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	Peter Sheeehen	**ID Number**	**0003002(L)**	**Class / Group**	**MSD4.2C**

■	*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:	P.Sheehen	**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 (24 hours)

Task 1: Game Engines (KU1):

- SpringEnigne
  - Uses C++
  - Games using SpringEngine: Kernel Panic
  - Uses 3D

- Unreal Engine
  - Uses C++
  - Games using Unreal Engine: Tekken 7
  - Uses 3D

- Vicarious Visions Alchemy
  - Uses Lang
  - Games using VVA: Guitar Hero
  - Uses 3D

- Source2
  - Uses C++
  - Games using Source2: Dota 2
  - Uses 3D

- Rockstar Advanced Game Engine
  - Uses C++
  - Games using RAGE: Grand Theft Auto V
  - Uses 3D

Task 2: File types for media assets (KU3)

a)

- SVG
  - For 2D graphics, XML is used. The data stored for an SVG file is text/numbers related to the anchor point and paths.

- GIF
  - Perfect for keeping graphics, such as icons and shapes, with few colours. Mainly used for animation and transparency.

- PNG
  - It is a successor of GIF. Supports 8-bit colour, 24-bit and 48-bit true colour.

b)

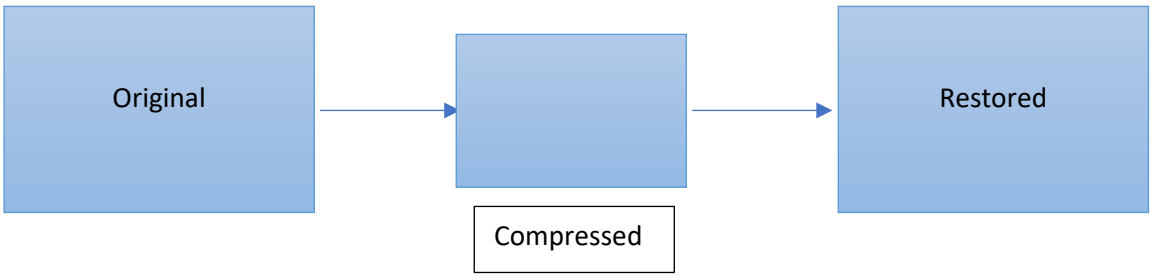
- MP3
  - Lowers the size of an audio file, making it easy to retrieve the file from the Internet.

- WAV
  - One of the simplest file formats used to store audio content that can play uncompressed digital audio.

Task 3: Compression in multimedia (KU4)

a) The importance of compression in images is so to decrease the file size meaning it would take up less storage capacity in server or storage device. If you want to decrease the file size drastically but don't mind losing any of the quality of the image use a lossy compression but if you want to retain the same quality of the image, use a lossless compression. In addition, it is important to understand image types, file types, image compression formats and how the quality changes when it comes to image compression to use the best compression scheme for your file.

b) Lossless:



Lossy: