

## Project Checkin 1

Security Issue 1: Backup Policy was not in place and VCS not utilized

Solution:

I utilized GitHub to backup my files into a repository and linked it to my IDE so that the code would be able to constantly be updated and pushed to the version control system. This allowed for backups of my code to be in place, in the event of my system failing or a system memory loss. It also allowed for me to add in the CMake file which has the necessary configurations for users to run the program as long as they have the installed libraries. I also didn't realize I had some of the source files already on GitHub but not all of them were on there, causing critical pieces to be missing from the files.

<https://github.com/LkHepokoski/PongGame>

Security Issue 2: All functions were in the main file of the program, allowing for modification and access of the functions with just having the main.cpp file.

Solution:

I utilized a header file to modularize the functions and make the main.cpp file look cleaner. I added a new functions.h file and then moved the functions into there so that way only people who have access to the file can modify the functions, which I will have to add permissions for later so that the file is completely hidden. Now that the functions are in this separate file, I can also reuse them in later code and secure this specific file without having to worry about people messing with the main function although I do need to still slim down main into fewer lines of accessible code.

<https://github.com/LkHepokoski/PongGame/commit/5f3b6d9f2e2b00cd9eac89a1746bb0d78546c8e2>

Future Issues:

1. I will have to add a logging system of some sort to log any errors that might cause the game to crash.

Priority: High

Ease of fix: Moderate/Difficult

2. I will have to update all methods and functions to have more error handling

Priority: Medium

Ease of fix: Moderate/Difficult

3. Add group permissions that allows certain files to be hidden from normal users

Priority: Medium

Ease of fix: Difficult/Not fixable

4. Add physical security such as encryption or other methods to code files on computer

Priority: Medium

Ease of fix: Easy/Moderate