

## Project Check-in 2

04/19/2023

### Item 15: Sanitize filename string inputs from user to prevent code injection

Link:

<https://github.com/Masiddiqui0300/CEN3078SecProject/commit/d8a590f2eb3f4872b09900d182d9f68d4b662103>

Explanation: All instances of `std::cin >> [input]` have been replaced with the safer `std::cin.getline()` method. After every time the `getline()` method is used the input buffer is cleared before the next input is called, for added security.

Changes include the inputs for Strings `inFileName`, `outFileName`, `encryptedFileName`, and `messageToEncrypt`.

### Item 16: Handle menu choice char inputs to protect against type conversion code injection

Link:

<https://github.com/Masiddiqui0300/CEN3078SecProject/commit/d8a590f2eb3f4872b09900d182d9f68d4b662103>

Explanation: For the menu choice input, `std::cin >> [char]` now takes a string input instead and has been changed to accept the input through `std::cin.getline()` for input safety. The taken input is shortened to only its first element, as well as the input buffer being cleared afterwards. The menu selection has now been changed to be contained inside a while loop, and an invalid input (numbers, special characters, etc.) no longer ends the program entirely. The input is requested again until a correct response is received.

### Item 9: Accounting: Process includes logging (tracking of changes, user making changes, access attempts, etc.)

By uploading this project to GitHub and choosing to manage it there as opposed to managing it only through a single device (personal PC), the authentication, authorization, and accounting aspects of the project's security have been increased significantly. With GitHub, if I chose to collaborate with other users and expand this project, I have the option to designate them to specific organizational roles with different levels of access to the files for security. Along with that would be the added version control included for each commit logging every change, when the change was made, and who made the change in the code.