

LOYOLA BLAKEFIELD CYBER SECURITY

DECEMBER 2023 NEWSLETTER



Foreword

From international travel to meeting with the Secret Service, our students have been hard at work. With LBC2 development in full swing, social media presentations on the calendar, and the Cyber Patriot Semifinal round in our sights, we are excited to show what LBCSI has been working on!

Cyber Battle of Nordic-Baltics 2023

On November 8th, Jack Wachter '24, Teddy Marine '24, Casey Nazelrod '25, Anshul Chelapurath '23, and Cody Smith '21 set off to Estonia for the Cyber Battle of Nordic-Baltics 2023. They landed in Tallinn, Estonia the next day, immediately heading to a meeting with Deputy Chief of Mission, Gabrielle Cowan, in the U.S. Embassy to discuss cyber policy and our participation in the upcoming event.



The Cyber Battle of Nordic-Baltics began at 10:00 am and ran until 5:00 pm. Competitors encountered 3 rounds of competition consisting of Capture the Flag challenges, vulnerable Internet of Things devices, and an active red team vs. blue team scenario. Our team, Loyola Blakefield USA, the sole team representing the United States placed 6th out of 32 teams. Our team was one of three to solve every challenge in the second round. The competition was televised across Estonia and was hosted by a famous Estonian celebrity. After the competition, the team had the opportunity to connect with Estonian highschool student and cyber enthusiast Andreas Kase for a tour through the city. We would like to thank Dr. William Hicken, Loyola class of 1950 for making this incredible experience possible.

LBC2

On March 23, 2024, LBCSI will be hosting the Loyola Blakefield Cyber Challenge (LBC2), featuring our own CTF (capture the flag) style cyber challenge and our all-new international summit. LBC2 will run from 9 AM to 3 PM at Loyola's campus and is open to anyone from grades 8-12 with no prior experience required. If you are interested, please visit lbc2.org to register!

Mission

LBC2 is an event designed by students, for students. LBC2's purpose is to challenge and educate students from around the country on what cybersecurity is,



to pique their interest in cybersecurity, and to encourage friendly competition between peers. LBC2 challenges include an image-based (a Windows or Linux system loaded onto another computer) round, a CTF (Capture the Flag) round, and a red team (a live action hack) round,

featuring an internet of things (IoT) built by members of our leadership team. After LBC2, we hope that all participants will leave with a new interest in cybersecurity and motivation to try something new.

Development

Beginning in August, our Product Developers Henry Craig '24 and Ryan Wachter '26 have been hard at work developing challenges. Some of the challenges will include forensics, programming, web-exploitation, and our own Internet of Things (IoT) city built by members of our leadership team. The day will begin with a free breakfast

courtesy of sponsors, followed by the image based round powered by our sponsor Comtech, consisting of challenges requiring competitors to secure Linux and Windows systems. In addition, we will be serving lunch, again provided by sponsors. Finally, we will move on to the CTF competition, featuring red team challenges in the IoT city and end with the prize ceremony. The deadline to register is March 22nd, 2024, but be sure to sign up as soon as possible at lbc2.org!



IOT City Returns

This year during LBC2, the IoT (Internet of Things) City challenge will be returning! IoT City is a physical miniature city filled with fully functioning hackable targets representing commonly exploited real world devices, such as a billboard. During last year's event, competitors were tasked to exploit similar features for points, but we are completely refreshing the challenges for this year! This year's IoT challenges will feature 5 medium-advanced challenges with a real traffic light, a water tower, streetlights, a security camera, and a billboard!



Thank you Chris Rodriguez

Thanks to the generosity of the family of Chris Rodriguez '13 we are excited to announce the addition of an all new cyber range to LBC2! Chris Rodriguez, the founding member of LBCSI, has provided us with new, powerful server processing equipment allowing us to develop and host Hack-the-Box style and red team challenges for LBC2. In the future, we hope to expand the range to host our LBC2 image-based and CTF rounds. We would like to once again thank Chris for his contributions to LBCSI.

Estonia International Summit

As a result of Loyola's international CTF team returning to Estonia this year, the 7th annual LBC2 will revolve around an international theme. LBCSI is in the process of organizing an exchange program between an Estonian High School and Loyola Blakefield. This collaboration will be seen in the international themed challenges at LBC2. Additionally, the parent track at LBC2 will include presentations about cybersecurity within the context of a global scale. Cybersecurity is an international challenge, and the Cyber Battle of Estonia opened many doors for LBCSI to build global partnerships. We are looking forward to hosting an Estonian student in March to kick off the exchange program!

Air Force Association's Cyber Patriot

On October 19-23 and November 2-6, our middle and high school dongs competed in rounds 1 and 2 of the Air Force Association's cyber security competition, CyberPatriot. CyberPatriot is open to all middle school and high school students, and requires a team of 4-6 people. Teams work to secure Linux, Cisco, and Windows systems. The competition runs from October to March and consists of 5 rounds of increasing difficulty, culminating in the Final Round where the top 12 teams in the country compete for a prize of \$50,000.

After rounds 1 and 2, teams are divided into divisions based on their placement. For the first time ever, all of our teams placed in the highest tier, platinum, and LBCSI teams have swept the top six places in Maryland!

In addition, LBCSI has three teams in the top 25. Team Charlie's Angels is currently ranked 5th out of 3,556 teams and consists of Teddy Marine '24, Jack Wachter '24, Aidan Sachs '24, Michael Litrenta '24, Nate Konkel '24, and Casey Nazelrod '25.

Team Ultraviolet is currently ranked 11th and its members are Ben Frederick '24, Kieran Ellis '24, Jack Anderson '24, James Keller '24, Connor Lockett '24, and Henry Craig '24.

Finally, Team On the Line is currently 23rd and consists of Will Pipkin '24, Matthew Johnson '24, Dimitri Kokkinakos '25, John Villanueva '24, Andrew Alonsozana '24, and Colt Simpson '24.

We are extremely proud of everyone's performance, and we are looking forward to seeing what they have in store for rounds 3 and 4.

Adam Firestone's CyDrive

We are very excited to announce a new partnership between LBCSI and CyDrive, a new data storing and sharing software. CyDrive decentralizes data storage from a dedicated server to users' machines, greatly reducing risk of ransomware and insider threats. Users can share their files with other users to collaborate or limit access to sensitive information. CyDrive's unique structure makes it highly resilient to ransomware attacks through decentralization and continuous backups, allowing clients to restore data quickly without paying the attacker.

Adam Firestone, Chief Engineering Officer of CyDrive and long time friend of LBCSI, has tasked us with testing the software to find bugs and possible problems. As such, all LBC2 development, such as CTF Challenges and Virtual Machines, will be stored and shared using CyDrive! We are very excited to make this shift and our product developers have already expressed increased ease of use compared to previous solutions.

If you or someone you know would be interested in using CyDrive for professional use, please visit their website at cydrive.com and reach out to Stephen Morrill at smorrill@loyolablakefield.org.



Cyber Maryland

On December 6th, LBCSI sent 3 teams to compete in UMGC's Maryland Cyber Challenge. The 4 hour Capture-The-Flag competition consisted of 100 network capture, log analysis, forensic, and exploitation style challenges. Loyola team "Charlie's Angels" placed 1st out of the 38 teams at the event, followed by another Loyola team, "Peptar", in 2nd.

Team Charlie's Angels consists of Jack Wachter '24, Teddy Marine '24, James Keller '24, and Casey Nazelrod '25. Our sophomore team, Peptar, consists of Ryan Wachter '26, Matthew Kocorowski '26, Connor Counselman '26, and Kai Cooke '26.



Guest Speakers

Bill Nelson, Chairman of the Global Resilience Foundation, came to speak in October on his career in finance and cybersecurity. The students and he had a great discussion on the security of ATMs and possible career paths. We all had a great time and learned a lot!

This November, thanks to connections through alum Chip Cooke '92, we were lucky enough to have 2 Secret Service agents and 4 recruiters to talk about careers in the Secret Service! The agents discussed topics such as pig butchering cases, elder fraud, and even protecting the president. After the presentation, many of our dons stuck around to speak with recruiters on possible internship and career opportunities. The presentation was very interesting and we hope to have them back soon!



Social Media Presentations

This fall, Teddy Marine '24 and Ben Fredrick '24 visited Riderwood Elementary to speak to students grades 3-5th on safety online, covering topics such as Snapchat, cyberbullying, and Roblox. "The students were super respectful and had great questions! I hope LBCSI goes back to present next year," said Ben Fredrick.

We are also excited to announce two more social media presentations for the new year! We will be presenting to Harford Day School's 3rd through 5th graders in January, and, in February, to St. Casimir's 5th-8th grade and their parents. If you know of a school that would benefit from a digital awareness presentation (virtual or in-person), please reach out to Mr. Stephen Morrill or our Field Operations Leads (Teddy Marine '24, EJMarine2024@loyolablakefield.org and Jack Wachter '24, JMWachter2024@loyolablakefield.org). We would love to visit new schools and meet new students!



Thank You Sponsors

Thank You to our sponsors on behalf of the entire LBCSI program. We would like to thank all of our partners who graciously invest their resources in LBCSI. We are grateful for your continued support and guidance over the past eleven years. We want to specifically thank our presenting partner: The Edward St. John Foundation and cornerstone partner T. Rowe Price. A special thank you goes out to the Edward St. John Foundation President, Ms. Sharon Akers. We appreciate the continued interest in the development of our cyber students, and we look forward to continuing our work with these sponsors in the future.



Thank you all for taking the time to read this year's December Newsletter! We've been working hard and are excited to keep pushing through the New Year. As always, Roll Dons and Merry Christmas!

We hope you are all doing well and staying healthy.

Thanks again,

Teddy Marine '24,

Jack Wachter '24,

Nathan Porter '27,

Mr. Stephen Morrill,

The entirety of Loyola Blakefield's Cyber Science Initiative

