CS 499 Module 4 Milestone 3 Narrative

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I selected the final project from IT 145 for the artifact of this milestone and project. This was one of the first projects that I made that was somewhat fully developed. This project being one of the first ones that I developed was not fully developed and had a lot of room for improvement. Overall the structure of this application was thorough enough to accomplish the goal that was given to us. I chose this one to further enhance the work that was in the application to start with. In the last milestone that I worked on I had worked on converting the application from Java to C++ and making sure that I had all of the old and new functions implemented into the program. For this milestone I went about making sure that all the algorithms and data structures were in place and working properly.

This application has quite a few different options available to the user so I had make sure that the algorithms were in place to be able to handle all of the user choices. This required me to make sure that the loops that were used worked properly and that all the code could be reached. A good example of this was the ship service function. I had it implemented but did not work as it was intended. The while loop was preventing the code from reaching the end where it would set the new value that was supposed to be updated. I reviewed the algorithm that was in place and determined that by removing the if statement from the while loop and setting it after the loop I could successfully reach the end of the code.

Users are usually unpredictable so making sure that the code is secure is important. This application asks numerous times to input values which can often be a security risk when algorithms and data structures aren’t implemented safely. The loops that I have implemented in the application had the potential to be a security vulnerability if I hadn’t taken it into consideration. I implemented features that would check the user’s input for the expected answer and check it with the user’s actual response. When the responses are outside expected answers it will request the user to put in a correct answer or will return them back to the display menu.