3-2 Milestone Two: Enhancement One: Software Design and Engineering

**A. Briefly describe the artifact. What is it? When was it created?**

This artifact is from CS 405: Secure Coding. It is a C++ program that presents you with a menu of arithmetic operations, which can then be chosen. After choosing your operation, you enter 2 numbers. The results of that operation are then printed on the screen. It was created in October of 2021.

**B. Justify the inclusion of the artifact in your ePortfolio. Why did you select this item? What specific components of the artifact showcase your skills and abilities in software development? How was the artifact improved?**

I think this belongs in the ePortfolio because it provides insight into my process as a software engineer. I looked at how it worked before, and I found the process of not seeing the operation you enter actually appear somewhat frustrating. A good UX improvement is simply showing the operation as you enter it, which lets you know if you potentially entered an operation you didn’t mean to. I also included instructions indicating that you need to enter 2 numbers, as opposed to just a blank newline.

**C. Did you meet the course objectives you planned to meet with this enhancement in Module One? Do you have any updates to your outcome-coverage plans?**

I think this enhancement does a good job of meeting my course outcome plans on improving the “softer” aspect of software engineering, that being the user experience as you go through an app or program. Often I feel like we concentrate so much on the harder skills that we forgot that most of the time another person is going to be the one using the product.

**D. Reflect on the process of enhancing and/or modifying the artifact. What did you learn as you were creating it and improving it? What challenges did you face?**

This definitely wasn’t my most difficult enhancement, considering all I had to do was add strings to the correct switch cases and make the language added up. Regardless, there were things to consider, such as the language being used (striking the balance between minimalist but still friendly), or the formatting used in the string messages, which can affect user perception of professionalism.