**Enhancement One: Software Design and Engineering**

**CS-499 Computer Science Capstone**

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**06/01/2024**

The artifact I chose to enhance for the software design and engineering category is my final project from CS-320 which was originally completed on October 07, 2023. It is an application using the Java programming language. The goal of the project is to create an application to schedule appointments, collect user contact information, and provide a list of tasks to be completed. Automated testing is performed in the form of JUnit tests to confirm that the information given is correct and does not result in a type or buffer overflow error. Since this was done early in my programming history minor issues such as mislabeled methods and variables were present. This enhancement aims to improve the overall readability of the application by fixing the inconsistencies found the structure of the code. I also edited portions of the code were it seemed that redundancies and duplicate code existed.

The artifact is a good example of using continuous testing to improve the stability of a common application. The JUnit tests prove effective in verifying the identity of any given instances. Additional JUnit tests were added were added to increase the accuracy of the testing and expand the scope of the original project. I adjusted certain variables to make the search process more applicable to narrow searchs rather than the simpler ones in the original. For example, I added new variables to improve search results such as first and last names of the appointments. Most of the classes were reformatted and new inline comments were added to improve the flow of the application.

Overall, I tried to stay within the boundaries of the project. Much of the functionality stays the same as I felt the application does a decent job in its task. The expansion of the new refined search method does help it become a more valuable tool.