**Milestone Two**

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CS 499: Computer Science Capstone

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**Software Design/Engineering**

The artifact was the Appointment portion of the Mobile Application project from the CS 320: Software Testing, Automation, and Quality Assurance class. The assignment was never supposed to be an application, but loosely resembled three, almost identical, applications that allow users to perform, in memory, CRUD operations on contacts, tasks, and appointments. The purpose of the assignment was to learn unit testing. The Appointment portion was created February 14th, 2021. I selected this item because it included a lot of fundamental programming concepts like data structures, CRUD, unit testing, and thorough exception handling which I figured would be great for showcasing my skills. I improved quite a lot on this, not including the enhancement itself. It wasn’t buggy at all, but the formatting did not adhere to conventional coding standards and best practices. The classes and methods were also not organized coherently, which I corrected. I believe I met the course objectives I planned in this enhancement. I successfully converted all aspects of the program, including unit tests, from Java to Python, and improved the original design of the program. I don’t intend on adding anything extra to this enhancement unless I’m instructed to do so. I put a lot of consideration and planning into the final project and have the enhancements thoroughly mapped out conceptually. However, there are probably some technical aspects I overlooked that I would need to go back and fix.

I thought converting from Java to Python was going to be much easier than it was. I barely knew Java when I did the original project and am very comfortable with python. However, I learned a lot about Python and class structures when converting the languages. I first caught a lot of issues with the original project. One of my classes didn’t have a constructor, which I added in the enhancement, for the linked list to perform CRUD operations on. I also didn’t know how limited Python is when it comes to class structures. For instance, Python does not naturally have private variables. One of my biggest challenges was with the unit testing. Although the Python syntax was far more simple, I couldn’t do any testing when I imported a specific file. I found the issues was caused by me lacking a line of code designating an official main section. I’ve never actually used a main method in Python before this assignment.