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CS 499

June 19, 2022

Southern New Hampshire University

Milestone Three Narrative

The artifact chosen to exemplify data structure was a project I worked on in course IT 145, a Java introduction course. This was one of my first projects, created in 2018. It is a program designed to allow users to log in and read and output text files based on log in credentials. It is reusable, with file paths easily able to be inserted depending on the context. I have also provided instructions on how to format the text files to allow them to serve the user’s needs, considering my files will not be applicable. Originally, it was a program to allow a zoo’s staff to log in and view information based on their roles, but it could be utilized in any context that relies on text files.

I selected this artifact to reflect improvement in data structure. Previously, all methods and data inputs were bunched together somewhat incoherently. I made massive improvements to the structure of the program by creating a modular layout with multiple methods, rather than one big main method. In this way, the program is much more reusable than before. Someone could modify and expand as needed without having to understand exactly how a gigantic main method works. This work also exemplifies my improvement over the last few years, as it is much more efficient now that it is broken up. The artifact also works as a demonstration of software design due to how much change has gone into how the program is laid out. Regardless, it is a valuable artifact to demonstrate my knowledge growth throughout the course.

Improving the artifact was not complicated. I started by determining what variables were defined within the main method and were needed multiple functions. To allow for each variable to be referenced globally, these lines were moved outside of the main method and made into public static variables. Beyond this, all that was required was moving each block of code around to different methods. I made all of them void due to the ease of relying on global variables. If I had more time, I might have tried to pass variables more, but the same result was achieved. I still left a good amount of code in the main method, however, which would make passing variables a bit more difficult. Overall, the process resulted in a more efficient and streamlined program from a development standpoint. Others can utilize it much easier now, with its structure being clear and reusable.