MCAST
Technical College

INSTITUTE OF INFORMATION
AND COMMUNICATION TECHNOLOGY

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	Gianluca Amato	**ID Number**	0344803L	**Class / Group**	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:	GA	**Date :**	19/12/2020

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)

Task 1: Game Engines

- Unreal Engine 4

1. Unreal Engine 4 uses C++ and Blueprints
2. A game made using Unreal Engine 4 is Fortnite
3. It can be used for both 2D and 3D Games

- RPG Maker

1. RPG Maker uses JavaScript and Ruby
2. A game made using RPG Maker is Yume Nikki
3. It can be used for 2D Games

- Creation Engine

1. Creation Engine uses C++
2. A game made using Creation Engine is The Elder Scrolls V: Skyrim
3. It can be used for 3D Games

- Dunia Engine

1. Dunia Engine uses C++
2. A game made using Dunia Engine is Far Cry 3
3. It can be used for 3D Games

- Flare3D

1. Flare3D uses ActionScript 3
2. A game made using Flare3D is Farmville
3. It can be used for 3D Games

Task 2: File types for media assets

A. JPG, which stands for Joint Photographic Group, is a raster format is widely used as a compressor to compress images and reduce their file size. JPG type images are faster to load but typically lower quality than PNG format images. This is because JPG images are lossy, which means they lose detail upon being compressed.

   PNG, which stands for Portable Graphics Format, is another widely used raster format that is used to compress images. However, PNG files are lossless, which means that they don't decrease in quality when compressed. PNG can also support transparency, which JPG cannot. The downside to PNG files being lossless is that they have an overall larger file size.

   GIF, which stands for Graphics Interchange Format, is another lossless format. The difference is that GIF files support both static and animated images. Due to GIF also being lossless, GIF files suffer from having a larger file size than, for example, a JPG file. GIF Files are very popular due to being one of the only formats to support animations.

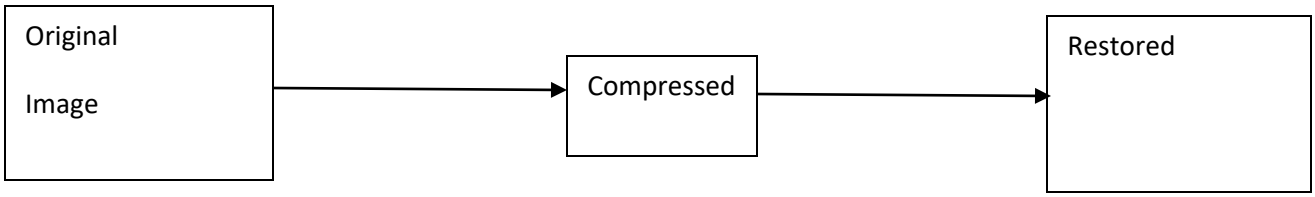
B. The MP3 File format, which stands for MPEG Audio Layer-3, is a format which compresses audio. It is a lossy format, which means that audio loses some quality every time it is turned into an mp3 and back. In return, the file size is massively reduced, for example, lowering a 30 mb song to 3 mb.

The WAV Format, which stands for Waveform Audio File, is also a format which compresses audio. It is a lossless format, which means that audio does not lose quality when compressed into wav format. However, due to this, WAV files have a large file size which can take up a lot of space.

Task 3: Compression in Multimedia

Compression is very important in images, as it allows the user to have more images stored, due to the reduction of file size that comes with compression. Compression also allows the user to send and/or download images at a higher speed due to the reduced file size. In other words, compression increases efficiency and reduces the needed storage hardware and use of bandwith, which results in lower costs and expenses. This also means that websites can make use of more images without needing to worry about how much bandwith it will consume from the user and how long it will take them to load the website.

Lossless



Lossy