

ODU ITS Help Desk

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1.Introduction

The question is why did I decide to do an internship with the Old Dominion ITS Help Desk? As a student at Old Dominion University, I had first-hand experiences with issues and struggles when it came to technical issues. In my first semester, I had broken my phone and this caused me to lose my Duo Mobile account. In my moments of chaos, I thought that there had to be some kind of information online to assist with the issues. With 5 minutes of research, I was able to set up another method to solve the Duo Mobile issues. Later that week I ran into dozens of friends having technical issues and I helped most of them. If I was not able to solve the issue then I would send them to the help desk. My entire life I was the household tech support or network engineer. I came from a family that was not raised with a lot of technology so when the late 2000s came around and technology began to run our life I began to help as much as I could. This led to me eventually walking into the help desk and asking some of the student workers their thoughts on the job. One girl said that she enjoyed helping people for the most part. From that moment I knew I could work at the help desk not only learning backend administration but also giving myself experience in my field. The help desk provided that and much more throughout this paper I will be analyzing and describing my time at the Help. I had 4 learning objectives that I wanted to accomplish while at the help desk: Troubleshoot, diagnose, and resolve technical hardware or software issues, Maintain technical documentation and service catalog on the installation of software, configuration of hardware and problem shooting, basic technical issues at the network level: WAN and LAN connectivity, and customer service. Desk. Some of the topics we will cover throughout this paper will be management, duties, skills and knowledge, and the Old Dominion University curriculum.

2.History/Demographics

The organization that I worked for was a branch of Old Dominion's information technology department. Specifically, I worked for the information technology services help desk. Old Dominion University was founded in 1930 as an extension of the College of William and Mary. Upon their introduction as an institution, the Information Technology department was created and the help desk was born. The information technology department is made up of many different departments. The departments are as follows: help desk, Desktop Support, Technical Support Personnel Academic, Technical Support Personnel Administrative, Technical Support Personnel Remote and Engineer, Web Support, Project Management, IT Applications Support, and IT Marketing and Communications. The help desk supports campus students both those located on campus and online. The help desk also continues to provide support for those students who have graduated and are now considered alumni. The help desk offers support to nearly 25,000 registered students at Old Dominion University. This number does not include the staff/faculty that currently work at the school both online/in person and satellite campuses. I was not able to gather the number of staffed employees at the institution. The organization's demographic is broken down to 40.6% white, 34.3% African American, 9.1% Hispanic, 7.3 multi-ethnic, 2.0% Asian, and the remaining 6.7% unknown or international. The organization also is broken down into 44.8% women

and 55.2% men. The age group of students at Old Dominion University varies between 18 - 75 years of age.

Web	Utility	Multimedia	Productivity	Modeling	Media Player	Mathematics	Instructional Tools	Systems	Communication
Google Chrome	7-Zip	Adobe Creative Cloud	Adobe Acrobat Professional	ArcGIS	VLC Media Player	MathCAD	Respondus	Microsoft SQL Server Standard	Remote Desktop
Java	Adobe Reader		EndNote	Autodesk AutoCAD		MATLAB	Respondus Lockdown Browser	Microsoft Windows Server Standard	Zoom
Mozilla Firefox	FileZilla		Google Drive	Autodesk Inventor		SPSS Statistics (Teaching and Research)			
WebDrive	GlobalProtect VPN Client		Microsoft Office	Pearson POM/QM					
WebXtender	Windows 10		Microsoft Project						
	WinSCP		Microsoft Visio						
	WinAuth								

Table 1- Softwares Provided Table

Utilities	Unix	Security	Printing	Instructional Tools	Information	Connectivity/Networking	Email	Account	Comm/Collab
Remote Desktop Connection	LIONS	Computer Policies	MFP	Canvas	ODU Mobile App	Residential Network (ResNet)	Gmail	Active Directory	Adobe
Virtual Private network		Information Security	Local Printer	Web Conference Class	University Announcements		Office365	Canner	Google Workspace
							Shared Email Accounts	Leo Online	Sharepoint

							Outlook	MIDAS	Zoom
								Monarch Key Web Login	

Table 2- Services Provided Table

3. Training

The first two weeks of my internship were mainly focused on completing online courses and reviewing the materials and software mainly used at the help desk. This included 8x8, ServiceNow, OneNote, and many other resources. The course had interactive videos with question-and-answer quizzes at the end of each section. The reading is valuable information about the appropriate ways to use and navigate the resources we are provided. The initial training occurred over the first 20 hours. The most important information I learned at this stage was the 12 checks. These checks were the following: caller, state, duplicate, assignment group, duplicate tickets, call type, CCA, notes, resolution, cc'd, location, and affected course. After this period I began to come into the office and meet the staff in person. After the initial training course was accomplished there was an in-person training that occurred over the next month and a half. The first thing you start doing is shadowing current employees at the help desk. I was rotated through a few different individuals, mostly full-time employees and student leads who have been promoted. Shadowing consists of watching individuals through their day and asking any questions that they have. The main focus at this stage is to learn how the system works and learn how individuals use their resources to resolve problems. In this stage, I asked hundreds of questions to learn as much as possible. Some of these questions included why they resolve the problem that way, how they came to that conclusion, how they balance online resources versus OneNote resources, and also how they went about solving issues that were never seen before. Rotating through different individuals at this stage I believe was important because it gave you different perspectives when it came to solving issues. Everyone had their methods and solutions to a varied amount of problems. The next stage in the training was beginning to work on issues alongside the employees who were experienced. This gave me hands-on experience with the issues I had seen over the last two weeks. At this point, I was in charge of solving the issues or finding the next steps to diagnose the problem. Then I showed my supervisor and had them check for correctness and any changes I should make. If I was given the okay then I would send the ticket out and continue to work through the tickets in the bucket. In this stage, I continued to ask questions and continued to learn as much as possible. This occurred for the next two weeks then after this, I was able to start taking my first calls. These calls were limited to password resets. This gave me experience with working with individuals over the phone in a controlled situation. All the password reset tickets were left for those individuals in training this allowed for the most amount of interactions throughout the day. Finally, I was able to begin taking my calls while still being assisted by a supervisor. This period lasted for another 2 weeks. After this training period was over I began to take calls at the front desk. If I had any questions I was able to ask my fellow employees and supervisors. My initial impression of the help desk was that they saw hundreds of tickets per day. These tickets ranged from simple easy problems to complicated issues. The help desk was the radio tower at the airport where they funneled tickets to the necessary departments and resolved the issues that could be resolved. People made the help desk sound

like a difficult job with tons of tickets. This was true but it stood as one of the most important places to exist and keep things organized. The help desk staff seemed like friendly people that were always willing to help those that needed help.

4. Management

The Management structure at the help desk consists of the help desk manager, the help desk technical lead, the help desk technician, and the information tech. The help desk manager regulates and is in the highest position at the help desk. The manager role is responsible for administrative actions at the help desk. The lead technician is the second-highest position. The lead technician is also responsible for the student employees. They will manage timesheets, create schedules, resolve issues with students, create meetings, and are also available for questions. The technical support technician is in the third highest position; they are in charge of updating OneNote, evaluating students, and updating the help desk with any changes. The information tech works the same as a help desk student employee with some changes like working on special projects and assignments. The structure of management is efficient at the help desk because everyone plays a role in helping both employees and dealing with large incidents. Information is funneled down each role and there are weekly meetings amongst the three highest roles. These meetings are meant to update any information needed and discuss issues and strategies on how to create a more efficient system at the help desk. The technician also plays a large role with student employees. They are in charge of creating tests and quizzes that will test us on our knowledge. This keeps information fresh and provides us with our weakest knowledge. Only the last three positions are out on the floor with the student employees. These positions are asked the most questions and handle any large incidents including providing us with the correct procedures. The management oversees tickets and reports any issues that have not been resolved correctly. At the end of the month, each employee is given a report. This report grades the 11 graded items which are caller, state, duplicate, assignment group, duplicate tickets, call type, CCA, notes, resolution, cc'd, location, and affected course. If one of these items has not been done correctly then it is marked down and reviewed later. The review meeting occurs at the beginning of each month during this time each employee meets with the technician and goes over their report asking and answering any questions they may have. This gives us feedback on our work and provides us with both our strengths and weaknesses. This is important because if I were struggling on one section I would be able to focus and adjust for that.

5. Duties

My duties at the help desk were as follows: students will answer the phone for the help desk and assist faculty, staff, and student with issues in the use of the computer and campus applications, escalate unresolved issues through the ServiceNow ticketing system, perform routine maintenance and cleanliness on office equipment, handle callers issues in the office and over the phone, train new employees, and help with employees questions. Some of my special tasks and responsibilities at the help desk include training

new employees and working on special projects assigned by the supervisors. This included resolving tickets that were sent in overnight and calling back individuals who had requested password reset in the past, I was also in charge of assisting individuals with creating Midas accounts and resetting voicemail pins, I was also assigned tasks such as updating geotags, researching for downed websites and updates that needed to be made on the ITS website. These duties are all important to the organization because they keep the tickets organized. Assisting students, staff, and faculty with issues can range from simple tasks like password resetting to installing software or changing systems. The simple tasks are all completed at the help desk; this leaves hardware or software issues to be solved by departments within the information technology department. The help desk and these tasks prevent these other departments from focusing on simple tasks and keep their ticketing system as organized as possible. We essentially work as the radio tower at the airport sending tickets where they need to be and resolving the issues that don't need to be there. Without this type of structure then the other departments would be busy working on clearing these tickets before getting to the important issues that may prevent staff or faculty from accomplishing their duties. Some of the issues we resolve at the help desk are simple but play a big role in allowing our students and staff to teach classes, get to class, accomplish work, homework, and many other things. Keeping the workspace clean and clear helps with our workflow. Having a messy station has been proven to decrease the work rate of individuals. The special projects are overall important because, from an outside perspective, individuals must have access to up-to-date information on services and software that the ITS department offers. Our links must be up to date and provide the correct information. This is especially important for the geo-locations because this may work as directions for new Monarch students, families, and staff.

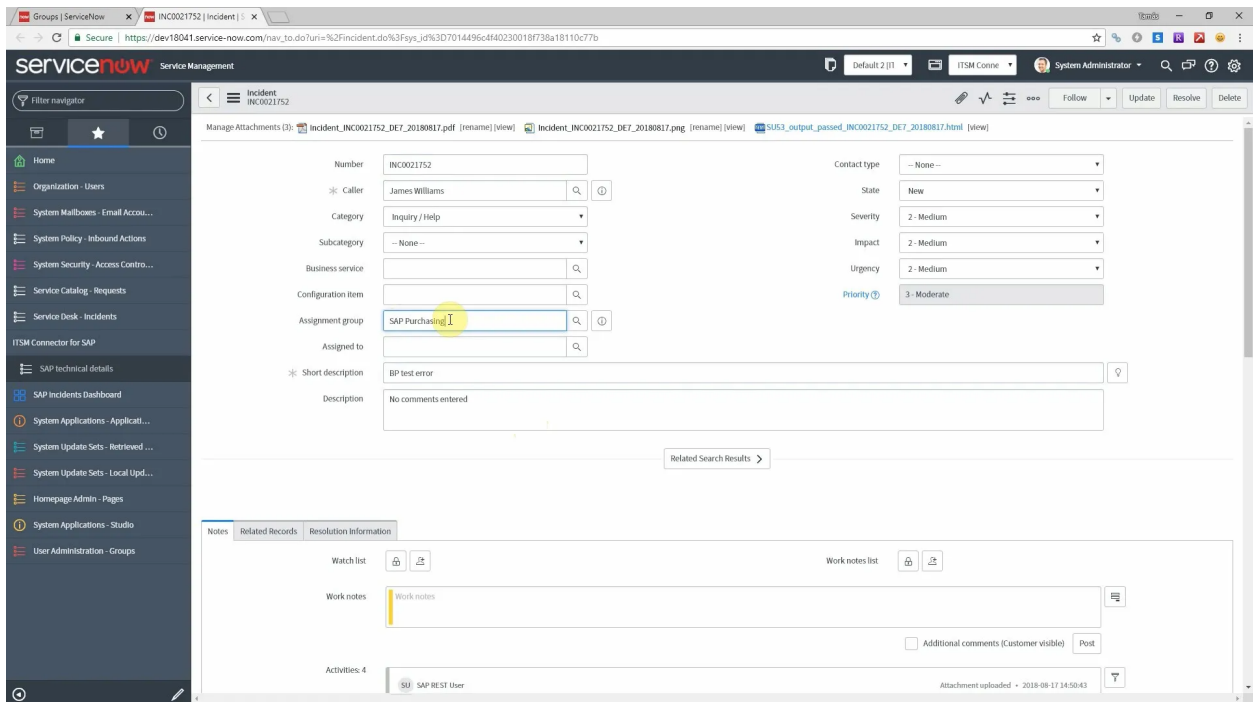


Figure 1- Example of a ServiceNow Ticket

6. Skills/Knowledge

Over the years I have gained knowledge and skills in cybersecurity both in the classroom and in my personal life. Some of the skills I had that were useful in my time at the help desk were knowing how browsers worked, especially when it came to cookies and cache. There were many cases at the help desk where individuals would call us stating that they were not able to log into ODU applications such as email, canvas, Midas, Leo Online, and Zoom. In these cases, the cache would not let them use two-factor authentication to enter these sites. This is because the site had already saved the original two-factor authentication. Then when the callers would come back to the website they would receive an error message stating that the Duo mobile service was unavailable. The solution to this problem would be to clear the cache and cookies and have the caller sign back into the service. Some other useful knowledge that assisted me during my time at the help desk was knowing how two-factor authentication worked. Since when individuals set up their two-factor devices it creates a connection between the device and its unique serial number. This prevents individuals from transferring the application to another device. Many individuals would call us stating that their two-factor authentication was not working because it needed an activation code. In this instance, I would always explain to the caller that the application is linked directly to the physical device and that they would need to reactivate their device to change the physical device. Throughout my time at the help desk, I gained knowledge about software updates and phishing scams. I was able to correlate my skills and knowledge to hands-on work. This helped me understand how it was applied in the real world instead of just concepts. Before working at the help desk I had a lot of experience and knowledge of the Windows platform. During my time at the help desk, I was able to use this to my advantage when it came to issues that occurred within the platform. Some of these issues could be updating software, making system changes, keyboard shortcuts, and network settings. Something that I did learn at the help desk was Mac OS or the Apple operating system. Before working at the help desk I had little to no experience with Apple computers. Throughout my time at the help desk, many students and staff came into the office with a variety of issues. When I was asked questions about the Apple system I would ask my supervisor for assistance but the more I worked with these devices the more I began to understand. By the end of my time at the help desk, I was able to resolve most of the issues regarding the Apple OS.

7. Curriculum

The Old Dominion curriculum prepared me well for this internship. I believe that it provided me with important information that is required to know if working at the help desk. Some of these include the basic concepts of networking and network security. The knowledge of security tokens and physical devices. The network setup for businesses and organizations also played a large role at the help desk. All this information I gained through my time here at ODU. This was not done at the help desk but another department was in charge of doing security analysis on new software and hardware. When new software such as Apple Ventura came out it took the school a few months to ensure that not only was the software compatible with the network but that it was secure enough for the organization to use. I thought this was interesting because the callers would not understand why they couldn't update but it was for a valid reason. Eventually, the new OS was released to the ODU computer, and staff/faculty were able to update

it. In one of my classes, we create concept maps for a grocery store. This concept map created connections between the different resources and sections in the operations. This was interesting to see in play in a real-life example. Although we had learned many concepts in school, many of them I was able to spot using a cybersecurity mindset. An example that I had on a daily occurrence was business-managed computers. In some of my classes, we talked about how organizations manage their computers while still providing the user with enough access to go about downloading software and creating changes. The ODU computers are the same way they allow faculty/staff members to access the necessary options while restricting options that could potentially lead to security risks. Some of these options include downloading software, changing the time and date on computers, changing certain system settings, and accessing websites that could potentially be harmful. The systems would allow users to enter a specific server where individuals could download the most common software. The application was called company portal and the software this application provided were Office 365, Adobe Reader, Adobe Creative Cloud, and many other software. One of the most useful classes that I found was interdisciplinary studies (IDS 300). This is because in this class we learned the importance of collaborating with different individuals from different disciplines. This was especially important when walking callers through the solution to their problem. This is because not everyone has the same knowledge and some individuals have trouble working with technology. To make this process as seamless as possible it was important to use globally known words along with explaining tasks. This alongside using Zoom helped make the process simple and understandable. If callers had questions on why their problem was occurring I used many of the concepts I learned in this class to create common ground and help create bridges between their discipline.

Objectives

The first objective I wanted to accomplish while at the help desk was troubleshooting, diagnosing, and resolving technical issues both hardware and software. This was more than accomplished at the help desk because of the variety of tickets I received and handled. I was exposed to all kinds of interesting hardware and software issues. Some of the software issues I ran into were out-of-date software, corrupted software, inability to access email, inability to access or use Chrome, and corrupted or missing drivers. This list does not represent the entirety of my time at the help rather those issues that stood out to me. I was also able to see and escalate many different hardware issues. These hardware issues include broken mice, broken monitors, broken ports or corrupted hard drives, and computers that were not booting. I did not resolve these issues but rather escalated them to the desktop support team for them to get fixed or replaced. Some people would come into the office with their personal computers that our department would not fix but we would always do our best to resolve or diagnose the issues. In many cases, we were not able to fix the issue but present the caller with solutions or potential shops that could diagnose the issue. The second objective I wanted to accomplish was maintaining documentation and service catalogs on resolutions for troubleshooting. This was important for the help desk and I had tons of practice writing tickets and solutions. Whenever tickets were escalated, these notes would be read by other technicians to continue resolving the issue. Customer service was also another important goal that I had while working at the help desk. This is because most jobs require you to interact with clients professionally. This is something that I had never done before in this capacity. While working at the help desk it was always important to act and interact with callers in a professional manner including in person and over emails. Some cases would get frustrating when callers would not follow directions but it was important to keep calm and reply promptly and professionally. The final objective was to resolve or diagnose network issues

both at the WAN and LAN level. This was also accomplished again because of the variety of tickets that I received. These were interesting cases and would be resolved after some diagnosing.

8.Motivation/Discourages

The exciting part about working this internship was being able to finally apply the knowledge that I had gained throughout my time at Old Dominion University. After a while of learning different concepts and ideas, I felt that I was gonna have to continue to wait until I finally got my first job to fully grasp the concepts. This was true because working at the IT desk helped me concrete my ideas and see how they were used in the real world. Another exciting part of my internship was being able to surround myself with individuals who had time in the industry and had gained knowledge and experience. Throughout my internship, I always asked questions to my peers and gained their insight on the concept and ideas I was learning in class. I asked them about their past positions and experiences navigating the industry. I gained an extreme amount of knowledge doing this and learned a lot about the importance of a healthy work and life relationship. Another motivation for this internship was the possibility of promotion. From the start of this position, I knew that a promotion would have many caveats and benefits. After a few months at the help desk, I was finally able to gain the promotion. The student lead position has many additional responsibilities and tasks but these were motivating because I knew that it would lead to more hands-on work. Especially when it came to learning about the back-end system and how the entire system was set up. An additional motivation for this internship was also being able to help those that needed help. Although this may sound strange I thoroughly enjoy helping people and providing people with solutions to their problems. Like I said at the beginning, my entire childhood I assisted my parents with technology that included setting up computers, cell phones, routers, modems, and plenty of other things. I was always interested in how things worked and how things could be better. This internship gave me that and more. The most discouraging aspects of this internship came when tickets were being escalated. Although I knew how to solve the issue and could resolve the issue in minutes it still needed to be escalated because I did not have the credentials. This created many moments where I wanted to switch positions and move to another department where I could be more hands-on with the resolutions. As a result of escalating tickets, these individuals had to wait until their tickets had been handled by that department. This can sometimes take up to a few days to resolve which many people are not happy with. Other than this I did not have many other discouraging aspects with this internship.

9.Challenges

The most challenging part of this internship was assisting individuals that were not technologically advanced. This could cause me to be on a phone call for three times as long as it should take. It caused me many frustrations. Another challenging part of this internship was when callers would call asking about tickets being handled in other departments. This would create chaos because many of those individuals would want direct contact phone numbers or emails but I could only explain that we do not have direct numbers but rather we communicated through the ticketing system. In some cases, these individuals would ask to speak to supervisors or managers to sort out the issue. In some cases, the individual would be transferred to the supervisor but in other cases, I was able to talk to individuals and

explain how the ticketing system worked. Another challenging aspect of this internship was duplicate tickets. Duplicate tickets occur when individuals send in multiple tickets regarding the same issue. In these cases, we have to close the new tickets and update the original tickets.

10. Advice

Some advice I would give to individuals looking to work at the help desk would be to be patient. Some individuals are calling because they are in a panic in many cases they have work to complete or tests to take. These individuals are highly upset but it's important to remember that they are angry with the situation and not you. If you consider this with every call you can calm the individual and handle the incident without frustration or anger. Raising your voice or getting defensive in many cases just leads to the individual getting more angry and upset. Now you have shifted their frustrations from the situation to yourself. Another piece of advice to potential employees is to use your resources. The staff does an amazing job at keeping OneNote up to date with the latest procedure and common issues. This is the biggest tool in the arsenal. Using past tickets can also be important but ensure that you check a few tickets because the procedure may have been updated since the last incident. Finally, ODU keeps most of their information up to date on their website so don't be afraid to look things up. This may be simple or underwhelming but Google sometimes has solutions that no one was willing to try. A final piece of advice is to get familiar with the Windows platform. It is the most used platform and it's important to understand how to navigate the OS. The biggest piece of advice is that asking questions is never wrong.

11. Conclusion

In conclusion, this internship has given me knowledge, experience, and a network. Working at the help desk has taught me a lot about customer service and how to navigate high-stress situations. The help desk may seem like a waste of funds for some but it stands as one of the most important departments in the ITS department. In this internship, I have also learned not to limit myself to what I am currently doing. Viewing my job from a different perspective has given me so much information and knowledge. Although I worked at the help desk I was able to see the network and research the technologies that are used like duo mobile or the Midas website. If I had limited my perspective to the task at hand I would have not learned as much but viewing the job from a cybersecurity perspective I was able to walk away with many experiences that were essential for my career. While at the help desk, I was also able to interact with individuals from other departments and ask them questions that I had or verify the assumptions I had made. This internship will continue to affect my future professional path in many ways. This job has taught me responsibility, communication, hands-on skills, organizational skills, curiosity, and teamwork and provided me with a plethora of knowledge. Many individuals who work in different departments and industries stated that they had started at the help desk and they were grateful. I will always be grateful for the help desk and the time I spent there.

12.Citations

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