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	Ethan Scicluna	**ID Number**	**0049602L**	**Class / Group**	**MSD-4.2B**

☒	*Student's declaration prior to handing-in of assignment:* ✞ *I certify that the work submitted for this assignment is my own and that I have read and understood the respective Plagiarism Policy*
☐	***Student's declaration on assessment special arrangements (Tick only if applicable)*** ✞ *I certify that adequate support was given to me during the assignment through the Institute and/or the Inclusive Education Unit.* ✞ *I declare that I refused the special support offered by the Institute.*

Student Signature:	Ethan Scicluna	**Date :**	**18/12/2020**

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 *assignment brief*		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 *assessment decisions (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

Task 1: Game Engines (KU1)

Unreal Engine

- Unreal Engine is written with the C++ programming Language.
- Star Wars Jedi: Fallen Order was created with Unreal Engine.
- Unreal Engine is a 3D engine.

Unity

- Unity is written with the C++ and C# programming Language.
- Pillars of Eternity was created with the Unity Engine.
- Unity is both a 2D and 3D engine.

REDengine

- REDengine is written with the C++ programming Language.
- Cyberpunk 2077 was created with the REDengine Engine.
- REDengine is a 3D engine.

Construct

- Construct is written with the C++ programming language.
- MOBS Inc was created with the Construct game engine.
- Construct is a 2D Engine.

GameMaker Studio

- GameMakerStudio is written with the GML programming language.
- Hotline Miami was created with the GameMaker Studio.
- GameMaker Studio is both a 2D and 3D engine.

Task 2: File types for media assets (KU3)

JPG

JPG is a compressed image format to contain images on digital cameras and on the Internet. It can compress images to make the file size smaller, but still be able to keep the detail.

PNG

PNG is a file format that supports lossless data compression, allowing images to be compressed with no loss in quality when it is used.

GIF

GIF is a lossless image format for images both static and animated support. Though it is commonly used for animated images mostly.

WAV

WAV is an audio file format to store music on PCs, typically Microsoft Windows systems for raw and uncompressed audio.

MP3

MP3 is an audio file format to store music that is lossy compressed to encode data and reduce file size.

Task 3: Compression in multimedia (KU4)

Image Compression allows an image file to minimize it's size of bytes to allow space on a disk, while trying to no degrade the quality of the image. It is a useful tool, since some images can be quite large and waste space on any HDD or SSD. Though there are two types of image compression, lossy image compression, which loses some of it's detail in image quality, but does significantly reduce the size and lossless image compression that reduces the size without losing any detail on the image.