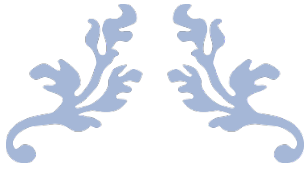

PROGRAMMING FOR COMPUTER GAMES

Home Assignment

DECEMBER 18, 2020

Ilario Cutajar 4.2C

Task 1

Game Engines (KU1)

1. Unreal Engine –

   Programming Language Used: C++
   Game Programmed in this Engine: Killing Floor
   Engine Type: 3D

2. Unity –

   Programming Language Used: C++
   Game Programmed in this Engine: Pokemon GO
   Engine Type: Both (Even 2.5D)

3. GameMaker –

   Programming Language Used: GML
   Game Programmed in this Engine: Katana Zero
   Engine Type: Both

4. Irrlicht –

   Programming Language Used: C++
   Game Programmed in this Engine: Gekkeiju Online
   Engine Type: 3D

5. OGRE –

   Programming Language Used: C++
   Game Programmed in this Engine: Torchlight
   Engine Type: 3D

Task 2

File types for media assets (KU3)

3 types of chosen image formats:

PNG –

Portable Network Graphic is a raster graphics file format that works with lossless compression methods. It has a maximum Colour Depth of 48bits. Grayscale is also supported that is why it gives it the access to make the background transparent.

BMP –

Bitmap image file is a raster graphics file format that stores itself without the use of other software alone inside Windows. It stores 2D images digitally both with colour and monochrome. It does not have compression and has a colour depth of 32bits.

GIF –

Graphics Interchange Format is a raster file format that stores graphics that have a few colours such as logos, diagrams, and shapes. It supports animations and transparency. It is also used a lot for logos because that it uses lossless compression.

2 types of audio chosen formats:

MP3 –

MPEG Audio Layer-3 is one of the more popular file formats to save audio because of how effective the compression is, and it also retains the quality of the audio. It uses lossy data-compression which allows it to be reduced in a large ratio and still maintains some of the quality.

WAV –

Waveform Audio File Format is one of the more standard audio file formats used on Windows. It stores most of its data in group of chunks that is uncompressed audio however it can also store compressed audio.

Task 3

Compression in multimedia (KU4)

[A] The Importance of Compression in Images

Compression is the concept of reducing a file's size into the smallest possible state while retaining the quality of the file.

This is essential because the more pixels you have on an image the bigger the size therefore compression is a must for these times because we have reached a point where we take very high-quality images even through our phone.

Websites such as 'Facebook' use compression on every single file that is uploaded by them and the users because they have limited space on their Server, therefore every amount of compression must be used.

Without compression cost for these servers and storage devices will be much higher, therefore it is important.

[B] How compression for audio works

Compression in audio works in the same concept as other methods of compression however with some differences.

For compression in music, the dynamic range is the difference between the quietest parts and the loudest parts of the file.