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CS-499-T4088 Computer Science Capstone 21EW4

Software Design and Engineering Narrative

The artifact I chose for the Software Design and Engineering enhancement was the final project from the course IT-315-X3453 Object Orient Analysis and Design 20EW3. It was initially completed in February of 2020. The concept of the final was not the actual creation of code. Instead, we were provided with sets of documentation that described how a desired system was supposed to function. From there, were were required to set up a number of different styles of graphical representations and technical documents to demonstrate how the system was supposed to work.

I selected this item for two reasons. The first was to demonstrate proficiency in the development of technical diagrams and documents, which can be vital in support and management roles. Second, this gave me an opportunity to show that I could develop code without being provided a code-based framework. This showcased my abilities by me both providing the documents themselves, as well as justifying and analyzing my design decisions therein. The improvement performed was to being back-end development of the code for the system proposed by said project.

I believe I effectively demonstrated this in my development. I wrote the three header files for each of the major objects, including ensuring each object could store each necessary data point, as well as basic methods to alter and return the data stored in said parts of each object. With these methods being called and implemented by the front-end, the objects will be able to be created and altered as necessary.

I learned a number of things in the development of this enhancement. First, this was one of the first times that I was able to work on code in an entirely self-guided scope. This build my self-confidence and my understanding of my own capabilities. Second, coding in C++ and using header files is not something I’ve delved into very heavily, but this was a chance for me to exercise those skills. I experienced challenges in not truly understanding the reason for ‘#pragma once’, as well as forgetting that C++ doesn’t have native string manipulations like I needed for the methods. As such, I ended up looking up the technical documentation for <string> and reading it to understand what I could and could not do with it.