GROUP OF VIRUAL CHARACTERS

Content: ## Software/Hardware specification; ## Launching the Project via GitHub Repository; ## Opening Project in Unity; ## Preparing Unity project for Character Creator 4; ## LipSync in iClone8; ## Transfering animation from CC4/iClone8 into Unity; ## Setting up animation from CC4 into Unity;

Character head movement tracking player;

- Audio;
- Using Premade Materials (from Substance Painter) in Unity;
- Types of avalable files;







VR Headset: Meta Quest 3



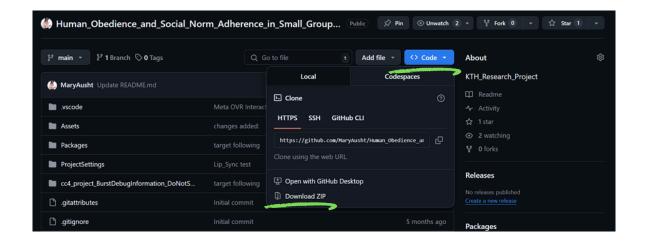
Character Creator: v4.52



iClone: v8.52

\$\text{Launching the Project via GitHub Repository;}

- Open your browser and navigate to the GitHub repository of the project;
- Click on the Code button and select Download ZIP or copy the HTTPS URL;



If using Git:

- Open a terminal in your desired folder;
- Run: git clone <repository-url>;
- After downloading/cloning, open Unity Hub;
- Click Add Project, then navigate to the folder containing the cloned project and select it;
- The project will now appear in Unity Hub. Select the correct Unity version (2022.3.39.f1), then click Open.

\$\text{Opening Project in Unity;}

- Launch Unity Hub.
- In the Projects tab, click Open.
- Navigate to the folder containing the Unity project (either from GitHub or local source).
- Select the folder and press Open.
- Wait for Unity to load and recompile scripts.
- Ensure you have the required packages installed (e.g., Animation Rigging, URP/HDRP depending on setup).
- If errors appear, check console logs and resolve missing dependencies via Package Manager.

Preparing Unity project for Character Creator 4;

Step 1. Download Auto SetUp for Unity.



URP

download ZIP.file

HDRP

download ZIP.file

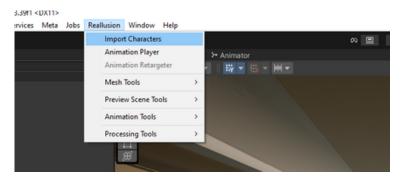
*The Unity HDRP template can be used with the Meta Quest 3 headset via link cable for VR experiences (<u>tutorial</u> <u>HDRP VR project for Meta Quest 3</u>)

! Please ensure that the release version of the package you are downloading is compatible with the Unity version of your project.

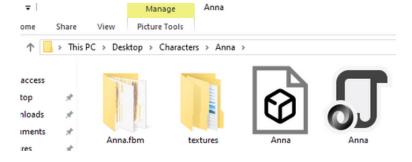
Step 2. Transfer Character Creator models.



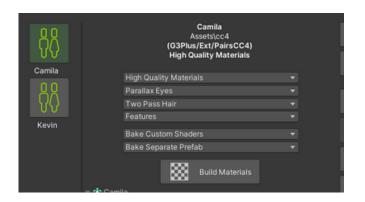
YouTube tutorial



Create a folder for the character in your project, and then drag and drop all 4 files into it.



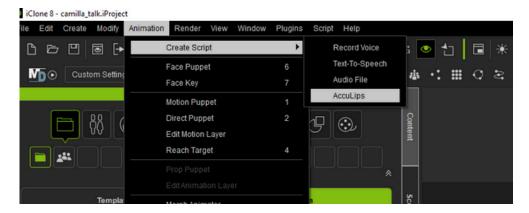
In the menu shown below, click 'Build Materials'



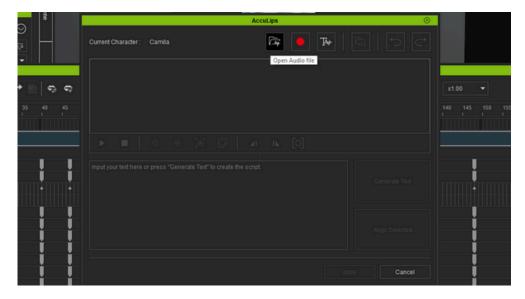
! Important: If you are working in a URP project, ensure that the 'Tessellation' option under the Features menu is unchecked; otherwise, it may cause material errors.

\$\times\$ LipSync in iClone8;

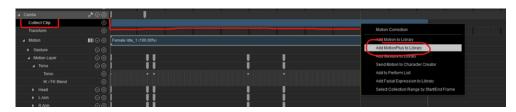
- 1. Open your project from CC4/iClone8 or import a 3D model
- 2. Select the model you want to animate and use the "AccuLips" feature to create lip-sync animation



- 3. Upload the audio file containing the character's speech
- Click "Generate Text" to create a transcript
- Review and correct any mistakes in the text
- Click "Apply" to finalize



- 4. Prepare your animation for transfer to CC4
- On the timeline, locate the "Collect Clip" track
- Click and drag the cursor to cover the entire animation
- Right-click the highlighted section and select "Add MotionPlus to Library"
- Choose a folder to save your project

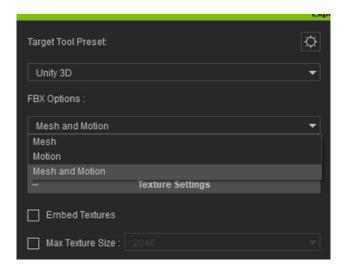


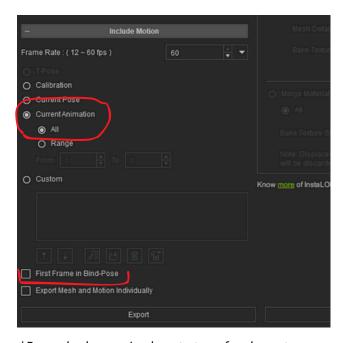
To render the final animation file for use in Unity, import the "MotionPlus" file into CC4

Transfering animation from CC4/iClone8 into Unity;

From CC4 to Unity

- Go in CC4 software and choose character that you want to transfer to Unity
- Add the animation that you want this character to have if needed
- Go to File → Export → FBX → Clothed Character
- Adjust your settings by selecting the target game engine and file type to save





*Example showcasing how to transfer character + animation

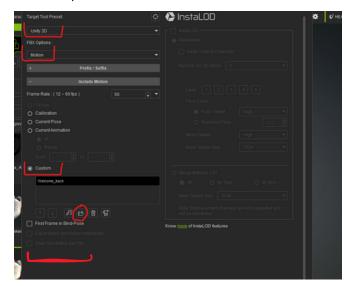
! Important: When you transferring Mesh activate function "delete hidden faces"

From iClone8 to Unity

- Go in CC4 software and choose any character (the specific character doesn't matter as you only need the animation file)
- · Select the character
- Go to File → Import, then select the MotionPlus file you previously saved using iClone8
- When you applied animation on character, follow the steps shown bellow

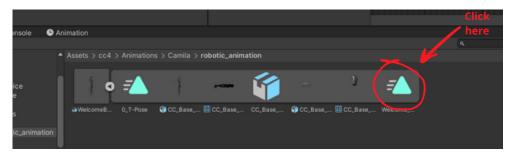


- Adjust your settings by selecting the target game engine and file type to save
- Choose the "Custom" setting and upload your "MotionPlus" file
- Click Export to finalize

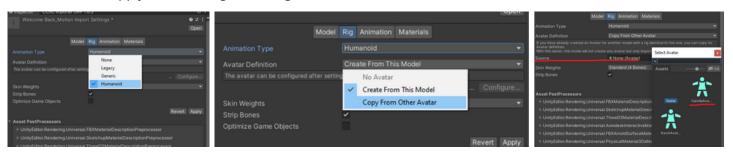


Setting up animation from CC4 into Unity;

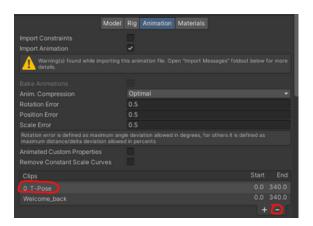
- 1. Create a new folder in your Unity project for animation files
- 2. Drag and drop the rendered file from CC4 into this folder (select the specific file you need as shown in the picture below)



- 3. Select the file, then:
- Edit the Animation Rig section by adjusting the Type and Definition settings (refer to the picture for details)
- Click Apply after making the changes



4. Go to the Animation section and delete the T-Pose from the animation list



- 5. Create an Animator for your character:
- Navigate to **Window** → **Animation** → **Animator**
- Attach the Animator to your character
- Drag and drop the fixed animation clip into the Animator window

% Character head movement tracking player;



YouTube Setup Tutorial

1. Install Animation Rigging Package:

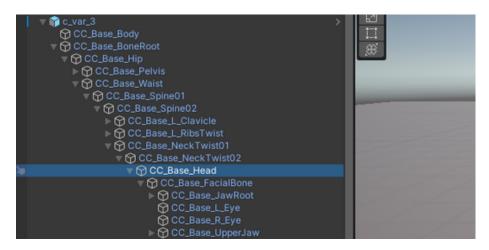
- Open Unity's Package Manager
- Search for "Animation Rigging" and install it

2. Add Rig Builder Component:

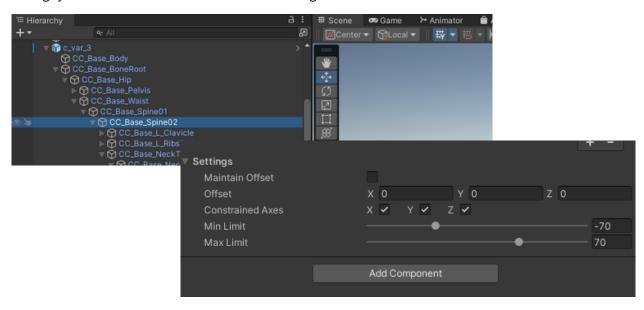
- On the character, add a **Rig Builder** component.
- Create an empty GameObject as a child of the character for rigging, and name it "Rig."

3. Create and Configure a Rigs:

- Inside the "Rig", create a new empty GameObject and name it (e.g., "HeadAim")
- Add a **Multi-Aim** Constraint to the "HeadAim"
- Assign the head bone of the character's rig as the constrained object



*Optional: Repeat this step for the "Base_spine" bone to add slight torso rotation. Adjust the torso's settings for smooth movement and natural blending with the head.



4. Create a Target GameObject:

- Add an empty GameObject in the scene to serve as the target.
- Position it relative to the character appropriately.
- Make this target a child of the camera, ensuring the character follows the camera's direction.

Audio;

Robotic audio generated using this <u>Voice Generator</u>

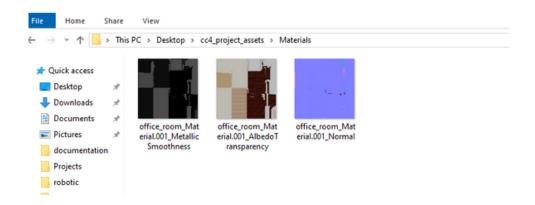
- @Female voice: Google UK English Female;

For audio enhansment used:

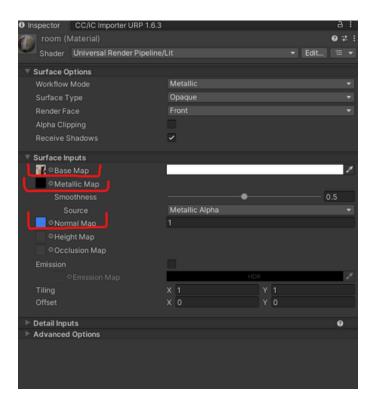
• Adobe podcast

🤭 Using Premade Materials (from Substance Painter) in Unity;

- 1. Create a new folder in your Unity project for materials
- 2. Create a new material in Unity
- 3. Drag and drop the material textures (e.g., Albedo, Metallic, Normal) into the folder.



- 4. Click on the material's circle icon. In the Inspector assign textures as follows:
- Albedo → Base Map
- Metallic → Metallic
- Normal → Normal Map (click Fix Now when prompted).



5. Once all textures are assigned, drag and drop the material onto your object in the scene

Types of avalable files

- Characters for Unity Ready-to-use character files for the game engine.
- Unity Animations Animation files prepared for direct transfer to Unity.
- MotionPlus Files Collected animations from iClone, exported via CC4 for Unity (instructions provided in the documentation). These files can also be used in iClone for further adjustments and animation modifications.
- Project Files:
 - Character Projects Used for character adjustments.
 - Animation Projects Used for animation adjustments (cannot be transferred directly to the game engine).