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Milestone 2 Narrative

The artifact is Java code for a pet-grooming business to intake new animals for their business. The artifact’s code includes a pet class that stores variables such as pet type, pet name, pet age, dog space, cat space, day stay and amount due. It also includes methods for checking the pet in, checking the pet out, and updating the pet. Additionally, the pet grooming business had a maximum capacity for thirty dogs and twelve cats as well as an additional grooming fee if a dog stayed three or more days.

I selected this artifact to include in my ePortfolio because it will most accurately showcase my growth as a software engineer during my time at SNHU. This artifact reflects the most basic knowledge a software engineer learns regarding the Java programming language as it lacks any data structures, algorithms, databases, or secure coding practices. My enhancements to this artifact, porting the original code from Java to Python, demonstrates my knowledge of both programming languages and my versatility in writing code. To successfully enhance this artifact to align with the course outcomes, I had to show my understanding of both programming languages and display my skill with both when I refactored the code. My enhancements showcase my skills in creating and employing data structures and databases, using tools such as PyMongo and MongoDB, and my skills with object-oriented coding.

My enhancements align with the course outcome of employing strategies for building collaborative environments that enable diverse audiences to support organization decision making in the field of computer science using clear and concise comments within the code that clearly expresses the functionality of the code. The enhancement also aligns with the course outcome of demonstrating the 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 by creating an industry-standard software design that demonstrates my understanding of both the Java and Python programming languages. The enhanced code is efficient and accomplishes the requirements of the original artifact. The enhancement, which includes input validation and sanitization, also aligns with the course outcome of developing a security mindset that anticipates adversarial exploits in software architecture and is designed to mitigate design flaws and potential vulnerabilities.

While enhancing the artifact and modifying the artifact, I learned about the “re” module for python which provides regular express support as well as implanting F-strings in python for formatting certain parts of a string. I used the re module to sanitize user input to prevent harmful data entered and secure the code. Additionally, the F-strings allowed my code to be formatted to include variables. I faced some challenges testing my code where at first when a new pet was checked in, it would appear in the database, but the view checked in pets and check-out pets would return no pets checked in. Most of the challenges came from working on the code for too long and not being able to catch the errors within my code. I need to remember to slow down and work on my code in sections at time and test each block on completion, as well as remembering to take breaks so that I can come back and review my code with fresh eyes.