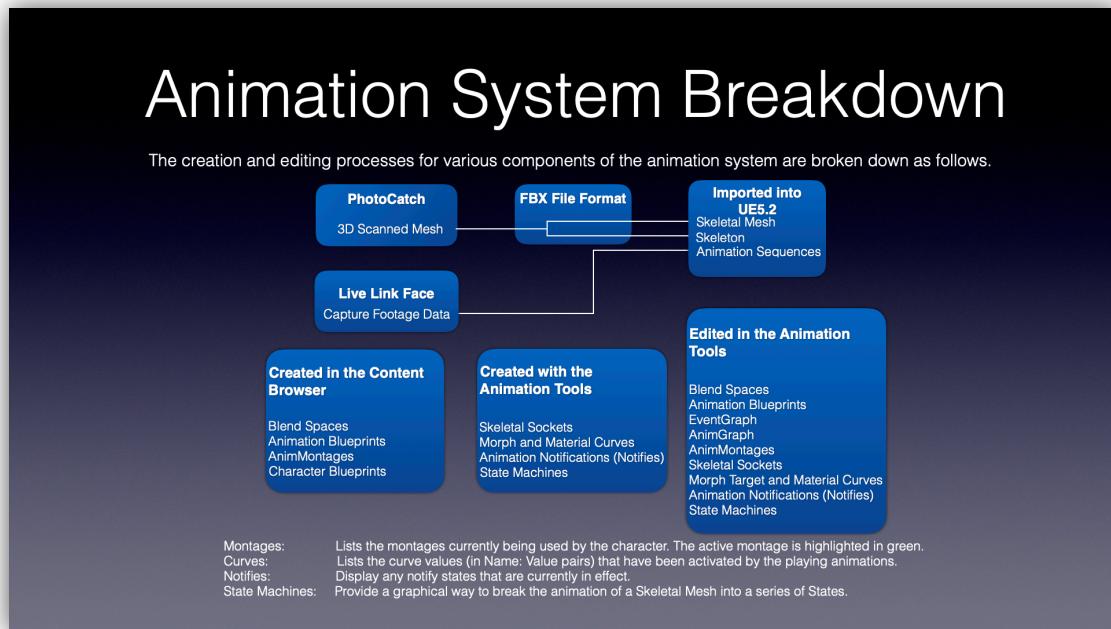
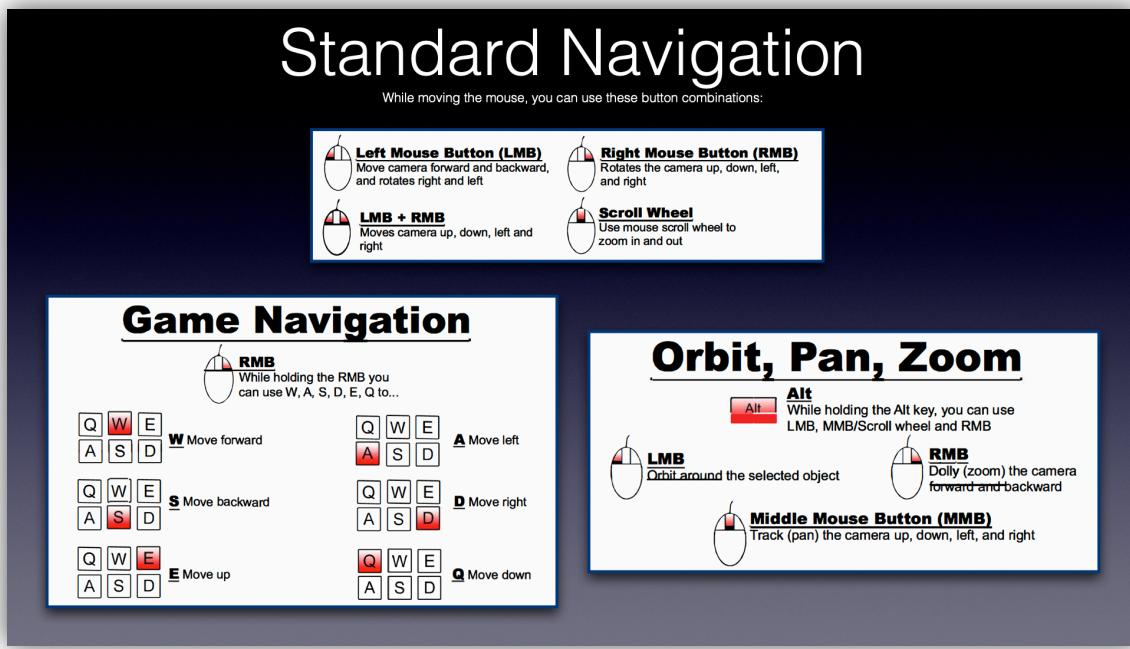


Animating MetaHumans

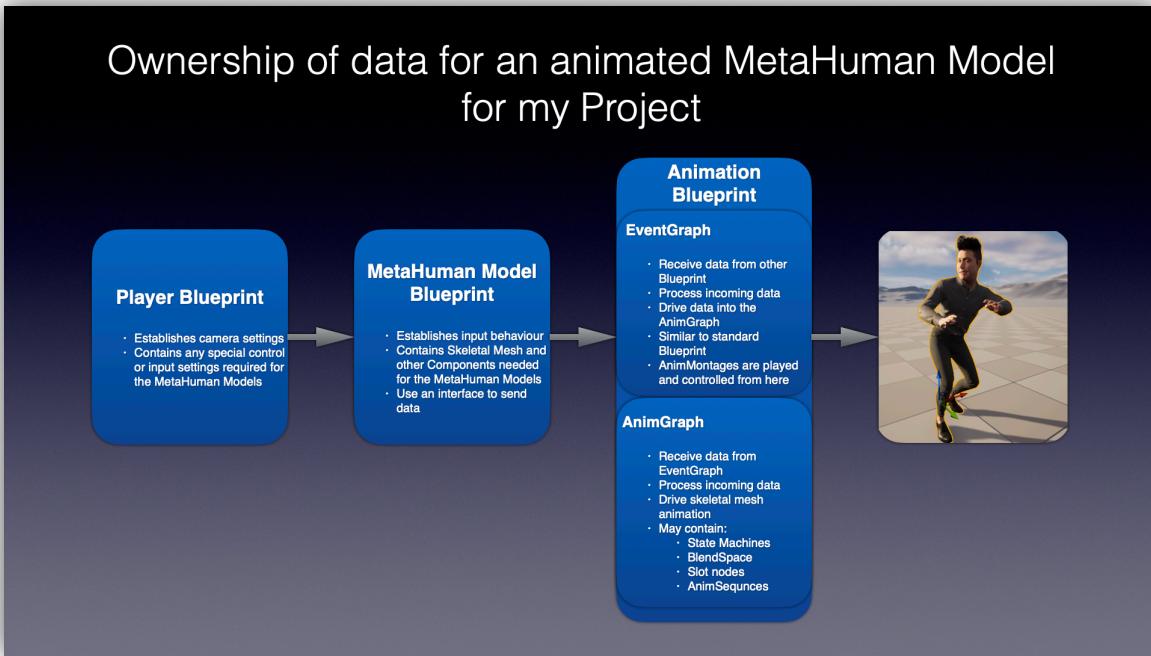
Create animate MetaHumans in UE 5.2 with Control Rig and IK Rig



This diagram was adapted from another source (*Unreal Engine 4 Documentation, 2021*) and illustrates the "Modelling and Animation Using Scanning Technologies" Animation System Breakdown

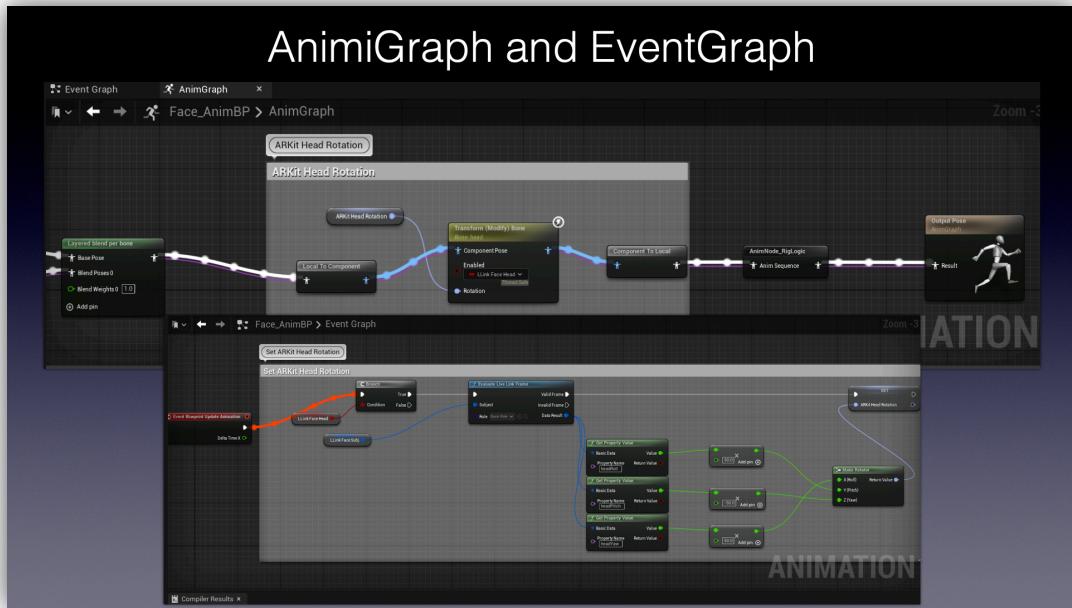


Standard Navigation Keyboard Shortcuts in UE 5.2



The ownership and flow of data for my project's animated MetaHuman Model are shown in this diagram that is shared in another source (Unreal Engine 4 Documentation, 2021)

- The AnimGraph is used to sample, blend, and manipulate poses to be applied to Skeletal Meshes by the Animation Blueprint.
- EventGraph used to update the Animation Blueprint and calculate values for use in the AnimGraph.



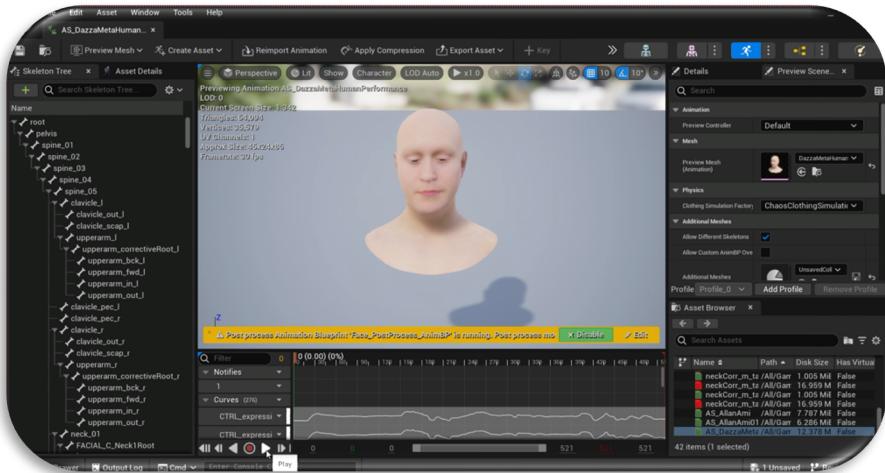
This diagram shows AnimGraph and EventGraph Data for an animated MetaHuman model in my project

Facial Animation

- Strongly recommended *importing MetaHuman from Quixel Bridge to Project first*. (See Import MetaHuman to Project steps 1 to 4).
- The MetaHuman performance depends on the imported footage source.
- The same as before, right-click MetaHuman Animator and select Capture Source.

Workflow: Import Face Animation Footage to UE

<p>1. Right click in Content Drawer → MetaHuman Animator → MetaHuman Performance</p>	<p>2. Choose the imported footage</p>
<p>3. Choose the MetaHuman Identity</p>	<p>4. Set start and end frame → Process</p>
<p>5. Export Animation → Choose Target Skeleton Mesh → Select the FaceMesh imported from Quixel Bridge (See Import MetaHuman to Project steps 1 to 4)</p>	<p>6. Animation file appears in the folder</p>



Exported Animation Sequence

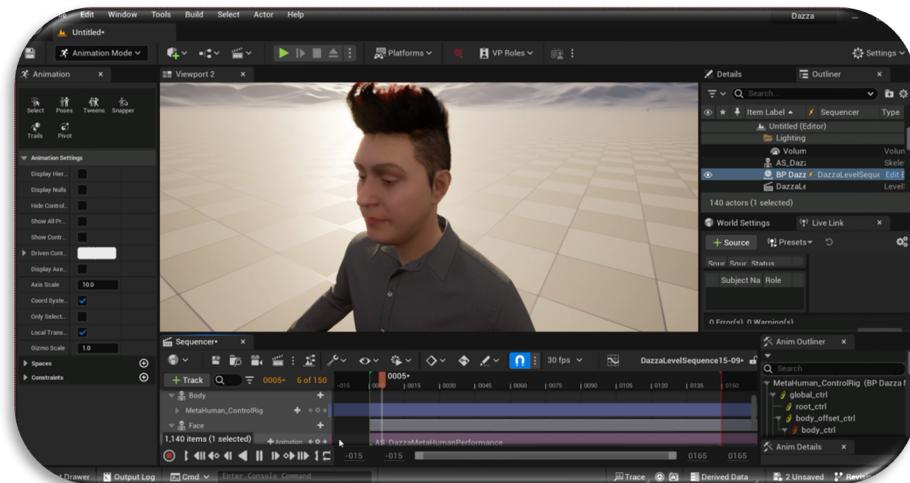
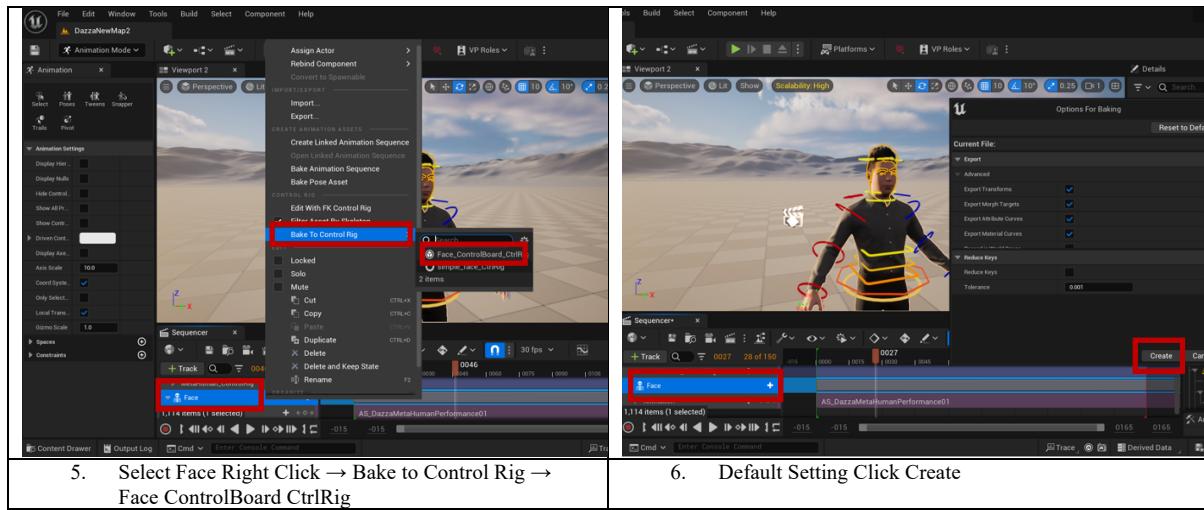
Workflow: Produce a New Level Sequence and Add the MetaHuman

1. Drag the MetaHuman blueprint to the level

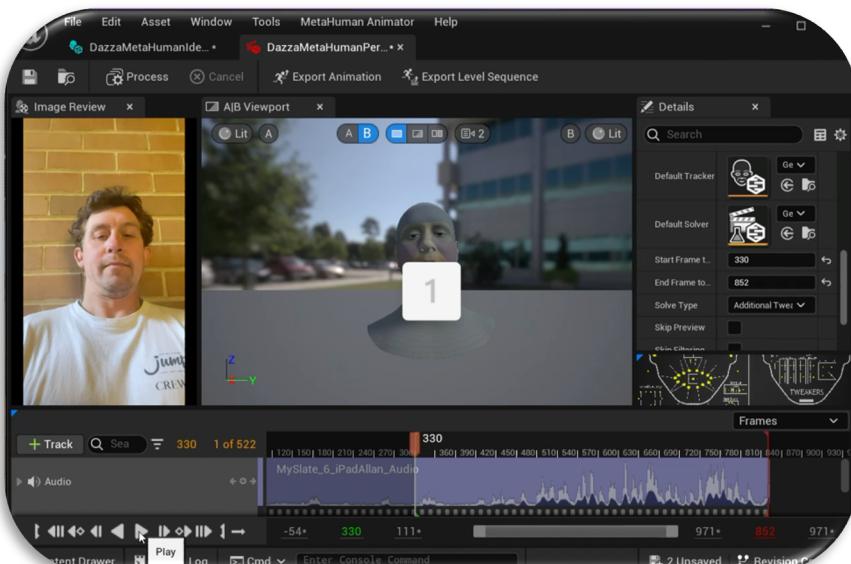
2. Add a new Level Sequencer

3. Drag the MetaHuman BP to the sequencer → Add Animation Track → Animation → Select exported animation sequence

4. Delete the face control rig



Result of Metahuman Facial Performance

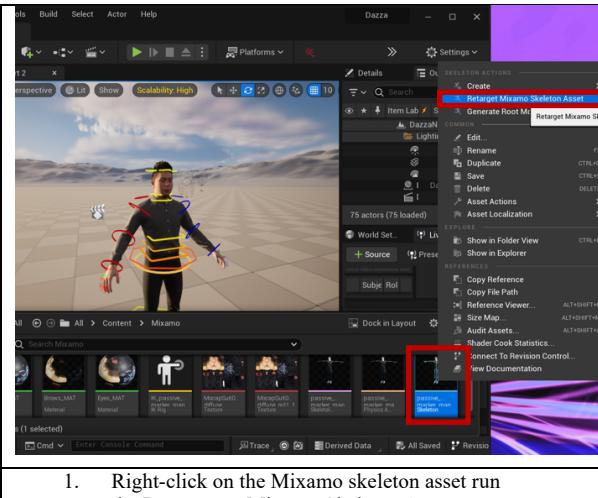
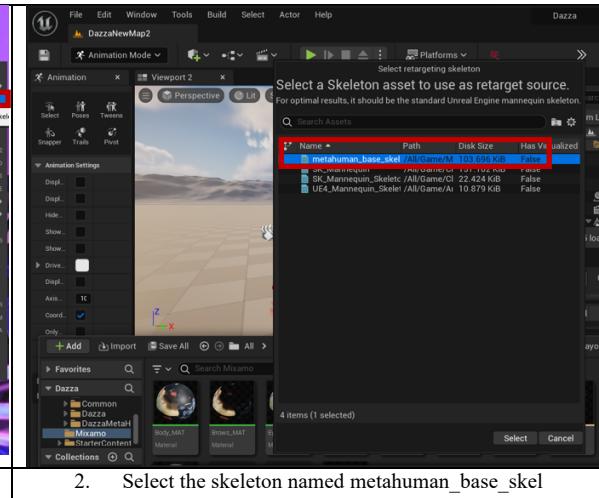
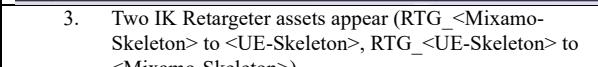
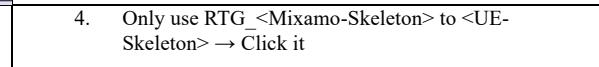
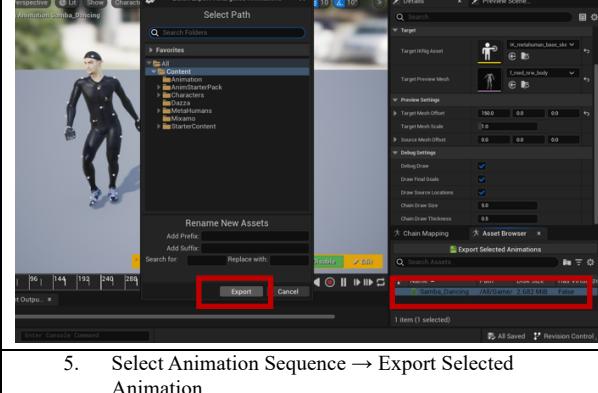
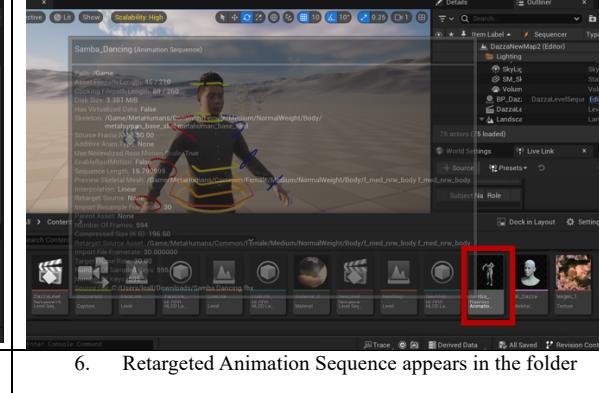


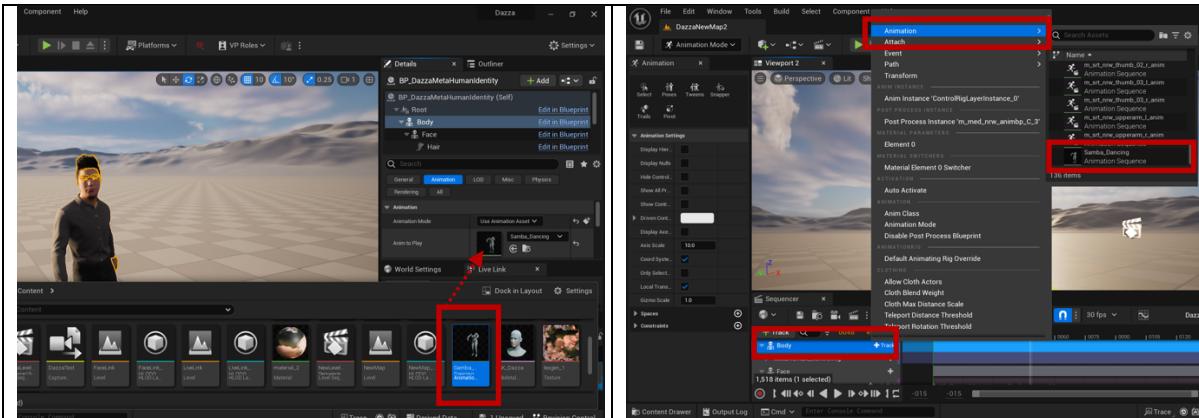
Result of the exported animation sequence is applied to imported MetaHuman

Body Animation

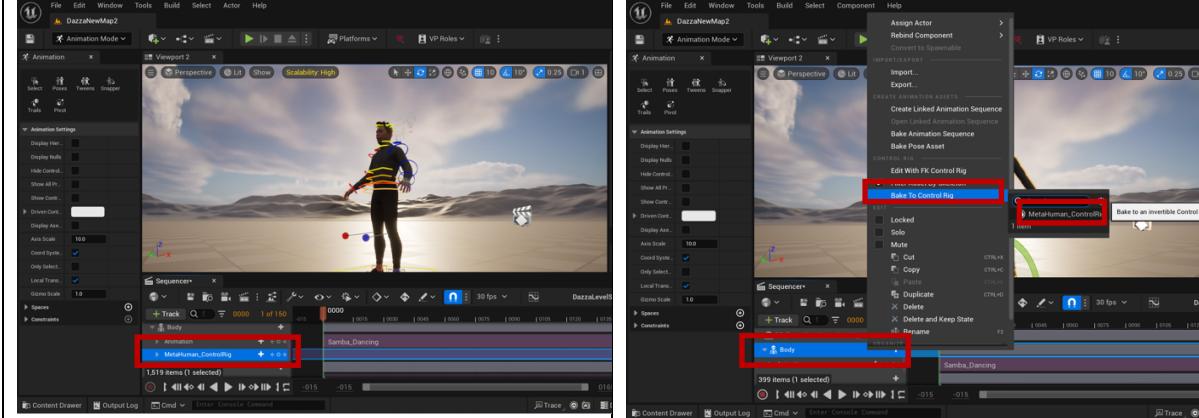
Workflow: Retarget a Mixamo skeleton to a UE MetaHuman

- The IK Rig and IK Retargeter engine feature, which enables animations to be reused between characters using different Skeleton assets, are automatically created by the UE5 Mixamo Animation Retargeting plugin in Unreal Engine 5.2.
- Make sure the [Mixamo characters and animations](#) are imported properly.

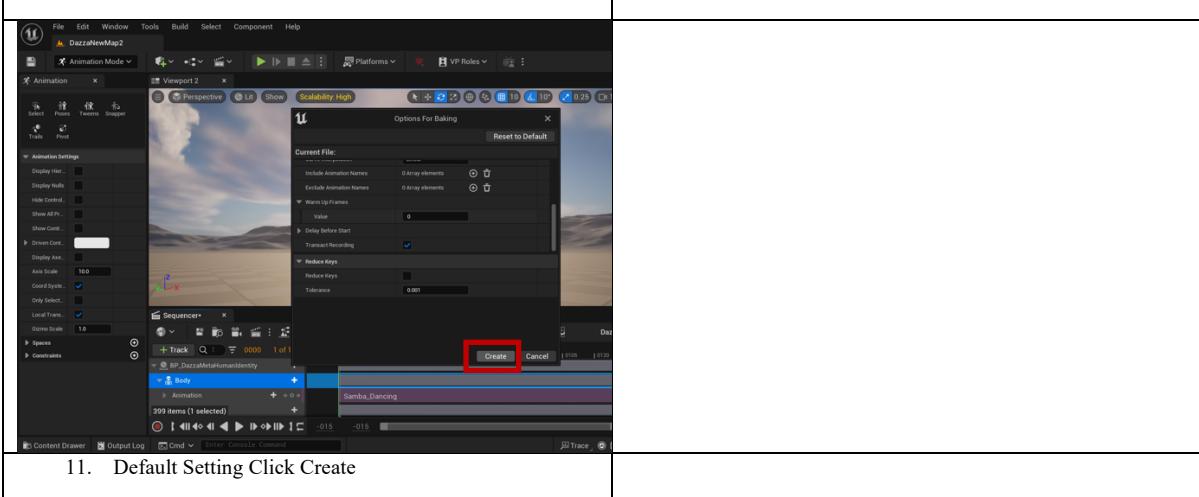
	
<p>1. Right-click on the Mixamo skeleton asset run the Retarget → Mixamo Skeleton Asset</p>	<p>2. Select the skeleton named metahuman_base_skel</p>
	
<p>3. Two IK Retargeter assets appear (RTG_<Mixamo-Skeleton> to <UE-Skeleton>, RTG_<UE-Skeleton> to <Mixamo-Skeleton>)</p>	<p>4. Only use RTG_<Mixamo-Skeleton> to <UE-Skeleton> → Click it</p>
	
<p>5. Select Animation Sequence → Export Selected Animation</p>	<p>6. Retargeted Animation Sequence appears in the folder</p>



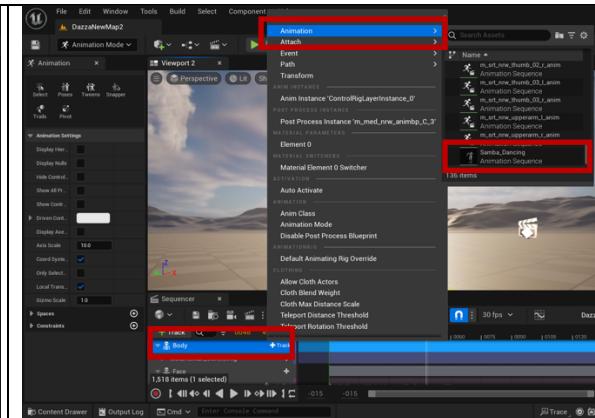
7. **Optional Method:** Select Body → Animation → Change Animation Mode to Use Animation Asset → Dope Retarget Animation to Anim to Play



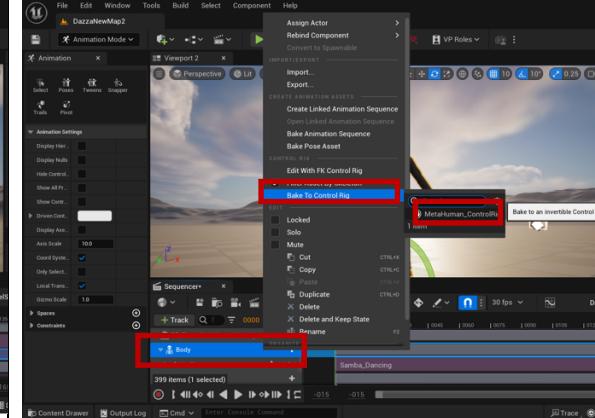
9. Delete Metahuman Body ControlRig



11. Default Setting Click Create



8. **Best method:** Select Body → Animation → Select Retargeted Animation Sequence



10. Select Body → Back To Control Rig → Metahuman ControlRig



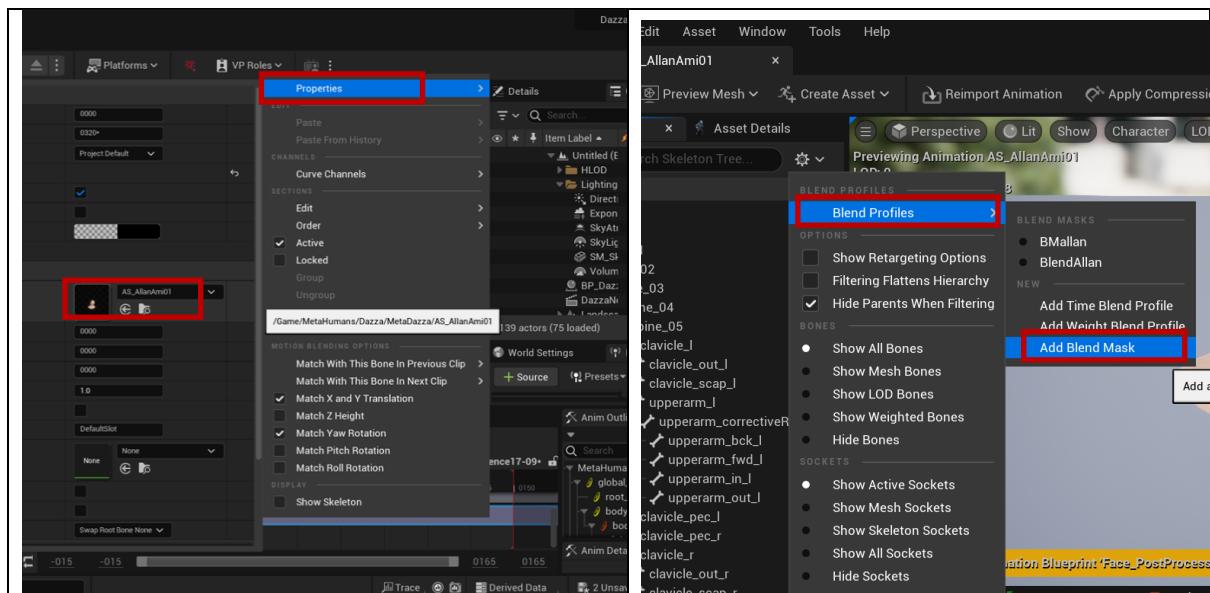
Result of Maximo to Metahuman Retargeted Body Animation

Tips for UE 5.2 Head Reattachment

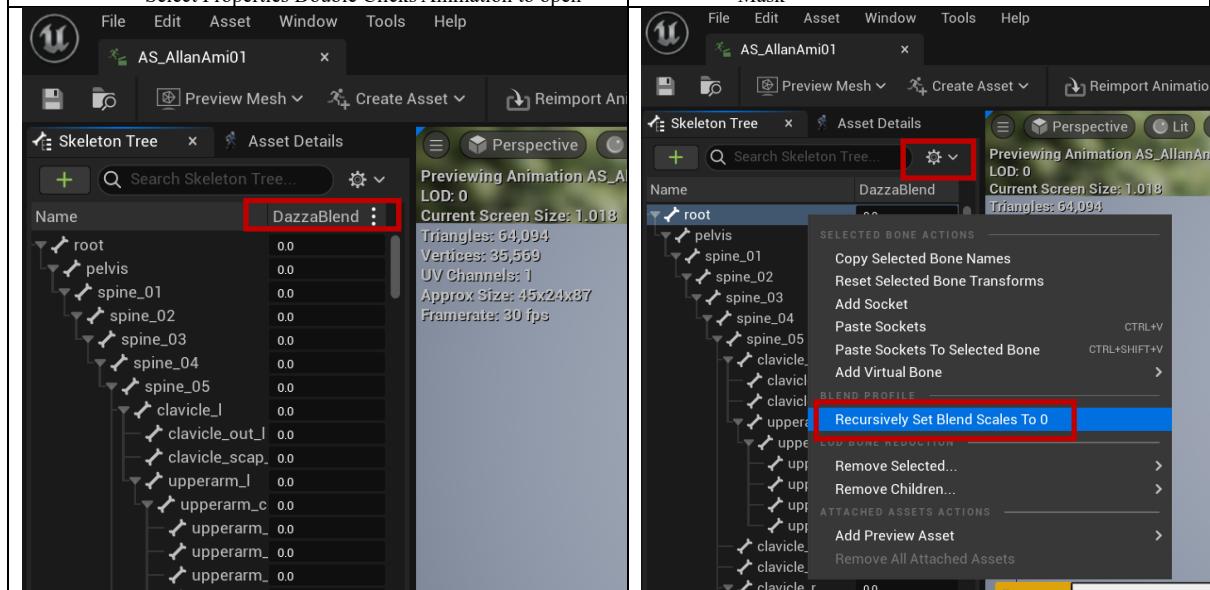
Fix issuers that face animation does not connect with the body when playing back the recorded performance on the iPhone / iPad Live Link Face.



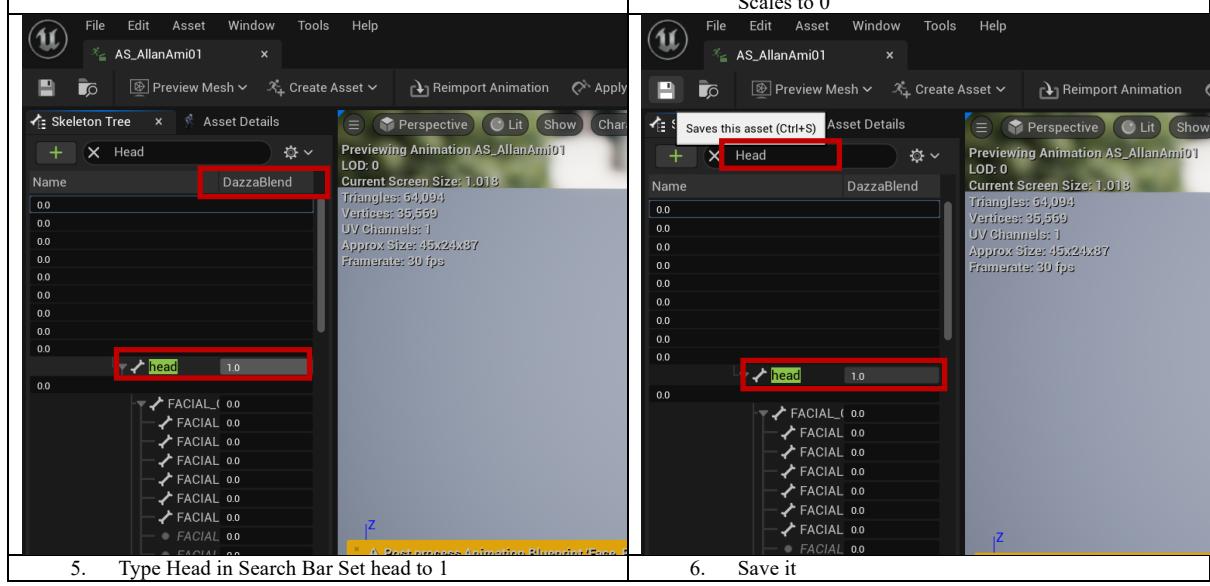
Face animation does not connect with the body



- Right Click in the Performance in the sequence timeline
→ Select Properties Double Clicks Animation to open

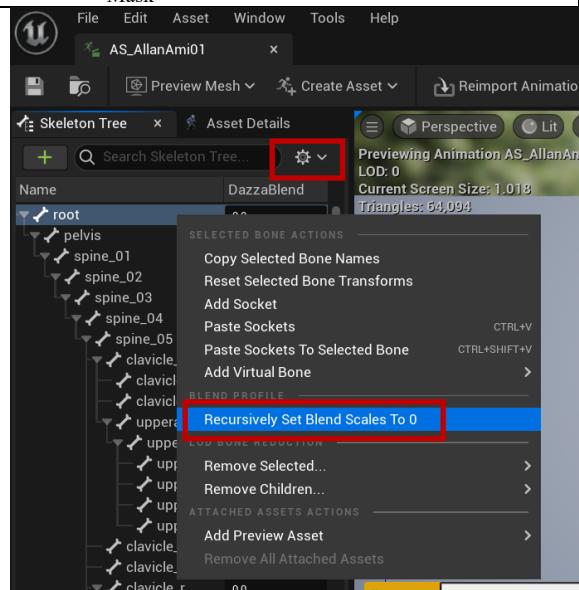


- Give a Name

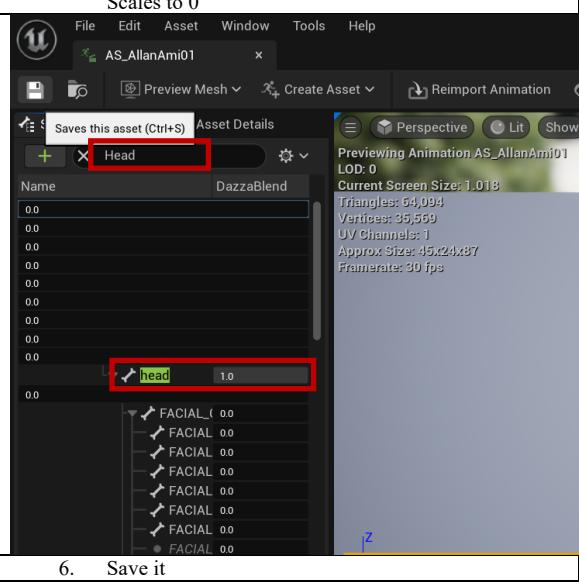


- Type Head in Search Bar Set head to 1

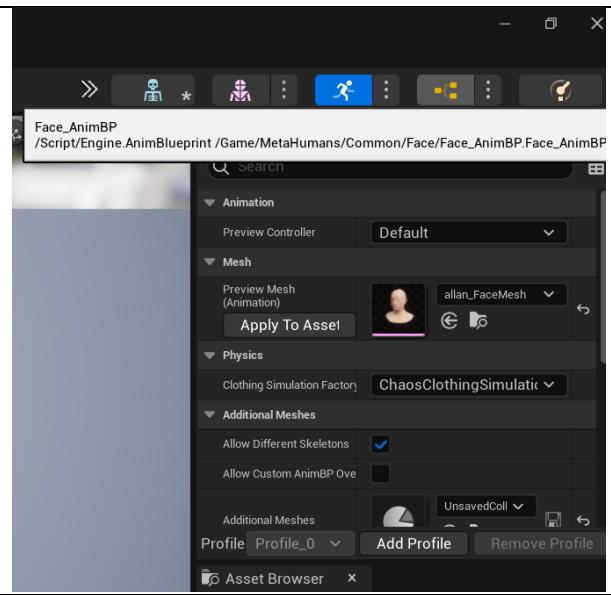
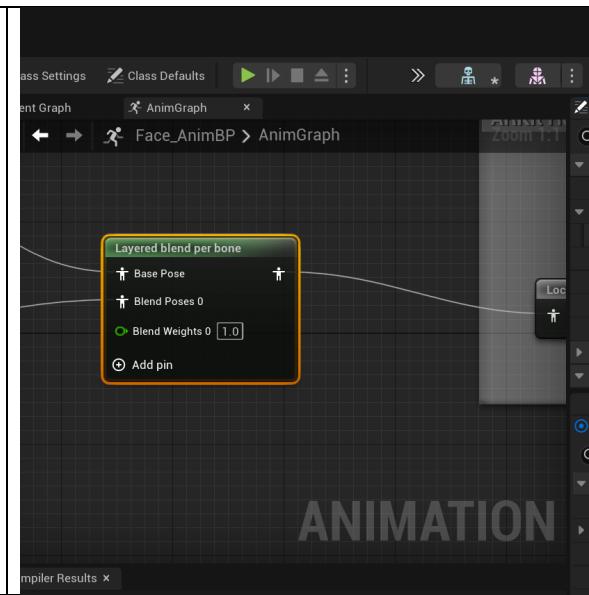
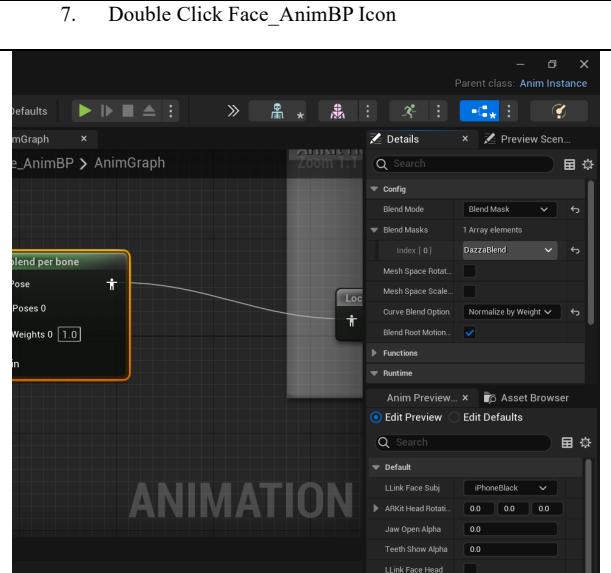
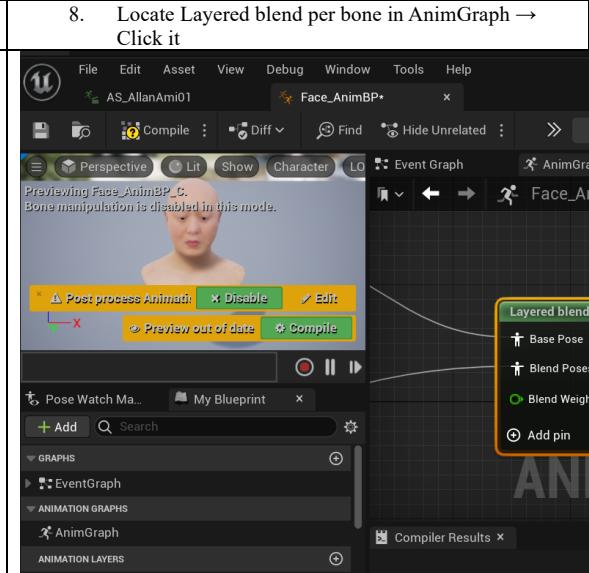
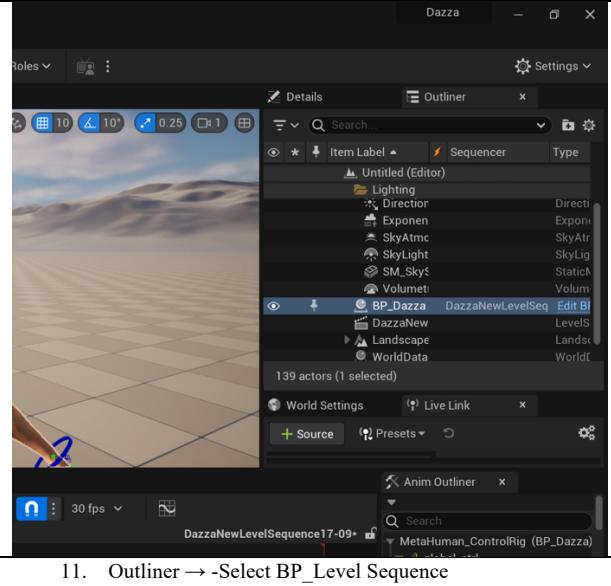
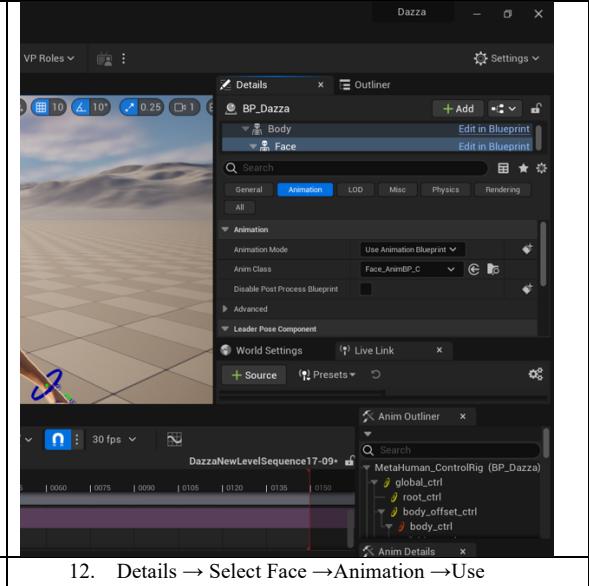
- Click Gear Icon → Blend Profiles → Add Blend Mask

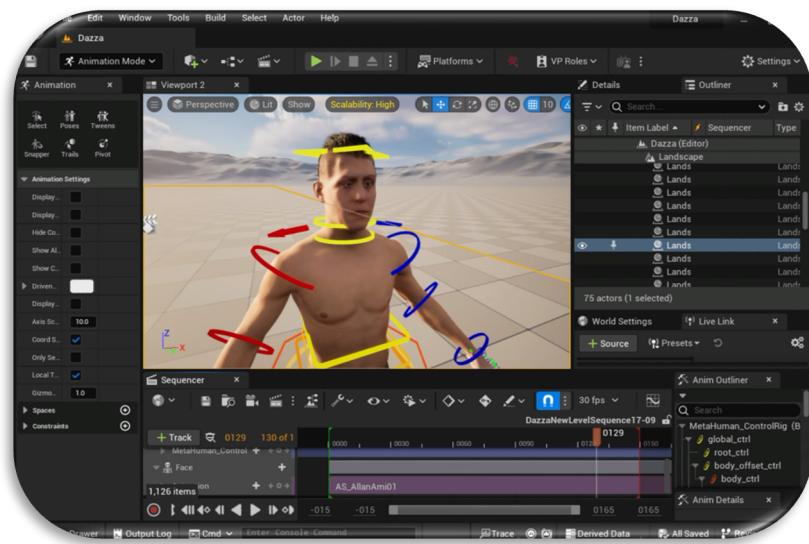


- Right Click on root → Click Recursively Set Blend Scales to 0



- Save it

	
<p>7. Double Click Face_AnimBP Icon</p> 	<p>8. Locate Layered blend per bone in AnimGraph → Click it</p> 
<p>9. Blend Mode Select Blend Mask → Blend Masks → Select the Name Created → Curve Blend Option → Normalize by Weight</p>	<p>10. Click Compile Button → Save it</p>
	



Result of Face animation connects with the body