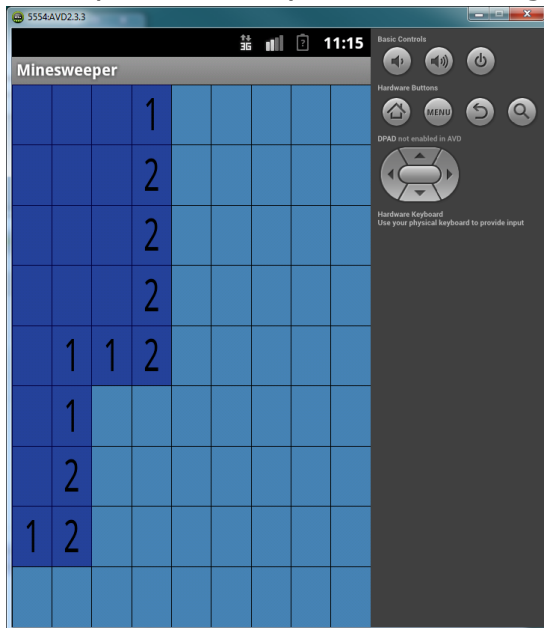
There are a couple of ways to make this happen.

a) You can draw text over a highlighted tile. I will give you some code in class for centering text in a region of the screen.

b) You can draw a bitmap into a selected region. In this case, you will need to find/create bitmaps for all of the possible numbers with appropriate highlights. There is really no time for this.

8. Visiting Tiles,

a. If the player visits all cells without selecting a mine, then the user wins. In this case, display something (professional looking) signifying that the user won.

b. If the player visits a mine, then the player loses. In this case, display the board showing all visited tiles and show where all mines were at. I want to be able to see all tiles on the board.

9. Create (or grab) some graphic for your minesweeper game which is to be displayed with all of the other applications. That is, don't use the default Android icon. Note in the About where the icon came from.

Goals for Assignment #3:

1. Write an Android application using multiple classes
2. Use packages to better organize all classes
3. Use good OOP techniques in designing your solution
4. Use the Android API which has a rich library of routines
5. Use the techniques learned in Game to implement an Android game
6. Include other projects in an existing project
7. Debug with LogCat

Specifics:

1. Save your Android project in a project folder called MinesweeperAndroid. On the day this assignment is due, you are to drop your entire workspace into the **CS260-01 Drop** folder by the specified time. I only want Assignment solution projects in the workspace. No in class projects are to be dropped.

2. Your code is to be written using the development tools specified in the syllabus.

3. If you come to me with a question regarding your solution, I will have you load your project onto a machine in the CS lab. I will not look at your code on your computer or on paper as it just takes me too long to get at the problem. Further, I want you to bring in your lecture notes in case I want you to look up something. Remember, I'm not just a tell you the answer guy. Make sure you understand how to use the developer tools and that you can run your program in Eclipse.

4. If you want help with a compiler error, you must be able to tell me exactly what statement you put in your code that caused the error and be able to isolate the error. If you have typed in a bunch of code and have not tested your code as you've gone along, I'm not going to help you sort out the mess. You've been warned!!

5. You are to print out each .java file fully documented using the Java Coding Standards V1.1. Your printout is due to me by the time specified. If the time specified is after our last meeting of the day, then your printout is due at the beginning of the next class meeting or 6PM the next day (to Thomas or myself) whichever comes first.

6. Run your UI on an actual device and make sure the UI works in Portrait and Landscape mode. I want to see your running application BEFORE the date and time specified on the assignment. After you run your application for me, delete the application from the device. I will place devices in the CS Lab and give you the code for the paddlelock. If you are the last to leave the room, make sure the devices are locked up.