

## ASSESSMENT AND INTERNAL VERIFICATION FRONT SHEET (Individual Criteria)

Course Title	Advanced Diploma			Lecturer Name & Surname	NEIL AQUILINA	
Unit Number & Title		Programming for Computer Games				
Assignment Number, Title / Type		Research and Design – Home (24 Hours)				
Date Set		18/12/2020	Deadline Date	19/12/2020		
Student Name	Brandon Graham		ID Number	68202L	Class / Group	4.2C

<input checked="" type="checkbox"/>	<b>Student's declaration prior to handing-in of assignment:</b> ❖ I certify that the work submitted for this assignment is my own and that I have read and understood the respective Plagiarism Policy
<input type="checkbox"/>	<b>Student's declaration on assessment special arrangements (Tick only if applicable)</b> ❖ I certify that adequate support was given to me during the assignment through the Institute and/or the Inclusive Education Unit.
<input type="checkbox"/>	❖ I declare that I refused the special support offered by the Institute.
Student Signature:	Brandon Graham <span style="float: right;">Date : 18/12/2020</span>

Assessment Criteria	Maximum Mark	Mark Achieved
KU1: Identify and describe different game engines for different tasks	5	
KU3: Describe file types for media assets	5	
KU4: State the relevance of compression settings in media assets	5	
SE1: Design and specify the details of the game to be developed, including a state machine	10	
Total Mark	25	

### Assessor's feedback to student

(If necessary, use reverse side of page for IV feedback on assignment brief / sample of assessment decisions)

	Name & Surname	Signature	Date
Internal Verifier : Approval of <u>assignment brief</u>		For approval signature, please refer to electronic audit trail	
Lecturer / Assessor : Issue of results and feedback to student		For approval signature, please refer to electronic audit trail	
Internal Verifier : Approval of <u>assessment decisions</u> (Sample)		For approval signature, please refer to electronic audit trail	
Learner's signature upon collection of corrected assignment.			

Assessment Criteria
KU1: Identify and describe different game engines for different tasks
KU3: Describe file types for media assets
KU4: State the relevance of compression settings in media assets
SE1: Design and specify the details of the game to be developed, including a state machine

## Home Assignment 1: Research and Design (24 hours)

### Task 1:

1. Unity:

This Game Engine uses C#, UnityScript and Boo as programming languages in it.

Lara Croft Go is a game made with Unity.

Unity is both a 2D and 3D game Engine.

2. Unreal Engine:

This Game Engine uses C#, C++ and JavaScript as programming languages in it.

The Gears of War series are games made with this Engine.

Unreal Engine is both a 2D and 3D game Engine.

3. GameMaker:

This Game Engine uses GameMaker Language (Commonly liked to JavaScript and C-like languages) as a scripting language.

Super Crate box is a game made with this Engine.

GameMaker is both a 2D and 3D game Engine.

4. Godot:

This Game Engine uses C# and C++ as programming languages in it.

TailQuest: Defence is a game made with Godot.

Godot is both a 2D and 3D game Engine.

5. AppGameKit:

This Game Engine uses AGK (a basic dialect with some C++ style features) as a Scripting language.

Rush to adventure is a game made with this game engine.

AppGameKit is both a 2D and 3D game Engine.

### Task 2:

#### A:

JPG: is a raster format that is normally used for pictures online. JPG files are web friendly and they are normally small in size.

PNG: is an uncompressed raster image format which is commonly used on the internet. PNG can display transparent backgrounds.

GIF: is a file format that supports both static and animated images. GIF file formats can also display transparent backgrounds.

B:

MP3: is a compressed audio file format used for digital audio. Normally MP3 files sound like the original recording but take up less disk space.

WAV: is a raw audio format. It uses containers to store audio data, track numbers, sample and bit rate. WAV files are uncompressed lossless audio and take up a lot of space.

Task 3:

- a. Image compression is when the size in bytes of a graphics file is reduced without lowering the quality of the image to an unacceptable level. By reducing the file size more images can be stored in the same amount of space and it also reduces the time taken for an image to be sent over the Internet or Downloaded from a website. Compression results in cost savings as compressed files require significantly less storage capacity than uncompressed files which results in decreasing the amount of storage hardware expenses. For internet proposes the two most common ways that images are compressed are JPG and GIF.
- b. The threshold control sets the level at which the compression effect is engaged. Only when a level passes above the threshold will it be compressed. When the level doesn't pass the threshold, no compression will take place. The "knee" refers to how the compressor transitions from the non-compressed and compressed states of an audio signal running through it. Normally, compressors will offer one, or in some instances a switchable choice between both a soft knee and a hard knee setting. Some compressors will even allow you to control the selection of any position between the two types of knees. When an audio file is compressed two values of time are taken. These are the attack time and the release time. Attack time is the time it takes for a signal to become fully compressed after exceeding the threshold level. Release Time is the time it takes for a signal to go from the compressed state back to the original non-compressed signal.

