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	Nicole Deguara	ID Number	330501L	Class / Group	MSD 4.2A

[X]	*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:	N.Deguara — **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

Task 1: Game Engines (KU1) – 5 marks

Unity

- Programming Languages: The primary language used is C++ but there are other scripting languages that can be used such as C# and Bolt (Visual Scripting).
- Game programmed via Unity: Club Penguin Island.
- 2D/3D Engine: It has both 2D and 3D Engines.

Gold Box

- Programming Languages: The primary languages of this engine are Pascal, Assembly, C, and C++
- Game programmed via Gold Box: Champions of Kyrnn.
- 2D/3D Engine: It only uses 2D Engine.

MonoGame (XNA)

- Programming Languages: This game engine only uses one language, which is C#.
- Game programmed via MonoGame: Terraria.
- 2D/3D Engine: It uses both 2D and 3D Engines.

Game Maker Studio

- Programming Languages: The primary language is GML, but other languages used are JavaScript and OpenGL Shading Language, which is based on the C language.
- Game programmed via Game Maker Studio: Forager.
- 2D/3D Engine: Uses both 2D and 3D Engines.

Unreal Engine

- Programming Languages: Like Unity, the primary language used is C++, but it also has a visual scripting system called Blueprints.
- Game programmed via Unreal Engine: The Sinking City.
- 2D/3D Engine: Unreal Engine only has a 3D engine.

Task 2: File types for media assets (KU3) – 5 marks

Image Formats

JPG: This image format is a type of compressed file that was mainly developed by the Joint Photographic Experts Group. It is a raster image file and is most commonly used for storing photos on digital cameras as these cameras used them to save these images via JPG.

GIF: The name GIF stands for Graphics Interchange Format and is a lossless compression file that was developed by a group of employees of CompuServe. It is a raster image file and are mostly used in web graphics and for showing photos. There are also animated GIFs that store small animations.

BMP: Stands for Bit Map, which is a type of raster image file and is considered to be an uncompressed file that was created by Microsoft. This image format is mostly used to store 2D digital pictures.

Audio Formats

WAV: WAV stands for Waveform Audio File Format. This audio file format is one of the most common digital file formats for storing waveform data. These files are mostly audio recordings and is mostly used to save uncompressed audio files.

OGG: OGG is a type of audio file that is similar to an MP3 audio file, however some claim that the quality of sound is better than an MP3 file. It is a compressed file that is used for storing audio data.

Task 3: Compression in multimedia (KU4) – 5 marks

The importance of compression in images (100 words)

The compression of images is important since the image's size will be drastically reduced and the user will be able to send the desired image via social media or email, some of which have an imposed size limit of what to send over their platform. Therefore, image compression would enable someone to send more images over Facebook or Outlook than they would have otherwise been able to. Image compression is also used by website owners when adding pictures on their platform, as the lesser the image size the faster the website loads, which helps in improving the website's user experience.

Diagram showing how compression in audio files work