Technical Report for Assignment 1

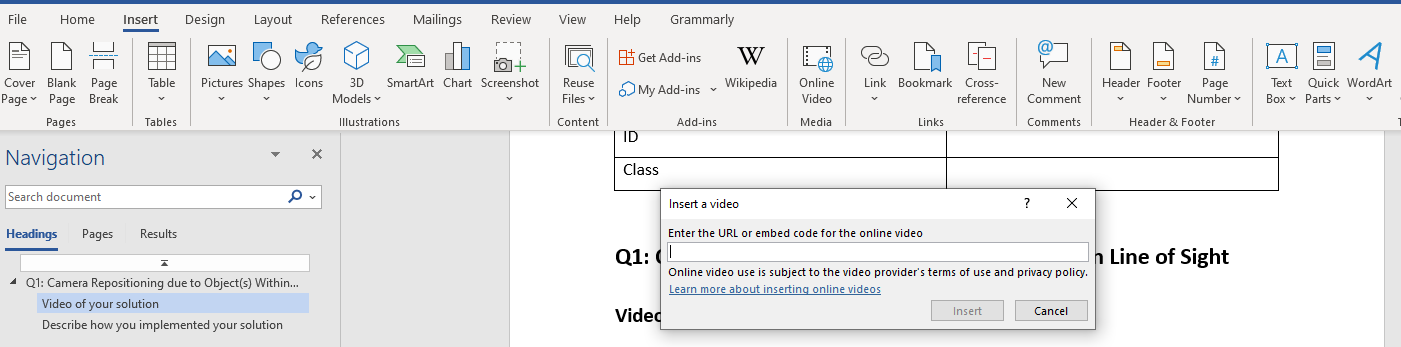
**Practical Assignment - Source Codes**

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| Class | P01 |

# Q1: Camera Repositioning due to Object(s) Within Line of Sight

## Video of your solution

*In this section, you will provide a video demonstration of your solution. Take inspiration from the worksheet videos that I have provided within the notes. To insert a video first upload the video to Youtube (you can keep as unlisted or public). Then in Microsoft Word go to Insert->Online Video and then provide the link as shown in the picture below. No commentary required for the video. Just show your solution.*



## Describe how you implemented your solution

Explanation in provided video.

## Reflect this learning experience

For question 1, I felt that it was one of the harder ones to implement. It was quite a long time ago the last time I had to use Raycast, so I had forgotten how to use it.

By looking through the Unity documentation and several video examples of how Raycast works, that was when I finally started understanding how it works.

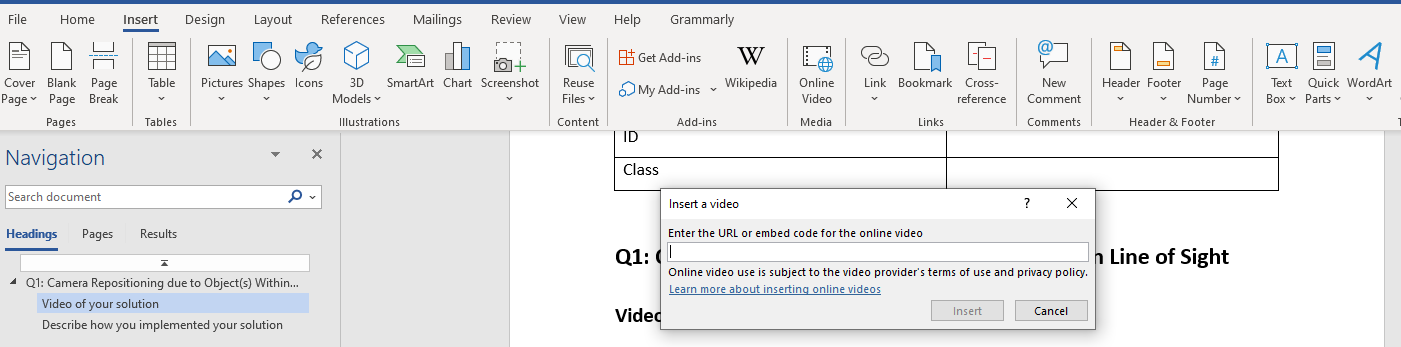
Not only that, I also learned about how the layers and LayerMask works, it is quite similar to using Tags. Using this knowledge, I was able to implement the camera repositioning.

Thinking about it now, Raycast is actually simpler than it sounds and I can definitely see the usefulness of Raycast and think that it will be quite important in game development.

# Q2: Configure a new Character for the Player

## Video of your solution

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## Describe how you implemented your solution

Explanation in provided video.

## Reflect this learning experience

This question was the hardest for me. It took me the longest do this question. I have only used animations once and it was not using a blend tree, so it was foreign to me when I was trying to implement this.

I had to refer to the worksheet in week 2 and followed the steps while trying to understand the purpose of that step and how it works, such as the PosX and PosZ parameter and what they are used for. I now know that those parameters are for controlling how the character is animated in relation to how the character is moving.

When I was inserting the animations, I had a problem where the animation would only play once and would never play again. I thought it was something to do with the Animation Controller so I spent quite a while tinkering with stuff in there, which actually caused me to learn more about how the blend tree works.

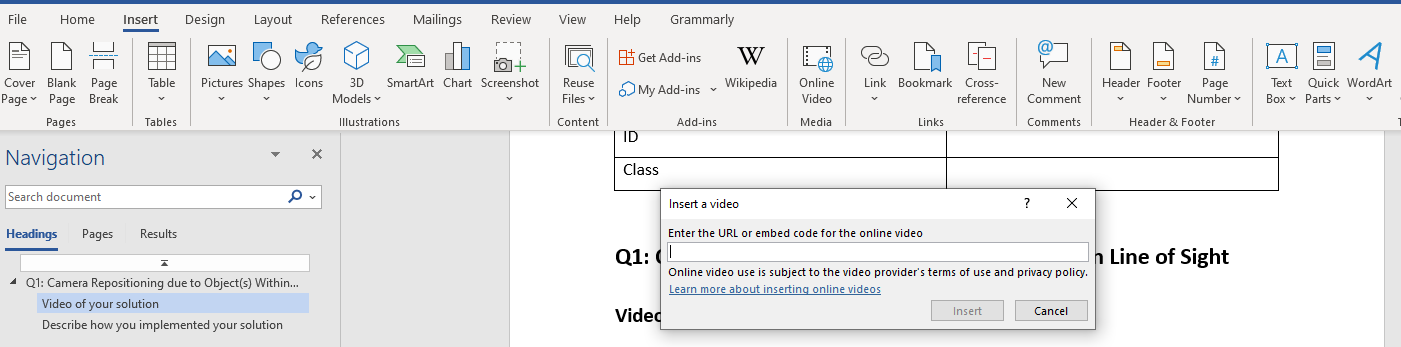
However, the solution was not in the Animation Controller. I knew it was something related to the animation not looping, so I checked the FBX files of the animation and found the solution to my problem; the “Loop Time” for Idle, Run, and the Walk animations were all unchecked. Only after checking it, then did my animations started to play properly.

From this experience, I learned that you should not always focus on one specific area when debugging, but to look across different areas, as sometimes, the solution to the problem will be outside where you are targeting your focus at.

# Q3: Implement Step Sounds

## Video of your solution

*In this section, you will provide a video demonstration of your solution. Take inspiration from the worksheet videos that I have provided within the notes. To insert a video, first, upload the video to Youtube (you can keep it as unlisted or public). Then in Microsoft Word, go to Insert->Online Video and then provide the link as shown in the picture below. No commentary required for the video. Just show your solution.*



## Describe how you implemented your solution

Explanation in provided video.

## Reflect this learning experience

In my opinion, this question was the easiest for me to implement. I had used audio quite a lot in my previous projects so this was something that was familiar to me. I originally wanted to use just 1 looping sound, however, after taking a listen to it, it was very boring and lacks and impact.

I then decided to create an array to store all the different sounds that I was going to use and randomly play them when the character is moving. It had been a while since I have used arrays and I am quite weak at this area, but I decided to do so anyway.

After implementing it, the sound was coming out too fast and all the audio came out at once, so I had to find a way to only play one audio at a time. I also changed the speed of the sound using AudioSource.pitch and to my surprise, changing the pitch also changed the sound in that it fits the character more.

After discovering AudioSource.pitch, I also decided to change the speed of the sound when the character is sprinting which fit the character surprisingly well.

From this experience, I learned that even though you may be familiar and be quite good at one area, you can still discover something new which can totally change how you implement functionalities in your game.