

VRCFaceTracking-Templates

Face Tracking Template Setup

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Introduction

This setup will go over how to set up the face tracking template animations to drive blendshapes and eye movements to Unity for VRChat.

Prerequisites

- [VRCFaceTracking](#) v5 setup and working. **Test public face tracking avatars first before doing customs.**
- Avatar with [SRanipal](#), [ARkit](#), and [UnifiedExpressions](#) Blend Shapes - *Case Sensitive*
Note what blendshapes are being used on the avatar. If you don't know take look at this [👤 Face Tracking Conversion](#) for naming
- Avoid unpacking FBX, make sure eye bones are assigned rig configuration before unpacking.
- By default all animations are pointed to the Skinned Mesh Renderer named **"Body"** in the root of the avatar. Additional setup is require for meshes not named "Body" see ["Additional Setup - Non-Standard Mesh Names"](#) section

Support

See the avatar-help-forum for advance support on Jerry's Face Tracking [Discord](#)

Face Tracking Menu Controls

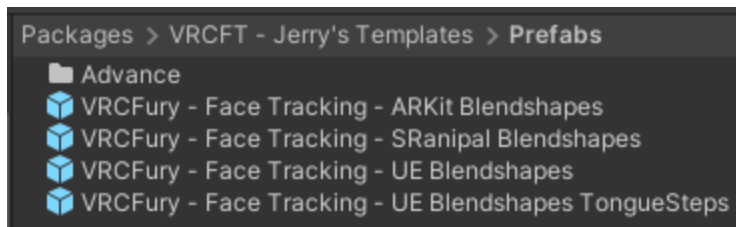
Face tracking template has menu controls to allow toggling of the following:

- EyeTrackingActive (Bool) - If true enables all eye tracking animations (VRCFaceTracking) and disables VRChat eye tracking
- LipTrackingActive (Bool) - If true enables all lip tracking animations (VRCFaceTracking)
- VisemesEnable (Bool) - If true enables Visemes.
Tip - Recommend to leave VisemesEnable on with lip tracking as face tracking has network lag and is not useful for talking.
- EyeDilationEnable (Bool) - If true enables dilation

- FacialExpressionsDisabled (Bool) - If true disables facial expressions. This does not do anything within the face tracking template, it is intended to be used in transitions for hand gestures on the FX layer to disable them when either eye or lip tracking is activated.

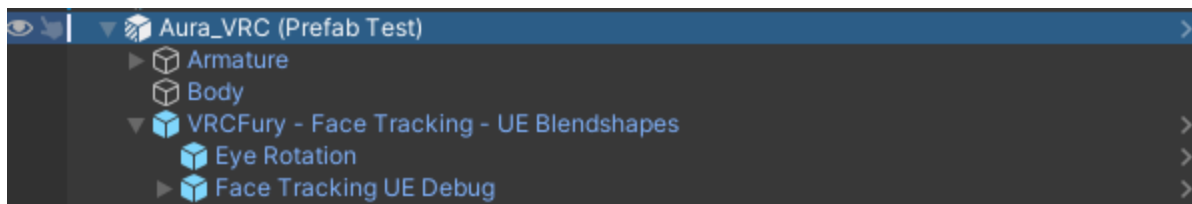
Prefab Setup

- ☐ Add/Import VCC listing <https://adjerry91.github.io/VRCFaceTracking-Templates/>
- ☐ Add/Import <https://vrcfury.com/download>
- ☐ Go to the **Packages/VRCFT - Jerry's Templates/Prefabs** folder. You will see the four different available blendshape VRCFury Face Tracking prefab templates.



Tip - you can change the view of the project window text on the bottom right slider

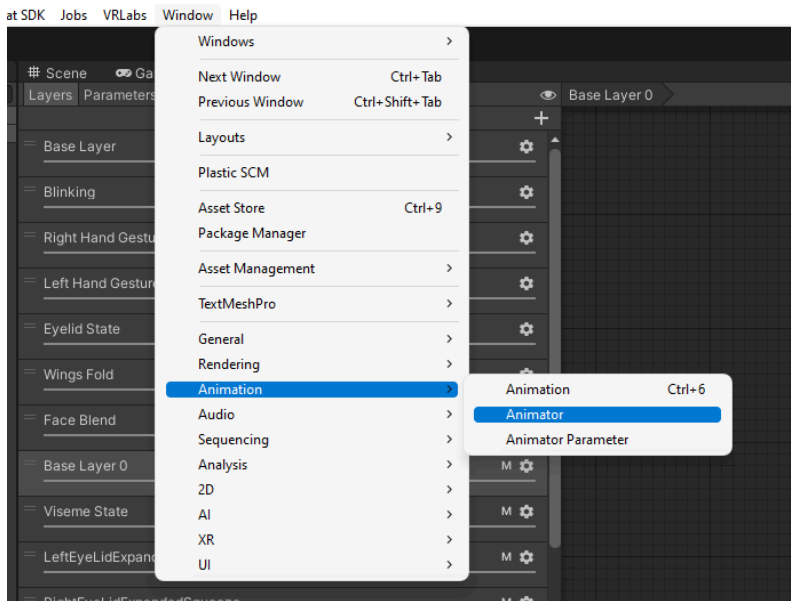
- ☐ Drag the corresponding template prefab to the base of the avatar.



Additional Setup - Modify Animators

Blocking hand gestures and blinking overlaying with the face tracking.

☐ Show Animator and Animation Windows

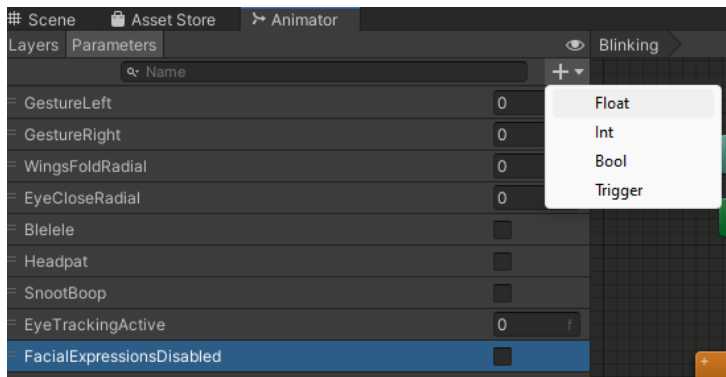


☐ Create the following parameters:

EyeTrackingActive (Float)

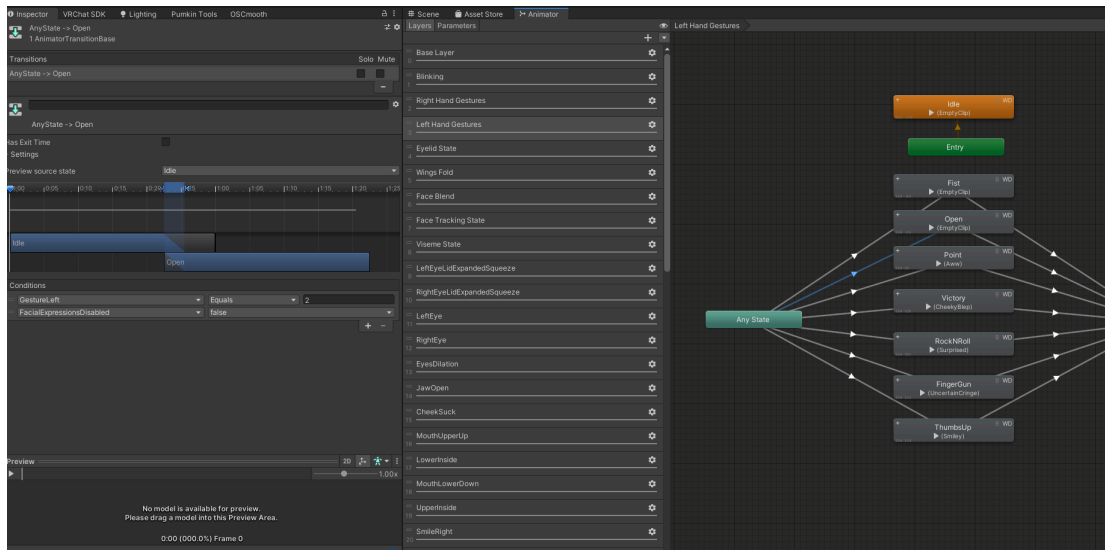
Note - in parameters list EyeTrackingActive is a bool but in the animator it has to be float because of the face tracking template type casting.

FacialExpressionsDisabled (Bool)



☐ Add conditions for all hand gestures transitions to disable hand emotes. Click plus icon and add **FacialExpressionsDisabled** and set it to **False**. The toggle will

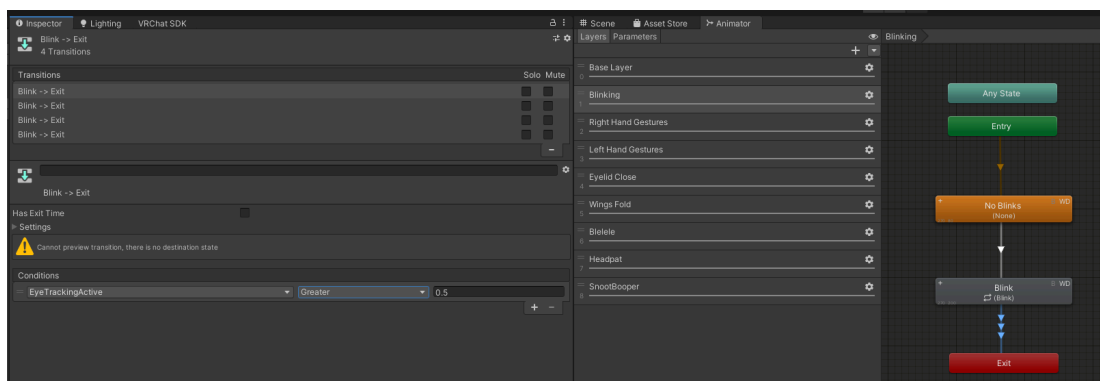
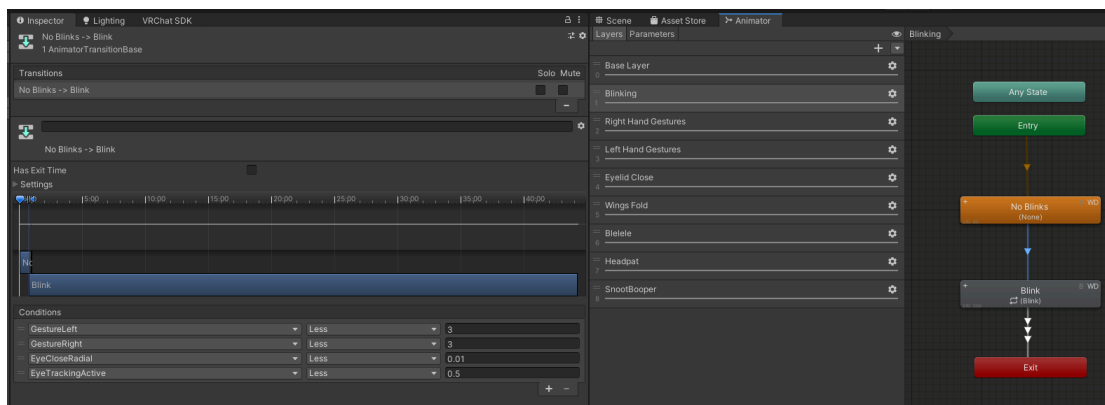
automatically turn off gestures when starting face or eye tracking.



- ☐ If blink is within the FX animator, add transition logic to disable the blinking animation.

EyeTrackingActive Greater 0.5 is equivalent to **True**

EyeTrackingActive Less 0.5 is equivalent to **False**

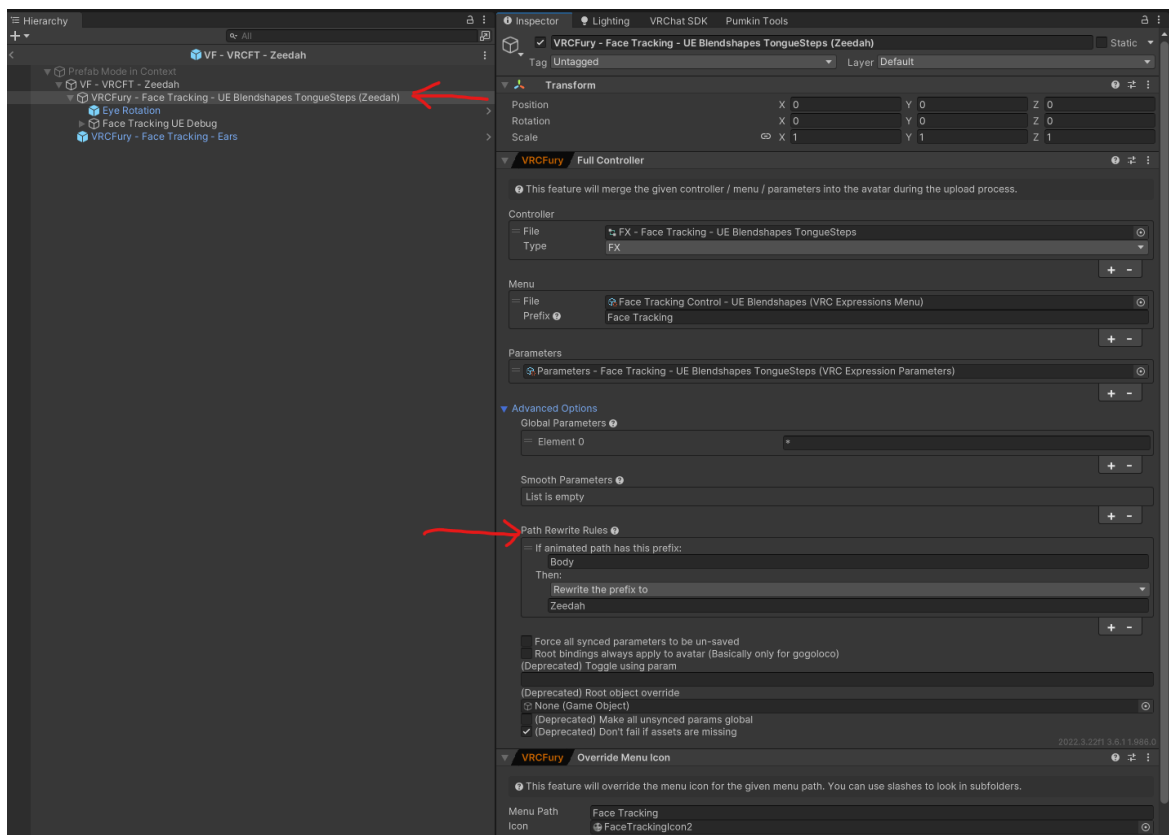


Note the multiple arrows on the exit transitions is equivalent to "OR" logic statement.

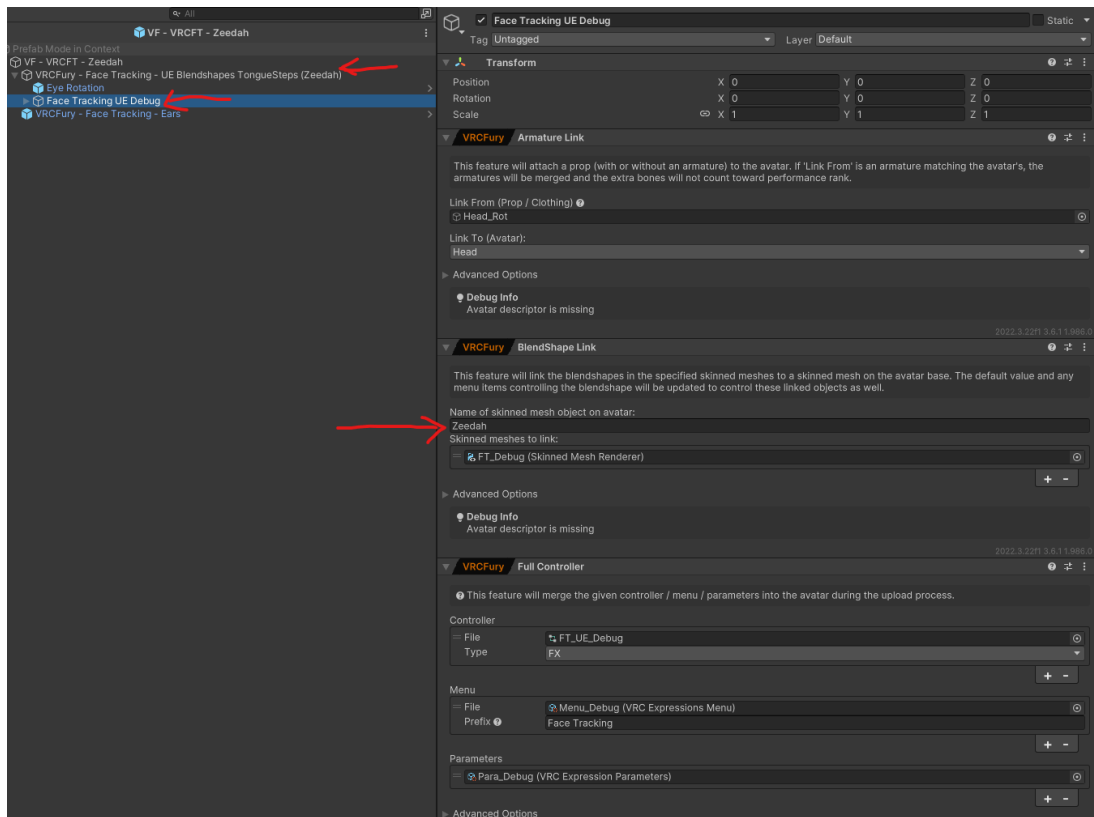
Right click transition from and select make transition then select exit as the destination. Click the exit transition arrows and you will see a new transition added to the list. Expand the settings, uncheck the exit time and change the transition duration desired, this is the time delay for the transition.

Additional Setup - Non-Standard Mesh Names

- This section is only needed when the face tracking blend shapes are NOT on Skinned Mesh Renderer named **"Body"** in the root of the avatar.
- ☐ Unpack the prefab
- ☐ Under VRCFury Full Controller go to "Advanced Options"
- ☐ Click the "+" to add Path Rewrite Rules
- ☐ Add "Body" to the "If animated path has this prefix" (This is same for all avatars)
- ☐ Add the name of the mesh to the "Then" section"; this can also be a path to the skinned mesh. In this example face tracking shapes are on "Zeedah" skinned mesh renderer.

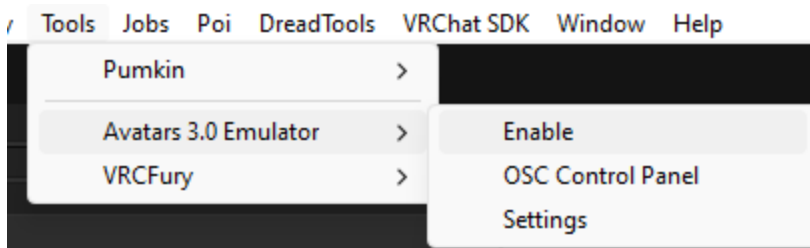


- Debug panel will also need to be remapped to the mesh with the face tracking blendshapes. Change to the new mesh name in the “Name of skinned mesh object on avatar” on avatar”

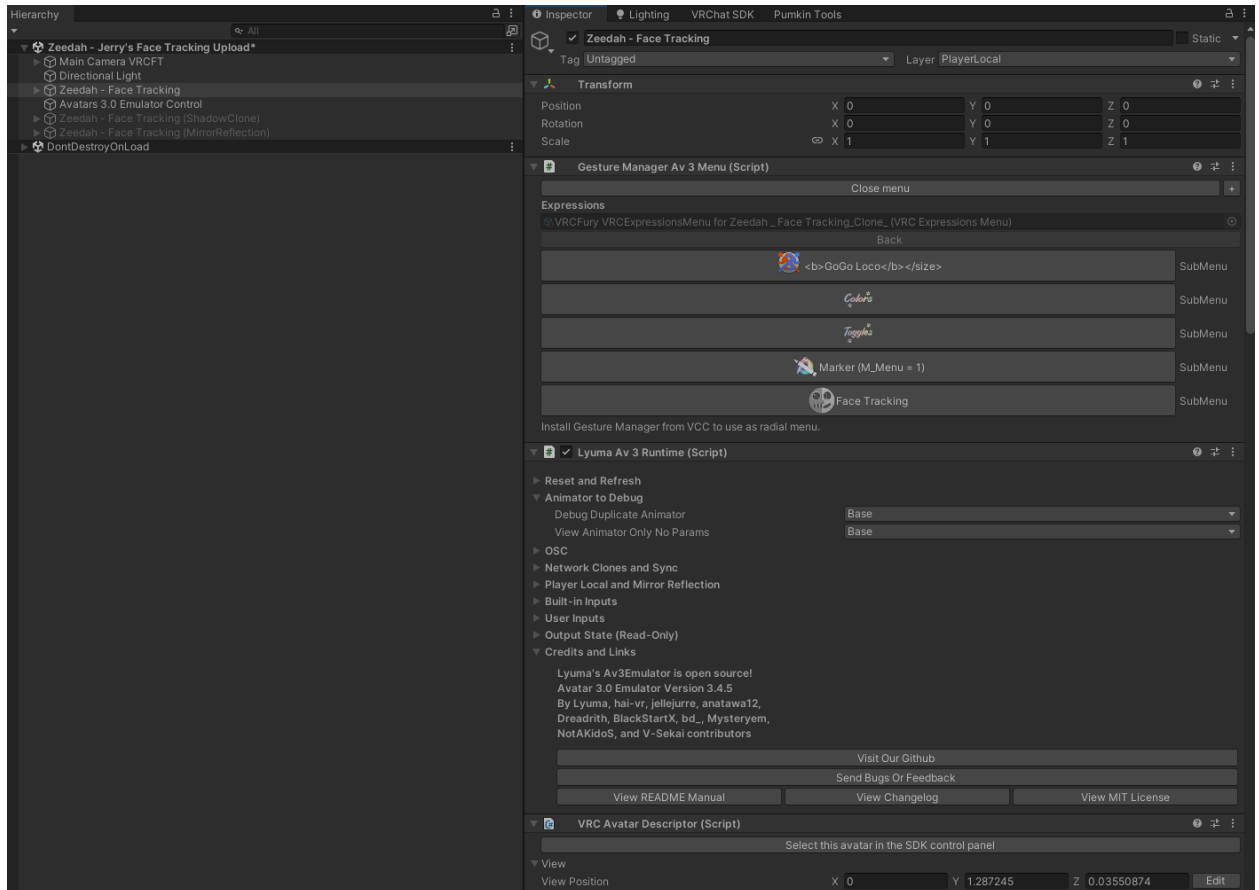


Testing in Unity

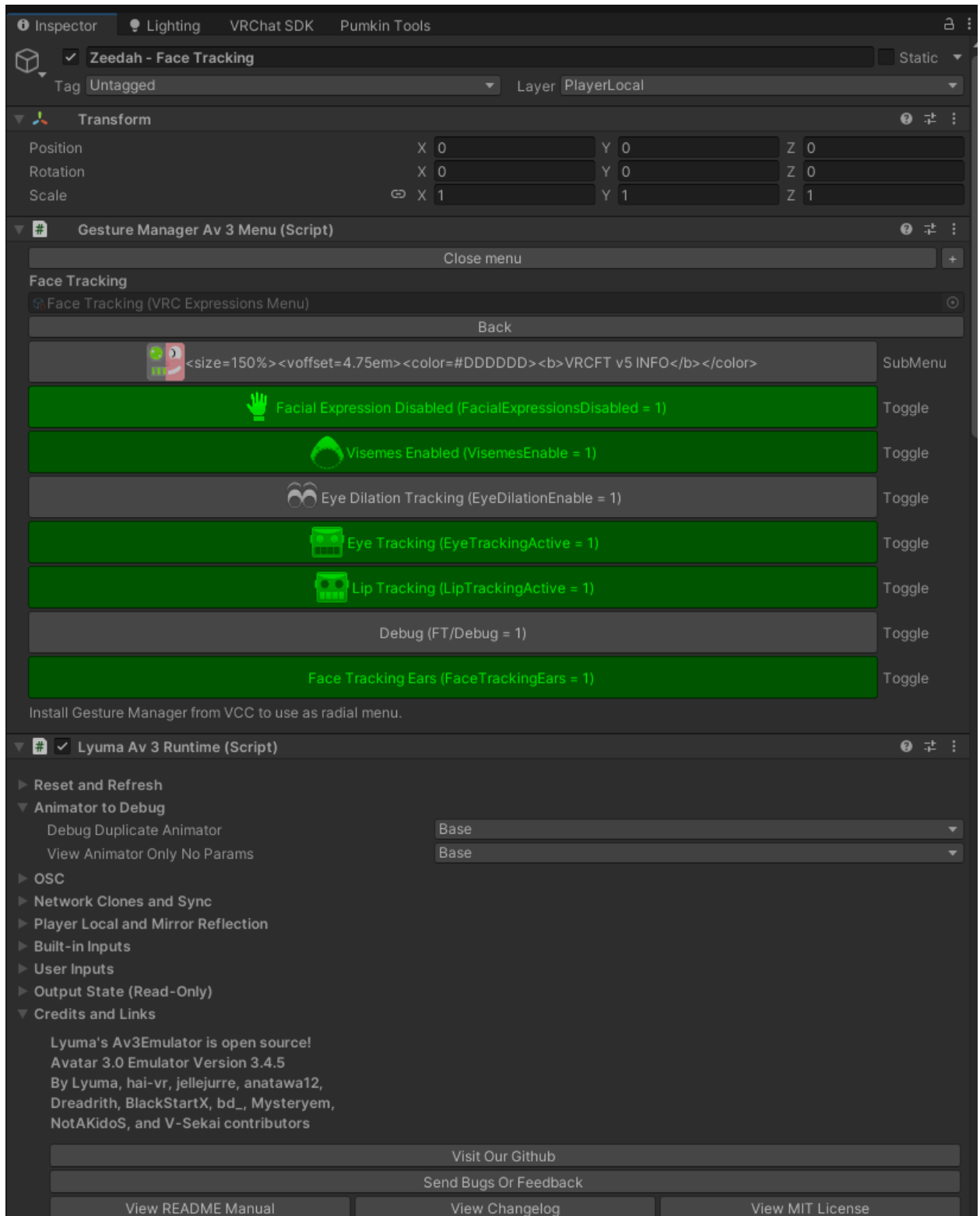
- ☐ Import [Lyuma Av3Emulator](#)
- ☐ Click on play mode in Unity
- ☐ Enable **Avatar 3.0 Emulator**



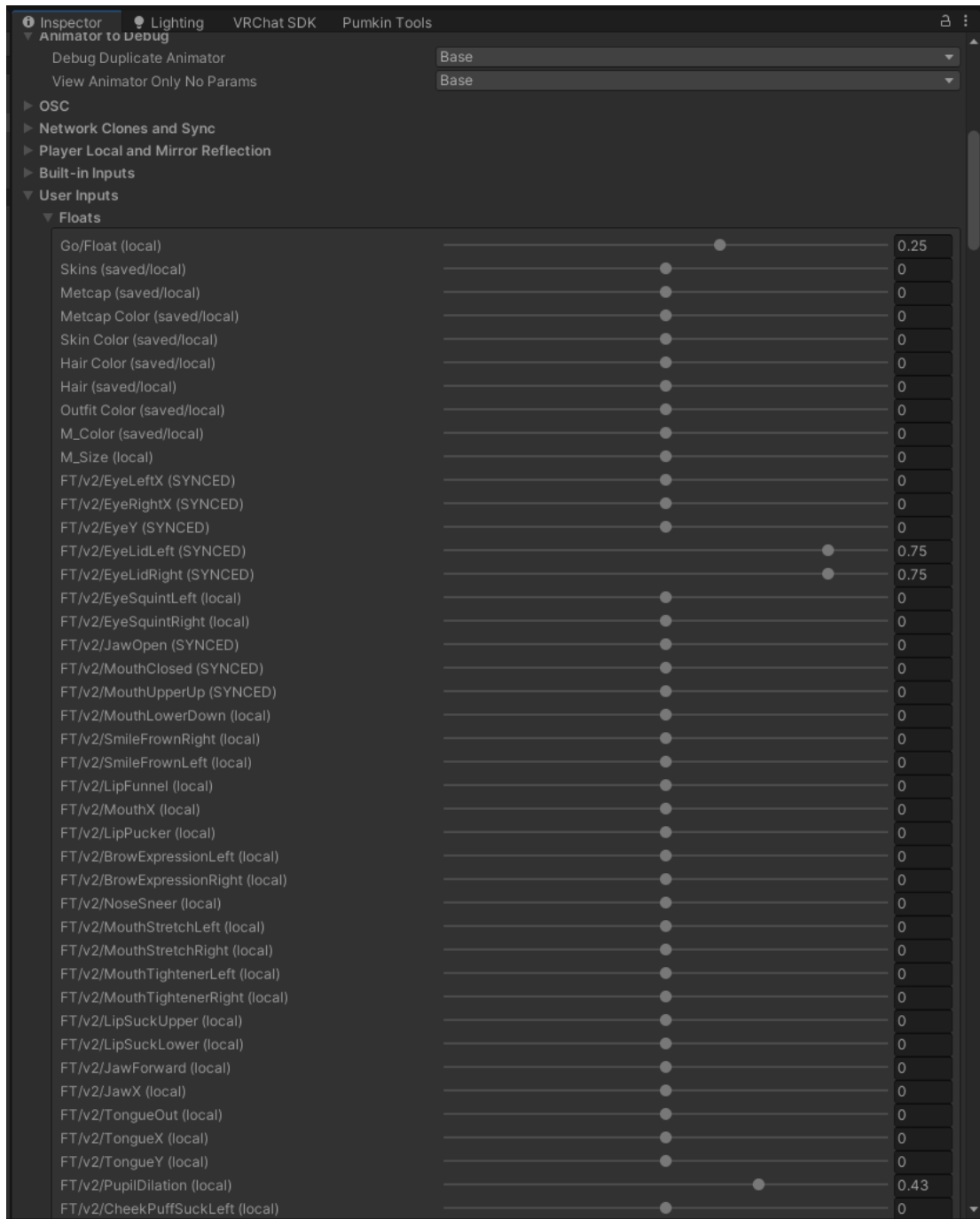
- ☐ Click on the avatar to test. You will see a Gesture Manager Av 3 Menu and Lyuma Av 3 Runtime on the avatar.



- ☐ Go in menu an enable eye and lip tracking



- ☐ Scroll down the inspect to the “User Input” section and expand floats.



- ☐ Test each of the sync float parameters to see to test that they control the avatar.



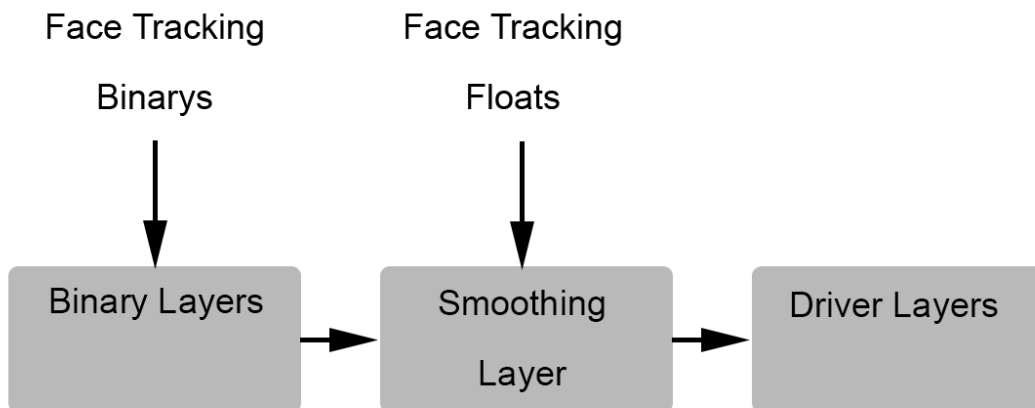
Testing in VRChat

- ☐ Make sure VRCFT is loading the avatar parameters correctly. Uploading to existing avatar ids will break the VRChat OSC configs when the parameters change on the avatar. Reset the VRChat OSC Configs when the parameters are not loading correctly.
- ☐ Outgoing messages cannot be zero. Verify hardware and software setup.
- ☐ Open VRCFT Debug Panel located in the radial menu of the avatar.
- ☐ White circles are the raw face tracking; these should always be moving no matter any avatar setup. If they are not moving, verify the face tracking hardware supports the tracking parameter. See [Tracking Compatibility](#)
- ☐ Green dots are the face tracking blend shapes on the mesh moving. These mirror the blendshapes on the avatar. If dots are not moving verify the blendshape naming and mesh name that face tracking blendshapes are on.

Understanding How Face Tracking Works

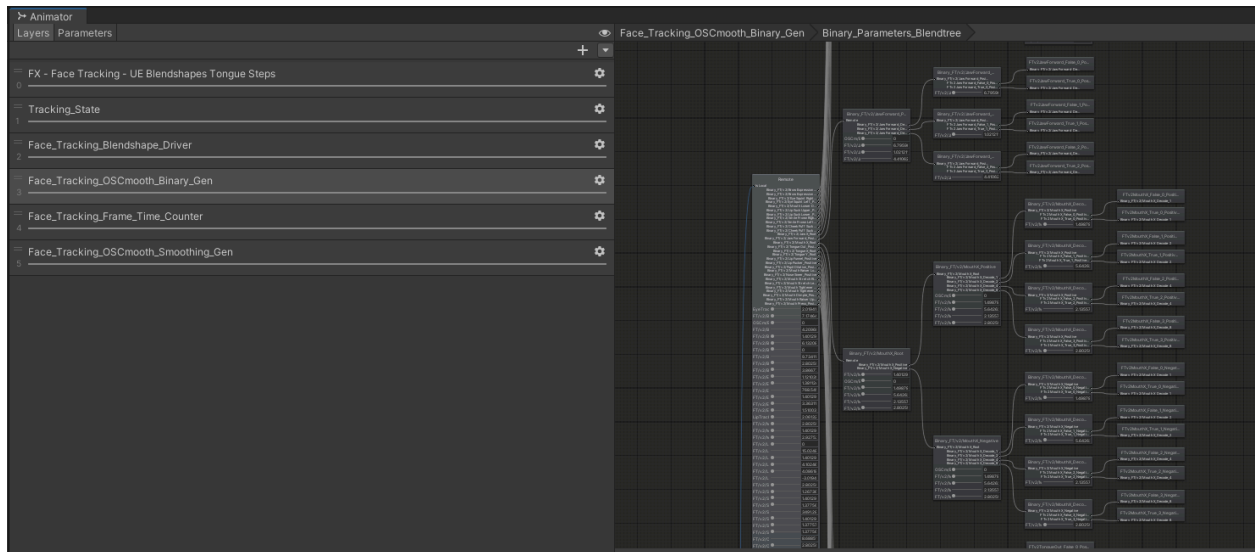
There are three different animation layers with different functions for face tracking in the animator.

1. VRC Face Tracking parameters OSC values come in as floats and bools.
2. Bool's are converted to floats with binary layers
3. Floats are then smoothed with smoothing logic from OSCsmooth to make face tracking not choppy with OSC
4. Proxy values will drive the driver layers to control the face tracking blendshapes/animations i.e. OSCm/Proxy/FT/v2/JawOpen



Binary Layer

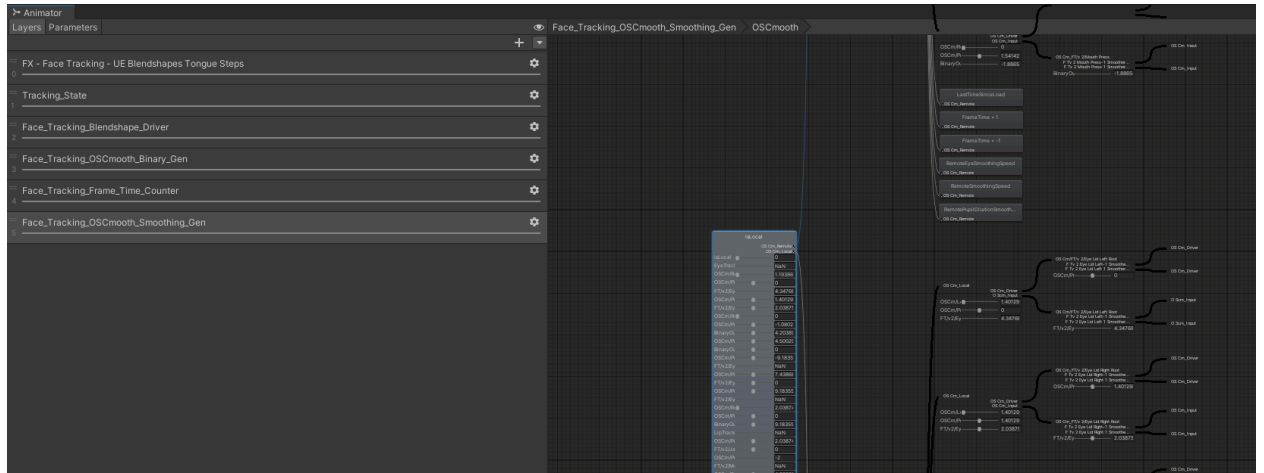
These layers are generated by the [Binary Parameter Tool](#). These layers take [binary parameters](#) to reduce the amount of parameters on the avatar at the cost of resolution. Output of the layer is face tracking parameter float.



Smoothing Layer

OSC data has a very low update rate for remote users. The smoothing layer smoothes the choppiness for remote users to make smoothing face tracking.

Smoothing layer takes the raw OSC data from the face tracking and smoothes it differently for local and remote users.

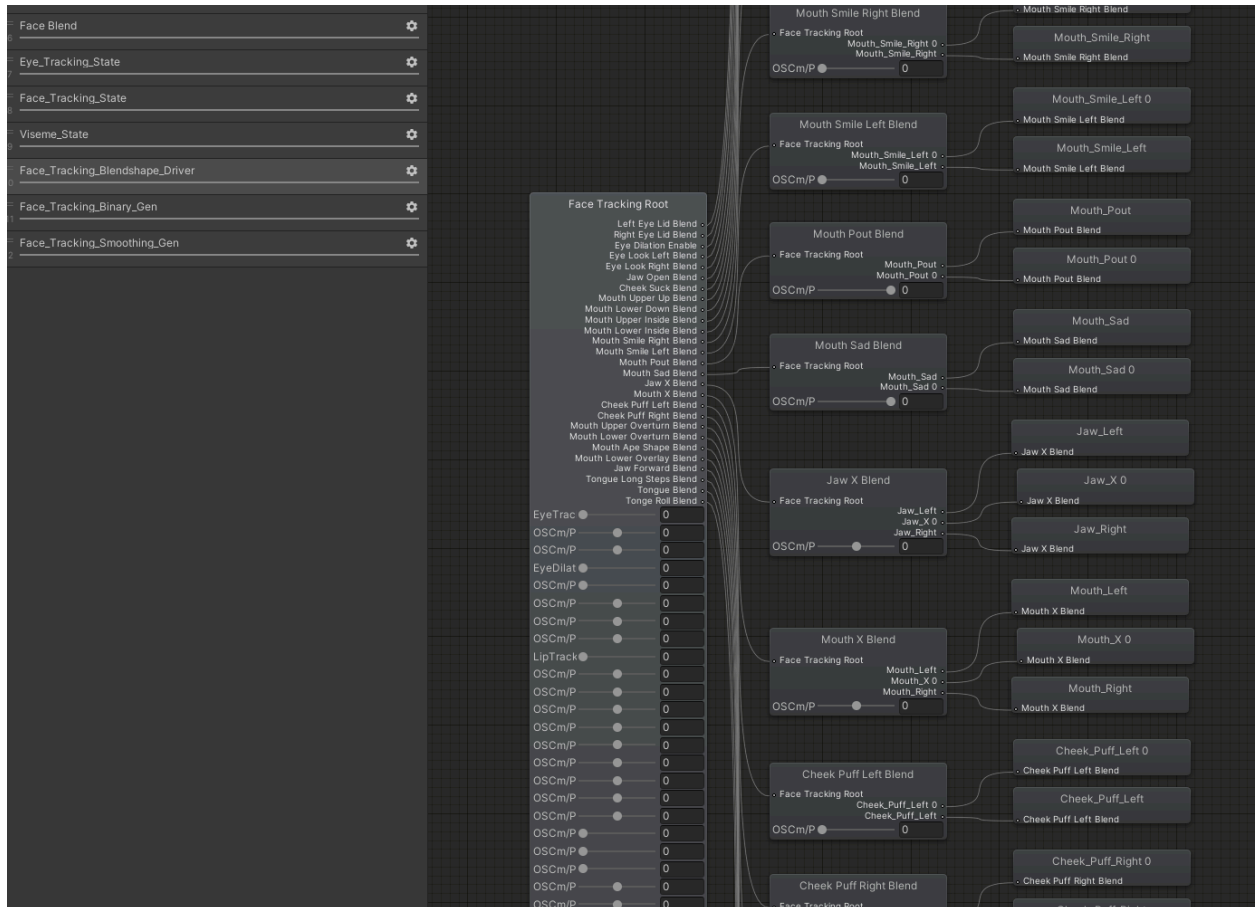


This layer takes the face tracking float parameter and the output is float with the **OSCm/Proxy/** prefix.

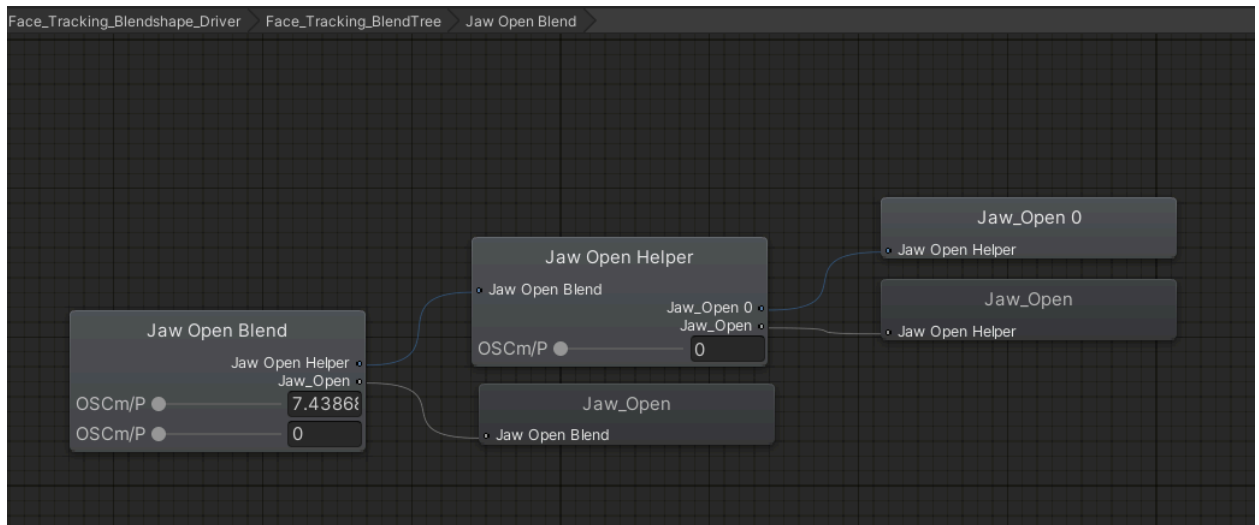
Driver Layer

This layer is used to drive the animation for each of the face tracking parameters.

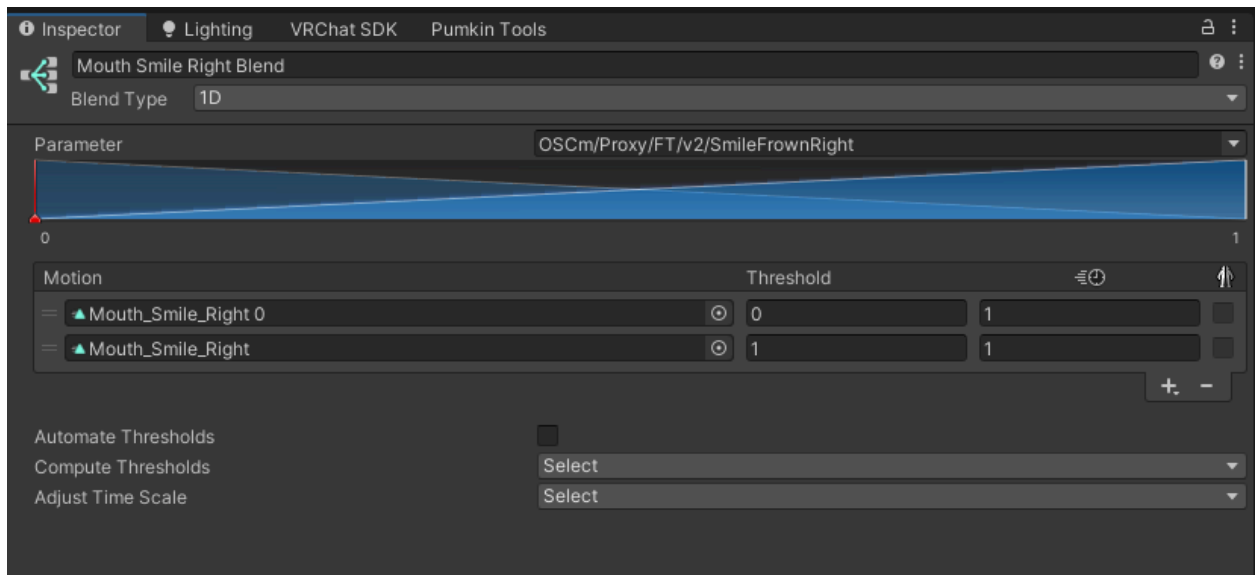
Each child has an off state and a blend tree.



Double clicking the blend state will go into blend tree settings.



In the inspector for the blend tree you will see settings being used in the template. The **OSCM/Proxy/** parameter is coming from the smoother layer. The thresholds can be changed as desired in these blend trees to change the sensitivity. Reducing the max threshold increases the sensitivity and adding dead zones decreases the sensitivity.



License

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