



	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 (Sample)</u>		For approval signature, please refer to electronic audit trail	
Learner's signature upon collection of corrected assignment.			

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

## Task 1: Game Engines

- 4A Engine
  - A programming language/s used: *C++*
  - A game programmed using this engine: *Metro Exodus*
  - 2D or 3D: *3D*
- Adventure Game Studio
  - A programming language/s used: *C++*
  - A game programmed using this engine: *Blackwell*
  - 2D or 3D: *2D*

3. Blend4Web

- A programming language/s used: *JavaScript, Python, C, C++*
- A game programmed using this engine: *Experience Curiosity*
- 2D or 3D: *3D*

4. Dark Engine

- A programming language/s used: *C++*
- A game programmed using this engine: *Thief: The Dark Project*
- 2D or 3D: *3D*

5. GoldSrc

- A programming language/s used: *C, C++, Assembly*
- A game programmed using this engine: *Counter-Strike*
- 2D or 3D: *3D*

## Task 2: File types for media assets

a)

- JPEG stands for Joint Photographic Experts Group. It is one of the highly used raster formats. It makes a big difference when reducing the sizes of the images. It also does not support transparency in the pictures.
- PNG stands for Portable Network Graphics. Also, a very common raster image format. It uses lossless file compression, so these pictures have higher quality. It is used mostly since it supports transparency in the pictures.
- SVG stands for Scalable Vector Graphics. This one, unlike JPEG and PNG is vector format. This type of format is made of text. It supports animation.

b)

- AAC stands for Advanced Audio Coding. It does lossy digital audio compression.
- WAV stands for Waveform Audio File Format. It uses lossless file compression unlike AAC.

## Task 3: Compression in multimedia

- A. Compression of images is used to reduce disk space of an image. There are two types of compression, lossy and lossless. When lossy file compression is used, some data will be lost and image will have less quality, but compressed file will use a small amount of disk space and it will make a big difference when having a lot of images. While using a lossless file compression, no data will be lost, and the quality will remain more or less the same, but the compressed file will take way more disk space than lossy file compression.

B.

