**Milestone Two: Pet Class Enhancement**

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**1. Briefly Describe the Artifact**

The artifact I selected for enhancement is the *Pet Class*, originally written in Java during my IT-145 course, which I completed about a year ago. The class was part of a *Pet Check-In* project that allowed users to input standard information about a pet, such as its name, age, breed, and the kennel it would stay in. This project introduced me to basic object-oriented programming principles, including encapsulation and class design.

**2. Justification for Inclusion in ePortfolio**

I chose to include this artifact in my ePortfolio because it highlights several essential skills in software development, including object-oriented programming, class design, and cross-language adaptation. The original project incorporated various stages of the software design process, from writing pseudocode to mapping out logic flow using flowcharts and finally implementing the solution in Java.

The enhancement I made involved rewriting the *Pet Class* in Python, which showcases my proficiency in multiple programming languages. This improvement not only demonstrates my ability to work with Python but also reflects my understanding of core programming concepts that apply across languages, such as data structures, syntax differences, and efficient code implementation. Additionally, this enhancement required adjusting the class design to suit Python’s structure and syntax, which improved both the readability and efficiency of the code.

**3. Course Objectives and Outcome-Coverage Plans**

Yes, I believe I met the course objectives I initially set out to achieve with this enhancement. In Module One, my plan was to enhance the code by improving functionality and efficiency. However, after reviewing the original code, I decided that rewriting the Java code in Python would be a more valuable enhancement.

Rewriting the *Pet Class* in Python not only met the objectives but also exceeded them, as it allowed me to demonstrate cross-language proficiency. This update also showcased improvements in code compilation speed and overall efficiency, which were noticeable in Python compared to Java. Going forward, my outcome-coverage plan will reflect this cross-language adaptation as part of the enhancement, as it enhances the project’s relevance and my skill set.

**4. Reflection on the Enhancement Process**

Through this enhancement process, I gained deeper insights into the differences between programming languages, particularly in terms of syntax and performance. Python, with its clean and concise syntax, proved to be a versatile and efficient language for this type of project. The process of rewriting the *Pet Class* in Python highlighted the importance of adaptable programming skills and cross-language problem-solving abilities.

One of the main challenges I faced during this enhancement was converting some of the Java syntax into Python. For example, Python handles methods and attributes differently than Java, particularly in how it manages data encapsulation and class structures. To overcome these challenges, I referred to Python documentation and relied on trial and error to ensure that the code maintained its functionality while adhering to Python's best practices. This process reinforced my problem-solving skills and adaptability, especially when transitioning between different programming environments.