XYN

XYN Motion Studio Motion Edit User Guide

Sony Corporation

Contents

Introduction

What is XYN Motion Studio?

Next Dimension^{n} of Creativity

XYN

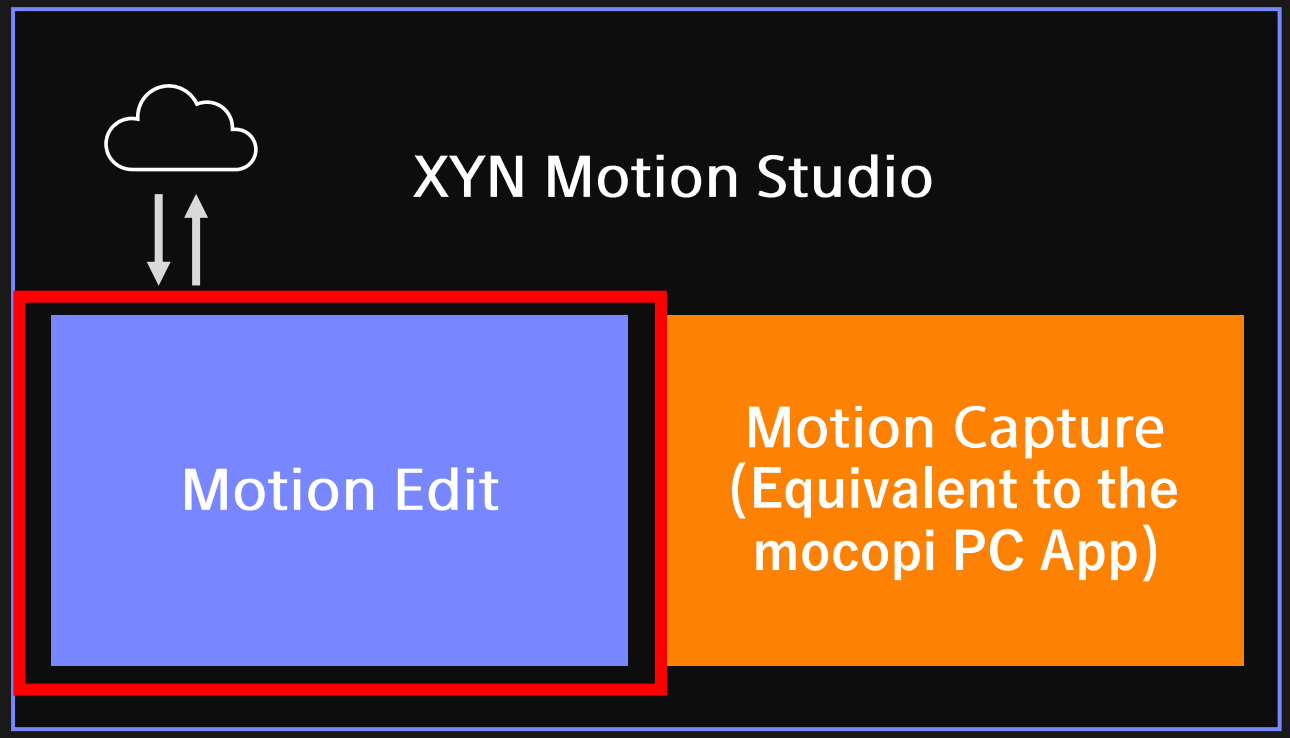
XYN Motion Studio is an integrated application leveraging the motion capture tool "mocopi®." Supporting capture, timeline editing, and utilization, XYN Motion Studio streamlines the production process by making motion production easier.

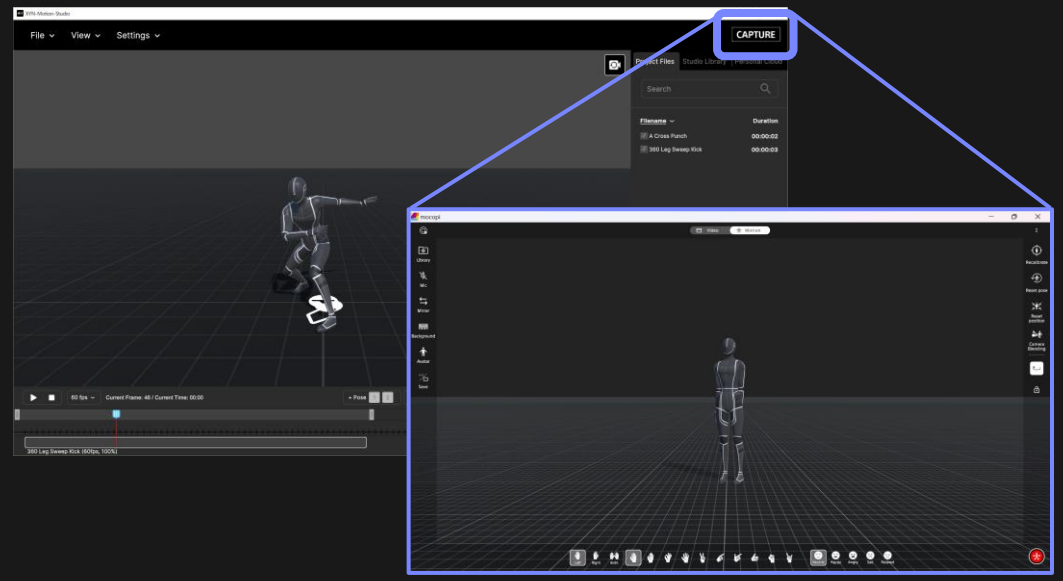
This guide describes the major operations and specifications of the app.

XYN Motion Studio app structure

"XYN Motion Studio" contains capture function **equivalent to the "mocopi PC"**.

This User Guide explains "Motion Edit".

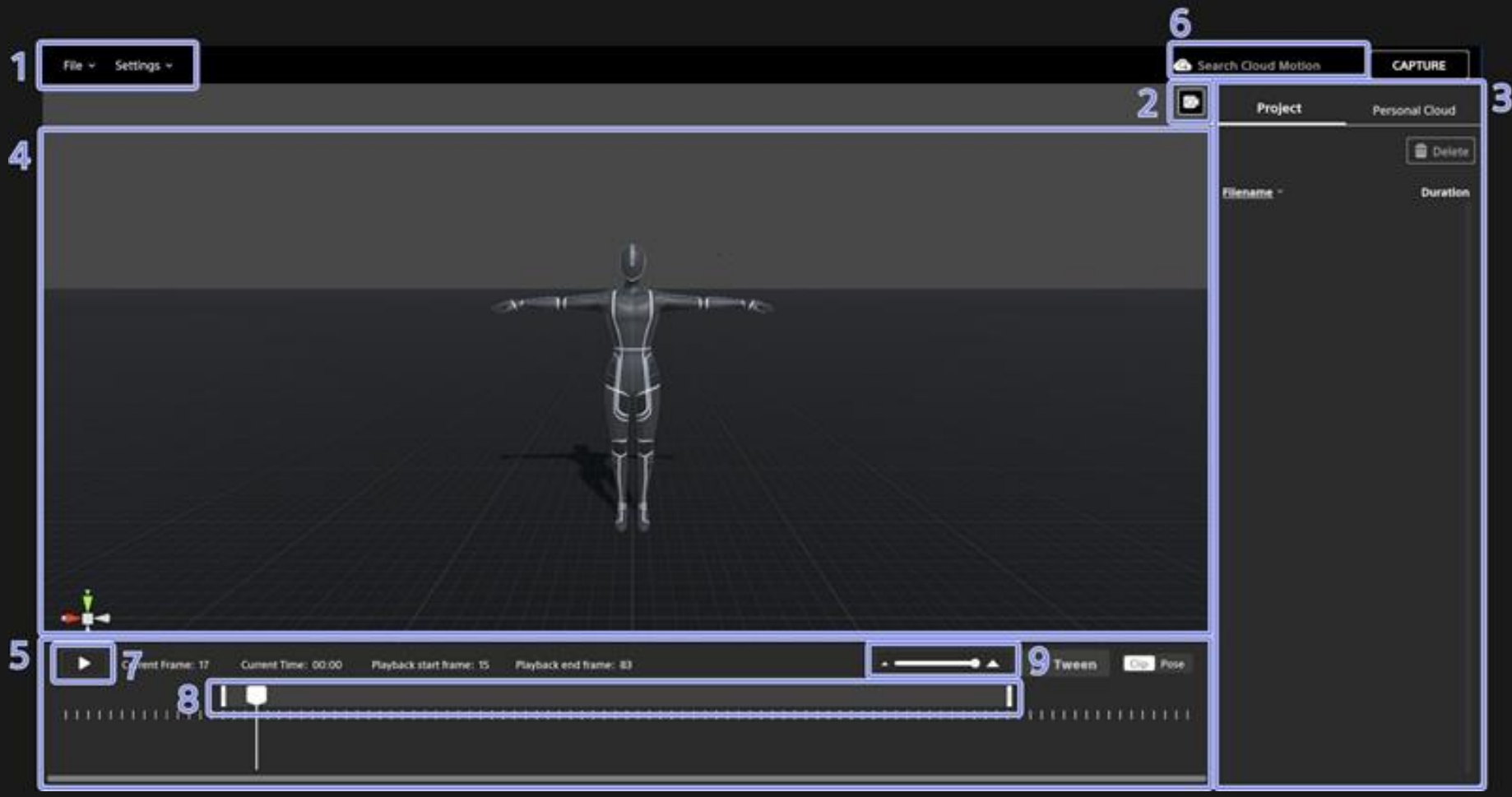




UI Overview

UI Overview

1. Top Menu
2. Reset Camera button
3. Side Panel
4. 3D Work area
5. Timeline
6. Search area
7. Play/Stop button
8. Playback range selector
9. Scale slider



Operation Guide - Basic Operations -

Basic Operations

Launching App

Initial startup:

1. Download "XYN Motion Studio" from the Microsoft Store.
2. Select the "XYN Motion Studio" icon from the Start menu to launch the application
3. Select your place of residence and click on [Start].
4. Read the displayed message. If you agree, select the checkbox and click on [Proceed].
5. Click on [Sign In].
6. An external browser will launch, and the Microsoft account sign-in screen will appear.
7. Log in with a personal Microsoft account. If you're already logged in, simply select the corresponding account.
   Note: Organization accounts, such as those for work or school, cannot be used to log in.
8. After successful login, you can close the browser and return to the App.
9. Click on [Start Creating].

Second time and after:

1. Select the "XYN Motion Studio" icon from the Start menu to launch the application
2. Click on [Sign In].

Basic Operations

Search Motion By Text

Search

1. Enter your text in the search area.
2. Press the enter key.
3. Once search results are ready, they will be displayed on the left side of the app.
4. Each individual search result can be viewed in detail, you can navigate within the 3D space of each result, in a similar way to what is described in the Moving the 3D Camera section.

Basic Operations

Search Motion By Text

Reviewing and Selecting Search Results

1. Results will begin to be dynamically loaded, and results will populate on the screen, 4 at a time.
2. Use the pagination buttons at the bottom to navigate through the pages of results.
3. Click on [Add] to add the clip to the project. The clip will be added to the [Project] tab, and [Add] will change to ✓ .
4. Clips with ✓ are listed in the [Project] tab. Clicking on ✓ again will delete the clip from the project.
5. To return to the Home Screen, users will click the “X” in the upper right-hand corner of the Search Motion Results Window.

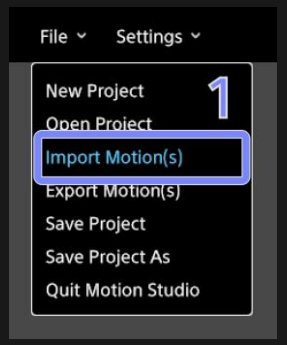
Basic Operations

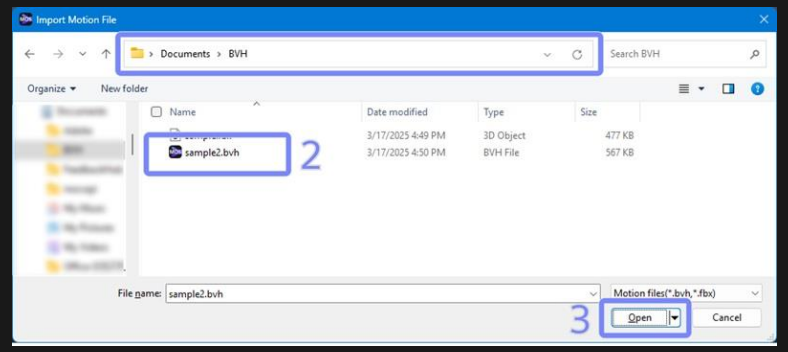
Importing Motion

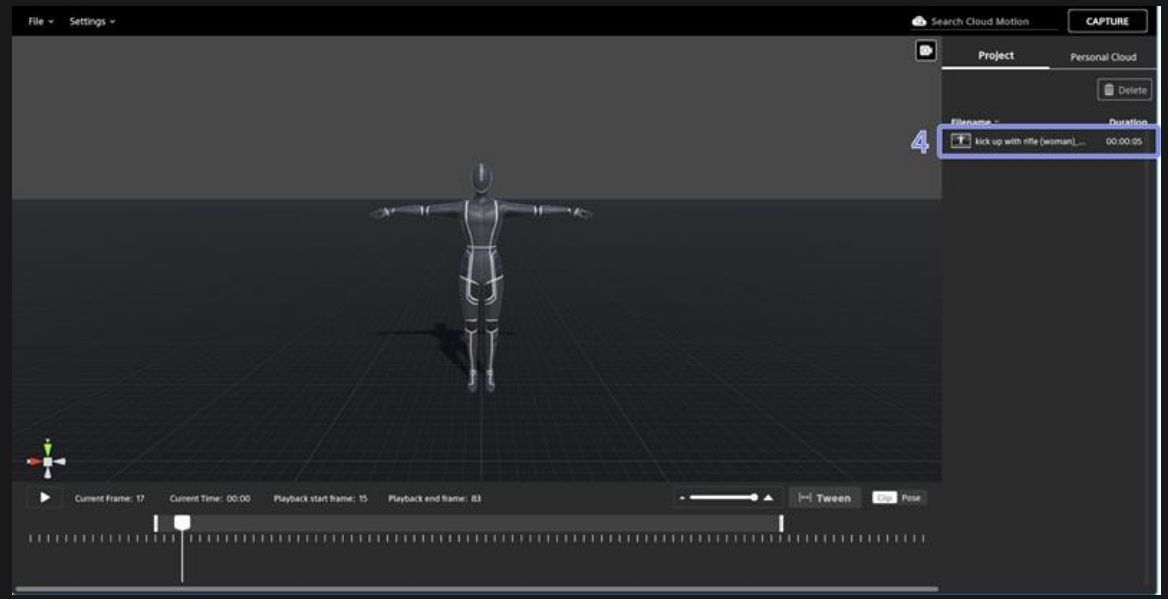
To import motion:

1. From XYN Motion Studio's Top Menu, click on [File] > [Import Motion(s)].
2. Using the File browser popup, navigate and find the BVH file(s) you want to import.
3. With the file(s) selected, Press [Open].
4. If the import is successful, new clip(s) will be added to the [Project] tab in the Side Panel. The added files can be dragged into the 3D work area or the timeline for use.

Note: Motion data (BVH, FBX) created with mocopi is supported.







Basic Operations

Tween between two motions

Clip Tween

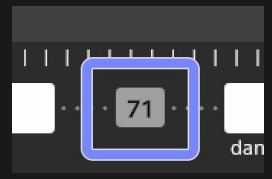
1. Have two motions in the timeline.
2. Use the Clip/Pose switching button to switch to [Clip].
3. Set the desired position/rotation of the avatar for each motion in the Work Area.
4. Set the distance between clips in number of frames.
5. Left click on the two clips to highlight them.
6. Press the [Tween] button.
7. Review the Tween result. If desired, adjust distance between clips, and/or avatar distance in space.

Note:

- You can Tween up to 89 frames.

Tips：

- The number shown in the rectangle is the distance between clips and can be manually entered for precise spacing.
- Tween will work if only 2 clips are selected and the distance between them is within the frame limit above.



Basic Operations

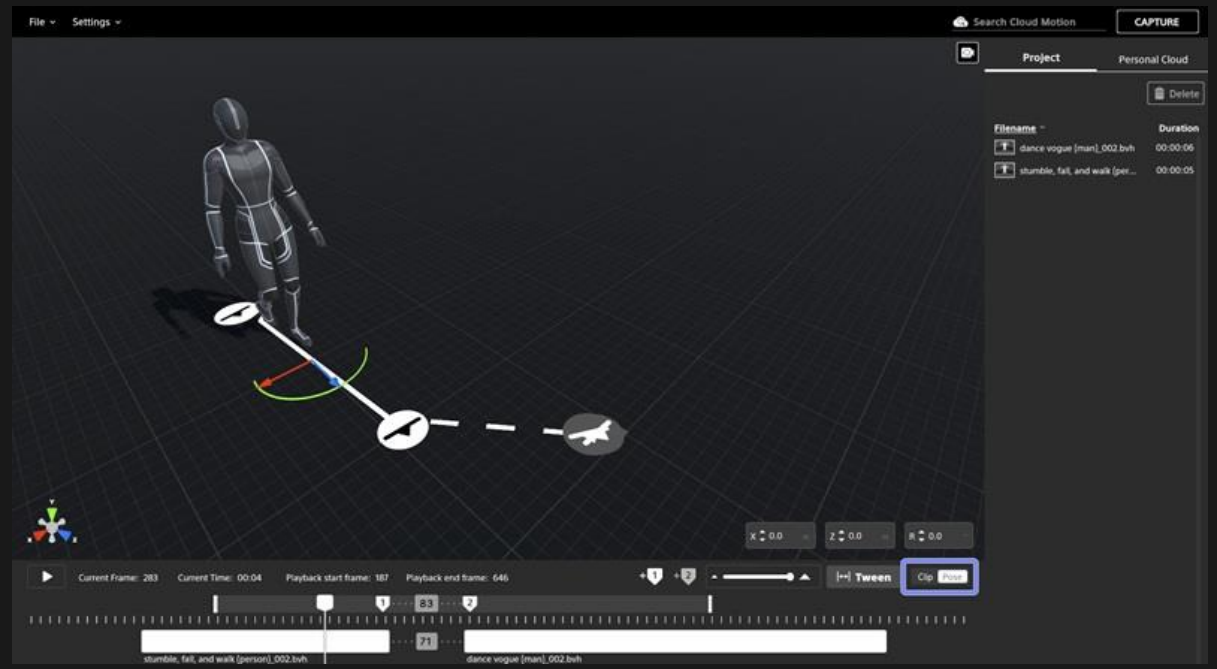
Tween between two motions

Pose Tween

1. Have two motions in the timeline.
2. Use the Clip/Pose switching button to switch to [Pose].
3. Set the desired position/rotation of the avatar for each motion in the Work Area.
4. Set Pose1 and Pose2 markers which will be the In and Out poses for the Tween.
5. Press the [Tween] button.
6. Review the Tween result. If desired, adjust In/Out frames, avatar distance, and/or clips.

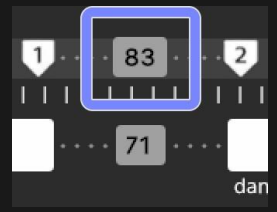
Note:

- You can Tween up to 89 frames.
- Users can press “1” & “2” to place &/or remove markers on the timeline.



Tips：

- To clear all pose markers, press the Escape key.
- The number shown in the rectangle is the distance between clips and can be manually entered for precise spacing.
- Tween will only work if the Pose markers are set on two different clips and the distance between the markers is within the limit above.



Basic Operations

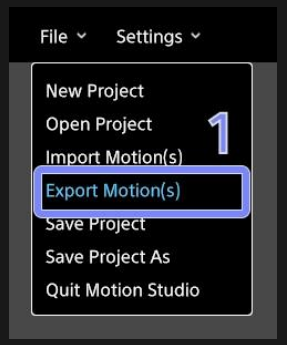
Exporting the timeline

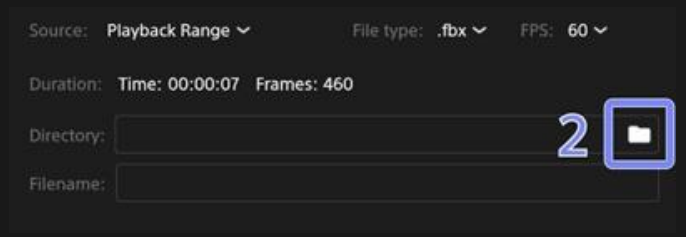
To export the motion data in the timeline:

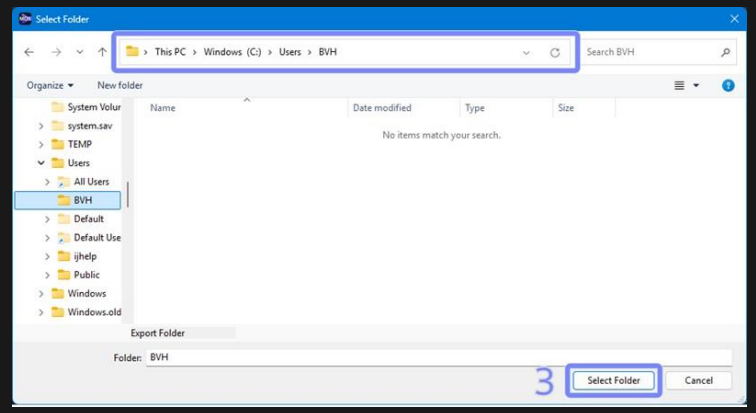
1. From the Top Menu, click on [File] > [Export Motion(s)].
2. On the [Export Settings] dialog, click on the Directory field, to open File Explorer.
3. Navigate to the folder where you would like to save the file and click on "Select Folder."
4. After selecting a folder, enter a file name and click on the [Export] button in the [Export Settings] dialog.

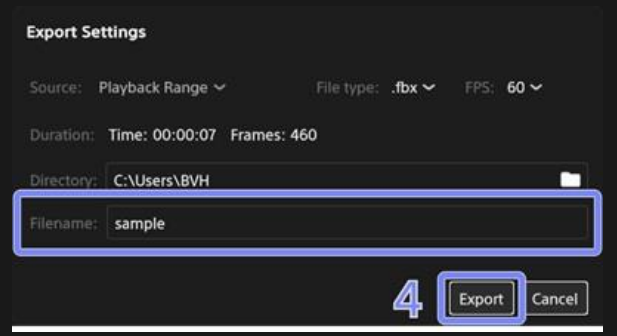
Note:

- Exporting does not consider blank frames between clips.
- Depending on what you select in [Source], the range of motion data to be exported varies as follows.
  - [Playback Range] : Corresponds with the playback range. Refer to "Timeline Operation."
  - [Selected Clip] : The selected clip will be exported. The playback range and trim clip settings will not be respected. You cannot export multiple clips at one time.









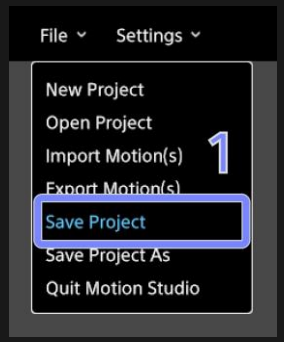
Basic Operations

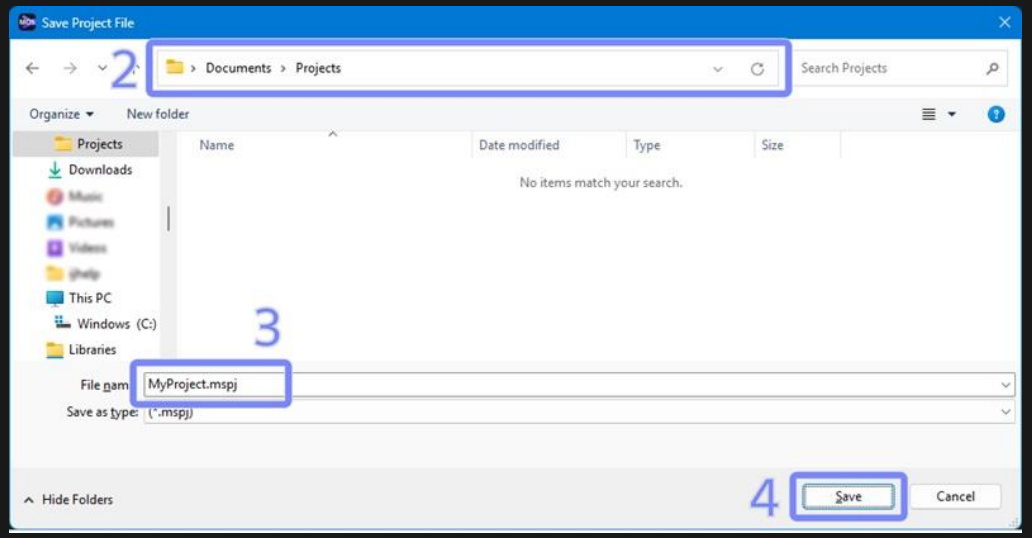
Saving your project

To save the current state of the timeline as well as all your imported files:

1. From the Top Menu, click on [File] > [Save Project] or [Save Project As]. If you click on [Save Project] and the project has been saved previously, it will be overwritten with the same file name.
2. In the File Explorer window that will open up, navigate to the folder where you would like to save the project.
3. Enter your desired project name.
4. Click on the [Save] button.

Note: when you're working on a previously saved project , you need to manually save any changes you make after saving, as Autosave is not implemented.



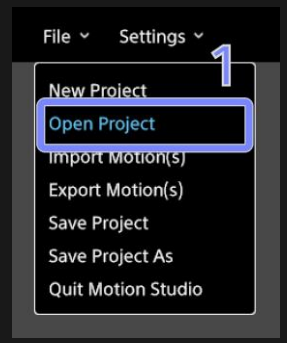


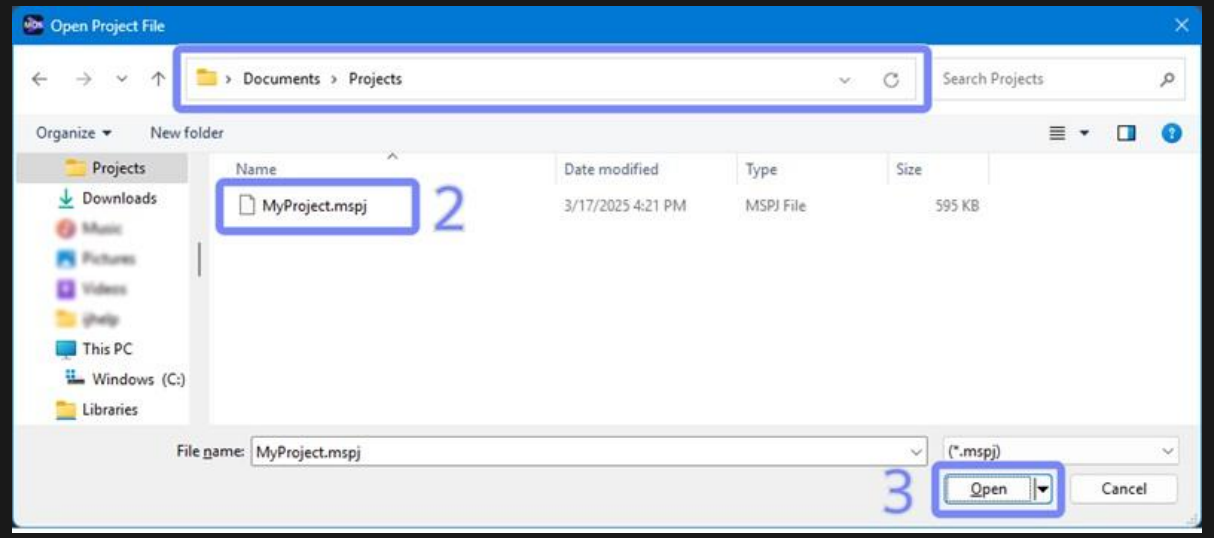
Basic Operations

Opening a saved project

To load a XYN Motion Studio project and get your project timeline and imported files:

1. From the Top Menu, click on [File] > [Open Project].
2. In the File Explorer window that will open up, navigate to the folder where your project was saved.
3. Click on the [Open] button.
4. The clips, their positions, the files imported to the [Project] tab, etc., will be restored to their state at the time of saving.





Operation Guide - Functional Descriptions -

Functional Descriptions

Moving the 3D camera

To Move the 3D camera:

1. While holding the right mouse button over the viewport, use the AWSD keys to move left/forward/backward/right respectively. You can also use the mouse scrolling wheel to move the camera forward/backwards.
2. Users can also use the QE Keys to move the plane up/down while holding down the mouse right button.
3. The scroll wheel will zoom in/out.
4. The user can rotate the camera view by holding down the right mouse button and moving the mouse left and right.
5. The user can keep the mouse scrolling wheel pressed and move the plane up, down, left and right, by moving the mouse forward, backward, left and right respectively.
6. The user can reset the 3D camera view to its original state by pressing the Reset Camera button on the top right corner of the 3D work area.

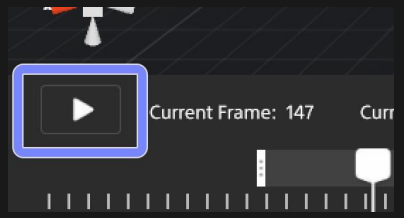
Functional Descriptions

Timeline Operation

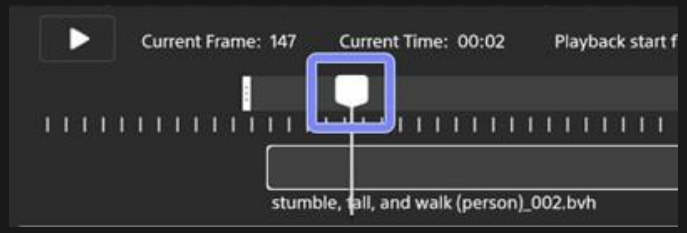
Timeline Operation:

The Timeline has multiple functionalities which will be outlined within the next few pages.

- Playback:
  - To play/stop motion, click on the Play/Stop button on the bottom left of the screen.



- Scrubbing:
  1. You can drag the blue Playhead icon to scrub through a motion clip.



  2. Hotkeys:
     - Left Arrow: step back one frame
     - Right Arrow: step forward one frame
     - Up Arrow: step forward to the end of the current clip or start of the next clip.
     - Down Arrow: step back to the start of the current clip or end of the previous clip.
     - Home: go to frame 0
     - End: go to the last playable frame.
     - Scroll wheel: timeline zoom in/out

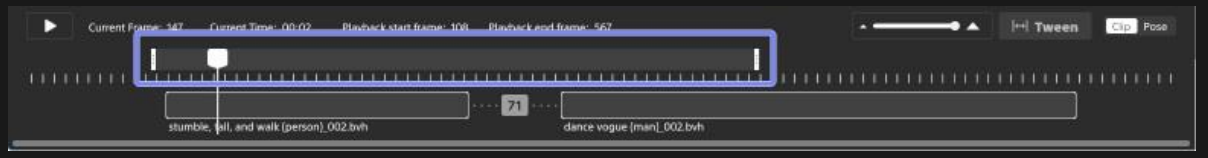
Functional Descriptions

Timeline Operation

- Adjusting playback range :

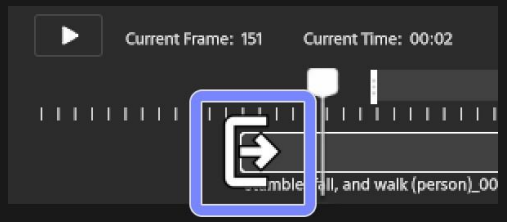
  The playback range is defined by the range selector above the frame-marker area.

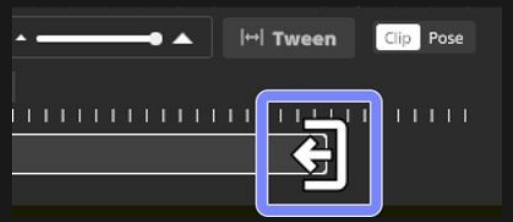
  - Drag the sliders on either end to set your start/end points for playback. Playback will automatically loop respecting the set range.



- Trim Clips:
  - To trim clips, hover your mouse on the start/end of a clip, you will see your cursor change its icon to indicate you are about to trim.
  - With the trim icon visible, click and drag your mouse right and/or left accordingly to perform a trim operation.

    Note: Trim is non-destructive and you can always un-trim your clip to its original state (manually or using Ctrl+Z).



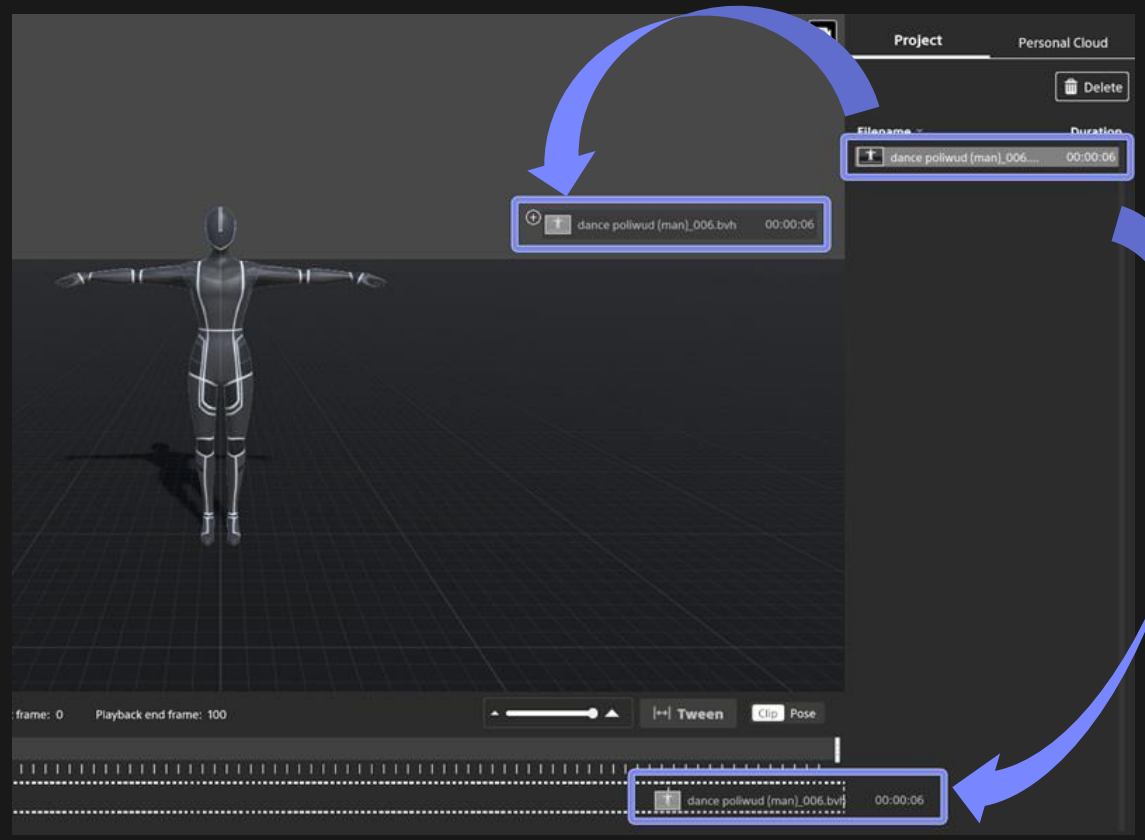


Functional Descriptions

Timeline Operation

- Selecting clips in the [Project] tab:
  - Shift + Select will choose all files within the range.
  - Ctrl + Select will choose only the files users select.

- Importing clips into the timeline:
  - Select one or more clips in the [Project] tab and drag them into the 3D work area or the timeline area to import them.
  - Clips dropped in the 3D work area will be added after the last clip on the timeline.
  - Clips dropped in the timeline area directly can be placed at a specific frame position if there's enough space available for them.

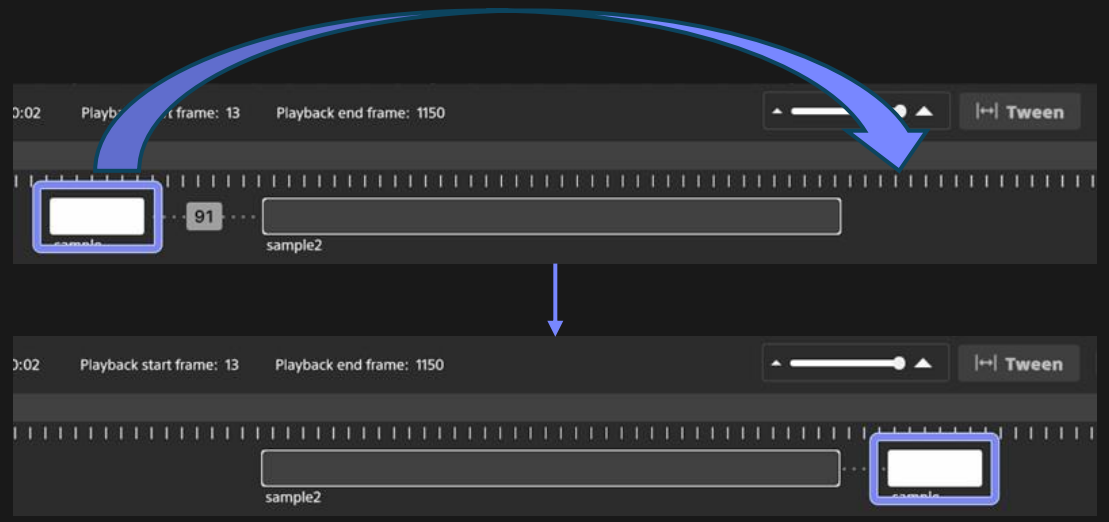


Functional Descriptions

Timeline Operation

- Moving clips in the timeline:
  - To move clips, use the left button of the mouse to select the clip and while keeping the button pressed, drag the clip(s) left/right on the timeline.

  Notes: :
  - Clips being moved do not displace other clips in the timeline.
  - Clips being moved need an empty space on the timeline to be dropped in place successfully, otherwise, clips will go to the end of the timeline.
  - If you drop one clip on top of another clip, the clip being dropped will reset to its previous position.
  - Moving one clip right at the end of the timeline will make the timeline expand to fit the new position of the dragged clip.



- Deleting Clips:
  - To delete a clip, first select it (mouse left button). Selected clips show highlighted white.

  - Press the Delete key on your keyboard. Pressing Ctrl + Z will undo this action.

Functional Descriptions

Timeline Operation

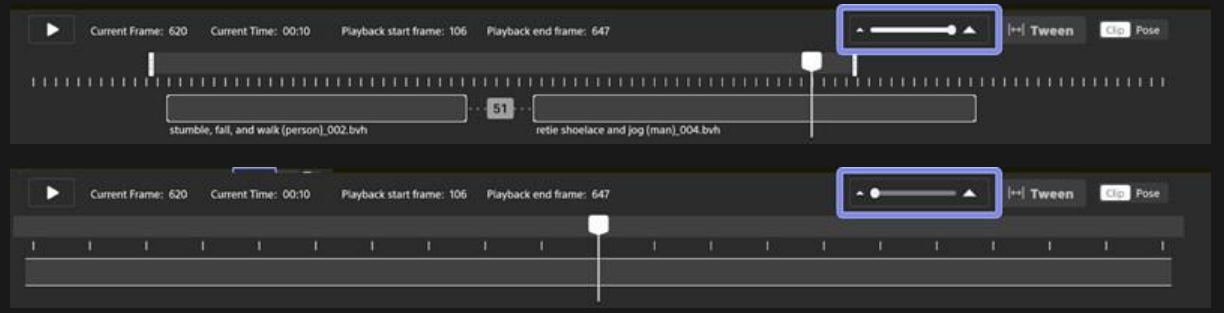
- Zooming in:

  In some cases, you will want to zoom in the timeline to get a more granular look at the motion.

  - To zoom in/out, hover your mouse anywhere on the timeline and use your mouse's scroll wheel.
  - Alternatively, you can use the scale slider on the bottom right.

  Notes: :

  - Zoom in/out will be centered on the Playhead's position.



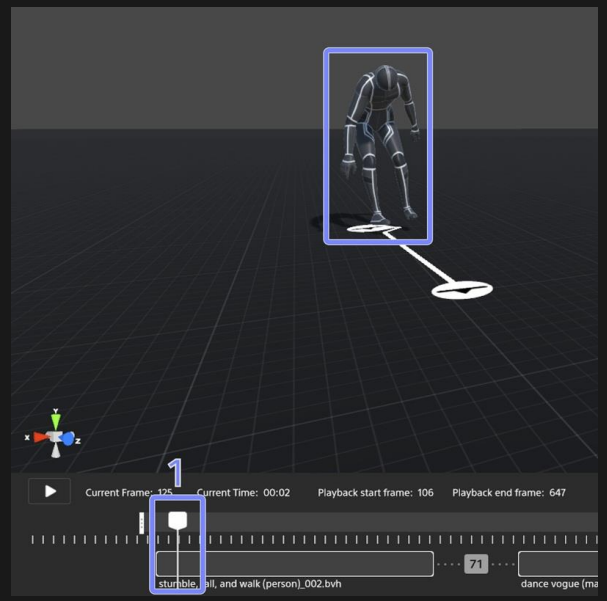
- Panning:
  - The timeline automatically pans to keep the Playhead visible during playback.

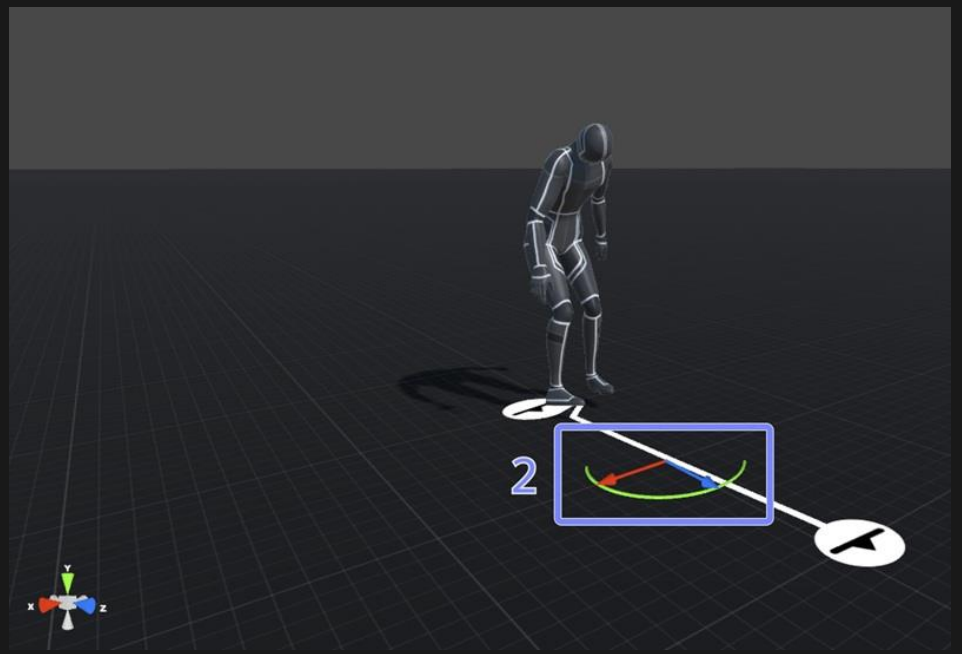
Functional Descriptions

Positioning Avatar

Set the desired position/rotation on each motion.

1. To apply individual position and rotation to each motion, first place the Playhead within the motion clip you want to modify. (this will be your active clip).
2. Click on the Avatar to bring up the Transform Gizmo.
3. Use the Gizmo to modify the position and rotation of the origin of the animation.
4. Repeat as needed for the second clip.
5. To verify, press Play on the timeline. Each animation clip will now respect the transform settings you applied.





Functional Descriptions

Avatar Visual Indicator

Avatar Visual Indicator

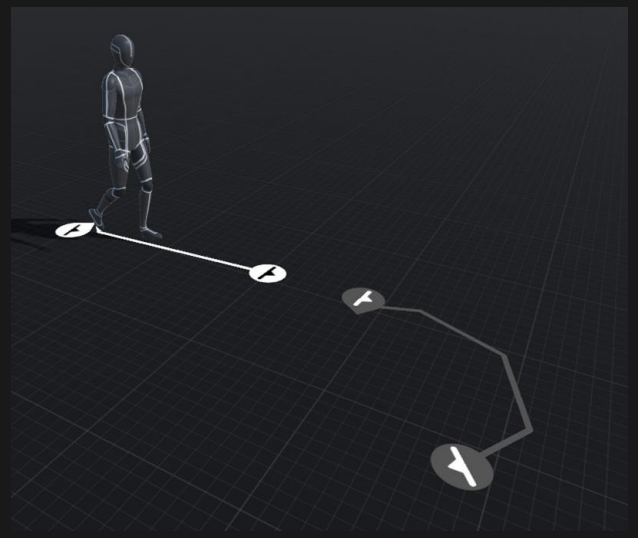
a. The Avatar Visual Indicator highlights the start and end point of the animation, samples the positions of the avatar in the animation, and the hip direction of the first, and last frames of the animation.

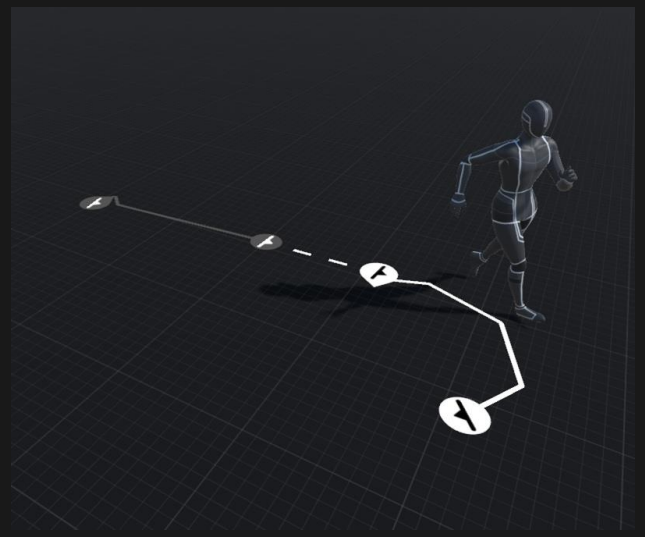
b. Avatar Visual Indicators will only become visible after an animation is played in the timeline.

c. The visual indicators of inactive animation clips are grayed out, allowing users to align their active clip with other clips in the timeline.

d. Before initiating a Tween, a dashed line will appear to visualize the two animations that will be Tweened.

Note: A dashed line will be drawn between the 2 clips that will be tweened together.





Functional Descriptions

Avatar Visual Indicator

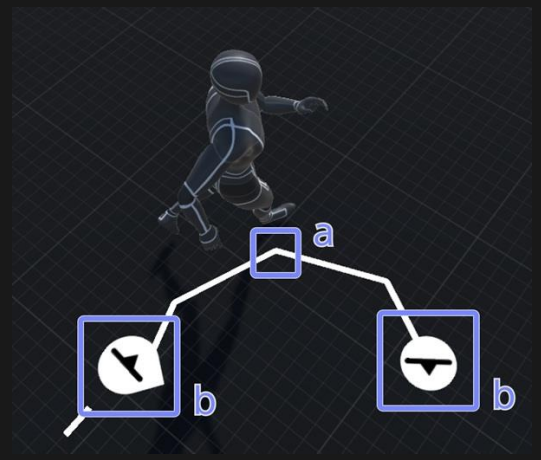
Point / End Point / Hip Angle Indicator

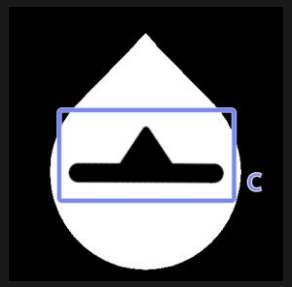
The characteristics of each Avatar Visual Indicator element are as follows.

a. Point
   - Point aligns with path. Just identifies beginning and end of path. Does not show direction of avatar.

b. End Point
   - Circular end points (both ends) make alignment easier.

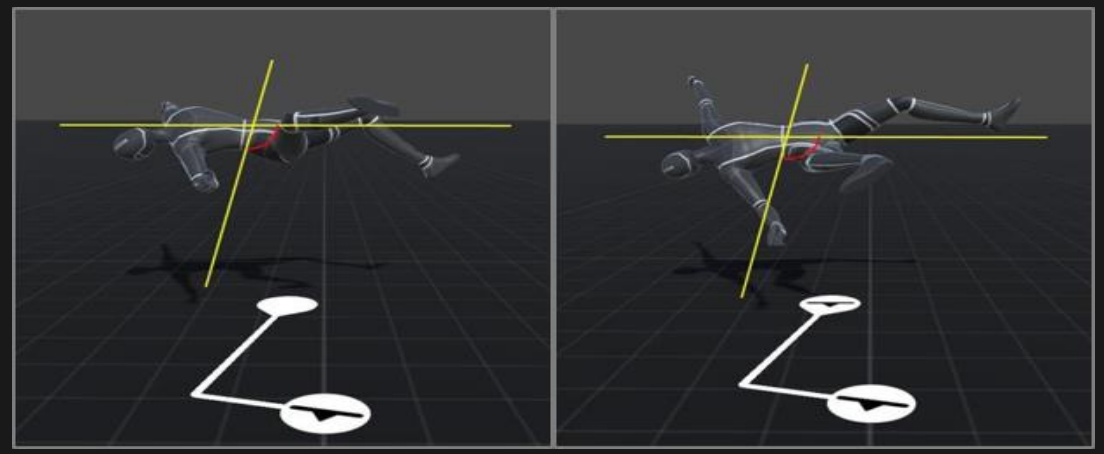
c. Hip Angle Indicator
   - The Hip directional indicator will NOT be shown, when the Hip rotation on the degree of motion considered for the arrow, exceeds +/-70 degrees.





When rotation exceeds +/-70 degrees

When rotation is +/-70 degrees or less



Functional Descriptions

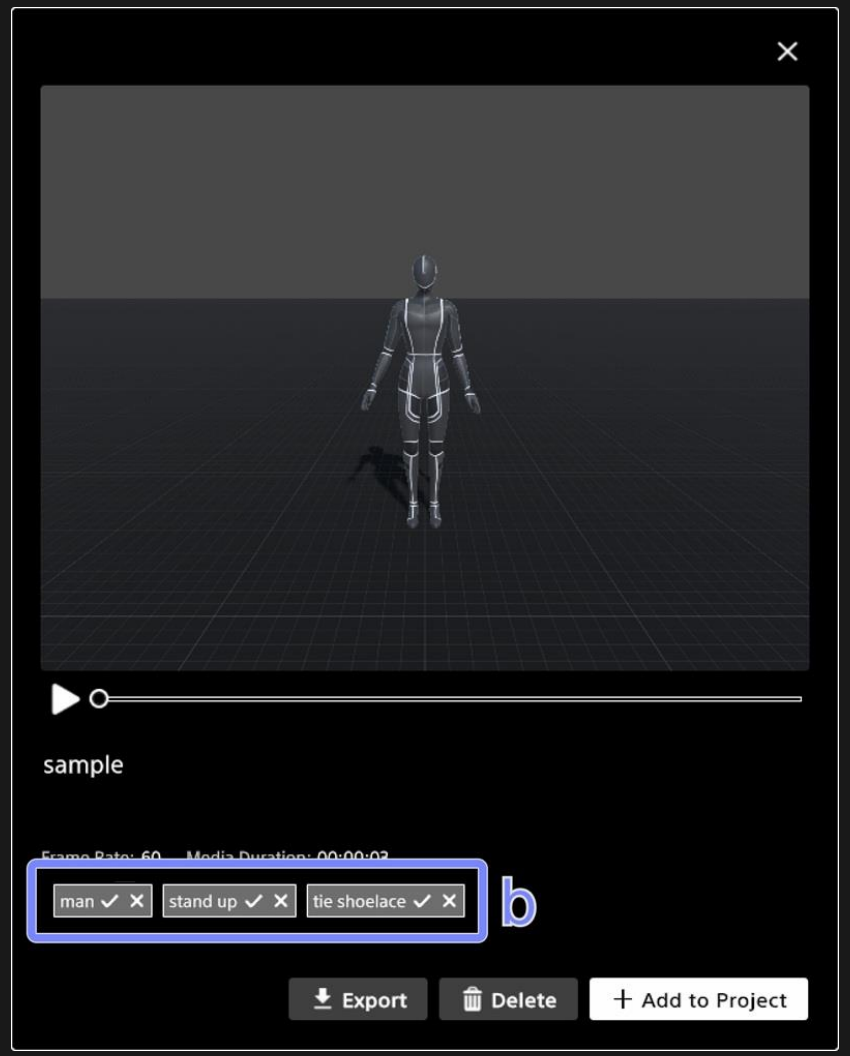
Setting motion data tags

Confirming suggested tags

a. When motion data is uploaded to the cloud, the video content will be analyzed and suggested tags will be automatically generated.
b. The suggested tags can be confirmed in the screen that appears by double-clicking on a file name listed in the [Project] tab.
c. Click on ✓ to approve or the x icon to dismiss the suggested tag.

Tagging manually

a. In the screen that appears by double-clicking on a file name listed in the [Project] tab, click on an area where tags are not displayed and enter the tag name.

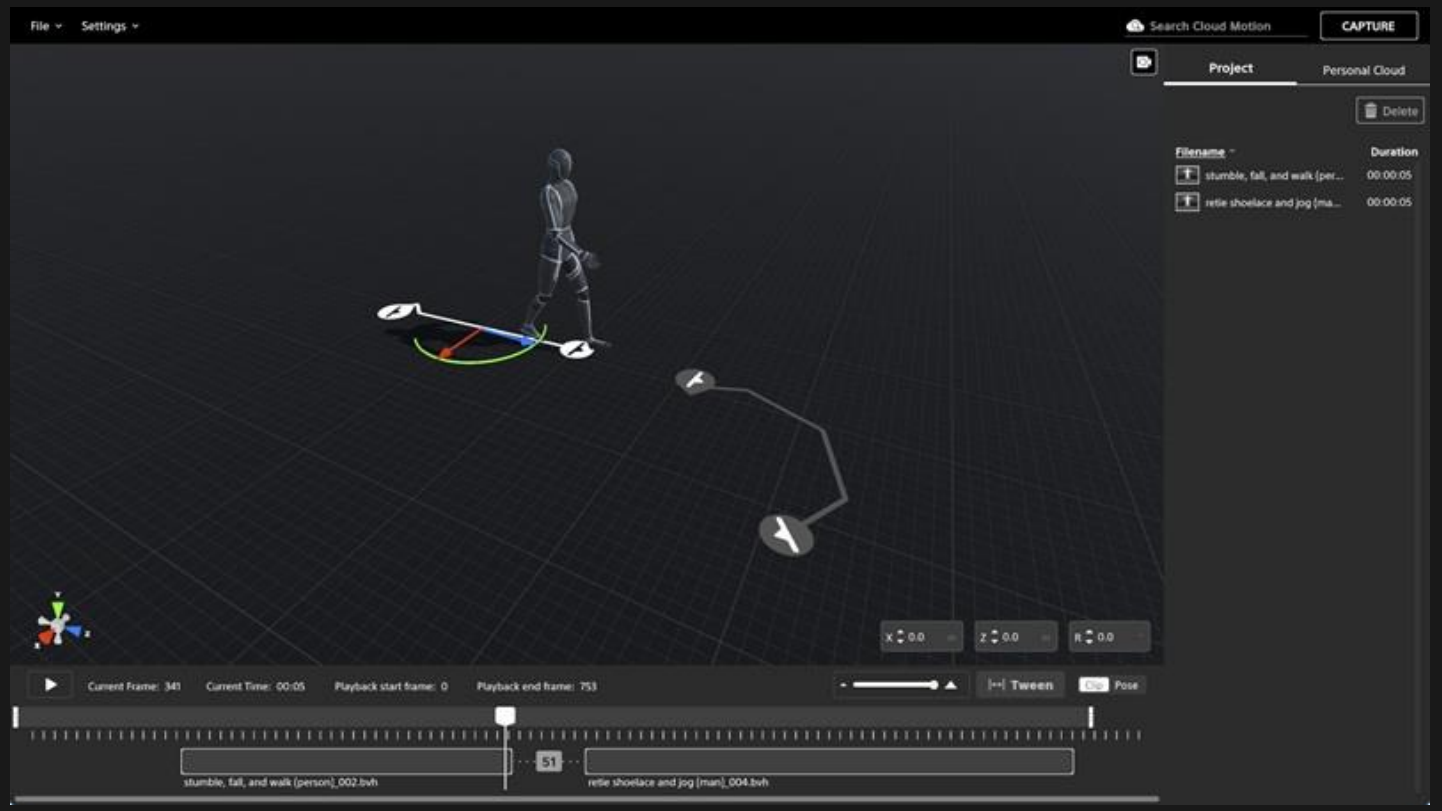


Operation Guide - Tips -

Tips

Tweening Effectively

- When creating a tween, it is best if the in & out frames are action frames. This helps the blending process.
- The Tween process is non-destructive, and users can undo up to 20 actions.
- Export the completed animation before undoing to save the result before performing the Tween again.



Appendix

Appendix

Specifications

Recommended PC specifications

- **CPU**
  - Intel® Core™ i7-11700
- **GPU**
  - NVIDIA® GeForce RTX™ 3060
- **OS**
  - Windows 10 (64 bit) or higher

Tweening

- **Available for up to 89 frames (common to both Clip and Pose)**

Output data

- **Motion data**
  - File formats
    - BVH, FBX
  - Frame rates
    - 24fps, 30fps, 50fps, 60fps

Appendix

Hot Keys

Avatar Indicator:

I: toggle the visibility of the indicators

Playback Hotkeys:

Space: Play/Stop

Timeline Hotkeys:

Left Arrow: step back one frame

Right Arrow: step forward one frame

Up Arrow: step forward to the end of the current clip or start of the next clip

Down Arrow: step back to the start of the current clip or end of the previous clip

Home: go to frame 0

End: go to the last playable frame

Scroll wheel: timeline zoom in/out

1: set Pose marker #1

2: set Pose marker #2

Escape: clear pose markers

Clips Hotkeys:

Delete: delete Clip

Undo/Redo:

Ctrl + Z: undo

Ctrl + Y: redo