Personal Narrative

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Abstract

This narrative paper serves to recount my progression through the academic and professional environment of cybersecurity, information technology, and other adjacent fields of interest. Throughout this narrative, I will identify and examine core experiences that have contributed towards my development in this context. This will detail the coursework I have completed at Old Dominion University, the experiences and progression under the context of my employment, and my processes for individual learning, research, and development. This narration will also examine my early years, which correlate with the reasoning behind my direction. I believe a narrative summation of my experiences in this landscape will be incredibly valuable for my own personal reflection, as well as articulating my experiences and capabilities in a more detailed manner (as opposed to a resume). Ultimately, this narrative essay will serve to highlight the importance of adaptability and determination in this increasingly inter-connected digital world.

Keywords: cybersecurity, information-technology, ePortfolio, narrative

Introduction

As we quickly progress forward on this timeline, technology continues to advance at extraordinary rates. This advancement has paved the way for the conception and evolution of many different industries such as gaming, security, law enforcement, and has impacted virtually every facet of modern living. With the first developments of household computing, long-distance network connectivity, and the rise of handheld devices, my interest in technology was sparked immediately upon discovery. Like many others, I started small and under the context of entertainment. At a very young age, I was gifted a PlayStation 2 which I would play all the time. I had a hand-held android phone with a sliding keyboard, where I would play free 2D games relating to skating, biking, and/or driving. These interests and experiences were very simple and elementary; however, they continued to progress. Some years later, my father's old laptop was handed down to me. I was ecstatic, and this new technology kickstarted my ventures into cybersecurity, information technology, and adjacent fields.

This internet-connected laptop was infinitely more powerful than an old handheld phone or a PlayStation2. The first two games I downloaded on this device were Roblox and Minecraft. Roblox is an online platform that allows individuals to create, build, and play games (Roblox, n.d.). My experience with Roblox initially started with only playing games; however, I quickly became interested in the creative aspects of developing games. I started to build incredibly mediocre games that had virtually no functionality or gameplay, but I loved it. Minecraft is similar, a sandbox game that allows individuals to create, build, and play games in the context of creative or survival modes. They do, however, differ in the creative experience. Minecraft also supports the ability to mod the client to obtain functionality that is not already included in the

game. This can include quality-of-life changes, resource retexturing, and the addition of entirely new components.

Ultimately, both games present great opportunities for creativity and experiences with development.

Progression

Around the same time, I came across a YouTube video that sparked yet another new interest within me. The video was uploaded on January 3, 2013, by THNKR, and is titled: “14-Year-Old Prodigy Programmer Dreams in Code” -- *https://youtube.com/watch?v=DBXZWB_dNsw* . I was completely taken aback by the thought of being able to create my own games and software. I found this video and Santiago’s technological prowess to be inspiring and set out to begin learning how to code.

Both Minecraft and Roblox inherently support the ability for players to develop their own games and experiences using simple and intuitive in-game interfaces; however, there is much more opportunity that lies behind the scenes. In the context of developing Roblox games, the platform has embedded the Luau scripting language (“derived from Lua 5.1”) into the game engine (Roblox, n.d.). Similarly, Minecraft was built using Java, and adequacy with the Java programming language enables individuals to develop modifications for the client. As time progressed and I became older, I developed a better understanding of scripting and programming languages, which allowed me to gain experience with developing games and mods for these platforms. I enjoyed working with these languages; however, I quickly learned that I was not

quite as interested in game development as I had previously thought. This coupled with some other personal factors led to my programming interest being temporarily postponed.

Throughout the span of a couple of years, I would do small experiments with programming here and there but never created or shared anything with a tangible use-case. In my sophomore or junior year of high school, I ended up participating in the course titled: AP (Advanced Placement) Computer Science A. This course primarily revolved around learning programming with Java. At this point, my capabilities as they relate to abstract and critical thinking have grown. I thoroughly enjoyed my experiences with Java in this course and found myself completing the coursework far ahead of time. During this course, my abilities surpassed the context of what was included in the course contents. Being left unsatisfied and wanting more, I continued learning how to program on my own.

Individual Research and Development

Thankfully, the internet hosts a bounty of valuable resources that enable individuals like me to participate in extracurricular learning on virtually any skill I would like. I took advantage of this and started to teach myself how to code. This was quite a long process, and I ended up learning multiple different languages. I of course, started out with Java since that is where I had left off. I very much enjoyed the syntax of the language; however, I found the package management and building to be convoluted (at that time). This led to me choosing a different language to learn, and I settled on Python due to the prevalence of online cybersecurity courses that integrate python lessons. I also enjoy working with Python due to its simplicity and versatility but was not fully satisfied with the experience; at least for my use-cases. My early

development interests related to making graphical desktop applications that served as utilities, and I did not particularly enjoy the process of creating a graphical application with Python. Following this, I went on to learn C#. This language felt very similar to developing in Java (in terms of Syntax), which I appreciated; moreover, it streamlined the processes of developing graphical applications, managing packages, and building releases. At this point, I had gotten a good taste of a few different languages and was quickly identifying what I am looking for in a language.

Eventually, following lots of deliberation, I settled on Go. Go (sometimes referred to as Golang) is an open-source general purpose programming language that was developed by Google. The developers of the language aimed to create a language that enables programmers to "build simple, secure, scalable systems" (Google, n.d.). The simplicity of the language allowed me to quicky prototype applications/solutions, and the syntax taught me a great deal about properly formatting code.

I took some time familiarizing myself with the general syntax rules of Go and then dived straight into my first real project. I find that I learn better this way, as it forces me to learn the necessary concepts to continue. This process of fumbling around until I got it right, also proved to greatly enhance my ability to understand and properly implement the necessary logic for some of these applications. My first primary project has cycled through many different names, but I have settled on the title: "Bitcrook" -- https://github.com/ax-i-om/bitcrook. It started out as a simple username search that would identify whether an account existed on a platform or not. This project was effective in teaching me standard programming logic, as well as creating network requests and processing the corresponding response. It has since turned into a project that I am passionate about and served as an excellent project-based learning experience. Its expansion into a full-blown "open-source intelligence apparatus" has taught me much about the

effective usage of Go, while also familiarizing myself with a more granular understanding of how to communicate with APIs and forcing me to learn some complementary skills like writing HTML, CSS, and JavaScript (ax-i-om, 2024).

Another individual research and development project I worked on is titled “Tempest” -- https://github.com/ax-i-om/tempest, a utility that scrapes “paste sites ... [for] ... objectionable/infringing material” (ax-i-om, 2024). This project in particular resonated with me as it is a very real issue, and I am glad I was able to develop a solution for identifying these materials. I have some other research projects that I could go into detail on; however, I feel as though they would not introduce any information relevant to this narrative. They do, however, perform excellently at presenting the significance of these individual research and development processes as they relate to my academic and professional development. Although I did love the process of developing these solutions, much of my love resided in cybersecurity.

Academic and Professional

From then on, I saw the ability to develop software as a tool that is complementary to my interests and profession. This acknowledgement was the turning point in which I decided I want to pursue a career in cybersecurity, and that is what I did.

I pursued an education in cybersecurity at Old Dominion University, where I took courses that greatly enhanced my understanding of the principles and applications of cybersecurity. Throughout my education, I concurrently pursued industry certifications that

would better quantify my abilities. In this pursuit, I have since acquired the LPI (Linux Professional Institute) LE-1 (Linux Essentials) certification, and the CompTIA A+, Network+, and Security+ certifications. My coursework covered critical interdisciplinary concepts that are invaluable to a cybersecurity professional in the modern digital era, including law and ethics, cybersecurity principles and applications, and the interactions between tech and society. Through truly immersing myself in the coursework and its goal, I have successfully managed to refine my ability to form and articulate valid interdisciplinary research questions in the context of cybersecurity. I have found this experience to be of immeasurable value.

Alongside this, I have been working towards expanding my professional experience. I started a business to help supplement my income for rent and other expenses. The business handles the liquidation and resale of enterprise and consumer electronics. My experience with this business has granted me many opportunities for gaining hands-on experience with the electronics, servers and networking equipment that is constitutional to this current digital landscape.

During this period of hands-on experience with enterprise equipment, my interest caught the attention of a potential employer. Thankfully, I am now employed as a full-time IT Technician at an MSP (Managed Service Provider). Throughout my employment, I have learned an immense amount of information and nuanced/intricate knowledge that I likely could not have gained elsewhere. I am gaining experience with multiple different facets of this industry from software development and researching new technologies to simple hardware repairs and software troubleshooting. I am incredibly grateful for the opportunities granted to me throughout this process and am already reaping the benefits.

Conclusion

This document serves as a high-level overview of the processes and mechanisms that led to my current position. Although this document may serve some benefit for others by providing first-hand experience and insight into the process, much of the benefit/reward is reaped by myself. It has allowed me to reflect on the choices and decisions I have made leading up to this point. With this personal narrative, I highlighted the importance of adaptability and determination in the context of pursuing a role in the technological landscape.

References

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