Hondo Cyber Owls
CyberPatriot Team

March 2021
Volume 2, Issue 2

The Cyber Talon

The Cyber Owls: Soaring Through Cyberspace

Since the beginning of the season, our team has had to overcome many obstacles due to COVID-19 and winter storms. Our team members have been quarantined, contracted the COVID-19 virus, and the Hondo City facilities have been closed on occasion. Most small teams might have given up, but we did not. We had virtual practices, shared learning resources, and the team was able to send encouraging messages and well wishes through the Discord server and e-mail. We came together as a team to prepare for competitions. This year our team competed in the Open Division, Gold Tier and ranked 352 nationally and 32d in Texas. This was a fantastic result for a second year team that had four new team members.

During the National Initiative for Cybersecurity Education (NICE) Conference in December, our team Captain, Number 1, took part in the National Cyber Signing Day. He was part of seven students that participated in an internship, externship, apprenticeship, training, and obtained industry certification. The following day, he was part of a cyber student panel which discussed cyber education with Dr. Davina Pruitt-Mentle, Lead for Academic Engagement of the National Initiative for Cybersecurity Education (NICE) at the National Institute of Standards and Technology (NIST).

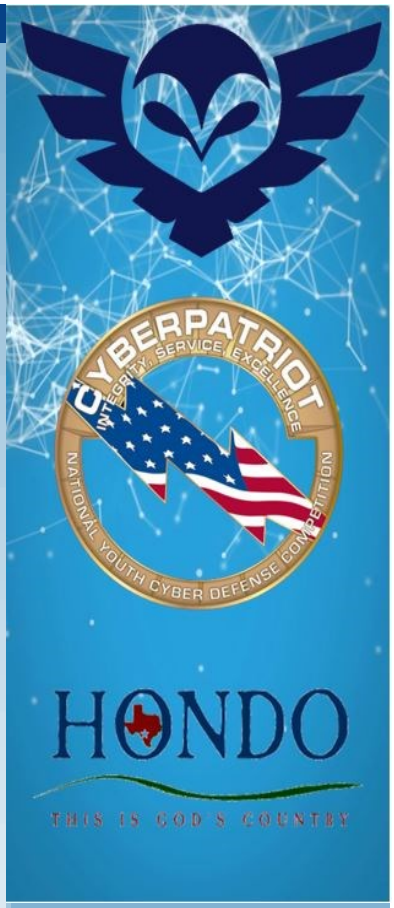
In January, our team was given a CyberPatriot Shoutout in the CyberSentinal, which is the official newsletter of the CyberPatriot National Youth Cyber Education Program. Our team members submitted answers to questions such as what they would like to major in in college, their favorite lesson they learned from CyberPatriot, and some of their funniest team moments. CyberPatriot also posted our September 2020 edition of this newsletter to their website for everyone to read.

Since the end of the CyberPatriot competition, the team has competed in two national Capture the Flag (CTF) competitions. The first CTF competition was the SANS Institute's CyberStart America. Three of our team members (Post-it, Quill, and Number 1) were able to reach the 20% goal to allow them to compete in the CyberStart America National Scholarship competition from April 5th—7th. Congratulations to our team members.

Finally, I would like to thank our two guest speakers, Neferteri Strickland and Shelly Waite-Bey, for taking time out of their Saturdays to join us virtually in Hondo. Mrs. Strickland and Ms. Waite-Bey gave encouraging presentations on leadership and pursuing their goals in education and careers. The team members truly enjoyed listening to their experiences in their military and civilian careers during the Q&A sessions.

Thank you both for inspiring the Cyber Owls to soar higher.

Coach Hall



Inside This Issue

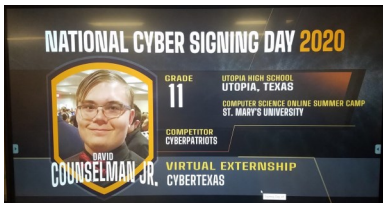
CYBER OWLS

"ALL MY TEAM MEMBERS HAVE NICKNAMES, AND THESE NICKNAMES ARE RELATED TO THEIR PERSONALITIES OR WHAT THEY DO OR LIKE."

NATIONAL CYBER SIGNING DAY 2020

Here is an excerpt from the article that was posted on the conference website.

"WASHINGTON, D.C., December 14, 2020 On Monday, December 7 at 5:45 PM EST, during the 2020 NICE (National Initiative for Cybersecurity Education) Virtual K12 Cybersecurity Education Conference, host organization iKeepSafe aired the third annual National Cyber Signing Day presentation to over 1,000 live viewers.



Featuring seven students from four different states, the 2020 National Cyber Signing Day elevated K12 students' cybersecurity achievements to the level of professional signing days for student athletes. Integrating key elements of high-energy sports events - music, video packages, guest speakers, mascots, special messages from coaches and staff, and inspirational messaging. The presentation also expressed gratitude to the teachers and staff who supported students' aspirations, and encouraged employers to provide work-based experiences for K12 level students. " End of excerpt.

Here are the links to the article and the video presentation .

Article: https://www.k12cybersecurityconference.org/news/2020/12/14/inspiring-the-next-generation-of-cybersecurity-leaders-national-cyber-signing-day-celebrates-high-school-students-achievements

Video: https://www.k12cybersecurityconference.org/2020-national-cyber-signing-day-video

CYBER OWLS IN THE CYBERSENTINAL

THE CYBERSENTINEL
The official newsletter of CyberPatriot—AFA's National Youth Cyber Education Program

As stated on the front page our team was featured in the January 2021 edition of the CyberSentinal . Here are some excerpts from the article. " CyberPatriot would like to give a shoutout to the Hondo CyberOwls, who produce their own Cyber Newsletter, The Cyber Talon. In the September 2020 Issue, stories include Rising to the Challenge, Our Team, Cyber Professionals, Schedule, and Team Info."

"All my team members have nicknames, and these nicknames are related to their personalities or what they do or like. When my twin Mariah and I joined the team, we were told that we would have nicknames as well. Now I do not know if this was done on purpose or not, but my sister and I got related names. Mariah got the name "Post-it" because when she is working on a lab, she has sticky notes everywhere. My name is "Quill" because I take the most intense notes my coach has ever seen. We are pen and paper!" End of excerpt.

To read the full article follow the link below to the CyberPatriot website. Once there the PDF version of the newsletter will appear. The team is on pages 3 and 4.

Link: https://www.uscyberpatriot.org/Documents/CyberSentinels/2021_January_CyberSentinel_FINAL.pdf?fbclid=IwAR0_XkDQxyTBx4RKXo_2BvbHbKXVn5gTTuKZDJ754GZeVY9cgocEWns-gHk

CURRENT EVENTS IN CYBERSECURITY: FLORIDA WATER TREATMENT PLANT ATTACK

Since the beginning of 2021, there have been three substantial cyber-attacks that have affected critical infrastructure and the cybersecurity industry. I will be focusing on the attack that could have caused serious harm or even killed many people in Oldsmar, Florida.

On February 5, 2021, a bad cyber actor was able to successfully infiltrate a supervisory control and data acquisition (SCADA) system at a water treatment facility in Oldsmar, Florida. According to a Cybersecurity & Infrastructure Security Agency (CISA) Alert (AA21-042A), "The unidentified actors used the SCADA system's software to increase the amount of sodium hydroxide, also known as lye, a caustic chemical, as part of the water treatment process." Thankfully the water treatment personnel noticed the change in the amount of sodium hydroxide and were able to take corrective measures to stop the contamination.

The CISA alert continued to list many problems with software and hardware problems that allowed the attacker to manipulate the SCADA system. Here are some of the weaknesses that were found according to the CISA alert and report:

- Poor password security
- Outdated operating system
- Desktop sharing software
- Misconfigured and out of date anti-virus, spam filters

These are examples of a few of the problems that can be found in our practice and competition images. On our checklists we have items to ensure that there are strong security policies in place, unauthorized software is removed, and all updates are applied.

Since I have started coaching and mentoring in 2016, I have often been asked how cybersecurity affects us here in a farming community. My answer is that just like in Florida, there are water treatment facilities that service Medina and Bexar counties that are controlled by computers and SCADA systems. While the possibility of the same cyber-attack happening here is low, the possibility of someone finding and using an exploit is still a real possibility.

Programs such as CyberPatriot, CyberStart America, and Pico CTF are the start of our team members' hands-on training in cybersecurity and can directly transfer to helping to detect and thwart a cyber-attack.

The full CISA Alert (AA21-042A) and report can be found at the following website: https://us-cert.cisa.gov/ncas/alerts/aa21-042a

If anyone has any further questions, please e-mail me at mvhscpteam@gmail.com
-Coach Hall

"THE UNIDENTIFIED ACTORS USED THE SCADA SYSTEM'S SOFTWARE TO INCREASE THE AMOUNT OF SODIUM HYDROXIDE, ALSO KNOWN AS LYE, A CAUSTIC CHEMICAL, AS PART OF THE WATER TREATMENT PROCESS."

"These puzzles will help each team member build skills that are necessary for answering forensic questions that are found in competition."

CAN YOU SOLVE THE PUZZLES?

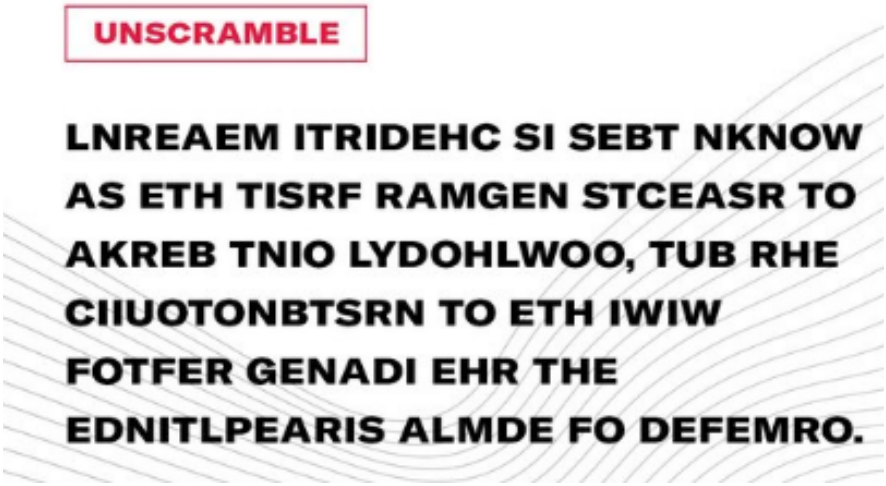
Here is a new addition to the Bits and Bytes newsletter...puzzles. In each edition, I will publish one or two puzzles from various sources. These puzzles will help each team member build skills that are necessary for answering forensic questions that are found in competition.

The puzzles that are displayed below are from the Central Intelligence Agency. The first person to post the correct answer on the teams Facebook page, on the team Discord server, or to send an e-mail to hondocyberowls@gmail.com will get a coin.

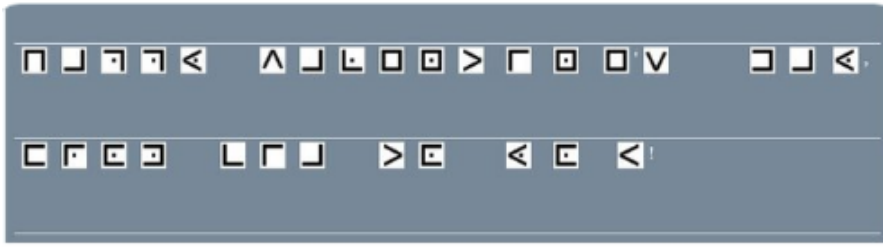
I will use the time stamp from the post or e-mail to determine the winner.

Coach Hall

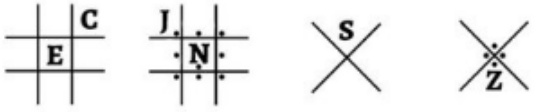
Puzzle 1



Puzzle 2



HERE ARE A FEW HINTS:



HONDO CYBER OWLS CYBERPATRIOT TEAM

WE MONITOR NETWORKS BY SOARING THROUGH CYBERSPACE HUNTING FOR PREY. WE USE OUR TALONS AS A DETERRENT TO PROTECT OUR DATA. USING ADVANCED DETECTION TECHNIQUES, WE SPREAD OUR WINGS AND LAUNCH PRECISE COUNTER MEASURES TO DEFEND OUR NETWORKS AGAINST CYBER ENEMIES. WE FIND, CAPTURE, AND ANNIHILATE ALL CYBER THREATS. WE ARE THE CYBER OWLS!

HONDO CYBER OWLS CYBERPATRIOT TEAM

HTTPS://WWW.FACEBOOK.COM/HONDOCYBEROWLS/

E-MAIL: HONDOCYBEROWLS@GMAIL.COM

ANGELA M. HALL— CHIEF EDITOR OF THE CYBER TALON

ABOUT THE HONDO CYBERPATRIOT TEAM

The Vision

The vision of the Hondo Cyber Owls CyberPatriot program is to promote cyber awareness, computer security practices, and cyber ethics. All of these are essential attributes for creating a secure network infrastructure, teaching the students how to detect threats, and how to defend against cyber-attacks in a safe virtual environment.

The skills and knowledge the students will gain from participating in this program will give them an advantage to obtain information technology certifications, scholarships in computer related fields of study, and ultimately provide an opportunity to start a great career in information technology and cyber security.

The Mission

The mission of the Hondo Cyber Owls CyberPatriot program is the proper instruction and implementation of information technology principals and cyber security practices. All students will be taught how to use various operating systems, interconnecting network devices, and how to secure the entire infrastructure. The students will also be taught how to properly use tools and methodologies to assess and troubleshoot problems that range from inoperable workstations to misconfigured networking equipment. These are the skills that will be necessary to compete in the CyberPatriot competitions and will enable us to advance to each round and ultimately to the national finals.