**Week3 Reflection on Cybersecurity**

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In this week, we learnt from the story time video from Dr. Mclver that frameworks are very important and helpful in the cybersecurity world. Frameworks could serve as foundational guidelines that establish a common baseline for cybersecurity practices across organizations. While the framework itself is standardized, what sets apart organizations in terms of cybersecurity effectiveness is the utilization of talent, informed decision-making, and strategic intelligence within the framework's framework. The frameworks provide a structured approach to cybersecurity that fosters a shared mindset and ensures alignment across teams. The benefits of frameworks include establishing a common mindset, facilitating learning and teaching, and mobilizing best practices. They are used often as invaluable tools for organizations seeking to go through the complex landscape of cybersecurity effectively. Their impact extends far beyond organizations and goes into our daily lives. For instance, consider the financial software we use, developed by ISO 27001-certified contractor companies, or the health information managed by HIPAA-compliant organizations. These standards ensure that the products and services we interact with adhere to strict security protocols, safeguarding our sensitive data and promoting trust and reliability in our daily digital experiences.

I want to express my gratitude to Prof. Jeff for his informative video, particularly focusing on five principles of the cybersecurity architecture. These principles inspire me to think twice where our current secure strategy could improve in the coming future. And I want to highlight three of the five principles: least privilege, defense in depth and KISS. These principles are commonly applied in everyday life. For instance, just as we have multiple keys for different doors and purposes, we maintain various credentials for different online accounts. This ensures that each resource is accessed securely and with appropriate permissions. As both an engineer and an internet user, I strongly believe that simplicity is key to effective security. While it's crucial to protect our data, overly complex systems can confuse users and inadvertently compromise security measures. However, there are also challenges when individuals with good intentions unintentionally breach security protocols. This highlights the importance of continual vigilance and adaptability in cybersecurity practices.

Finally, when we look back to the week3's Coursera course, we would find it very helpful as it provided a comprehensive journey from understanding compliance frameworks to hands-on labs in Linux and Windows security. We acquired essential skills in basic windows/bash commands for user and server admins. Some of them are crucial for identifying vulnerabilities within operating systems. Moreover, we delved into the concepts of patch/change management and endpoint security. These are vital for maintaining up-to-date systems to mitigate cybersecurity threats effectively. A highlight of the course was the in-depth exploration of cryptography and encryption, offering insights into how these concepts impact software security within organizations. What impressed me most was the final project, which equipped us with real-world experience to play as system administrators to handle some common scenarios. For example, we gained practical experience in tasks such as creating and updating users, managing group permissions, and encrypting and decrypting files. Additionally, the Mailvelope extensions introduced us to encrypting email content on the fly. Overall, these invaluable knowledge points have bolstered our confidence in the cybersecurity domain, equipping us with practical skills to address security challenges effectively.

**References**

Matthieu.(2019, April 27). A Detailed Explanation of The KISS Principle in Software. The valuable dev. Retrieved from https://thevaluable.dev/kiss-principle-explained/

Hunt, J.(2023, October 24). What is decentralized data storage? The Block. Retrieved from https://www.theblock.co/learn/251865/decentralization-and-data-storage-in-cryptocurrency