// SNHU

// CS: 499 – Computer Science Capstone

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// MOD 3 – Milestone One – Narrative

// This is the narrative for the first artifact enhancement (Software Design and Engineering)

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

This artifact was originally the GrandStrandSystems project, which was the final project in the Software Testing, Automation, and Quality Assurance course. It was created in Module 7 during my 9th term at SNHU. It is a mobile application with three main objects and twelve classes in total (three objects are Appointment, Contact, and Task). This program is written in JAVA, and features specific classes which are dedicated to unit tests, specifically JUNIT tests, and these tests are designed to verify that the individual components of the program function as intended.

The primary aim of this project in terms of functionality was to utilize unit tests with the goal of a successful coverage rate of 80% or higher, which the program does achieve in Eclipse.

* **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?**

The purpose of this artifact enhancement was to convert the project into PYTHON from JAVA. I selected this improvement to demonstrate knowledge and ability of both languages and how those skills translate. Since I’ve converted this project to PYTHON in Pycharm using the unittest framework, I have achieved zero errors in any of the classes. This includes all of the ServiceTest (testing the service class’s methods of the objects), and the Test classes (testing the objects themselves and their methods). I have also improved the project overall in other important ways, such as capitalizing class names, improving unit test coverage results, re-naming methods in less generic forms, and adding more descriptive comments.

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

As far as I am aware, yes, by implementing this enhancement, I’ve met the first, fourth, and fifth course outcomes, namely:

-The employment of strategies for building collaborative environments that enable diverse audiences to support organizational decision-making in the field of computer science.

-Demonstration of an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals.

-And the development of a security mindset that anticipates adversarial exploits in software architecture and designs to expose potential vulnerabilities, mitigate design flaws, and ensure privacy and enhanced security of data and resources.

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

Mostly, I learned more about the difference between raising an Exception and a ValueError in PYTHON, since Pycharm defaults to an Exception rather than a ValueError and I had to correct the program as I went. I learned that it is better to use ValueErrors instead of Exceptions when implementing unit tests in Python.