**Professional Self-Assessment**

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**Portfolio: https://austinorr9.github.io/**

Skills and knowledge only grow over time. My time in the Computer Science program has given me a lot of different exposures to different aspects to the computer and technological world. During this program I was able to learn and sharpen my skills in, but not limited to, team collaboration, communication to stakeholders, data structures, software engineering, databases, and security.

Team collaboration is important to any job. In the computer science program in one of my classes the professor split up students into different groups and we had to mimic a Scrum team designing a code for a company. While we were not actually designing a new program, we got the opportunity to see what it takes to be apart, to run, and what the structure and different purposes a Scrum team deals with daily.

Stakeholders make or break code. During the computer science program in one of the classes we had to develop a java app, based on stakeholders and customer request. In the start of the class, we were given a list of asks from the stakeholders and customer on how they would like their app to look handle and run. From these requests we created an app that the customer and stakeholders were happy with.

Throughout the computer science program data structures were used everywhere from simple lists to binary search trees. In one class we created a very basic java program that uses different lists or arrays that mimic different databases you might find in a hospital, like appointment data, doctor tasks, and patient contact information. For my capstone I converted from java to C++ and created a very basic working apps using command terminal menus.

Throughout my time in the computer science program and including my current professional life I have used a form of databases almost daily. These ranged from SQLite to simple structures imbedded in vectors, to MySQL. In one class we were to create an inventory app using android studio. This app was to keep track of inventory that could be added to and manipulated, but also had to include a security system via login to prevent unwanted access.

In the computer science program, I had the liberty to learn about secure coding. After taking this class my appreciation to security grew. In the class we had to create a program that took an unencrypted file encrypt the same file using XOR encryption, post the encryption version of the file, then decrypt the file.

In this portfolio, there are three artifacts attached each applying to a different category Software Design and Engineering, Algorithm and Data Structures, and Databases. The three artifacts below were chosen with the intention to show off the skills of each category.

Software Design and Engineering, the artifact is labeled Milestone Two. Contained is a narrative explaining the artifact and a C++ program of a command terminal app that uses structures and vectors to mimic different databases a receptionist at a hospital might use, appointment info, patient contact info, and doctor task info. This code was originally written in java for class CS-320. I choose this artifact because I feel it’s a good example of this category it uses different methods to make three structures work together on one program, I also chose this to show that I am able to convert and adapt code that was originally written in one language to another.

Algorithm and Data Structures, the artifact is labeled Milestone Three. Contained is a narrative explaining the artifact and a C++ program of a command terminal app that takes a unencrypted file, encrypts it using XOR encryption, saves this encryption to a new file, then decrypts the same file. I enhanced the file by adding the ability to hash the file and save it as a new file and added a very basic double verification method that uses a random number generator. This code was originally written for the class CS-405. I choose this artifact because I believe it a perfect example of this category it shows that I can produce Algorithms that can take a file and based on a key word encrypt the file.

Databases, the artifact is labeled Milestone Four. Contained is a narrative explaining the artifact and a Gradle for an android app that uses SQLite to keep track of inventory of different items that can be added and manipulated at the user’s request. It also uses a log in to secure the list incase of unwanted tampering. I enhanced it by cleaning up the code and optimizing the database a little. This code was originally written for the class CS-360. I choose this artifact because I believe it was the perfect example for the category while my SQL skills are intermediate due to, I use SQL on a daily basis for my current job. I wanted to show that I could adapt to any situation even to situations I am completely new at.