**Alternative Engine C++ Style Guide**

**Taken from VASG C++ Style Guide**

# Basics

## Bracing

Each brace must be lined up with its correspondent pair, even though this extends the vertical length of the file, it facilitates reading and debugging by making blocks of code clearly defined.

|  |
| --- |
| struct Foo  {  // Content  }; |

## Indentation

Each indentation level is 1 tabulation. Spaces should never be used to make an indentation. This is to facilitate code reading for programmers, making the spacing clearer. Qualifiers inside classes must have the same indentation as the class.

|  |
| --- |
| struct Foo  {  Int bar; // One tab indent  };  class Foo  {  public: // No indent needed  int bar; // Normal tab indent  }; |

Indentation goes along with blocks of code inside braces. This includes:

* Class definition
* Function declarations
* If/Else if/Else blocks
* For/While/Do while blocks
* Namespace blocks

## Line Length

The traditional standard is 80 characters per line, this was due to the limitation of the monitors. Nowadays this isn’t a limitation, so we are setting a range that extends from 80 to 100 characters; staying within or lower than this range is preferable so 2 files can be read side-by-side easily.

# Header Files

## The use of *#pragma*

All header files must include a *#pragma once* at the beginning of the file to prevent multiple inclusions of said file. Other than *#pragma once*, no other pragma must be used; this is to avoid compiler errors by including or multiple library inclusions.

## Forward declarations

Use forward declarations of classes to avoid dependencies, by doing this instead of using *#include*, the compiler doesn’t need to recompile the file in case of any change in the intended inclusion.

|  |
| --- |
| // Prefer forward inclusion  class Foo;  // To using an include  #include “Foo.h” |

If the intension is to make an inheritance, the inclusion is allowed and must be made

Comments must ably to these rules. If a comment next to a line of code doesn’t fit within the limits, it is required to put said comment before the line of code, so it can be found easily and so the comment can have space to be sectioned if needed.