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Overview

The final rig for ivysaur is an IK/FK-based rig where a user can weight how much each mode is used by dragging a slider located by his front left foot. The respective IK/FK controls will also appear (or be hidden) after the slider is dragged past halfway. The controls/skeletons needed for IK/FK functionality are organized into layers and labeled accordingly. There are several controls and portions of the main skeleton that are not affected by IK/FK changes (as I did not believe they should have been), and these are contained in the Persistent_Controls layer. Lastly, the Blend_Shapes layer contains the modified meshes used to create the blend shapes for facial controls.

FK Controls

Move the slider to the left to reveal the FK Controls. Beside each leg are 3 circles, which can be rotated to rotate the leg joints of the FK_Skeleton. There are also 4 stars, which control the 4 joints of the spine, that can only be rotated as well.

IK Controls

Move the slider to the right to reveal the IK Controls. There is a foot-shaped curve next to each leg; each can be translated in all directions to move the joints of the leg. Take care not to overextend the IK handles by translating too far from the leg; they work best when slightly bent. The 4 starts are also for the spine: select all four and rotate in the X and Y directions to get a spline IK rotation, or select the Neck_IK_Ctl to twist in the Z direction. All can also be translated/rotated individually in the directions they are not locked/hidden.

Persistent Controls

The following controls are always present, regardless of IK/FK changes:

- The circle around the bulb can be rotated in all directions to tilt/twist the bulb.
- The circles around the ears can be rotated in all directions to tilt/twist the ears.
- The arrow in front of the face can be rotated to tilt the head in that direction.
- The leaves do not have controls, rather, for my self-researched rigging technique, they use dynamic hair-driven joints. They will move along with the movement of the other joints automatically (which can be seen by scrubbing the timeline.)

Facial Controls

Click the face-shaped curve near the slider and adjust the attributes to change ivysaur's facial expressions. You can mix and combine smile, roar, and close mouth by giving each a value from 0-10. You can only have so much influence from the attributes at one time, so you may need to lower an attribute's value for the others to take effect.

Connections

Only one use of connections: connecting the twist attribute of the IK_Skeleton's Spine_IK_Handle to the rotate Z attribute of Neck_IK_Ctl.

Utility Nodes

Utility nodes were utilized in the implementation of the twist joints on the front legs by having the shoulder joint rotations drive the rotation of the twist joints. They were also used to create the IK2FK_Slider functionality, which both assigns weight to the IK and FK skeletons, as well as hide/show the controls. Finally, utility nodes were used to create the face controls, such that the attributes will change the blend shape weights.

Animator Proofing

All unnecessary channels have been hidden, and if possible, locked away from the joints and controls. Important components such as IK handles or the hair systems have had their visibility set to off (I figure if they want to change and invisible component, they must have a reason.)

Submission

In addition to this documentation as requested by Brian, I was also told to include my version history of the rig, which I will send as a zip file. It will be all of the incremented saves of the file throughout my time working on it.