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CS-499: Milestone Two Narrative – Software Design and Engineering

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

This artifact is based on the SNHU Travel project we originally designed during CS 250. Back then, my team planned a travel search app, but we didn’t write any code. For this capstone milestone, I turned that plan into an actual working prototype. I already had a simple Java GUI from a previous version that displayed five destinations and a slideshow of wellness resorts. For this enhancement, I cleaned up and reorganized that code to make it more modular and easier to update. I also created the first working version of the travel search menu in Python, which lets users filter trips by destination or budget using terminal input.

**2.) 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?**

I chose this artifact because it shows how I’ve grown in software design and problem-solving. It was also a project that I had worked on last term, and I really wanted to work on something that was still fresh in my mind. Originally, the Java GUI code was as little messy as everything was hardcoded, and all the data was mixed in with the layout code. For this milestone, I created two separate classes, Destination.java and Resort.java, so I could store the trip data separately and use loops to populate the GUI instead of repeating the same code over and over. That made the project more modular and scalable. I also built the first version of the travel search menu in Python, which focuses more on backend filtering logic and user input handling. These two parts of the project show that I can work with both GUI and terminal-based programs and that I understand how to clean up and organize existing code.

**3.) 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?**

Yes, I met the outcomes I planned to focus on. This enhancement fits the software design and engineering category because it shows I can restructure and improve existing code in a way that follows better design practices. I didn’t build new features or screens but, I focused on making what was already there cleaner, easier to maintain, and more reusable. The Python version of the travel search menu also supports those same outcomes by showing I can build a basic but functional program that works with user input and data. I don’t need to change my outcome coverage plans at this point. However, it feels like my enhancement plans for categories one and two are fairly similar, so I want to be sure to take the travel search menu and filtering options to the next level for category two and ensure it aligns with the course outcomes.

**4.) 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?**

This was a good learning experience because I had to go back and fix code that I had originally skimmed through. The biggest improvement was separating the data from the UI code, which meant creating the Destination and Resort classes and looping through lists to build the interface. That part wasn’t too hard once I figured out the structure, but getting Java to load image files properly was frustrating. I had to learn about how classpaths work and why images weren’t being found at runtime. Switching from using the Run button in VS Code to compiling and running from the terminal solved most of the problems. Originally the project was run in a virtual environment using Eclipse, but I have had issues using Eclipse outside that environment on my Mac, so I wanted to use VS Code. I also learned how to build a basic menu in Python and how to handle filtering logic in a way that’s readable and user-friendly. These changes made me feel like I took the project toward a more working product and helped me see the value of writing clean, organized code from the start.