Reflection Essay

John C. Creger

Old Dominion University

IDS 493 Electronic Portfolio Project

Dr. Gordon-Phan

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Abstract

This paper is a brief description of the nine artifacts I have chosen for my ePortfolio. I have reflected on each of these artifacts, the challenges associated with the assignment and how they incorporated into the interdisciplinary aspect of the degree program. I have reflected on my time at Old Dominion University how my time has prepared me for the challenges of what comes in the next chapter of my life

Keywords- Artifacts, cybersecurity, skills, leadership, writing

Reflection Essay

My collegiate career has been non-traditional as I have been active duty while completing my coursework. I have enjoyed the classes I have taken and have learned not only the technical aspects of cybersecurity but also the "soft" skills required of professionals. Cybersecurity is an interdisciplinary degree program, requiring that students use connections from other classes to be successful not only in school but many areas. During my time at ODU and working as a professional I have gained skills in the technical arena of cybersecurity, writing and leadership and teamwork, highlighted by the artifacts I have displayed in my ePortfolio.

Technical Cybersecurity Skills

The first artifact in my ePortfolio is from CYSE 270 Linux for Cybersecurity. This class was an introduction into the Linux operating systems and its many different distributions. Linux is the preferred operating system for networking and cybersecurity professionals, with Kali being the favorite among penetration testers and members of red teams (Nedyalkov p4). This class did an excellent job teaching the fundamentals of navigating Linux and how to use some of the basic functions of the command line interface. I especially enjoyed this assignment because it required the creation of multiple users with varying password strengths. The passwords were then cracked using the command line program "John the Ripper" to crack the passwords utilizing an exploit with the hash function. This class has proven valuable because the skills gained have been developed further in many other classes and have prepared me for later assignments in my collegiate career.

CYSE 301 is a course in the cybersecurity pipeline that provides deeper insight into cyber security tools and protocols. I chose an artifact from this class focusing on virtual environments

and further understanding of the Linux command line. Tools that cybersecurity professions use are usually command line driven and are used to accomplish a specific task such as capturing traffic for specified hosts (Svabensky p3). This assignment required students to login into a virtual network and open multiple virtual machines at the same time. The goal was to demonstrate an understanding of Internet Protocol (IP) addresses and how different IP addresses communicate through the network. I was required to use a distribution of Linux called Kali, which I was familiar with because of CYSE 270. Without that foundational class, it would have made learning the command line of an additional challenge. This class incorporated concepts learned in Information Technology 315, which are the fundamentals of networking. These classes combined, established a solid base and understanding of command line and how communication flows through integrated networks.

For my third artifact I chose a project from CYSE 407, Digital Forensics. I enjoyed this class and could see myself pursuing a career in digital forensics. I think the detective and investigative aspect of the career field is enticing and having the opportunity to work in a lab with very powerful forensics computers could be rewarding. When prosecutors are gathering evidence to present in a court case, they rely heavily on digital forensic practitioners to present the evidence, while maintaining proper chain of custody and providing unbiased results (Al-Dhaqm p5). This project shows analytical skills by planning out a digital forensics lab from the ground up. It was required to properly budget all assets, prepare a physical layout of the lab, including workstations, offices, entry and exit points and security features for entry and exit. Hardware assets were also required to be properly accounted for to provide the lab with adequate computing power to run the memory and processing intensive forensics programs. This class

highlights the interdisciplinary aspect of the degree program by incorporating the technical aspect of a digital lab by integrating the project from a business and cost-effective perspective.

Communication and Writing Skills

Interdisciplinary Studies 300w is an intensive writing course that focuses on making connections and applying other disciplines to make an argument. This was my most challenging class to date. I had difficulty grasping the concept of interweaving multiple disciplines together to form an argument and write a research paper. I wrote my paper on how to effectively lower the absentee rates of high school students specifically in urban communities. After a ton of research and multiple email threads with my professor, I submitted a quality product and was able to understand how all the pieces fit together. As much as I disliked this class, it did make me a better writer and gain a new appreciation for the interdisciplinary mindset. I have used these skills professionally while writing evaluations for myself and others, trying to correlate different aspects of jobs to other parts, ultimately enhancing job performance.

Cryptography for cybersecurity, CS 463, was a challenging course, requiring lots of study time and asking lots of questions. I've chosen my research paper from this course as an artifact to highlight my writing skills. This paper took a large amount of research and a deep understanding for digital cryptocurrencies. After completing the assignment, I have a much better understanding of the crypto landscape and can make more informed decisions as how and when to procure cryptocurrencies. Cryptocurrency is becoming a popular investing vehicle and has the potential to have massive influence on financial markets in the near future (Houy p3). From an interdisciplinary perspective, this paper was an excellent example of combing the highly technical concepts cryptocurrencies and the writing skills I have obtained in other classes,

especially IDS 300W. The research paper assignment was an added interdisciplinary skill because the rest of the class was very technical, and mathematics driven. I enjoyed the technical challenge of the course work and found value in having to exercise my writing skills with a lengthy research paper. Digital forensics for cybersecurity was one of my favorite classes and I look forward to pursuing a career in the field.

English 114, American Literature was the first class I took after I transferred to ODU after earning my associates degree. I didn't know what level of academic rigor was going to be expected of me and I quickly realized it was much more demanding than the previous courses I had taken. The artifact I chose from this course is part of the final project where I choose to write a fan fiction sequel to *Catcher in the Rye*, trying to capture the voice of J.D. Salinger. To this day *Catcher in the Rye* is one of my favorite novels as I can relate heavily with the protagonist, Holden Caufield. I chose this artifact to showcase my creative writing skills and how they have enabled me to become a well-rounded professional. While this class had zero cybersecurity technical attributes, it does, from the assessment of an interdisciplinary perspective view prove that I am capable of creativity, which is a valuable skill in cybersecurity. It often takes thinking outside the box thinking to prepare and execute exploitations on vulnerabilities in the cyber verse. Creative and professional writing is a powerful skill that will ensure success in any field with cybersecurity as no exception.

Leadership Skills

Some people say people are born natural leaders or not and others say you can learn leadership as a skill. I think the truth falls somewhere in the middle. I chose to use my Navy yearly evaluation for one of my leadership artifacts. These evaluations are a critical component

of navy life and could make or break a career. For context, Sailors are expected to write their own evaluations starting at the E-4 level and then route through the chain of command for revision and corrections. As a senior leader my evaluation is expected to mostly complete with little to no revision. My current evals show that I am responsible for many junior personnel in daily tasking and training. These evals show a sustained level of organizational leadership with proven success leading people to accomplish a variety of missions. While naval leadership skills don't translate directly into cybersecurity technical skills, it does show dedication to teamwork and the ability to move people in a direction. Cybersecurity professionals often work in teams and require strong leaders to accomplish complex tasks (Yoo p1). Gaining an interdisciplinary degree with strict writing requirements has proven useful when writing not only my own, but all the junior personnel's yearly evaluations.

I have spent nearly 20 years in the Navy and have received various awards during my career. I chose the Meritorious Service Medal (MSM) and Navy and Marine Corps Commendation (COM) medals for artifacts displaying my leadership and teamwork skills. I earned the MSM and COM for classified operations I lead in support of national tasking directed by the president. I cannot offer many details here, but the award does highlight a strong dedication to team success and how my direct leadership facilitated mission accomplishment. For context MSMs and COMs are not generally awarded to E-6 and below in the Navy without significant and proven justification. These awards are more symbolic that I was given a higher level of responsibly and leadership, typically reserved for higher ranking personnel. These awards are tangible examples of proven leadership and teamwork in stressful and high-paced environments. Working in a Security Operations Center as a cybersecurity analyst has a fast

paced and stressful atmosphere (Yoo p4). These awards are evidence that I have the capacity to excel in high pressure situations

My final artifact for my ePortfolio comes from an early class PHYS 104N, Astronomy. The structure of this class was largely based on group work. I was assigned 3 lab partners, and we were responsible, as a group, to get the assignments done. This artifact displays that I can successfully work as an equal member of a team and can help motivate my teammates to complete assignments. My experience with group work throughout my life is that one or two people do all the work and then everyone turns it is and gets credit. This class was no exception. One other student and I completed 95% of the assignments while the others took credit. Even though this was frustrating, it did help me in managing a low performance team and still ultimately get the assignment done.

I have enjoyed my time at ODU and will miss the academic challenges it has provided. The skills in cybersecurity, writing and leadership and teamwork will stay with me for the rest of my life and will make me a better professional. The artifacts that I have chosen are examples of how I have developed and honed these skills over the past several years. I am excited to move on from an academic setting to a professional career to master my craft.

Works Cited

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