# CS 305 Module Two Written Assignment Template

## Instructions

Replace the bracketed text with the relevant information in your own words. If you choose to include images or supporting materials, make certain to insert them in all the relevant locations in the document.

## Areas of Security

After looking at the VAPFD, the areas I think need assessment are in Input Validation and Code Quality.

## Areas of Security Justification

#### Input validation:

This helps prevent attacks from happening by ensuring the data that is input to the software falls within the guidelines. Without input validation bad data could be fed to the program and unexpected results could happen, including experienced hackers compromising security.

#### Code Quality:

Having well written, good quality code allows for easy readability and maintenance of the program’s code. Documentation is of utter importance as it helps describe the purpose of specific sections of the code and what inputs it needs to function correctly. Another aspect of good quality code is code that properly adheres to Object-oriented Programming (OOP) techniques. This includes proper encapsulation which keeps parts of the program locked away from security risks.

## Code Review Summary

I found a security risk in the GreetingController.java file. This area takes code from an HTML input field and can execute it as code. This would allow for what is called a code injection vulnerability.

A black screen with colorful text

Description automatically generated

## Mitigation Plan

I think the best way to handle this scenario is to not pass any type of user created raw data into a function. Sifting through the input and extracting wanted data should be done first. One way of doing this is whitelisting valid and good values. A good rule of thumb is to never trust user input. At any time, harmful or malicious values could be attempted by the user.