**Programming for Computer Games**

Home Assignment 1: Designing and creating a basic 2D game

Q1:

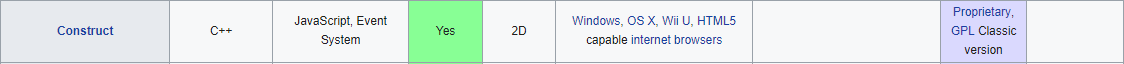
A:

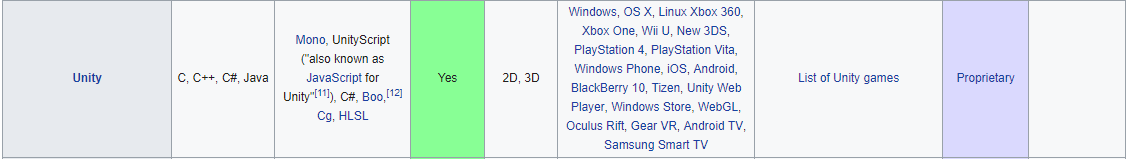
Two game engines are Unity and Construct. Unity was chosen for this project since it:

* Allows both 3D AND 2D rendering, while Construct is only capable of rendering 2D games.
* Has a wider variety of compatible devices than Construct (like Construct, is also cross-platform).
* Can be programmed using C,C++,C# and Java. Construct can only be programmed by C++
* Makes it easy to code scripts (double click to open) and allows linking of scripts to game objects by drag-and-drop.

Comparison between Construct and Unity engines:







*(source:* [*https://en.wikipedia.org/wiki/List\_of\_game\_engines*](https://en.wikipedia.org/wiki/List_of_game_engines)*)*

En.wikipedia.org. (2017). *List of game engines*. [online] Available at: https://en.wikipedia.org/wiki/List\_of\_game\_engines [Accessed 28 Nov. 2017].

B:

Two examples of programming languages used in game development are C# and Java. C# was chosen for the project because:

* It allows object-oriented programming
* It has been developed with C++’s problems in mind
* It is simple and modern
* Its classes and datatypes are common to all of the .NET languages

*(source:* [*http://www.c-sharpcorner.com/article/C-Sharp-and-its-features/*](http://www.c-sharpcorner.com/article/C-Sharp-and-its-features/)*)*

C-sharpcorner.com. (2017). *C# and its Features*. [online] Available at: http://www.c-sharpcorner.com/article/C-Sharp-and-its-features/ [Accessed 28 Nov. 2017].

Q3:

The purpose of compressing media files is to try to keep the overall project size to a minimum by attempting to remove “useless” bytes of data from the files. Compression is “the art of reducing the number of bits needed to store or transmit data” (Matt Mahoney). If no compression was to be applied to game assets/files, the final size of the project would be unnecessarily large, especially if the game designed relies on a lot of these assets. Even Unity’s developers are discussing on “build(ing) a [data compression engine that Unity can talk to better?](http://richg42.blogspot.com/2015/12/how-to-deeply-integrate-data-compressor.html)” (Par 3) in order to make it easier to remove excess data and help make our projects smaller.

*(Source:* [*https://blogs.unity3d.com/2015/12/16/announcing-unitys-new-data-compression-team/*](https://blogs.unity3d.com/2015/12/16/announcing-unitys-new-data-compression-team/)*)*

Geldreich, R. (2017). *The future of Data Compression in Unity – Unity Blog*. [online] Unity Technologies Blog. Available at: https://blogs.unity3d.com/2015/12/16/announcing-unitys-new-data-compression-team/ [Accessed 28 Nov. 2017].