# Portfolio Reflection

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CS-405: Secure Coding

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Reflect on and include a discussion of the following topics, using readings from throughout the course to support your views.

## Adoption of a Secure Coding Standard and Not Leaving Security to the End

Secure coding is programming with security in mind from the start, this is vital in today’s data centric world. People do everything from planning their vacations to banking online, and all of that utilizes their personal information. It is the developer’s and the organization’s responsibility to protect the user data and to only handle it in the expected manner. “Secure coding makes it easier for developers and programmers to weed out common vulnerabilities in their software by following certain best practices and guidelines, known as secure coding standards.” (Morrow, 2024). The secure coding standards mentioned include a variety of standards regarding data handling, access control, authentication expectations, and the general concepts of secure coding.

Implementing security should start from the beginning of a project, at the point where design plans and details are still being developed. According to the Start with Security: A Guide for Business in 2024, “Start with security. Factor it into the decision making in every department of your business…”. When it says everyone, including not only the developers but the users, company personnel, management, and anyone with access to the network for any reason should also be trained in their security expectations. Keep data encrypted at all times and enforce access controls across the entire network, and default deny access always.

## Evaluation and Assessment of Risk and Cost Benefits of Mitigation

Considering potential risks and planning for handling them if they occur is a vital part of application security. Analyzing known threats relevant to your code and organization can help you minimize damage and impress your customers by demonstrating that their data is safe with you. The cost of a security breach, including the blow to reputation and legal fees, can reach into the millions (Moore, 2025).

## Zero Trust

Practicing zero trust means creating security policies and user roles based only on the minimum level of access necessary to complete the tasks expected. Tony Kueh breaks this concept down into the following five pillars, device trust, user trust, transport/session trust, application trust, and data trust (Kueh, 2020). These pillars are an easy way to remember that security needs to be implemented at all access points and with strict authentication protocols in place. Verifying a user is generally a multifactor ordeal in the current world, so knowing their devices is just as important as knowing their credentials.

## Implementation and Recommendations of Security Policies

Overall, understanding the why of emphasizing security and seeing examples of data breaches has increased my desire to add secure coding to my skillset. In the future, I will continue to follow secure coding standards and encourage the use of appropriate security policies. Security policies identify possible threats to the application and how they could affect the organization, as well as mitigation techniques and breach plans. Furthermore, they define the expectations of all people who will access the system and use associated data, for accessing the system securely, and the consequences of not adhering to the expected standards. These policies should be updated regularly, and security training provided for all personnel.

# References

Kueh, T. (2020, January 17). A Practical Guide to Zero-Trust Security. *threatPost*. https://threatpost.com/practical-guide-zero-trust-security/151912/

Moore, J. (2025, February 5). What is the Average Recovery Cost of Cyberattacks? *elevITy*. https://www.elevityit.com/blog/cost-to-recover-from-a-cyberattack

Morrow, S. (2024, September 19). *What is Secure Coding and Why is It Important?* VPNOverview.com. https://vpnoverview.com/internet-safety/business/what-is-secure-coding/

*Start with Security: A Guide for Business*. (2024, February 14). Federal Trade Commission. https://www.ftc.gov/business-guidance/resources/start-security-guide-business