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Game Engine Design & Implementation – Individual Assignment 1 Report

Commands:

- W, A, S, D Keys: Move Cube
- K Key: Load Position
- L Key: Save Position

How it works:

The necessary functions are created in C++ and are then wrapped into 'DLL Tutorial 2'. A C# script is then created and linked to the Cube GameObject in Unity, which will allow both the C# and the DLL to read functions and variables from each other

Saving:

1. When the player presses 'L', the XYZ position of the cube are stored into three separate float variables
2. The setX/Y/Z() functions are then called, which allows the DLL to gather and store the XYZ values that will be written to the 'Position' text file
3. The C# script then calls the SavePos() functions, which opens the text file that was referenced by the C# script in Unity. Once the text file is open, the XYZ float variables are converted to 'char*' and are then written to the text file

Loading:

1. When the player presses 'K', the LoadPos() function is called from the Unity C# script, which simply opens the text file and then reads the XYZ 'char*' variables that were stored by the SavePos() function
2. The getX/Y/Z() functions are then called, which allows the DLL to store the values that were read from the LoadPos() function. The values are then passed onto the Unity C# script and are stored as floats
3. The cube's position is then set to the XYZ positions that were stored from the previous step

References:

- *C++ Code and C# Code from 'Tutorial 3 – Example Project' | Provided by Tom Tsiliopoulos / Rob Savaglio*
- *C++ Code and C# Code from 'Tutorial 2 – How to make a simple plugin' | Provided by Tom Tsiliopoulos / Rob Savaglio*