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CS 499 Final Project Professional Self - Assessment

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The computer Science Program at Southern New Hampshire has been nothing short of a challenge. In my CS 499 Capstone class, I have polished two projects that showcase my skills in software design and engineering, algorithms and data structures, and databases. In addition to this I have learned a large set of programming languages, problem solving skills, etc. Over the course of the past two years, the skills I have developed have equipped me well to embark on a career in the computer science field.

My college journey began at a community college in my hometown. I had taken a few classes and took a year and a half off to figure out what I really wanted to do. My dad has been a software engineer for nearly 30 years and I had always admired his hard work. I decided to take a leap of faith and signed up for classes at SNHU in the computer science program. My first class I took was an introduction to scripting course using Python. With no prior knowledge in any sort of coding or computer languages, I was quickly overwhelmed. I had almost dropped out because I did not think I could do it, but I continued. With many long nights, and stressful days, I am now here in my final capstone class, hoping to earn my bachelors degree in computer science with a concentration in project management at the end of this month. I would definitely consider this my biggest and most rewarding achievement of my life and I cannot wait to secure a career in software engineering.

As I have previously mentioned, the first class that I took in the computer science program was an introduction to scripting class. This class was a shock to the system as I realized the difficult road I had ahead of me, but it served as my foundation for the whole program. I was able to develop a baseline vocabulary for programming and computer science that still pertains to this day. The first project that I had completed was a python coded game in which you had to navigate through a maze and get to the end without encountering a zombie. This was my first experience in using object oriented programming and loops that essentially made the whole game. By completing this class, I was able to build the confidence that I can learn how to program and pushed me through all the classes I had ahead of me.

Another course that I took that impacted me heavily was DAD 220 which was a database course. I actually fell in love with computer science while taking this class when I was introduced to databases. Learning MySQL and creating my own database expanded my knowledge in the computer science field when I realized the various career fields I could enter into. At this point I was convinced that I wanted to be a data engineer, which is a field I am still highly considering to this day.

As a person who is very team driven and organized, I thoroughly enjoyed learning about the software development life cycle in CS 250 in which we were tasked with evaluating both the waterfall and agile techniques. With understanding and using both, I definitely gravitate towards agile and became interested in the entire Scrum process. This is when I decided to switch my concentration from software engineering to project management. Since then, my goal has been to start my career as a software engineer and become a Scrum Master. I believe that getting a few years as an engineer will broaden my knowledge and make me a much stronger Scrum Master to lead a team in development, testing, and deployment.

While I learned a lot about the career I would like to pursue, I was also able to figure out what I did not enjoy as much in this program. OpenGl is an API that is used for designing graphics. I was tasked with designing a landscape of my choosing. While taking this class, I encountered many frustrations and realized that software design is not the path for me. I have an immense amount of respect that people do in this line of work and I am grateful for the skills I was able to learn in OpenGL.

Collaborating in a team environment has been an extremely rewarding and beneficial process for me. Over the course of this program, I have communicated with countless peers in discussion forums about our work and exchanging tips to improve our code, etc. I have been able to surround myself with a computer science community that I hope to stay in touch with in the future and maybe even work with professionally one day.

In addition to the skills I have already mentioned, I have also learned how to work on front end and back end development, communicate with stakeholders, and design my very own app and website! The foundational prep work that I have done for each of these projects has been just as important as the development itself. I have been able to create plans, budget reports, and evaluate stakeholders in order to successfully complete a project from start to finish and understand each step that goes into the final result.

I have selected two projects to enhance from previous courses I have taken at SNHU to demonstrate my knowledge in software design and engineering, data structures and algorithms, and databases. The first Project I had decided to enhance for the software design and engineering category was a previous bank application that calculated annual interest when a user had an initial deposit and monthly deposit. I took this project which was originally written in C++ and I converted it to Java. I then incorporated my first ever GUI to display graphs that compare different initial investments, monthly deposits, premium interest, and annual interest rates.

The second project that I had chosen to enhance for both the algorithms and data structures category as well as for the database category. This project was from my CS 300 class and was created to take in course information from a flat csv file and use a quick sort to sort them alphabetically. I have chosen to incorporate a merge sort for my algorithm which not only sorts faster, but is a more stable option. I then chose to read in my courses from incorporating a database rather than reading from a flat csv file. By using a database, it is not only much more reliable, but it can hold larger sets of information, making it the obvious choice in this scenario.

I am immensely grateful for my time here at Southern New Hampshire and all of my professors and classmates that have helped me along the way.