COSC 3011
Software Design
Program 01

1 Introduction

This assignment is the beginning of a programming project that will consist of several stages. We will start by getting the teams together, getting the software products accessed, doing a little programming, and, hopefully, a lot of planning.

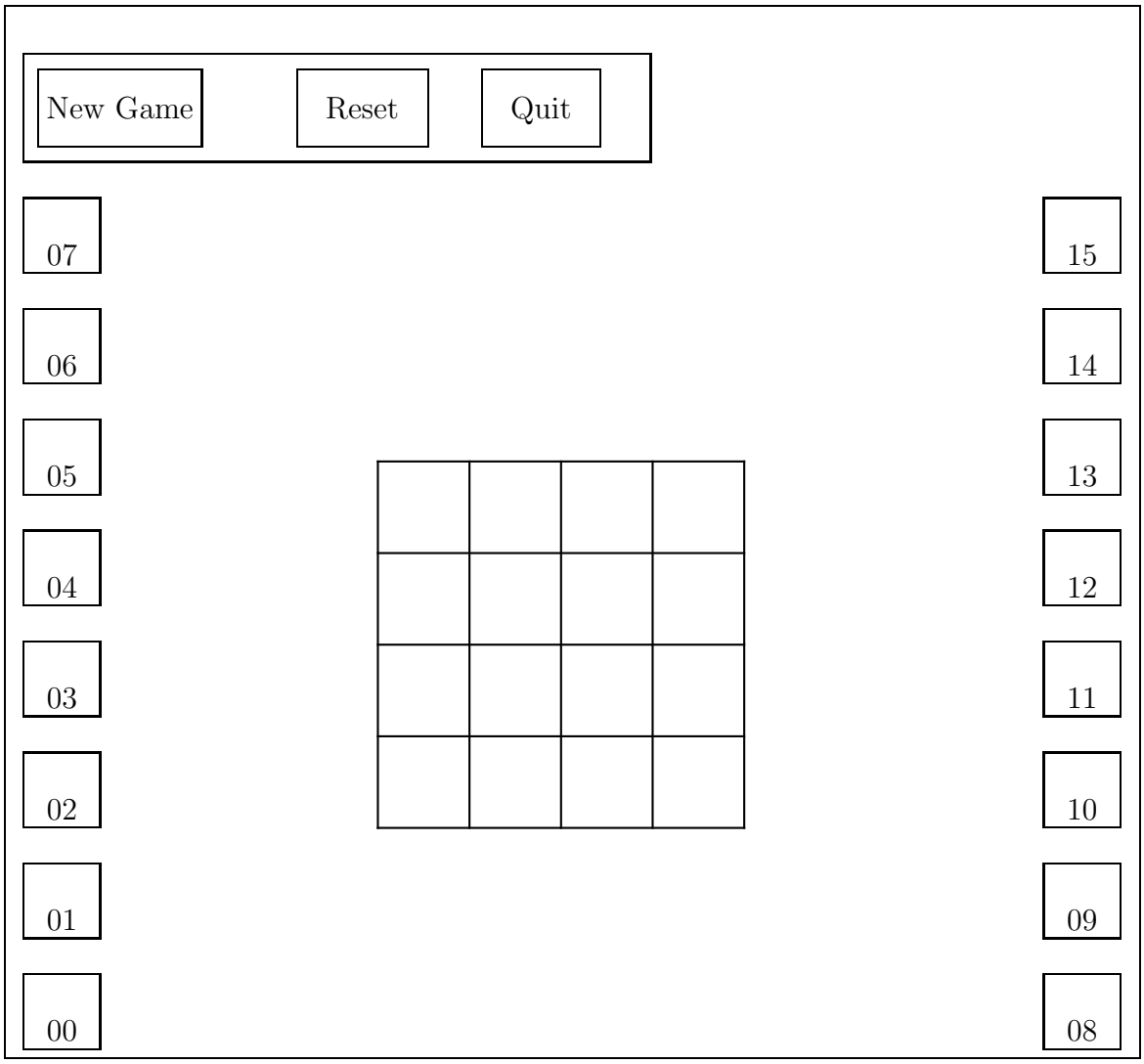
The project is a game. Better than some lame web interface for something we did not want to do anyway. The game will be simplistic take on a non-electronic game, IZZI, original marketed by a company named Binary Arts (now Thinkfun). And no, we are not going to violate any copyrights. IZZI, consists of a set of 64 square tiles that are divided into eight sections. Each section connects to an edge, dividing each edge into two pieces. Each section is either black or white. The goal is to place every piece into a larger 8x8 square. The only rule is that white must touch white and black must touch black.

We are going to make a 4x4 square. Instead of colored sections, we are going to start with a maze. The maze will just be a set of lines. When placed, the lines in each tile must line up with those in the touching tiles.

Initially, there will be an empty game area and the tiles will be arranged along the left and right sides of the window (one column on each side). The player will use the mouse to drag-and-drop a tile somewhere in the game area. If the player decides to place that tile some where else, she can drag-and-drop again. If the player wants to use a different tile instead, he can drag a tile off the game area to an empty spot on the edge and choose another tile. Eventually, your program will allow the player to rotate a tile in the game area. And, to keep it interesting, the final version will have the tiles placed randomly in the holding areas and each will be randomly rotated, and (hopefully), the user can supply her own mazes.

On the next page is an example of what the initial game might look like. In fact, it would do for a first pass at the game. The numbers are just placeholders I put in for the example. These sites would be the original positions of the game tiles. Of course, the tiles would look like sections of a maze.

The option buttons are pretty self-explanatory. The *New Game* resets all the tiles, and when the random factor described above is in place, there will be a "new" set of tiles. The *Reset* button, takes the current set of tiles and replaces them in their starting positions. *Quit* exits the game. Initially, only the *Quit* button works.



2 What to do

You need to get your teams together, plan, and do a little programming. I want you to develop an initial planning document. It needs to outline the project, as you see it. As part of this, create a basic UML diagram that will give you a start on the program. All this should describe the program as well as specify who will do what.

You should think about how an effective team works together. Set some rules that you can all agree on. For this to be meaningful, you have to meet more than once for fifteen minutes. You might want to plan a meeting schedule, place, that sort of thing. Do not forget, participation in the project will have a significant impact on your project/program grade. I will post a "quiz" for each milestone. Each of you will complete that quiz, grading

the other members of your team. If you cannot put in the effort to complete the quiz, you must not be involved and your participation grade will be 0.

I will give you a starting point for this project. Basically a couple of files that you can modify and make additions to. Add files, directories, classes, interfaces, whatever you think you need to solve the problem. A hint, do not think that your first pass at this will have any resemblance to the final product. Do not get so attached to a design decision that, unless there is no time left, you are not willing scrap it and start again.

3 What to turn in

Create a zip (or tar/gzip) file of the directory structure that contains of all the ".java" files. DO NOT include ANY ".class" files. DO NOT create a jar file. By the way, I will be looking at your source code. FIX THE IDE!!!! Lines 120 characters long, not wrapping text reasonably, indenting with tabs instead of spaces, ALL BAD.

Make sure that your planning document(s) are included in this. Please put them someplace reasonable like in a "docs" directory. You will submit this on WyoCourses on the Program01 assignment.