Cyber Eagles Reach Newsletter

Term: Fall
Date: October 28, 2022

Editor: Jake Graves,
Computer Science

Cyber Club Happenings
By: Jake Graves

We have had several fantastic Cyber Eagles meetings this semester that include a variety of topics. We were lucky enough to get a guest speaker from Nettitude to come talk to us about what he does as a Security consultant on October 6th. He also spoke on opportunities for students at Nettitude! On October 20th, we had a panel of Tennessee Tech students to speak about cyber competitions. The students on the panel were all ready to speak about their experience, knowledgeable about the process, preparation, and competition formats. These meetings are an excellent opportunity for cyber students of all experience levels to get more heavily involved in cybersecurity related activities outside of classes.

On October 25th, there was an ethical hacking and social engineering talk given by the WiCyS student chapter. During this meeting, everyone was encouraged to sign up to attend and volunteer at the 2023 Denver WiCyS conference. If you have not signed up or looked at it, we encourage you to check it out! This trip is a great experience for any level of cybersecurity knowledge, and a fantastic time to socialize with your peers in cybersecurity. The link to sign up is in the cyber eagles discord, but the deadline to sign up is October 30th, so act fast!

Our Offensive Cyber Interest Group (OCIG) and Defensive Cyber Interest Group (DCIG) have also been having engaging activities and fascinating talks! On October 20, the offense group met and had a hands-on activity about web exploitation. This started at the basic level, and helped participants work up to more advance scripting and breaking web-based applications. On October 12, the defensive group met and had a lecture about firewalls and their uses. The defense group also met on the 26th, where Evyn Price, a cybersecurity student here at Tech, gave a presentation on cloud security. If you have not gone to any meetings yet, it is not too late! Be sure to go to the next meeting you can catch to jumpstart your cybersecurity education!

QR Codes

Scan this QR to make sure that you do not miss and issue!

Scan this QR code to become a member of the Cyber Eagles

Message from CEROC

There are no shortcuts on the road to success, you must work hard, put in the effort, and then reap the rewards. Continue to invest in yourself, and you will become what you want to be!

~CEROC

Three Tips to Help You Get Better Grades

By: Asia Mckissack

Maintaining high grades in college can be challenging and stressful, and it's disheartening to see your grades lower than what you want them to be. So, here are three tips to prevent your grades from dropping.

The first tip is to change up your study space. Suppose you're having trouble retaining what you're learning, try switching up the atmosphere. This could be as easy as changing rooms or heading to a library. Your grades may be suffering due to the way you study. Pay attention to what distracts you while studying and adjust accordingly, so it's easier to concentrate. The next tip is to rewrite your notes each night. Copying your notes again can help you remember what you learned. While rewriting your notes, try expanding them with concepts you might not have understood fully. In those notes, try to connect what you learned with things you've learned in the past. Also, if you have questions, try writing those down in your notes. Then go back into your textbook and see if you can answer them. If you are still having trouble, go and ask your professor. The last tip is not cramming for tests. I know it's easy to wait until the last minute to study for a test, but it won't help you retain that information in the long run. However, studying a little at a time throughout the semester will help. Once you have finished rewriting your notes, try to go over what you have written and learned during class. In doing so you'll keep everything fresh in your mind and preparing for exams and tests won't be as stressful.

Using these tips will help improve your grades and keep them from dropping. However, be sure to remember that your grades do not define who you are as a person. No matter what, be sure to continue working as hard as you can, and you will succeed!

Cyber Alum Student Highlight

My name is Colin Lafever, I graduated from Tennessee Tech in Spring 2022, with CSC degree and a concentration in Cyber Security. During my time at Tech, I was a part of 5 different organizations that all required a large portion of my time. I did this in order to expand my network and meet new people. Even though I became more committed to Cyber Eagles, ACM, and WiCyS later in my college career, they easily beat the other organizations in networking and diversity. I worked with CEROC starting the summer before my senior year and had the chance to teach highschoolers, college students, and even professors across the country. Since most work was pushed into a remote setting, CEROC was the perfect place for me to learn how to work efficiently from home, and those skills directly applied to my current remote job. I work as a Professional Services Engineer with ZL Technologies, a Zero-Trust Mail Archiving company, where a lot of my work is focused on software migrations and certification. My biggest piece of advice would be to get involved in the leadership of the groups around you, the best way to learn is to teach others.

Colin Lafever

How to Start a Project

By: Jake Graves

Starting a project is oftentimes the most difficult part of the journey to completing it. Whether its building a shelf or coding a software development project, here is a helpful process that might make starting a little less daunting.

The first part of the process is figuring out where the finish line is. You need to understand what the end goal needs to be as much as possible. Creating a criterion, drawing a picture, or even having an example are all ways you can ensure that you will be getting what you want out of your time. Do not be afraid to spend a lot of time on this step, as it will help keep you focused as you work!

Now, we need to gather supplies. This can be physical supplies, or the knowledge to do the project, or both! Finding resources or mentors to teach you how to do certain tasks is essential to getting a product you want. This gathering process will help cut down on frustrations later because you will start with everything you need.

Finally, you just need to put together everything, and you will have finished the final product! do not be discouraged if it doesn't turn out perfectly, especially if it is your first attempt. Remember, the more you work towards something, the better you will get at it!

Cyber Podcast Recomendations

By: Jake Graves

Bored and looking for something interesting to entertain yourself with? Well look no further than some of these podcasts to listen to and learn about cybersecurity!

1. Darknet Diaries
2. Security Now
3. Cyberware Daily
4. Malicious Life
5. The Privacy, Security, & OSINT Show

Google Rolling Out Passkey Passwordless Login Support

By: Asia Mckissack

On Wednesday, Google declared its support for passkeys. Passkeys are the next-generation authentication standard for both Android and Chrome. According to the tech giant, passkeys are a safer replacement for passwords and other phishable authentication factors. Passkeys can't be reused, don't leak in server breaches, and protect users from phishing attacks. This feature was announced in May 2022 as a part of a more significant push to support common passwordless sign-in standards. Passkeys were established by the FIDO Alliance and backed by Apple and Microsoft. They aimed to replace standard passwords with unique digital keys stored locally on the device. Creating a passkey requires confirmation from the end-user about the account used to log in to an online service, followed by using the user's biometric information or device passcode. The principle that powers passkeys are a tool called public-key cryptography, where the secret private key is stored on the user's device while the online service stashes the public key. So, during the login process, a platform that supports passkeys uses the public key to verify a signature and the private key to confirm the authenticity of the user. The most compelling part about passkeys is that they are also browser and operating system-agnostic, which means that an Andriod user can log in to a passkey-enabled website using Safari on iOS, macOS, or the Chrome browser on Windows.

Source: https://thehackernews.com/2022/10/google-rolling-out-passkey-passwordless.html

Cybersecurity Awareness Month

By: Warren Proctor

In acknowledgement of October being cybersecurity awareness month, here are a few basic tips everyone should know and work to educate others on for safe cyber practices. This year's theme is "See Yourself in Cyber" which demonstrates that everyone has a hand in cyber security as it is ultimately all about people. While the following tips may seem elementary, it is easy to get caught up in what you are doing and forget the basics. Also, what may seem like common knowledge to some could be a completely foreign concept to others, especially to those who are not digital natives. First things first, think before you click! If what you are clicking on seems suspicious, it could possibly be a façade used to trick people into downloading malware, or a ploy to get you to reveal personal information. Second, always remember to update your software. This is how holes in your system get patched, so remember to be prompt and keep your software up to date. Third, always use strong passwords, and try not to use the same password for multiple sites. If this seems like a hassle, think about downloading a password manager which will encrypt your passwords and secure them for you. Lastly, enable multi-factor authentication (MFA). A lot of people think that this is a pain to have to deal with because it slows down the log in process and can be inconvenient, but enabling MFA significantly lowers your chances of being hacked as it requires more than just a password to login. In conclusion, while all these things are important to remember for yourself, try to remind others that may not be as tech savvy to consider these tips too when they surf the web.

Source: https://www.cisa.gov/cybersecurity-awareness-month

Security Toolbox

By: Jake Graves

Wireshark

Wireshark is a tool that allows its user to monitor network traffic. It is what is known as a packet sniffer tool that allows for whoever is using it to gather information about not only what is going through the network, but also what vulnerabilities might be in the network. Getting comfortable with this tool can be an invaluable asset to a security testers toolkit, but you have to be careful. Using this tool on a network that you do not own can be considered illegal. You should only use a packet sniffer tool on a network that you own.

Source: https://intellipaat.com/blog/cyber-security-tools/#6

Talks On Your Own Time

Got some time to kill? Here are a couple of resources to let you listen to professionals talk about topics in cyber!

CAE Tech Talk resources

WiCyS Webinar Series

Join Our Community

Have you joined the Cyber Eagles discord yet? We have social events there too! All computer science students are encouraged to come hang out and socialize with their peers. These events range from sports to video games, and they all are with people you will see in your classes! Join us and build a strong community of peers who you can discuss internships, schoolwork, and projects with!

Fun Corner

How do you catch a robot that's on the run?
Use a botnet!

Why do programmers not like to go camping?
Too many bugs!

How do you comfort a hacker after a breakup?
Tell them there's plenty of phish in the sea!

Cyber Student Highlight

Jacob Strickler

My name is Jacob Strickler. I am a second-year M.S. student in computer science: cybersecurity. I completed my undergraduate degree in computer science at Tennessee Tech University in Spring 2021, with minors in social sciences and humanities. I began working with CEROC in Fall 2016, and I have since participated in four GenCyber camps, two WiCyS conferences, the NICE K-12 Cybersecurity Education conference, the ACTE Cybersecurity conference, and various competitions and outreach events. I joined the CyberCorps SFS Program in Spring 2019, interned with DHS-CISA in the proceeding summer, and am currently conducting research in social engineering and cybersecurity education. My hobbies include creative writing, tabletop games, cooking, sparring, reading, and studying languages. In the six years I have spent at Tennessee Tech thus far, I have found that the most fulfilling experiences in my education have been those in which I had the freedom to create my own projects (course labs, programs, escape rooms, CTF activities, etc.), and in which I felt that my work had a meaningful impact on those around me. As computer scientists, we can often spend hours or even days in front of our screens, and it can be easy to forget that it's the world beyond those screens that matters most. It took me a long time to learn how to manage my time effectively and to balance my education with my personal life, my family, and my other pursuits, and I feel wholeheartedly that maintaining this balance is essential in finding health and fulfillment.

Cyber Student Highlight

Lela Gracy

My name is Lela Gracy. I'm from Fayetteville, Tennessee and I'm a sophomore at Tennessee Tech. I have a minor in French and I'm planning on getting a minor in math. I knew I wanted to go to Tech when I took a tour during my sophomore year of high school. Tech has been the perfect university for me. It's big enough that I feel I'm getting the college experience, but it's not too large to where I feel it would be overwhelming.

I knew I wanted to do something within the engineering field, but I wasn't sure what. When Tech talked about its computer science program; it intrigued me. I had done a little bit of programming in high school, but I wasn't sure if I could do it. I decided to go ahead and give it a shot. I've always loved puzzles and looking between the lines to find deeper meanings, so cybersecurity turned out to be an excellent fit for me.

I am currently work at CEROC on re-organizing the state of Tennessee's cybersecurity dual enrollment program for both community colleges and high schools, helping peak future students' interest in cybersecurity and giving them a head start in their curriculum. I'm planning on going into government and working in the defense sector.

A Quick Look into Ransomware
By: Warren Proctor

Often when thinking of ransomware attacks, there is a black-and-white view of the outcome leading to the idea that the attack will be thwarted completely, or the attackers will gain complete control of the system. In actuality, there is a broad spectrum of results to ransomware attacks that depend on a variety of factors, including the skill of the attackers and the level of defense in place. For example, some attackers could be accustomed to targeting companies with low defenses and, therefore, may not be able to successfully penetrate the defenses of a company that stays on top of its security. With that being said, there is also occasionally a factor of luck in play with securing systems. A company usually kept completely on lockdown may have a momentary lapse in their systems that an attacker may encounter. Something else to consider is the different goals an attacker may have when targeting a business. They might have leak-centered goals, which involve stealing data and using extortion to meet their demands, or they could have operation-centered goals, which involve putting a stop to efficient workflow in the company or business. The attacker's objectives will influence the type of attack and, in turn, affect how the cyber team will respond to the threat. While this barely scratches the surface of ransomware attacks, it may spark interest in ransomware responses and the different ways to approach a solution.

Source: **https://threatpost.com/a-guide-to-surviving-a-ransomware-attack/180110/**

Crossword Puzzle

Across:

3. Rules and regulations to prevent intrusion on a network.

5. Detailed list of an application information, system performance, or user activities.

6. Default firewall rule to not allow any traffic in. Always rule zero in a firewall!

7. The process of converting information or data into a code.

Down:

1. Malware that is designed to covertly transmit personal data.

2. Type of virus that disguises itself as something not malicious.

4. Malware designed to hold a computer or system hostage until money is paid.

8. The act of sending a message pretending to be someone else.
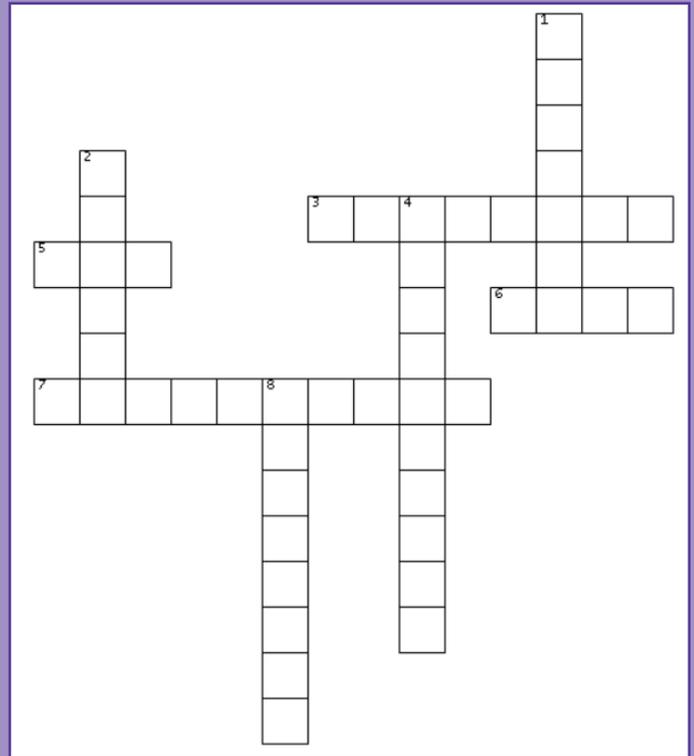
Get Involved in Cyber

If someone were to ask you what you do on campus that relates to your major, would you be able to say anything? Companies are looking for you to not only get your degree, but they also want to see you eager to work and learn in the field of cyber! If you are not involved in anything, you are doing yourself a disservice. Joining any cyber-related clubs on campus will give you a huge advantage in your classes and finding internships and jobs. Plus, our community has many students who have been where you are and can help mentor you to get the internship and job you want! Join our discord to find out when the next cyber interest group meeting is, and apply yourself as soon as possible!

Opportunities

- **Scholarship Application Deadline:** Don't forget to apply for scholarships **before December 15**. All students must complete this application in order to be eligible for Tennessee Tech scholarships in the Fall 2023, Spring 2024, and Summer 2024 terms. Even if your scholarship repeats, you have to reapply every year. Be sure to complete your FAFSA (**https://studentaid.gov/h/apply-for-aid/fafsa**) before applying for aid. If you need any help with learning how to apply, email your advisor and they will help you!