CS775 2023 - Character Animation and VFX in Blender
Part 2: Character Rigging and Animation

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Declaration

The entire code of this assignment is purely our own work and we have not taken any assistance from other students or copied the code from internet and at any point of time we both will be able to explain any part of the code that I have written.

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1   Introduction

For this part of the assignment, I used the character mesh from *Part 1* and rigged it in *Blender* by following the tutorial "Character Rigging for Beginners." I then used Mixamo, to generate movements for the character. I compiled the animations into a single project and created a camera path to track the character's movements. Finally, I rendered the animation into a video.

2   Character Rigging and Animation

To rig the character, I added a skeleton of bones to the mesh in Blender. This allowed me to deform the mesh and create realistic movements. I followed the tutorial and added a basic armature with bones for the spine, arms, legs, and head. Once the character was rigged, I exported it to Mixamo where I was able to find a variety of animations that fit my needs, including running, jumping, swinging, and sliding. I downloaded the animations and imported them into my Blender project.

To make the animations more cohesive, I compiled them into a single project by arranging the sequence of keyframes for each animation. To ensure that the character remained visible and easily trackable, I constrained it to follow a straight path while performing various movements. This helped to keep the focus on the character's movements and allowed me to avoid camera movements that could make the animation difficult to follow.

3   Rendering the Animation

To render the animation, I had to ensure that the character was visible and in focus throughout the entire sequence. I achieved this by animating the camera to follow the character's movements while maintaining a clear view of the character's actions. I rendered the animation at 30 frames per second and a total of 600 frames, resulting in a 20-second video.

4   References

1. Blender Tutorial: "Character Rigging for Beginners"

2. Mixamo: For obtaining animations

3. Blenderkit: For downloading texture for the platform on which Spider-Man is running