HI5 2.0 BASIC SDK UNREAL ENGINE

STEAMVR SERIES

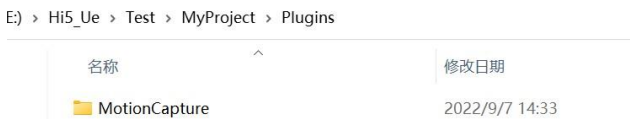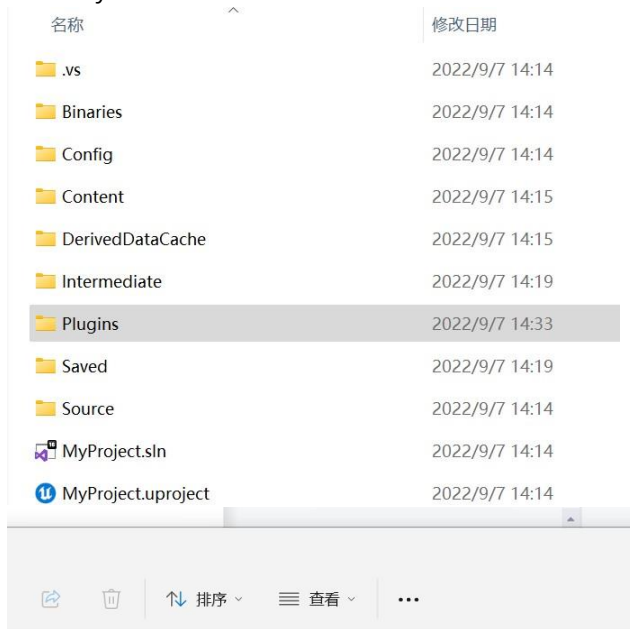# Contents

Create New Project

Create new C++ Project
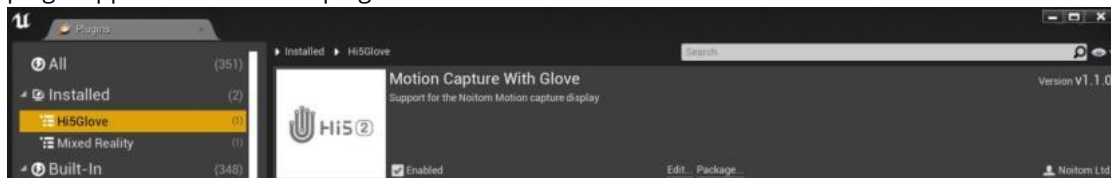
Plugin Import

1. Close the project.
2. Open the project folder and create a new Plugins folder. Copy the plugin MotionCapture to the Plugins directory.

3. Reopen the project, click the menu item: Editor -> Plugins, and confirm Motion Capture With Glove. The plugin appears. Activate the plugin and click Restart for it to take effect.

4. Make sure the steam vr plugin is also activated
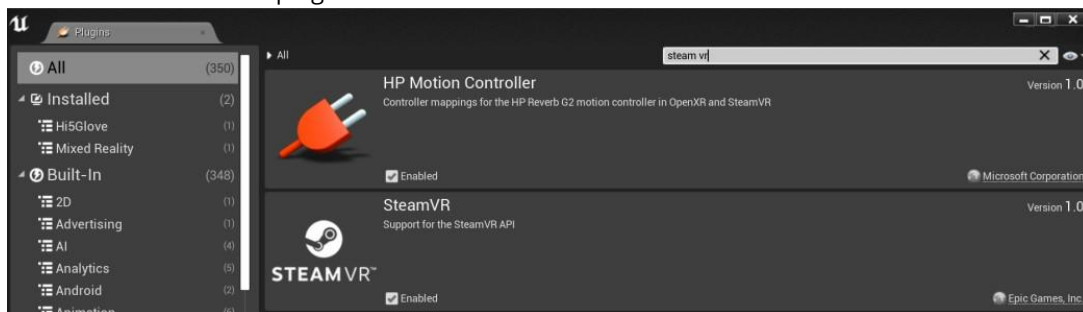
Add engine Collision settings:

Open the Edit->ProjectSettings->Engine->Collision directory to set

1. Add Object Channels:

    Click the New Object Channel button to add Hi5Help, as shown below

2. Add Preset:
    Click the New button to add Hi5Help, as shown below
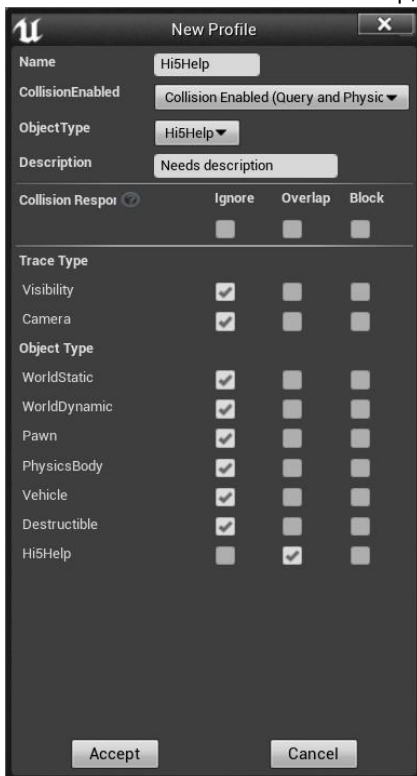
3. Set Hand Collision

Open the Hands blueprint under Content\NoitomHands\Logic
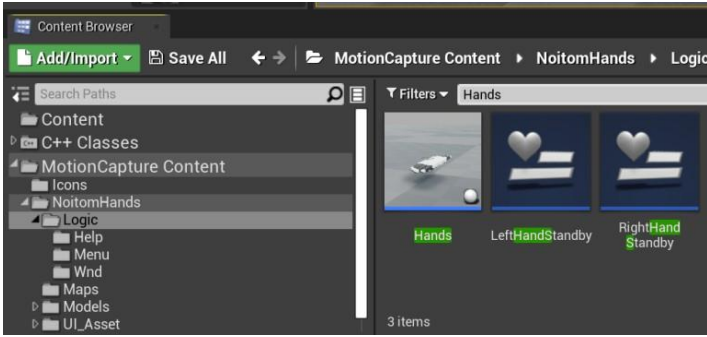
Open Content\NoitomHands\Logic\Help, set Hi5HelpBoxComponentBp,
The Collision Presets of the 3 blueprints Hi5IndexBoxComponentBp and
Hi5OpenFingerBoxComponentBp are set to Hi5Help.
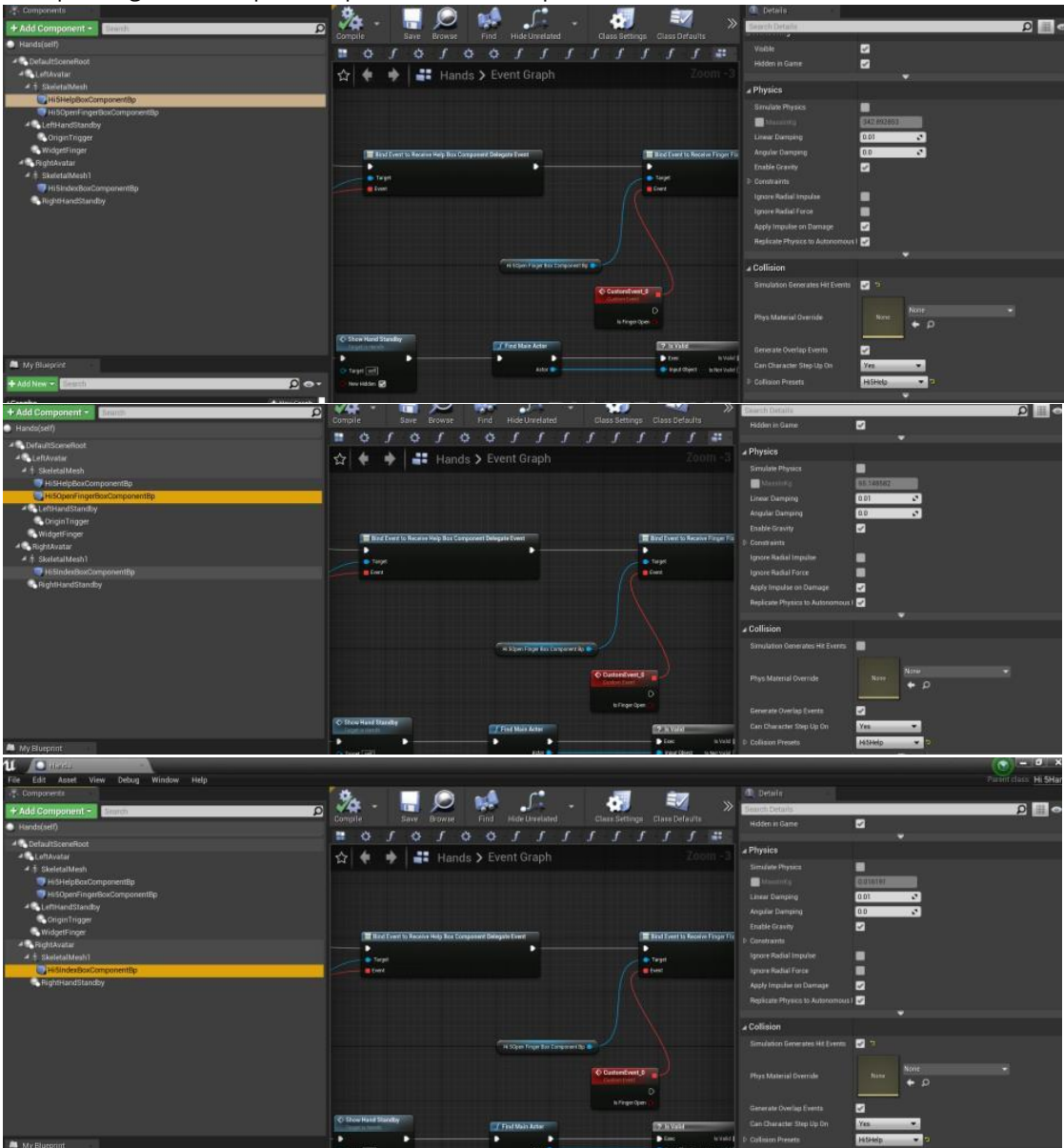
Quickstart

1. Make project settings.
   Click the menu items in turn: Editor -> ProjectSettings->Maps&Modes
   set up:
   a. Default Modes: Hi5CalibrationGameMode
   b. Default Pawn Class: CalibrationPawn
   c. Editor Startup Map: CalibrationMap
   d. Game Default Map: CalibrationMap
   e. Game Instance Class: Hi5CalibrationGameInstance
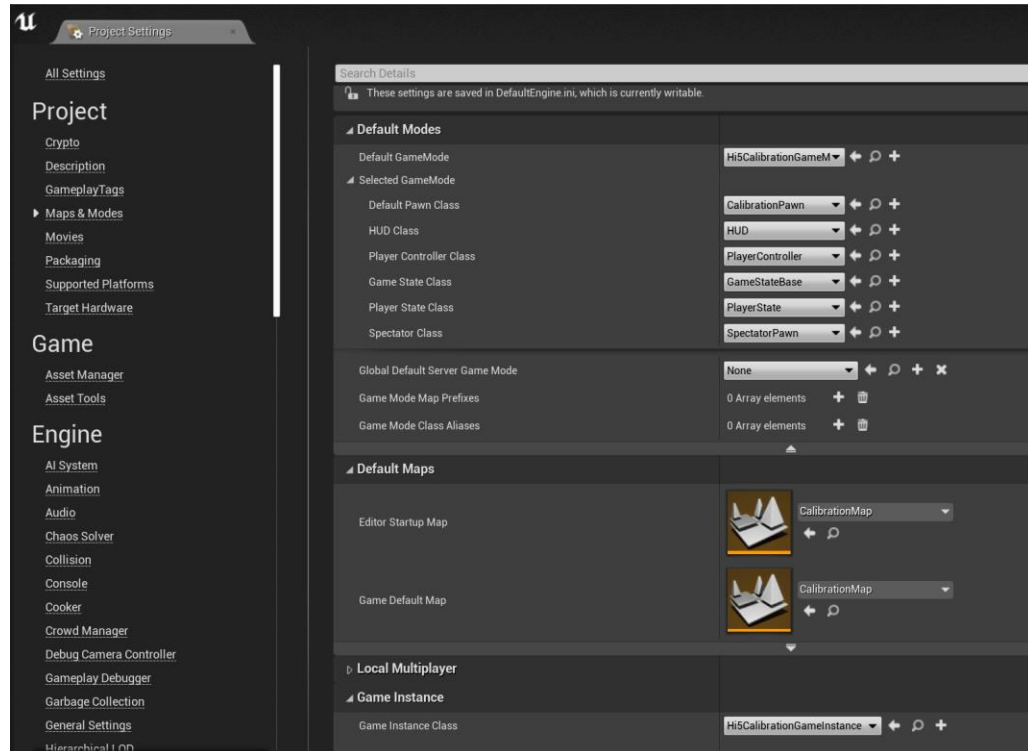
2. Open CalibrationMap under Content\NoitomHands\Maps, compile and save.
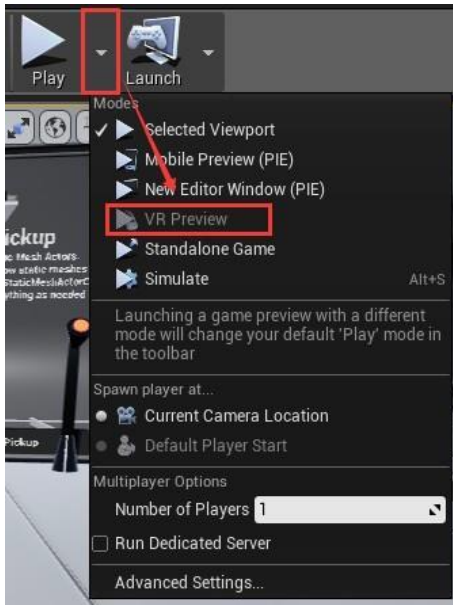
3. After the above steps are completed, you can run the VR Preview mode to use the Hi5_2 Unreal SDK.

   *Note: If the VR mode is grayed out and cannot be clicked, please check whether the headset cable is connected correctly and whether the steam vr software can be used normally.

Pack

Click File->Package-> Windows (64-bit) Package
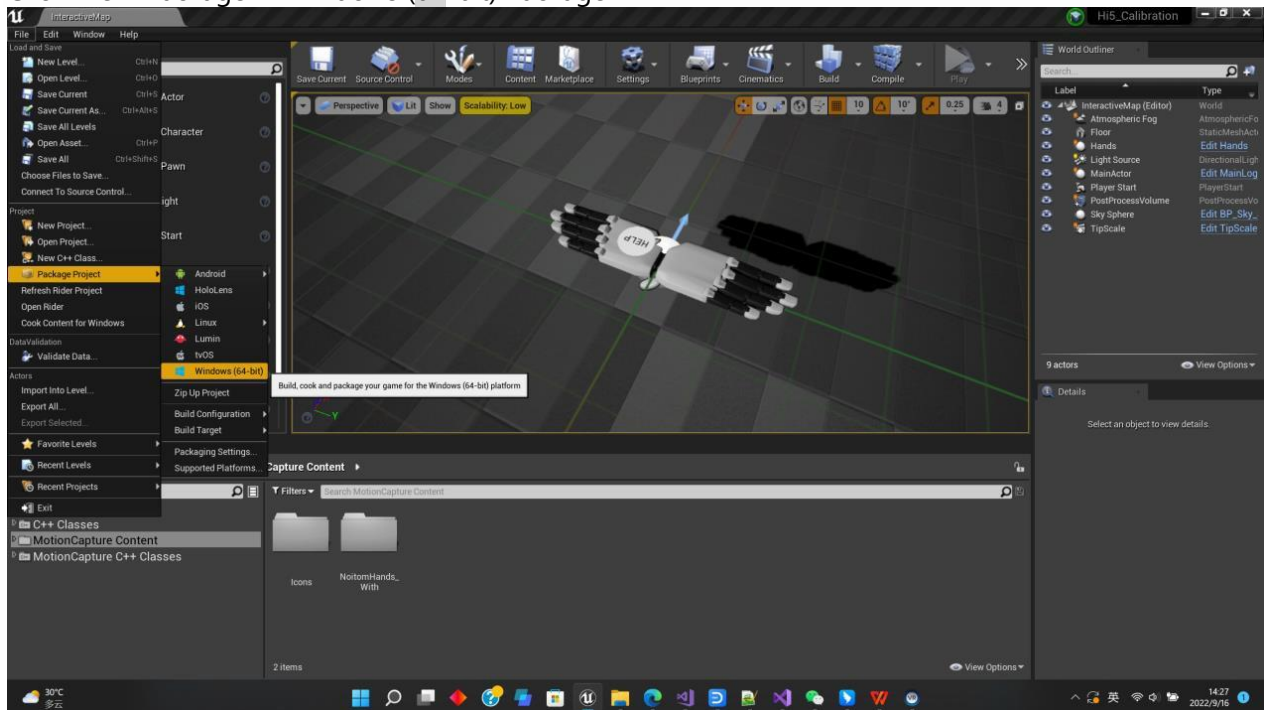
Pointer Function

1. Default setting: Select Hands in World Outliner, and the Is Open Finger option under Hi5 can set whether to open the fingering function.
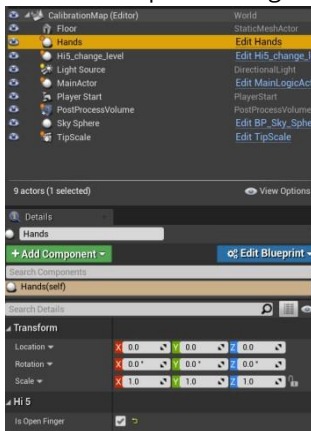
2. Modify during operation: During operation, use your right index finger to click the FingerFixed logo on the back of your left hand, and choose whether to enable the split finger function.
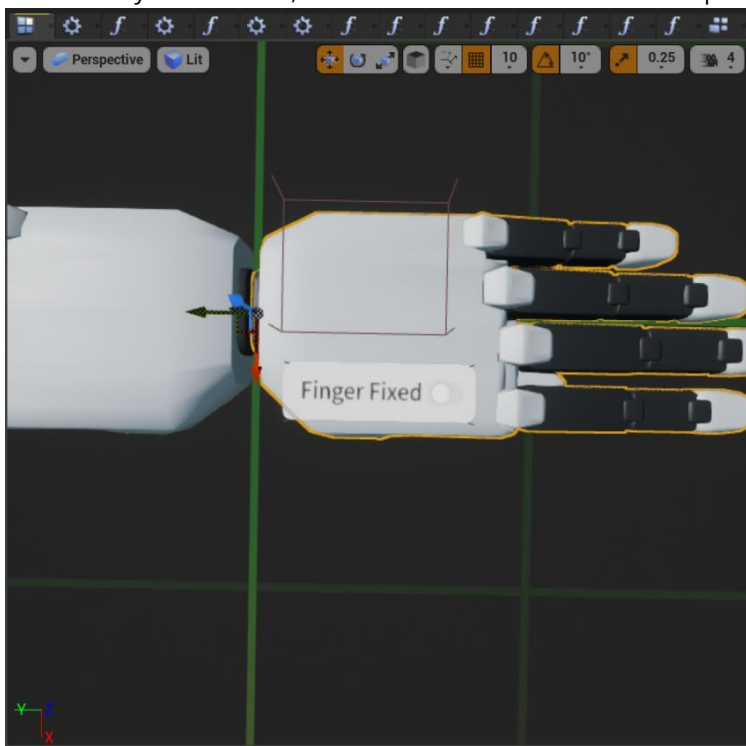
Switch Scenes

Open the Hi5_change_level blueprint under Content\NoitomHands\Logic, and set the Level Name to the Map you want to switch.

Set as shown in the figure below, click keyboard 1 to switch back to the CalibrationMap scene from other scenes.
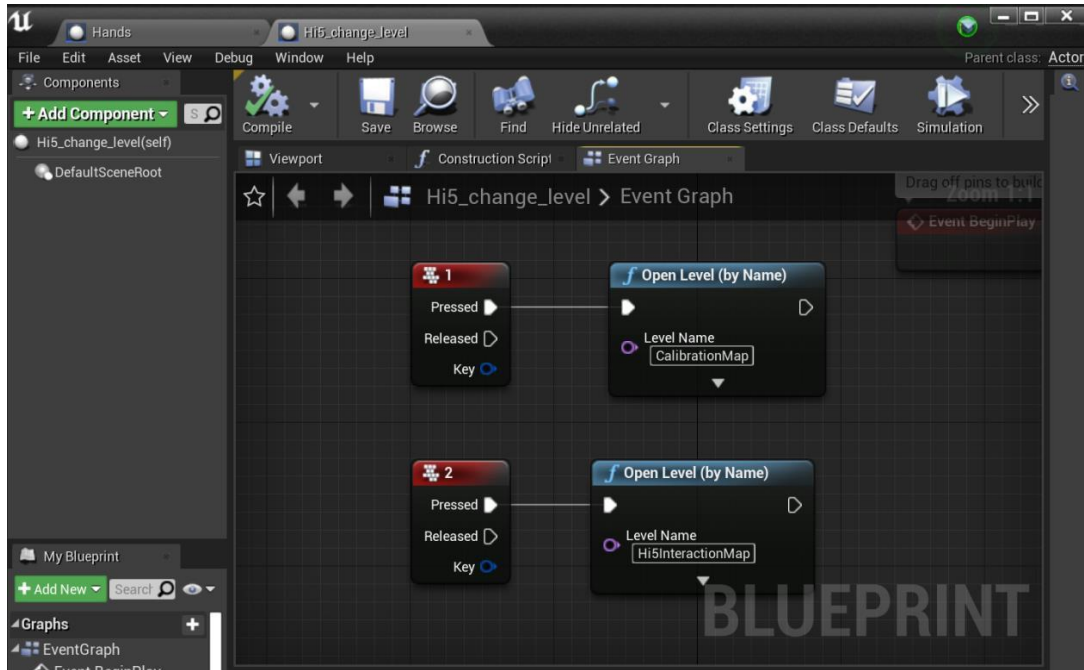
Related asset catalog

MotionCapture\Content\NoitomHands

3. Logic folder: Calibration UI interface related blueprints
   a. CalibrationPawn: Use Pawn for the default calibration, providing related camera Camera and HMD click button function.
   b. Hands: The Actor contains the hands UMotionCaptureAvatarComponent component, through SkeletalMeshComponent binds hand animation blueprints and meshes.
   c. MainLogicActor: This Actor integrates the relevant calibration Ui interface and related logic. Contains MainFrameContainer widget (calibration UI interface content display) and MainMenuContainer widget (calibration button panel)
   d. The Menu folder contains subcomponent widgets used by the MainFrameContainer widget
   e. The Wnd folder contains the subcomponent widgets used by the MainMenuContainer widget
4. Map folder
   a. CalibrationMap: Calibration scene Map
   b. Hi5CalibrationGameInstance: Hi5 core module startup and exit function
   c. Hi5CalibrationGameMode: Hi5 related GameMode
5. Models' folder
   a. The Robothand folder provides related models and animation blueprints used by Hi5.
   b. The ViveModel folder provides other models used by Hi5.
6. UI_Asset folder
   a. Associated art textures used by the calibration UI.

Appendix: Hand model import and animation blueprint creation related operations

1. Import the left- and right-hand models, the import settings are as follows:
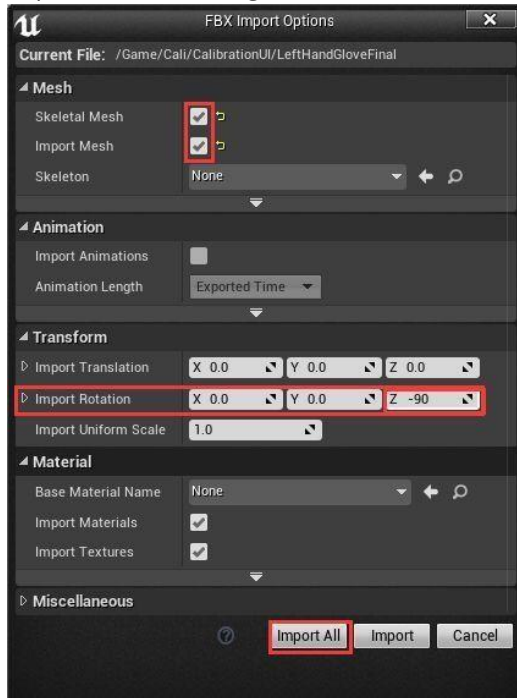
2. The pose of the model after importing is as shown in the figure
   a. left hand
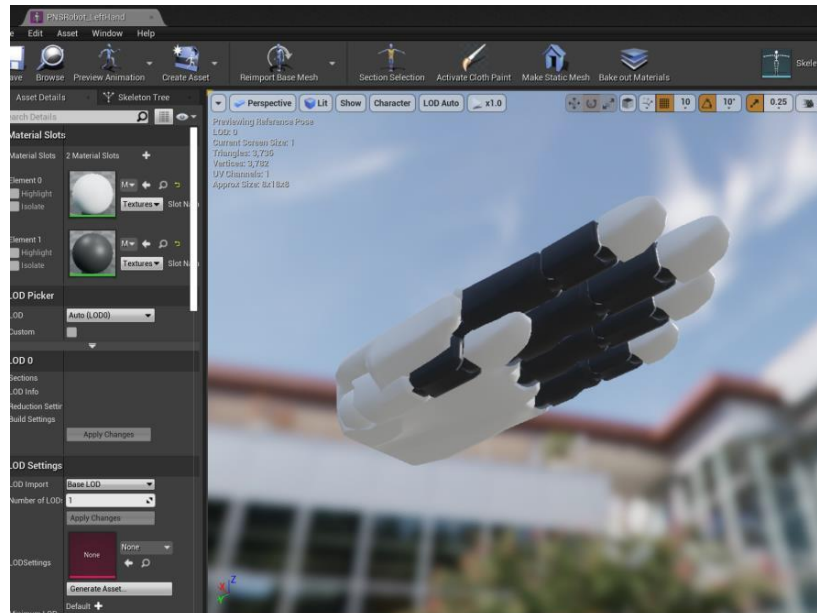
   b. right hand
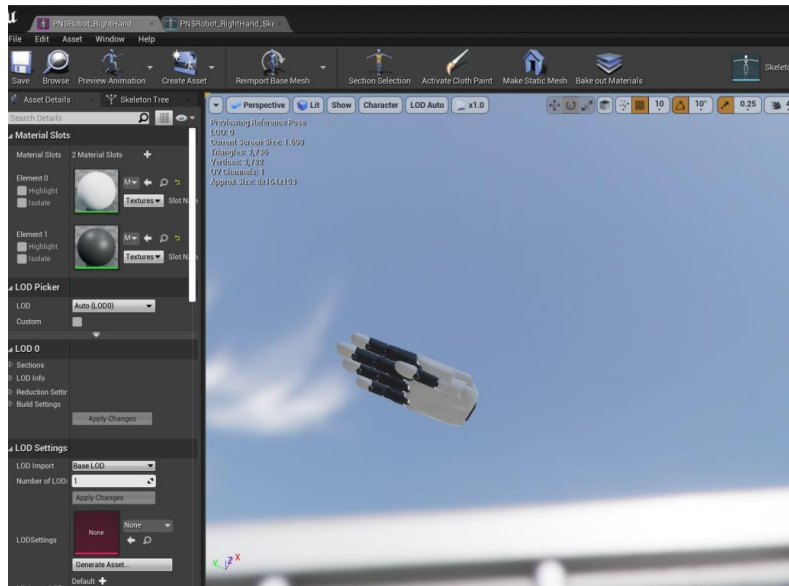
3. Create animation blueprint
   As shown in the figure below, right-click on the left-hand skeletal mesh LeftHandGloveFinal icon, and then select the Create-> [Animation Blueprint] menu item
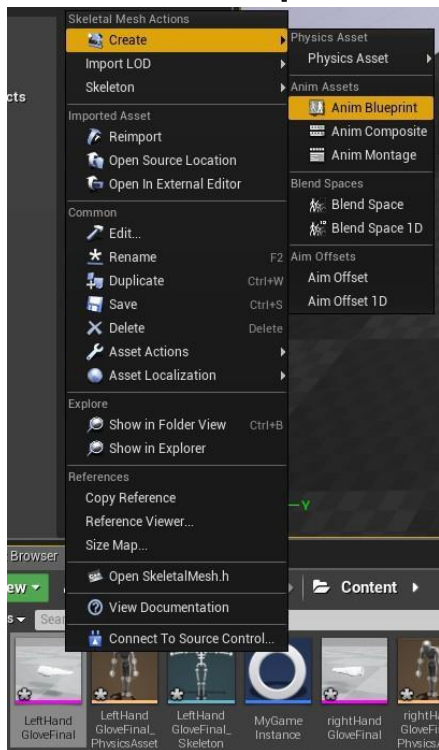
   Once complete, we can see the newly created Animation Blueprint in the Content Browser: PNSRobot_LeftHand_Skeleton_AnimBlueprint. The same is true for the right hand, creating animation blueprints.
4. Double-click the newly created Animation Blueprint to open and edit it.
   Right-click on the blank space of Anim Graph and create a NewPoseCalc type node, connect NewPoseCalc. The output of the node to the input of the Final Animation Pose node. Compile and save

the Anim Graph when done.

5. Perform bone matching
Select the NewPoseCalc node and expand BoneMap
The left hand is set according to the example picture

Right hand reference setting

Bone Map — 41 Array elements

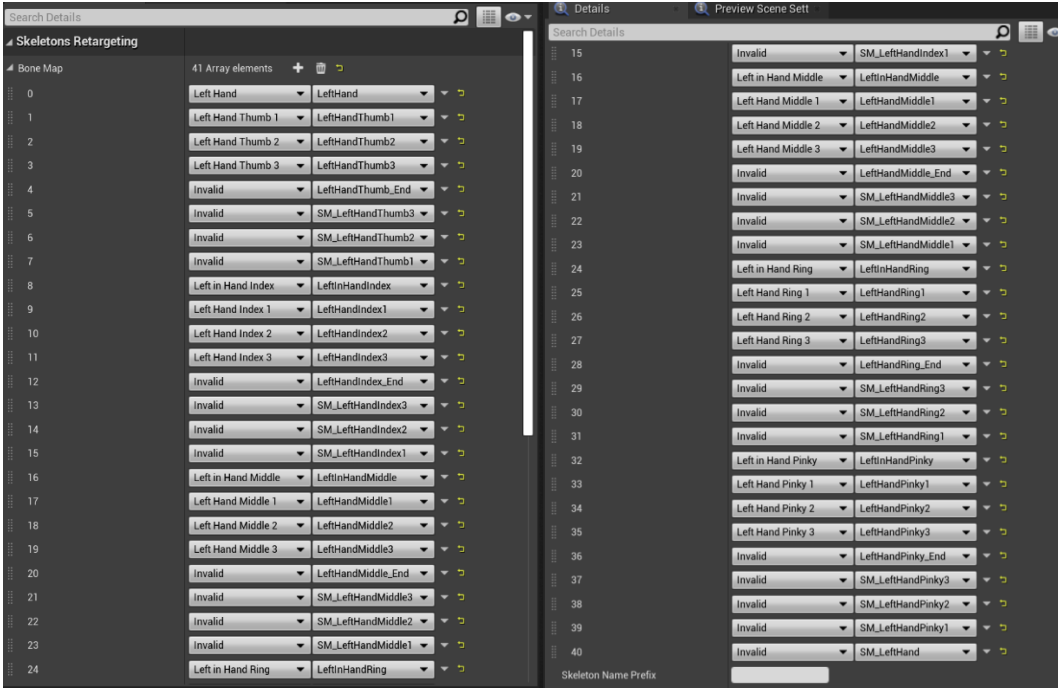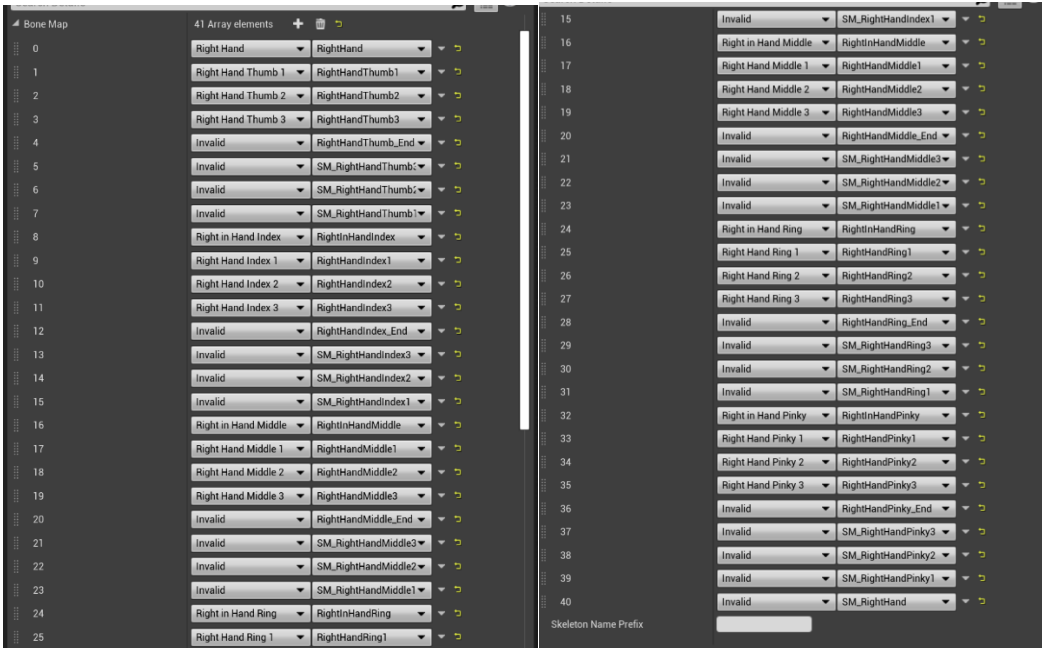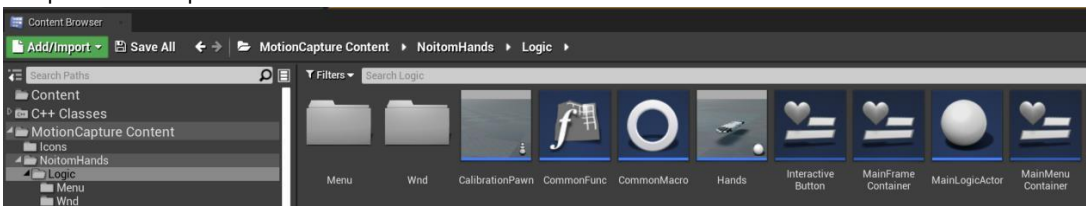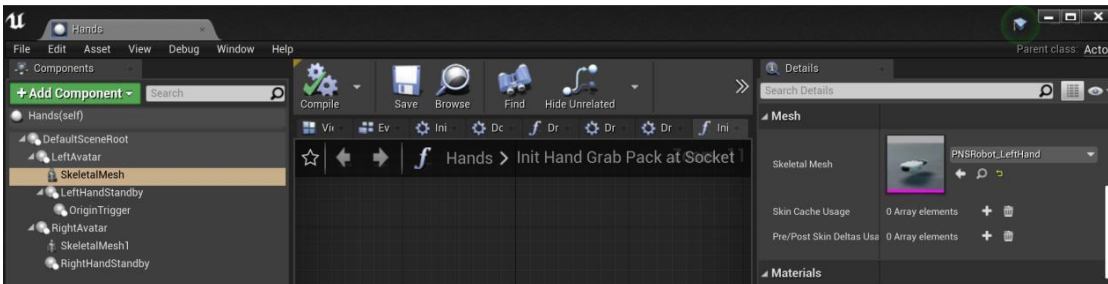| #			#		
0	Right Hand	RightHand	15	Invalid	SM_RightHandIndex1
1	Right Hand Thumb 1	RightHandThumb1	16	Right in Hand Middle	RightInHandMiddle
2	Right Hand Thumb 2	RightHandThumb2	17	Right Hand Middle 1	RightHandMiddle1
3	Right Hand Thumb 3	RightHandThumb3	18	Right Hand Middle 2	RightHandMiddle2
4	Invalid	RightHandThumb_End	19	Right Hand Middle 3	RightHandMiddle3
5	Invalid	SM_RightHandThumb3	20	Invalid	RightHandMiddle_End
6	Invalid	SM_RightHandThumb2	21	Invalid	SM_RightHandMiddle3
7	Invalid	SM_RightHandThumb1	22	Invalid	SM_RightHandMiddle2
8	Right in Hand Index	RightInHandIndex	23	Invalid	SM_RightHandMiddle1
9	Right Hand Index 1	RightHandIndex1	24	Right in Hand Ring	RightInHandRing
10	Right Hand Index 2	RightHandIndex2	25	Right Hand Ring 1	RightHandRing1
11	Right Hand Index 3	RightHandIndex3	26	Right Hand Ring 2	RightHandRing2
12	Invalid	RightHandIndex_End	27	Right Hand Ring 3	RightHandRing3
13	Invalid	SM_RightHandIndex3	28	Invalid	RightHandRing_End
14	Invalid	SM_RightHandIndex2	29	Invalid	SM_RightHandRing3
15	Invalid	SM_RightHandIndex1	30	Invalid	SM_RightHandRing2
16	Right in Hand Middle	RightInHandMiddle	31	Invalid	SM_RightHandRing1
17	Right Hand Middle 1	RightHandMiddle1	32	Right in Hand Pinky	RightInHandPinky
18	Right Hand Middle 2	RightHandMiddle2	33	Right Hand Pinky 1	RightHandPinky1
19	Right Hand Middle 3	RightHandMiddle3	34	Right Hand Pinky 2	RightHandPinky2
20	Invalid	RightHandMiddle_End	35	Right Hand Pinky 3	RightHandPinky3
21	Invalid	SM_RightHandMiddle3	36	Invalid	RightHandPinky_End
22	Invalid	SM_RightHandMiddle2	37	Invalid	SM_RightHandPinky3
23	Invalid	SM_RightHandMiddle1	38	Invalid	SM_RightHandPinky2
24	Right in Hand Ring	RightInHandRing	39	Invalid	SM_RightHandPinky1
25	Right Hand Ring 1	RightHandRing1	40	Invalid	SM_RightHand

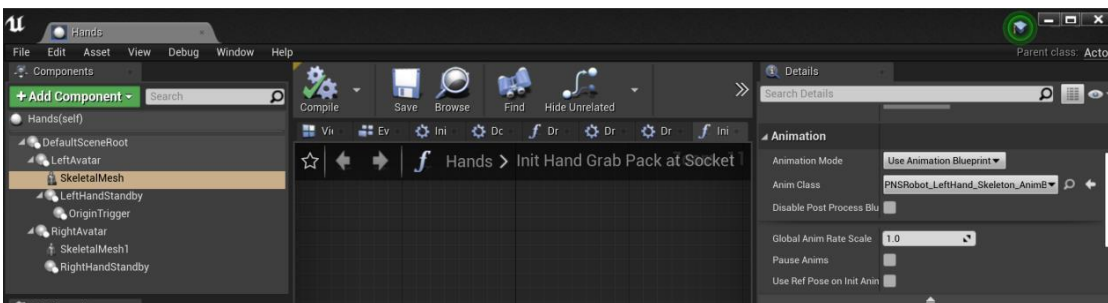Skeleton Name Prefix

6. Modify the Actor (Hands)
   Select Hands (do not copy the new blueprint to use, because there is related blueprint logic in it) click to open the blueprint

   Set Mesh

   Set Anim classes

   The same is true for the right hand.

7. Save and compile after setting.
8. Scene Setup
   Drag Hands into the scene and set Transform as follows

Drag the MainActor into the scene