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Milestone 3 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 included this artifact in my ePortfolio because I wanted to showcase my growth as a software developer during my time at SNHU. The artifact is from a course that taught only the basics of the Java programming language, and its inclusion highlights my understanding of both the Java and Python languages, and it shows my knowledge and skills with algorithms and data structures as I had to create a data structure that did not currently exist in the artifact. I chose to implement a dictionary data structure because of how straight forward the approach to updating the capacity, checking for space, and adding and removing pets and how well this data structure works with the database I also had to implement. The artifact is improved by the addition of dictionary data structure, and I also included a sort menu for when the user wants to check the pets that are currently checked in.

The course outcome that I planned on meeting with this enhancement was met as adding the dictionary data structure and sort method align with the course outcome of designing and evaluating computing solutions that solve a given problem using algorithmic principles and computer science practices and standards appropriate to its solution, while managing the trade-offs involved in design choices (data structures and algorithms). Additionally, this enhancement also aligns with course outcomes such as employing strategies for building collaborative environments that enable diverse audiences to support organizational decision making with the comments in the code and the addition of a sorting menu when displaying all pets checked. These comments also align with the course outcome of designing, developing, and delivering professional-quality written communications and demonstrating the ability to use well-founded and innovative techniques, skills, and tools in computing practices.

The process of enhancing and modifying this artifact began with choosing a data structure to implement that best fits the nature of the artifact. I chose the dictionary data structure as I had experience with using them from another course and it aligned best with the artifacts functionality and the database I chose to implement. While creating and improving the enhancements I learned that I still could grow in this category, as I had a hard time deciding what the best way to handle this category’s enhancements. The challenges that I faced came not from selecting or implementing the data structure of my choosing, but how to best approach including algorithms in the enhancement. I need to focus on refreshing my knowledge of algorithms, the best way to implement them, and how to justify my choices based time and space complexity of the algorithm.