CS 3350 ST: Cybersecurity

Midterm Assignment

Fall 2023 Semester

Date of Assignment: 9/29/2023

Deadline: 10/6/2023 by Midnight

Total points: 150 points

Instructor: Patrik Boloz, M.S.

Assignment Description: In this assignment, you will explore some of the most well-known cybersecurity threats that have impacted individuals, organizations, and governments worldwide. You will be required to choose one cybersecurity threat from the list provided, research the threat, and write a 3-page paper discussing the following aspects:

1) Introduction (Approx. 1/2 page):
• Provide a brief overview of the importance of cybersecurity in today's digital age.
• Introduce the cybersecurity threat you have chosen for your paper.

2) Cybersecurity Threat (Approx. 2 pages):
• Describe the chosen cybersecurity threat in detail.
• Explain how this threat works, its potential impact on individuals or organizations, and any notable historical incidents related to it.
• Discuss any countermeasures or security practices that can mitigate this threat.

3) Conclusion (Approx. 1/2 page):
• Summarize the key takeaways from your research.
• Discuss the evolving nature of cybersecurity threats and the importance of staying informed and proactive in defending against them.

Cybersecurity Threat Options: Choose the cybersecurity threat to research and include in your paper. Here are some popular examples to consider:

1) Phishing Attacks: Explore the world of phishing attacks, including spear phishing and whaling attacks. Discuss how cybercriminals use social engineering to trick individuals into revealing sensitive information or clicking on malicious links.

2) Ransomware: Investigate the rise of ransomware attacks, their encryption techniques, and their impact on both individuals and organizations. Provide examples of high-profile ransomware incidents.

3) Distributed Denial of Service (DDoS) Attacks: Explain how DDoS attacks work, their motives, and the potential consequences for targeted websites or networks. Highlight famous DDoS attacks on organizations or government entities.

4) Malware (e.g., Worms, Trojans, Spyware): Analyze different types of malware, how they infiltrate systems, and the harm they can cause. Mention real-world malware outbreaks and their effects.

5) Insider Threats: Discuss the insider threat landscape, where employees or trusted individuals pose risks to organizations. Provide examples of insider threats leading to data breaches.

6) Zero-Day Vulnerabilities: Explore the concept of zero-day vulnerabilities and their exploitation. Mention instances where zero-days have been used in cyberattacks.

Submission Requirements:

- Format: Typed, double-spaced, 11-point Times New Roman/Calibri font.
- Citations: Use APA or MLA citation style to reference your sources.
- Length: 3 pages (excluding references).
- Submit your assignment in a PDF or DOCX format on Brightspace before the deadline.

Grading Criteria: Your paper will be evaluated based on the following criteria:

- Clarity and organization of content.
- Accuracy and depth of research.
- Proper use of citations.
- Thoughtful analysis of cybersecurity threats.
- Grammar, spelling, and overall writing quality