

CYSE 368 Internship Final Paper

Lukas Ankney

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Employer: Jeff Crawley

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Introduction

I pursued an internship at the Michigan House of Representatives for several reasons, such as obtaining real-world experience in the field of work that I hope to contribute to, learning new computer skills and hands-on knowledge, and seeing how network teams work together on issues and come up with solutions. The beginning of my internship included a tour of the office by my supervisor, greeting my new coworkers in their respective departments; after that concluded, I was told to sit with Matt, a network analyst, and shadow how he works. I spent a lot of time talking with a learning from the network analyst group for the first half of my internship, and they showed me around the various closets around the building and the capital, as well as the datacenter. I did that for a week or two before I was given access to Stormwind and spent a lot of my idle time watching educational videos that are meant to assist with obtaining certifications.

The Michigan House of Representatives where I conducted my internship is, of course, a governmental organization that revolves around politicians; every project or assignment is solely to keep the representatives happy and the facility running. Michigan wrote its constitution in 1835, which included the creation of their House of Representatives, two years before becoming an official state in 1837 (Michigan History Center Staff, 2025). The House consists of 110 elected members from various districts with populations ranging from 77,000 to 91,000 residents. These districts are created based on the population figures through the federal decennial census. The representatives each serve 2-year terms and are elected in even-number years (Michigan House of Representatives, 2025).

I didn't particularly have a training phase during my time at the House; like I said, I was initially just told to shadow some of the network analyst team members and learn what I could. For multiple weeks I didn't work on anything, I just watched those Stormwind videos to get closer to earning my Security+ certification in the future or at least learn more about that topic.

Additionally, I just tagged along with the network analysts whenever they had to drop off physical backups or check out the datacenter/closets. As for orientation, it just consisted of being made aware of policies that were mostly common sense and receiving my badge. My initial impression of the work environment and what the coming month(s) had in store after the first week was positive; everybody in the space was nice, conversational, had similar interests, and were willing to teach me in any way they could. Additionally, it didn't seem like I would have much responsibility, which is both good and bad but mostly good due to the fact that the internship was paid and luckily, I was given more to work on later in the internship that allowed me to learn some things.

Management Environment

I wasn't managed much during my time there; I just went along with whatever my coworkers asked of me and attended whatever meetings my supervisor allowed me to sit in on through a learning lens. Most often, these consisted of the weekly meetings held by the network analyst team to discuss issues and progress on projects to the director of the department; however, there was one particular meeting that was a presentation given by the director of the Information Systems department (AKA my supervisor) to the director of the Business Department, who is his boss. I had to take out my lip piercing in order to be allowed to attend the meeting and, regretfully, I did so because I did not want to miss out on the experience of witnessing how a high-level meeting is conducted. The presentation given consisted of updates on current projects, future projects, and providing statistics in the industry and where their department compares to them.

Work Duties

My responsibilities at the House primarily consisted of reimaging laptops and desktops, occasionally including assisting with user support errands. Reimaging laptops was a simple

process on paper, but there was always some completely unique issue that popped up that nobody had seen before. They were usually simple fixes but were a bit of a headache because they just made the process take longer. Anways, the regular process just consisted of logging into any given laptop on their test account and launching PowerShell as administrator, typing in a migall command that notified the network analysts to wipe it from various software that it's currently registered in, then notify me or any other user supports to run migall /wipe and delete the files on the laptop before reopening it and beginning all of the cumulative windows updates. Desktops were mostly the same deal but required less since they didn't need any credentials wiped, just the updates. The desktops didn't require any credential wiping because they weren't registered in Entra, even though they should be ideally, however that would take too long with the given timeframe for reimaging/updating said desktops. Laptops that came back in from repairs at HP were the most likely to have issues during the reimaging process, often requiring a PXE boot or two or some other workaround in order to get into the laptop and run the proper updates. One other workaround to access a stubborn laptop that I was taught was utilizing the local admin password whenever there was a domain trust issue (.\\) and then checking & altering the domain.

On one occasion, me and another network analyst were tasked with deleting the printer from every individual in a separate office's computers and replacing them with a new printer, since theirs had broken and I got the opportunity to do the process personally. All it involved was navigating to the devices & printers' section of the computer, deleting the old printer, adding a printer, add by name, insert the name of the new replacement printer and then printing a test paper to make sure it worked properly. I learned that problem solutions that require intruding on other employees while they are at work require a certain level of social skill and amicability.

While tagging along with the user support team on numerous tasks, I learned the magic that is unplugging and plugging things back in again, as well as hard resetting desktops by holding the power button for 40 seconds. It's amazing how many problems that can be fixed. One such instance took me and another worker from the user support team up a few floors to assist a sergeant with his laptop display not popping up on his monitor, and a hard reset fixed the issue without a problem. This event also showed me the importance of social skills in the field, since nobody wants help from someone awkward that can't make small talk during the brief wait while the issue is resolved. Another tagalong I did involved an intern's desktop not working properly, so me and a different user support employee went up with a replacement desktop that also proceeded to not work. After swapping them out we learned that the issue had to do with the network switch and the fact that two computers were operating on the same switch, which normally is not the case in the House of Representatives. The issue was then passed along to the network analysts to resolve it.

Skill Applications

I went in with little to no skills in cybersecurity, just knowledge on digital literacy and best practices for maintaining security, simple stuff like not writing down your password, clicking suspicious links, leaving desktop unlocked & unattended, etcetera. During the internship, I was further reinforced on those practices and learned just how important they really are, especially with the sensitive nature of the data in a government facility. On one occasion, I think in my first or second week, I had left my laptop unlocked (despite closing it and thinking it locked automatically) and my coworker opened it and wrote in a text file saying, "FIRST RULE OF CYBERSECURITY: NEVER LEAVE YOUR LAPTOP UNLOCKED." Besides that, I learned more about Bios, PXE booting, BitLocker keys, and local administrator passwords on a network all because of the laptop reimaging responsibility I was given. There were lots of different

complications and learning opportunities despite the task pool being so limited because the laptops were handed in for several different reasons; for example, the simplest ones were simply ones handed in because an employee was terminated or retired, while the desktops with the most complications were often the ones that just came back in from repair from HP.

ODU Curriculum Preparation

Most of the classes I've taken thus far have been coding language related aside from gen-ed courses, so not much of it was applicable in the workspace since I wasn't working with the developer team. I guess it did help a bit since my coworker on the user support team showed me HTML and I wasn't completely lost just looking at it all since I had the prior introduction to coding. Aside from that, the general digital literacy lessons that are continuously taught were the most helpful, but in most cases, those just boil down to common sense (less common for some people that call user support frequently but still).

Goal Fulfillment

My goals as listed in the Memorandum of Agreement at the beginning of the course include becoming familiarized with the day-to-day cybersecurity tasks at the Michigan House of Representatives, configure and monitor Extreme Network Access Controller, configure document confidentiality settings in Microsoft Purview, and scan and monitor MHR assets for security threats using TenableSC. I believe that I fulfilled the first goal thoroughly; I witnessed the network analysts do their thing every day for at least 3/4 of my duration at the House. As for the second goal, I wasn't shown how to utilize Extreme Network, but I did see the network analysts monitor and attempt to mitigate some issues it was displaying, so I'll give that half of a fulfillment point. My third goal, configuring document confidentiality in Purview, was fulfilled to the same degree; I was shown what it looks like, a bit of navigation through it, and some examples of messages on the network that it flagged, but I didn't personally get the opportunity

to learn much in-depth about it since it wasn't part of day-to-day activities. The last goal, scanning and monitoring security threats through Tenable, I did fulfill. In their free time, several of the network analysts would tackle small issues listed on Tenable based on their critical nature and the length of time they've been present, and I was given the opportunity to mitigate a few of them myself. The ones I did were just altering group permissions and involved following a provided file path to find the group, so nothing difficult, but interesting, nonetheless.

Motivating Aspects

The opportunity to learn in a professional environment about what happens behind the scenes on the technical side despite my unqualified repertoire of knowledge motivated me at work to do my best to soak in as much as possible. In addition to that, being able to walk to a comic book & trading card game store on my lunch break also helped me get through the day; right next to this was a Cottage Inn that had \$3 pizza slices and I practically lived off of those on my days at the office, so good. Knowing that there will be good food and something fun later in the day helped motivate me to go to work and do my best, probably more than it should have.

Discouraging Aspects

Nothing was particularly discouraging, the only things I can think of would be the lack of work that was assigned to me or that I am even capable of doing; in addition to that, the walk to the office and back home and the early wake-up hours made me want to show up less, but I did anyways. The only days I missed were the days I was sick, and even then, I went in when I was still afflicted by the lasting cough (taking the necessary precautions not to get anybody else sick, I just felt guilty not coming in).

Challenges

Like I mentioned previously, the walk to and from the office was brutal some days, it was unexpectedly hot up here in Michigan many of the days and the weather was bipolar; there is also a large homeless population in Lansing so I had to deal with being pestered more often than I liked. Within the office though, the only challenges I had to face were my coworkers trying to get me to expand my palette due to my picky eating habits; my coworker on the network analyst team, however, was even worse and didn't eat pizza, pasta, burgers, or any sauces, so I avoided the brunt of that assault. I do not know how that guy lives.

Recommendations

My recommendation to future interns would be to go in and become a sponge. Be sociable and take any and every moment and turn it into a learning opportunity. Every second you're in the office is a chance to observe how someone with a career does their job. Paying attention to the minute details in how they do work is important, like interesting methods of going about finding a solution or just how they like to organize their work. Forming connections is also a great idea, be friendly and speak with everyone because you never know how they can help you in the future, whether it's serving as a reference or acting as a connection that could potentially lead you into a rewarding scenario, like a job or any other possibility, because you never know. Speaking and being friendly also serve to just make the time pass quicker and more enjoyable.

Conclusion

My main takeaways from my time working with the Michigan House of Representatives are that one should always be proactive in their work, constantly seeking out new opportunities to apply yourself rather than just sitting idly by while waiting for a new assignment to thrust itself onto you. This way, you're given more opportunities to prove yourself, to learn, and to gain experiences. Additionally, the importance of socialization; being well-liked and forming

connections with others will serve to cement your position and make people more willing to hear what you have to say, more willing to help you out, and more willing to teach you about things.

My time at the Michigan House of Representatives changed how I view school life at ODU. Before, in my freshman year, I just saw it as a necessary continuation and just drifted along. Now I know that it is a pursuance of what you want to do for the rest of your life, and a more real understanding of the costs that come along with it after having to work to earn money myself for the first time. I will try to be as proactive in school as I should be at work in the future. Keyword is “try,” though.

I plan to take what I learned at this internship and apply it to any future job opportunities or other internships and cross-reference the feedback in the exit interviews to what I received here in order to see if I made any actual improvements or just didn't apply any of the advice I was given. All I can do is try my best with the lessons I was taught by my seniors and hope that everything works out in my future places of employment as well as they did at the Michigan House of Representatives.

Work Cited

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