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# Practices for Secure Software Report

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## Document Revision History

| **Version** | **Date** | **Author** | **Comments** |
| --- | --- | --- | --- |
| **1.0** | **June 28, 2024** | **Peter Quartaro** |  |

## Client



## Instructions

Submit this completed practices for secure software report. Replace the bracketed text with the relevant information. You must document your process for writing secure communications and refactoring code that complies with software security testing protocols.

* Respond to the steps outlined below and include your findings.
* Respond using your own words. You may also choose to include images or supporting materials. If you include them, make certain to insert them in all the relevant locations in the document.
* Refer to the Project Two Guidelines and Rubric for more detailed instructions about each section of the template.

## Developer

Peter Quartaro

## Algorithm Cipher

Artemis Financials algorithm ciphers would be best suited from AES with SHA-256 as a hash function. As it is a proven method of securing vulnerable information from all types of attacks. A brute force attack would be the one of only a few exceptions. Many institutes use this cipher including the United States Government and many major banking systems. This is a testament to just how secure and efficient it is.

Spartans back in 600 BC developed their own encrypting device known as the scytale. This allowed soldiers to send messages back and forth on the battle field. It utilized a wooden rod and straps made from leather. In 1918 Arthur Scherbius created the Enigma which is one of the most well known encrypting tools. It uses disks embedded with keys partnered with an encoding sub table which changed when a key was typed. The enigma was famously used by the Nazis until the code was cracked.

## Certificate Generation

Insert a screenshot below of the CER file.

A computer screen with white text

Description automatically generated

## Deploy Cipher

Insert a screenshot below of the checksum verification.

A computer screen shot of a program

Description automatically generated

## Secure Communications

Insert a screenshot below of the web browser that shows a secure webpage.

A number line with black text

Description automatically generated with medium confidence

## Secondary Testing

Insert screenshots below of the refactored code executed without errors and the dependency-check report.

A screen shot of a computer

Description automatically generated

## Functional Testing

Insert a screenshot below of the refactored code executed without errors.

A screenshot of a computer screen

Description automatically generated

## Summary

After the refactorization I was able to encrypt the data using hash function. Since this is a RESTful application this process enhanced the API security. To ensure the security of the code a try and catch clause was utilized.

Security is absolutely critical in todays technologically advanced world. With so many day to day threats, ensuring the safety of your consumers data is imperative.