This paper serves as a self-assessment regarding my skills and abilities in developing functional and meaningful programs. Throughout my time at SNHU, I have acquired a range of skills, all of which will be demonstrated below. I will also discuss how I reached the five course outcomes by enhancing previous projects in the following categories: Software design and engineering, Algorithms and data structures, and databases.

Creating a portfolio containing projects that showcase my abilities is a great tool to share with potential employers. It creates a strong foundation for a potential employer to recognize my abilities and ensure I am fit for the role. My ePortfolio contains three separate projects I have worked on over my educational career with SNHU. These projects are from CS 360, CS 320, and CS 340. They were originally designed as a submission for their given course outcomes, but have since been enhanced to serve as more visually appealing, efficient, and secure applications. As mentioned above, these programs demonstrate my abilities in three categories: Software design and engineering, Algorithms and data structures, and databases, respectively.

Throughout this program, I have gained more confidence in my ability to work in team environments, communicate with stakeholders, and become a more well-rounded programmer. Through code reviews, discussions, and group assignments, I have been able to communicate in a more effective manner with my peers and instructors to reach a common goal. In return, this taught me the valuable lesson of learning from my mistakes and using constructive criticism to its fullest extent. Furthermore, through instructor feedback and “stakeholder” expectations, I have learned to focus on the task at hand and optimize it to the best of my ability.

From the technical side of programming, I have gained lots of experience with developing from specific standpoints as well. My enhancements in the projects mentioned above demonstrate my abilities within their given parameters. By redesigning the front-end for a weight-loss application and adding more QOL features, I demonstrated my abilities with software engineering and design. Additionally, I provided a more efficient data structure for the CS 320 ContactService program by replacing the old ArrayList structure with a HashMap structure, as well as updating the search and update algorithms to be more encompassing and efficient. Finally, to demonstrate my abilities with databases, I utilized the CS 340 project in which we created an animal shelter database system using MongoDB. Originally, the queries were vague and inefficient. After enhancements such as data indexing and aggregation pipelines were implemented, the program became much more functional and efficient.

These three enhancements, when combined, demonstrate the skills and abilities I have gained throughout my time with SNHU. They highlight my ability to design fully-functional software systems, solve problems by applying proper data structures and algorithms, and effectively utilize databases. Provided in my ePortfolio are the original versions of these programs, enabling the viewer to compare the differences and see how far I’ve come in my educational career.