

# Progress Report 4 – Snake

**Name:** Brady Carlson

**Reporting period:** 9-November – 29-November

**Total hours worked on project during reporting period:** 21

**Total hours worked on project:** 99

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:

- Write help docs for game rules and how-to (accessible via the menu)
- Test and fine tune game play
- Design website

Other tasks that I assigned myself during this milestone that were NOT on the initial Formal Proposal are as follows:

- Comment code
- Record sounds for new Christmas and Halloween borders
- Hook up and fine tune all game sounds

What tasks have you accomplished during the time period?

I am pleased to report that all of my assigned tasks for this milestone have been successfully completed.

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

I learned that recording your own sounds is not an easy task. The process of recording and modifying sounds is made relatively easy with the help of various applications, I used GarageBand. The hard part, at least for me anyways, is knowing *what* sounds to record and how to modify them. At the beginning of the semester I thought that making the sounds would be fun and less work than incorporating the sounds into my game. Turns out, that in this instance, the opposite was true.

I also learned that a particular IDE automatically creates an executable jar file once you compile your code. I expand on that situation in greater detail below.

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

I utilized a java class from a previous course, CS3230, with Dr. Brinkerhoff that made the incorporation of sounds an easy process. This has shown me that having well defined classes that do a specific job can be built on top of each other and modified to do all kinds of things. It also showed me how powerful code reuse can be. I first used this class for the final project of that course, a Mahjong game. The sounds needed for that game were minimal, but I was able to incorporate this class and add some logic in order to do everything I set out to do.

I feel like this isn't a new concept, but the experience has solidified the importance of code reuse. Throughout my collegiate career I've been very cautious (alright, outright stubborn) to always do my own work, which in most fields would be a good thing. If this were a writing class, it would be expected that everything I wrote was my own and not plagiarized or reused from another class. But with programming that line isn't as defined. The idea of code reuse has been taught and encouraged in most of my computer science classes. I'm not sure where the line between code reuse and plagiarism is, that's probably a discussion for another day. It is clear however that code reuse is a powerful practice.

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

I've been going back and forth about how to deploy my game on a webpage. The initial plan was to make an executable jar file to be downloaded, and that's fine. That way, regardless of browser or operating system, the game's functionality should remain the same. It also makes the application self contained and able to be downloaded and then played without an internet connection. But I've done this before and I had aspirations of having the game deployed directly on the website as an applet. I have little experience with applets, but I thought it would be cool. But the more I looked into applets, the more I realized that it wasn't going to work. It seems that applets are becoming a thing of the past and many browsers won't even play them anymore. I looked into Java Web Starts, but didn't want to overcomplicate things. In the end I decided to just stick with the executable jar file.

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

My main concern right now is choosing a place to deploy my website. Originally I thought that I would get access to icarus with my CS4230 class and I could just deploy the website there, but so far that hasn't happened. Instead I put the jar file on an old e-portfolio website that I created during my time at Salt Lake Community College just to see if it would work. I tried accessing the page from multiple computers and operating systems and everything worked as expected.

The website is a free site hosted by Yola and will work as a last resort, but I was planning on writing the HTML and CSS for the game's website myself just as an exercise. You can add HTML and CSS in Yola, but I would prefer to write the code from scratch since it's just going to be a small, static website with only a few different pages.

Is it possible to get access to deploy my website on one of Weber's servers?

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

I needed to make an executable jar file. I've done it before in previous classes and didn't think I

would have any issues with it now. But I kept running into challenges with the main class not being found or the resources being unavailable. So I went back to my old notes to see how I did it in previous classes. I followed those instructions of creating a jar file with the command line to the letter, but still couldn't get an executable jar file that worked on multiple devices. I even tried creating the jar file with my Eclipse IDE, but had the same subpar results. So I did some research online and found out that the NetBeans IDE automatically creates an executable jar file when it compiles a project. So I tried running my project in NetBeans and used the auto-created jar file and it was a total success, problem solved. The work was done for me!

How would you rate your own performance this milestone?

I would say my performance this milestone was ok. I was able to complete all of my assigned tasks (plus a couple extra). I would say that my website design is more of an idea than a fully polished design at this point. I know the basic structure and content, but haven't nailed down all of the nitty gritty. Luckily for me all the hard work is done and most of the project is complete. I just need to implement the website, polish the game, put it all together and then show it off to you. Should be a piece of cake...

Additional comments

All of my project files are staged on GitHub and an executable jar file can be found on my Salt Lake Community College e-portfolio website.

Executable Jar of game on Yola:

<http://bradyportfolio.yolasite.com/learning-outside-the-classroom.php>

To view project repository on GitHub:

<https://github.com/bradycarlson/SnakeGame>

To clone project repository from GitHub:

<https://github.com/bradycarlson/SnakeGame.git>

Text for help menu game rules and operations:

**Operations:**

Game controls and operations are as follows:

Enter: to start game

P: to pause game

Up or W: to move up (or north)

Down or S: to move down (or south)

Left or A: to move left (or east)

Right or D: to move right (or west)

Menu

Game: to start a new game or exit  
Sound: to toggle sound on or off  
Speed: to change speed  
Border: to change game border  
Colors: to change colors of board and snake  
Help: to see game rules and operations

### Game Rules:

The snake can move up, down, left and right and will move at a constant speed.  
The snake's body and tail follow the path made by the snake's head.  
Food for the snake to eat is randomly put somewhere on the game board.  
When the food is eaten (or run into) a new piece of food will appear, the snake's body will grow and 100 points will be awarded.  
The game ends when the snake cannot move by running into the game border or itself.  
Have fun!

A picture of my initial website designs:

