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Walk Cycle
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In the animation industry animation cycles are very important to all types of work including video games and film. Animation cycles are often used to create a rhythmic locomotion for a specific animal or human that occurs naturally. Common animation cycles include walk cycles, run cycles, jump cycles and many other types depending on the character. All of these cycles are used many times in many pieces of content and have a basic standard that all animators tend to learn. One of the most common animation cycles is the walk cycle since it is such a ubiquitous type of locomotion in the natural world.

The walk cycle is a very important animation skill to learn as it is used in all types of animation. For example, in an animated film the majority of the characters will have a standard walk cycle. Similarly, in many video games a walk cycle is what the player will be viewing for the majority of the time they are playing. In the natural world walking is a complex pattern of various movements of an entire form with various counterplays. Since walk cycles are so are so

complicated they have been broken down to several standard poses that can be used as a base to most walk cycles. A walk cycle can be broken into four poses contact, down, passing and up poses. These poses are the preliminary steps to creating a walk cycle which must then be exaggerated to create a unique and recognizable walk. Having a recognizable walk can be critical to creating a character that is seen often and needs to be recognized from great distances. This can help some movies become iconic and make them more likely to be recognized from a trailer or a small clip making the movie more iconic.

To create a walk cycle an understanding of how to incorporate the principles of animation into the walk is very important in addition to understanding the basic poses. Animating a walk cycle should be done in two halves to create a complete cycle. Creating a walk cycles first half involves the forward movement of the right leg and the backward movement of the left. To create a full walk the second half should be a flipped version of the first half so that the left leg is moving forward while the right leg is moving backwards. These two halves can be played infinitely to create a basic walk cycle of the legs. To turn this into a full body cycle the arms should counterplay the motion of the legs so that when the left leg is back the left arm should be forward. When creating a walk cycle I use thirty three frames since it is an odd number that will give me a good halfway point for my flipped contact pose which will be followed by all of the flipped poses to make a full cycle. In addition to the standard poses other elements must be added to create a fluid movement. Most notably a rotation needs to be added to the hips and to the chest so that they show the principle of weight. Furthermore, the foot should show drag, and follow through by implementing a natural foot roll. This cycle can be made smoother and more natural by editing the various splines through a graph editor. These poses with the additions built

into them will create a fluid cycle that will create a “vanilla” walk that can then be altered to create happy, angry or sad walks.

Overall animation cycles are very important to creating any content in film and video games. Creating these cycles is a very important skill for animators to have so that they can create good demo reels and stylized walks that vary among different types of characters. This will create better locomotion of characters and can be used to create iconic characters for various film franchises and types of video games. In general, walk cycles are very important to the animation industry and they create the foundation of the majority of content.

Walk Cycle Notes

- ❖ Contact pose will be on frame 1 and 33 with the flipped version on frame 17. →
- ❖ Move the COG down slightly.
- ❖ For the pose have the left leg extended forward with the right leg bent backwards.
- ❖ The left arm will be backwards while the right arms will be extended forward.
- ❖ Rotate the chest to the left and the hips to the right.
- ❖ When the foot is moving backwards the interpolation should be linear.
 - Go to graph editor and change the translate z tangents to linear when the foot is going backward.
- ❖ Down Pose will be on frames 5 and 21.
- ❖ Lower the COG for this pose.
- ❖ On frame 5 the left foot should be planted down and the right should be rotated forwards.
- ❖ This will be flipped on frame 21.
- ❖ To add a feeling of weight move the planted foot keyframe so that the foot plants 2 frames earlier then the pose.
 - Frames 3 and 19 respectively.
- ❖ The extremes are the passing and up poses of the walk cycle.
- ❖ For the up pose the most important thing is that the COG is raised on frames 13 and 29.
 - One leg should be extended back slightly and should have a nearly flat foot.
- ❖ The passing pose will take place of frames 9 and 25.
 - For these poses have one foot flat while the other is in the air.
 - Lower the COG slightly for this pose.