Progress Report 2 – Snake

Name: Brady Carlson
Reporting period: 21-September - 11-October
Total hours worked on project during reporting period: 32
Total hours worked on project: 58

What tasks did you have listed in your milestone to accomplish during this time period?

The tasks that I outlined to be completed during this reporting period are as follows:

Progress Report 2 Deliverables – Due 11-October

- Develop class diagrams (including methods, naming conventions and relationships)
- Implement game window (where scoreboard and game board will be placed)
- Implement game board
- Implement scoreboard
- Implement snake (head, body & tail)
- Implement piece of food
- Implement customizable color options for snake
- Implement customizable color options for game board

What tasks have you accomplished during the time period?

At the end of the last reporting period I had already implemented the game window, game board and scoreboard. During this reporting period I reworked the structure of my project. Initially I had the game board comprised of individual cells for each item (border, empty cell, snake or food.). This aspect proved to be problematic when I tried placing the cells in the proper places and updating the cells when the snake moved or the border changed. After some research online I found a couple of examples that drew the game board as one piece and just made lines to make it appear like there are multiple cells. Once I did this, the snake's movement, growth and speed (deliverables for PR3) were much simpler to implement. I was also able to complete the customizable color options for the game board and the snake and put together a simple class diagram of the project (below).

What new knowledge or skill did you learn? (Describe briefly)

My initial plan for this game sounded good in theory, but didn't work out in practice. I tried using the same techniques that I used with a previous project (Mahjong game in CS3230). But what I didn't consider is that the placement of the tiles in Mahjong is static while the placement of cells in my Snake game needs to be dynamic. I struggled with aspects of this implementation for a while before I abandoned the idea in search of a better one. I found a couple of examples online that made the game board one solid panel and the snake moved around inside it. I incorporated this idea and to handle the borders I created classes to attach to the sides of the game board. So it appears that the snake hits the border, but he's really just hitting the edge of the game board.

What have you learned in classes that you have applied to the project during this time period?

I tried implementing what I'd learned from CS3230, but I didn't choose all the aspects correctly. Making the game board an amalgamation of individual cells was great for Mahjong where you only draw the tiles once and then slowly remove them. With my Snake game, the snake is constantly moving and the tracking of this movement (even using a two-dimensional array) proved to be too much trouble. However, the implementation of the menu, how the game exits, how it plays sounds and drawing 2D graphics was all stuff that I learned from CS3230 and successfully applied to this project.

What difficulty occurred or what mistakes did you make? What did you do to correct it?

As I previously stated, I had to rework my plan for the project based on the pitfalls that I was encountering during implementation. I corrected this by reviewing examples online and talking with my peers about different ways to do it. Another mistake that I made during this reporting period was jumping into programming too quickly (again!). I don't know what it is, when I can't figure out something I just keep coding and trying different things. And when I get something to work, I get excited and immediately move on to something else. This mentality keeps me working on the project for hours and hours. I'm not saying that all this time is misspent; it's just not as effective as it should be. I created goals and milestones at the beginning of this project and I try to adhere to them. But when I'm programming it's hard not to keep going. For example, the implementation of the snake's movement, growth and speed are all deliverables for the next progress report, but they're almost done because I just couldn't help myself from getting further and improving the game.

To correct this behavior I've been setting timers for myself and trying to adhere to the amount of time I schedule instead of working for hours on end. It's hard for me to stop working on something, especially when it's not working correctly. I'm hoping with better time management I can improve my productivity without working to excess.

What skill(s) could you use help on in performing your project better?

The biggest problem I have now is with the snake's head and tail during movement. Currently, the snake is made of all body pieces, so when it moves around the game board the body drawing stays the same. What should happen is the snake's head and tail will adjust depending on the direction of its movement (i.e. the head is always facing the food it's about to eat and the tail points away from the body).

I also need to rework my fire cell drawing for the fire border. Either I need to create a drawing that looks the same no matter what direction it's facing (similar to the standard and spike cells) or I need to be able to flip the drawing to accommodate the right look on all sides of the game board.

What interesting or challenging problem did you encounter and what steps did you take to solve it?

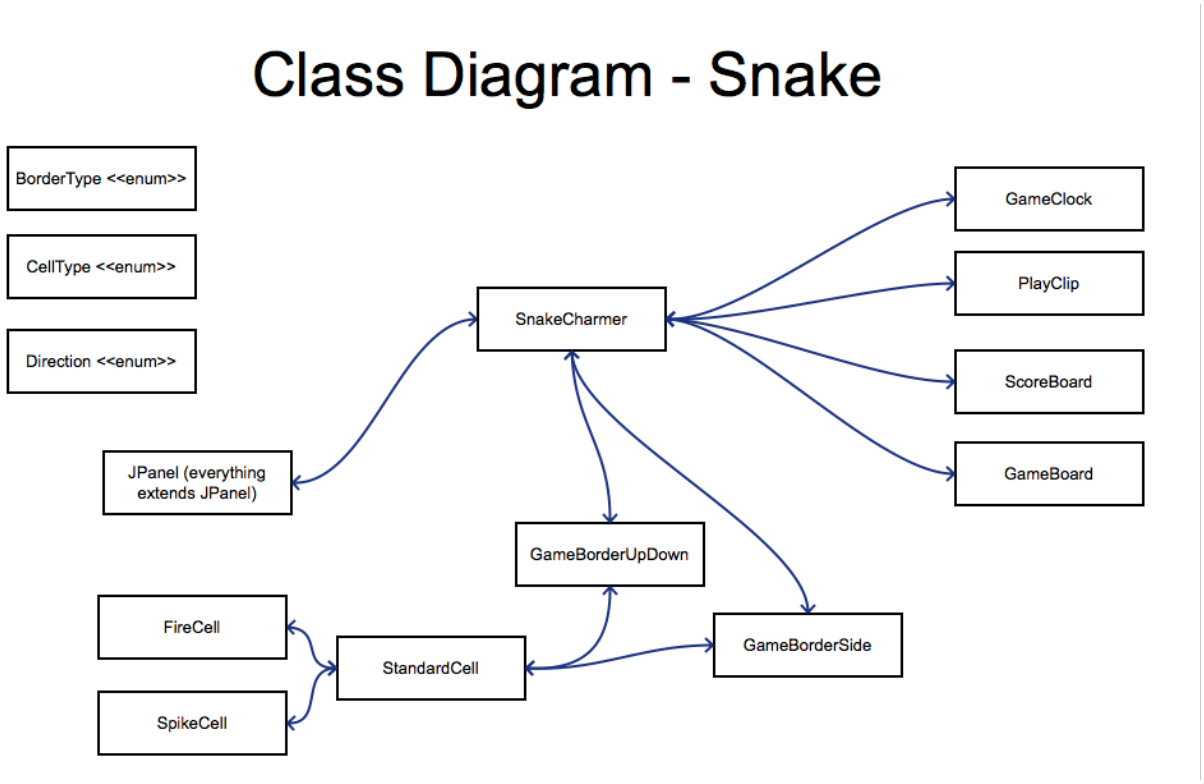
I wouldn't say I've encountered any problems; I have, however, encountered several pitfalls along my way. Like with anything, I try something, it doesn't work and then I look online and in textbooks for help. My biggest problem area is to jump into coding too quickly. I recognize how inefficient this behavior can be, but the excitement of problem solving or accomplishing goals is something that I find myself chasing for hours at a time. I am reducing this inclination by setting timers, planning tasks in advance and taking breaks.

How would you rate your own performance this milestone?

I did all right and the game works ok right now. Not everything is implemented, but it's coming together nicely. I have gotten a lot done in the first two milestones so I hope that I will have more time at the end of the semester to continue adding improvement and refining the overall gaming experience.

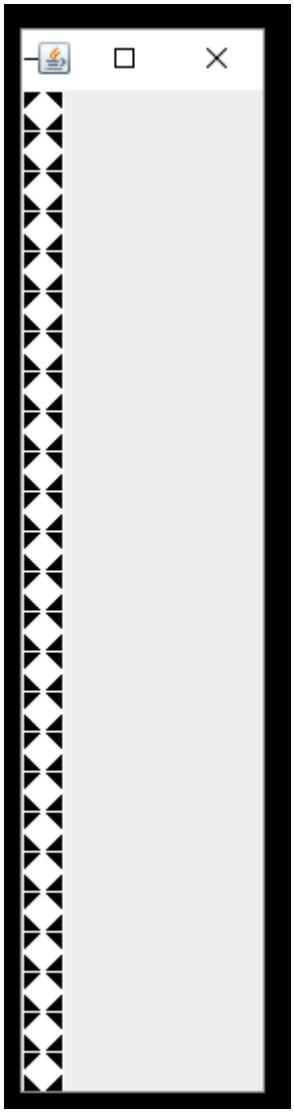
Additional comments

A simple class diagram of the project as well as screen shots of what was completed or changed during this reporting period are below. I also attached an executable jar file to the assignment so that you could test the functionality so far. Note: the sound has not been implemented yet.



Here are the border cells: standard, spike and fire (which is a work in progress)

Here is the border side and top, which surround the game board.



Here are a couple of screenshot of the board with different colors.