**Code Quality Review Checklist**

This document is to serve as a code review for our final capstone project, to allow us to comment of the quality and state of our code. This document will follow the code review checklist suggested at: <https://nyu-cds.github.io/effective-code-reviews/03-checklist/>

General

* Does the code work? Does it perform its intended function, the logic is correct etc.
  + Yes, our unreal code complies, and packages as intended.
* Is all the code easily understood?
  + We feel that our code can be easily understood by someone with experience in coding with unreal engine.
* Does it conform to your agreed coding conventions?
* Is there any redundant or duplicate code?
  + There is no code that is fully duplicated, unless it is being used for the same function i.e basic punching attacks on different characters.
* Is the code as modular as possible?
* Can any global variables be replaced?
* Is there any commented out code?
* Do loops have a set length and correct termination conditions?
* Do the names used in the program convey intent?
  + We used names that would clearly describe what the function and variables would do.

Performance

* Are there any obvious optimizations that will improve performance?
  + Graphical and performance optimization could be implemented to make for a more enjoyable and smoother gameplay experience, but that was not within the scope of our project.
* Can any of the code be replaced with library or built-in functions?
* Can any logging or debugging code be removed?
  + Logging and debugging code was removed from our final code package.

Security

* Are all data inputs checked (for the correct type, length, format, and range) and encoded?
* Where third-party utilities are used, are returning errors being caught?
* Are output values checked and encoded?
* Are invalid parameter values handled?

Documentation

* Do comments exist and describe the intent of the code?
* Are all functions commented?
* Is any unusual behavior or edge-case handling described?
* Is the use and function of third-party libraries documented?
* Are data structures and units of measurement explained?
* Is there any incomplete code? If so, should it be removed or flagged with a suitable marker like ‘TODO’?
  + No, all of our code was completed based on the functions that we implemented. Any functions that were incomplete were removed to be added in the future.

Testing

* Is the code testable? The code should be structured so that it doesn’t add too many or hide dependencies, is unable to initialize objects, test frameworks can use methods etc.
* Do tests exist, and are they comprehensive?
* Do unit tests actually test that the code is performing the intended functionality?
* Could any test code be replaced with the use of an existing API?