3-2 Milestone Two: Enhancement One: Software Design and Engineering

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The artifact I've chosen to refine is an invoicing system developed for Davy’s Auto Shop, which I originally programmed in March 2019 as part of my CS-200 course at SNHU. This early project from my coursework marked one of my initial forays into coding, making it an ideal candidate for demonstrating the evolution of my coding skills. Initially, this invoicing system lacked detailed documentation, providing me with an excellent opportunity to apply my improved coding skills to enhance readability and functionality.

For this enhancement, I focused on refining the code to increase its maintainability and efficiency. I introduced a 'Request' class capable of handling user inputs for service selections, displaying these selections, and retrieving them when needed. This adjustment ensures that functions managing user inputs and display are neatly encapsulated, enhancing code modularity and reducing redundancy.

Further improvements included implementing a more intuitive naming convention for service pricing dictionaries to aid key-to-value associations, optimizing whitespace management, and integrating an ASCII art logo for enhanced user interface aesthetics. I also incorporated various operating system functions to enrich the application's interactivity.

Reflecting on this project’s revision, I realized how much I have grown in understanding complex code and refining it into a more streamlined and effective program. Initially revisiting a project I had not worked with in four years posed a significant challenge, especially since my Python skills required some refreshing. To overcome this, I extensively consulted Python’s documentation to ensure my enhancements were effective and efficient.

I adopted an agile development methodology for this project, which emphasizes iterative progress and frequent reassessments. This approach allowed me to tackle the project in manageable sections, ensuring each function performed optimally before moving on to the next. The agility of this method proved invaluable, not only in meeting the project’s timelines but also in allowing room for additional enhancements beyond the original scope.

Overall, this enhancement has fulfilled the intended course outcomes by demonstrating the use of innovative and reliable techniques in software development. These improvements have substantially increased the artifact's value, showcasing my ability to develop practical, industry-relevant software solutions.