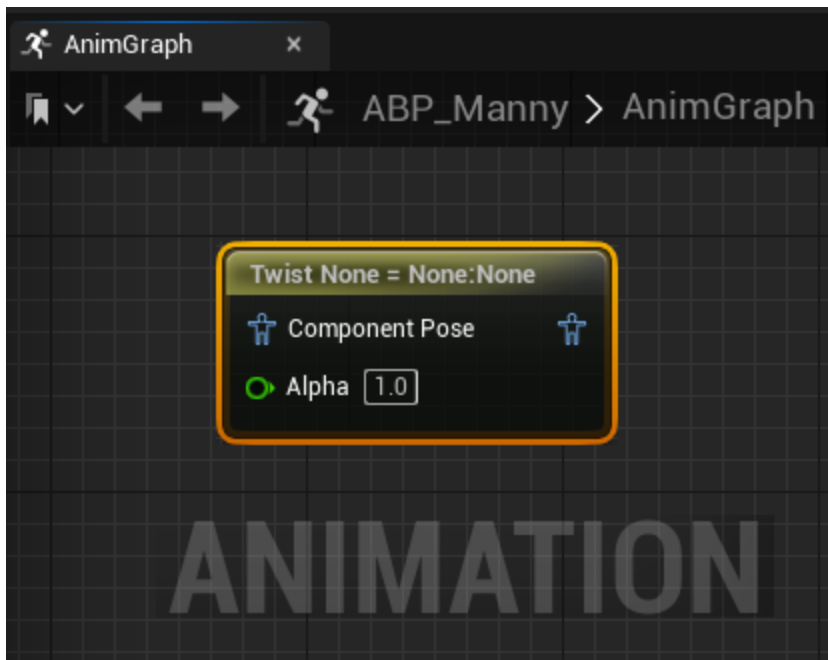# Twist Corrective

Describes how the Twist Corrective control can be used to drive curve values based on the twist of one bone relative to another.
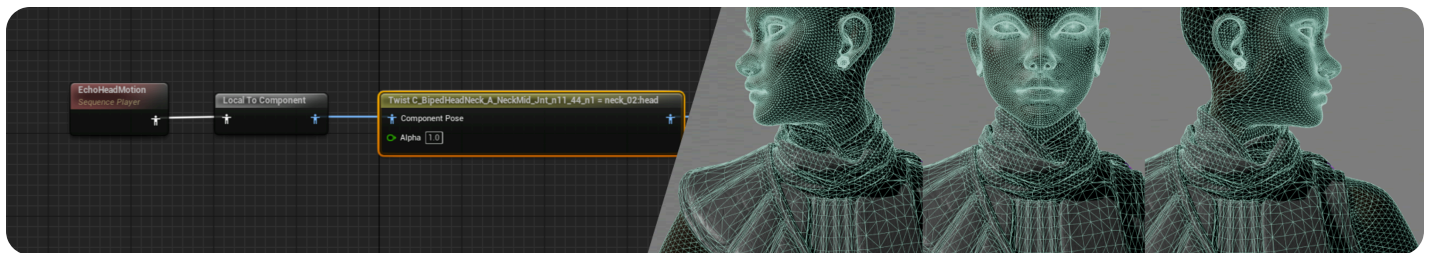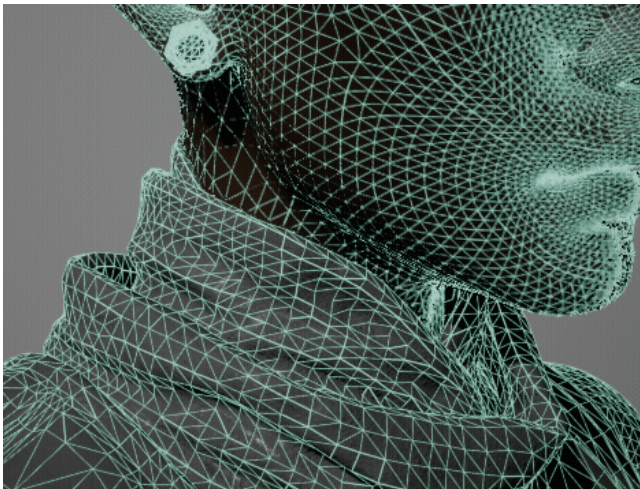

With the **Twist Corrective** [Animation Blueprint](#) node, you can drive [Animation Curves](#), like [Morph Targets](#), using the transform of a delta angle calculated using a **Base Frame** and **Twist Frame** against the direction of a **Twist Planer**.
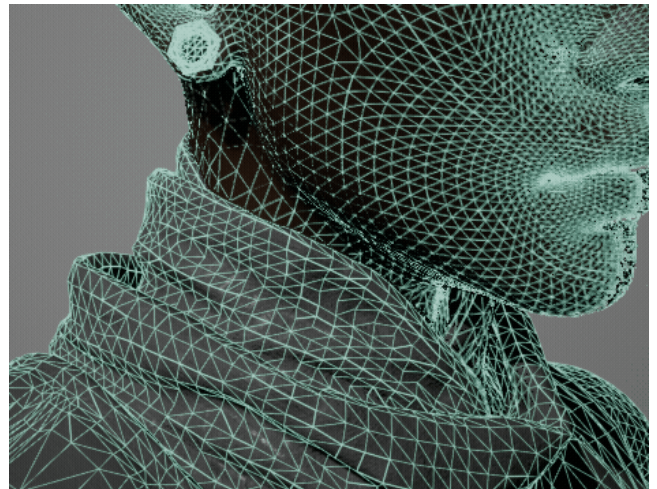
Overview

Using the Twist Corrective node, you can drive [Animation Curves](#) values, such as [Morph Targets](#), based on the twist of one bone relative to another.

Here is an example of a character's scarph morph targets adjusting as the head bone is twisted, to create a more natural look.

Disabled Twist Corrective   Enabled Twist Corrective

Example Workflow

The Twist Corrective node operates within **Component Space**, so a [space conversion](#) will need to occur to implement the node within your character's Animation Blueprint.

First, you must select a bone to act as the **Base Frame**, to calculate the twisting bone's alpha from. It is also important to define on what axis the motion the twist alpha will be in reference to. In the Axis property define which axis the motion will occur by setting the value to **1**. In the provided example the `neck_02` bone was used and the **Z**-axis was given a value of **1**.

Next select the bone that is undergoing the twist motion as the **Twist Frame Bone**, in the example the **head** bone is used. You must also define the axis of motion, in this case the property will replicate the **Base Frame Axis** with only a value of **1** on the **Z**-Axis.

You must also set the twist plane as a reference point, to calculate the alpha motion. In the example, the **Y**-Axis was enabled by setting a value of **1** in the **Y**-Axis field.

Finally, you must input the name of the [Animation Curves](#). In the workflow example, the morph target `C_BipedHeadNeck_A_NeckMid_Jnt_n11_44_n1` is used.

After compiling the Animation Blueprint the effects should be visible as the head bone rotates on the **Z**-Axis in the viewport.

Property Reference

Here you can reference a list of the Twist Corrective node's properties.

Property	Description
Base Frame	The Base Frame series of properties defines the reference point to calculate the motion alpha of the **Twist Frame**. In the **Bone** property, you can select the bone to use as the Base Frame from the characters skeleton. In the **Axis** property, you can select what axes of motion to calculate motion. A value of **0** will not calculate motion, a value of **1** will calculate positive motion, and a value of **-1** will calculate negative motion. You can also enable the **In Local Space** property to calculate motion in local space, or disable **In Local Space** to calculate motion in world space.
Twist Frame	The Twist Frame series of properties defines the twisting bone to calculate the motion alpha from in relation to the **Base Frame** and **Twist Planer Normal Axis**.

Property	Description
	In the **Bone** property, you can select the bone to use as the Twist Frame from the characters [skeleton]().
	In the **Axis** property, you can select what axes of motion to calculate motion. A value of **0** will not calculate motion, a value of **1** will calculate positive motion, and a value of **-1** will calculate negative motion.
	You can also enable the **In Local Space** property to calculate motion in local space, or disable **In Local Space** to calculate motion in world space.
Twist Planer Normal Axis	Here you can set the normal of the plane to calculate the angle alpha of the **Twist Frame** from the **Base Frame**.
	In the **Axis** property, you can select what axes of motion to calculate motion. A value of **0** will not calculate motion, a value of **1** will calculate positive motion, and a value of **-1** will calculate negative motion.
	You can also enable the **In Local Space** property to calculate motion in local space, or disable **In Local Space** to calculate motion in world space.
Max Angle in Degree	Set the maximum limit of the twist that will output a value to the **Curve**. For example, the degree at which the twist should result in the maximum curve value being outputted. Values cannot exceed 180.
Mapped Range Min	Minimum value to apply to the curve. A value of 0 being the beginning of the curve and a value of **1** being the end of the curve.
Mapped Range Max	Maximum value to apply to the curve. A value of 0 being the beginning of the curve and a value of **1** being the end of the curve.
Curve	Input the name of the [Curve]() or [Morph Targets]() you wish to apply the **Mapped Range Min** and **Mapped Range Max** based on the calculated twist alpha from the **Twist Frame Bone**.