

IDS 493 Reflective Essay

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IDS 493: Electronic Portfolio Project

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Introduction

For my top three skills I would say that one is operating systems like Microsoft Windows, Unix, and Linux. I have taken a few classes about each one except for Apple systems like MAC OS or iPad OS. I understand how to use command line so I can use Unix without a graphical user interface. I certainly would rather have an interface but I can do fine without one. I wrote a paper about Windows system vulnerabilities that I will go over in the skills section. Another skill I have is in Microsoft Excel. I have not taken any classes with Excel, but I do keep a spreadsheet updated that I am proud of. The third major skill that I have is in writing. I have done a lot of papers working on my degree and usually get high grades on them.

Microsoft Excel

Ball Graph

Excel is a powerful tool that can be used for all sorts of things, even silly ideas. I collect marbles of different sizes and one day I got an idea. I wanted to see how much the volume and surface area increased with each one. I already had the size, surface area, and volume that I calculated earlier for fun. I put the data into Excel and graphed the lines in both mm and cm. I saw the numbers before but the graph makes it clear how they compare.

My Games List

When I was young I decided to keep track of my video games. Every game I had, beat, and used to have I put into a list. For around 10 years or so I used Notepad. That was hard to manage and keep track of things. The games list was not a simple long list of every game I had. I had the system each game was on and the year it came out. I had the total amount of games and how many games on each system. The games I beat list had extra details like did I play on normal or hard

mode. One day I decided to move my newest game system over to Excel to make it easier to manage. At first it was just the Notepad list that I could sort alphabetically and not have to count the number of games manually. Over time I kept adding new features when I understood Excel better. In Excel it is easy to make big changes. Before Excel, I had the games and beat lists in different text files. I combined them into a single spreadsheet. The first column is for the names of the games. Other columns include the year the game came out, hours in the game, did I beat or drop the game, plus a few more. I can look at this one list and see everything for every game. Because each category has a column I can easily sort and filter by anything. If I only wanted to see the games I beat that came out in 2023, I can just set a few filters and done. Something I am proud of is that I have Excel count everything and show the percentage. As of writing this I beat 63% of my Steam games and dropped 8% because I did not like them. Whenever I make a change the table updates.

Running chart

I run 1.5 or 2.3 miles for exercise. That's two or three loops around my neighborhood. I try to run a few times a week when the weather is good and I have time. I needed a third artifact for the Excel skill section so I made a graph of how many times I ran in the last two years. I have an app that I use to keep track of when I have gone for a run. I started using it about 2 years ago. The app can export the data in a CSV file. I opened the file in Excel and modified the data to be usable. I made a chart for the total and for each year then made a function to count how many times I ran.

Operating Systems Unix/Linux/Microsoft

CS 252 - Intro to Unix

This class was important to me because I had no idea how command line or Unix worked. I kept a list of useful commands and how to use them that I can reference when I need a reminder. Some of the commands I saved include ls, mkdir, rm -f, sudo, cp, mv, cd, and cat to name a few. This class had a project each week to test our use of commands. One assignment used the class's virtual machine to check suspicious network activity on a virtual network. I used a nmap subnet scan and saw there were a lot of ARP requests. It looked like someone was doing a sweep to see what was on the network and get the IP addresses.

CYSE 207 - Linux System for Cybersecurity

One assignment from this class had us make new users and set a default password for each one. I used “/usr/sbin/useradd -mk /etc/skel NameofUser” to add a new user with a home directory. Then I used the command “sudo passwd NameofUser” to set a password. I also had to use the “usermod -aG GroupName NameofUser” command to put each user in a group. The last part of the assignment was to set the user permissions using the umask command.

CYSE 280 Windows System Management and Security

I went over this in more detail in my Personal Narrative Essay “My Journey through Cybersecurity” paper. To keep it short I wrote a paper about the vulnerabilities in Windows. The National Vulnerability Database (NVD) is a massive collection of almost every known vulnerability in Windows and Linux. You can use it to check the risk level and known solutions to handle the vulnerabilities. Some vulnerabilities are hard to fix because of how they use intended features in unintended ways. Anti-virus programs can help stop some but not all attacks.

Writing Skills

Paper 1 CIA of Cybersecurity

In this paper I went over the foundation of cybersecurity the CIA. Confidentiality means only the people that need to see the information or data can see the data. You do not want the wrong person looking at the files. Integrity means that the data is what it should be. No damaged, corrupted, or modified without permission files. Availability means that the files and data can be accessed when they are supposed to be. If the system is down during working hours that could be a big loss of time and money.

Paper 2 Frameworks

A framework is like a checklist or outline of how something should be. You can go over the list to see if you missed any known vulnerabilities that have a solution. There could be holes like forgetting to set the right user permissions that you can catch with the list. A step in a framework could be to check what you have then follow the plan. You might have more or fewer systems than you think.

Paper 3 Protecting Availability

For this paper I went into more detail about the A in CIA. Having an offsite backup is a big way to keep the system active. If the main server goes down from losing internet or some kind of failure, you will have a backup for traffic to go to. Setting up firewalls can help with ICMP DDOS attacks by blocking an ICMP flood from overloading the server preventing access.

Conclusion

How were the interdisciplinary methods and theories important to understanding my classes? Not important at all. In fact I never once heard the word interdisciplinary or even disciplinary before my last three classes I needed to graduate. Needing different skills to work on a big project is such a basic concept that I thought it was common sense. I questioned why I had a whole class, IDS 300W, on something so simple. Cybersecurity has so many parts that it is important to get many different ideas. Even physical security can be considered a part of cybersecurity like keeping people out of the server room. I believe that I have a good understanding about a lot of areas in cybersecurity. Some of the skills I went over are just a few examples of what I know and can do.