

Weaver Series: Tips for Self-Taught Animators (v10)

~ Techniques to Reduce Barriers and Efficiently Advance Animation Production ~

Last Updated: 2026/04/21

1. Why this tool was born: From self-taught animation production

The Weaver series is a set of handmade tools born from my own trial and error when I wanted to create animation personally and wondered, "How can I make animation more easily and enjoyably?"

I am not an animator, an illustrator, or a manga artist. I have no experience attending vocational schools to learn animation production. When I finally tried to make an animation, the barriers I faced were technical problems like "How to add movement" and "How to prevent drawing collapse."

So, I thought about how I could somehow connect the wonderful tools I had at hand—**Moho**, **TDPT**, **CTA5**, **Poser**—and create a system to make animation more easily. That is how this Weaver (the one who weaves together) series was born.

If you, like me, are "wanting to try making animation alone but hesitate because it seems difficult," I would be happy if this system I arrived at could help you even a little.

2. Techniques to Make Animation Easier: 4 Steps

This system is based on the idea of "solidifying movement first, then carefully drawing professional-level illustrations later." It's not just about shortening the work; there is a reason for "why we do it" for each process.

Step 1: Batch-prepare "Guides" for movement (BatchWeaver / MotionWeaver)

- **Borrow the power of 3D:** First, prepare the "movement you want the character to do (BVH)" using smartphone apps like TDPT or existing data. Instead of drawing difficult movements by hand from scratch, borrow the power of 3D first to create the "foundation of movement."
- **Leave angle generation to the tool:** Export data for the angles you want to use in your animation—such as "Front," "Back," "Side," and "High-angle"—from a single movement all at once. By doing this with a tool called BatchWeaver, I eliminated the trouble of adjusting the camera many times.
- **Identify "Necessary Rigs" in advance:** In traditional 2D production, people often get frustrated trying to create a "universal rig that's okay from any 360-degree angle" first. In Weaver, because you decide the angle (direction) first in 3D, **you know from the start "the angles and number of frames needed for this scene."** At this stage, you can completely eliminate the "waste" and "backtracking" of endlessly creating rigs for angles you won't use.
- **Undercuts without hesitation:** The guides exported at this stage are based on "3D-accurate movement." This fundamentally removes the risk of worrying "Is the perspective strange?" or "The leg length might not match" when drawing professionally later.
- **Efficiency via Pose-to-Pose (Pose-to-Pose Interpolation):** Furthermore, by placing still image markers with a duration of 0 on the timeline, you can extract only representative key poses as "1-frame CSVs" and connect key intervals smoothly using Moho's robust bone auto-interpolation. This greatly

reduces the computing load of baking long animations, allowing you to automatically place key poses and customize details manually for creative direction.

Step 2: Perform "Preparation" for drawing (LayerWeaver / Krita)

- **Use 3D data as underlays:** Load the 3D poses you just made into Krita (free drawing software) and use them as a "movable base" for cleanup.
- **Automating part separation:** The task I struggled with most was "separating parts into pieces" to move the character. LayerWeaver reads unique marker placements (such as the technique of giving special names to layer names) and automatically separates the character into "Islands (parts)" and "Joint Holes." This dramatically lightens the effort of rigging (preparing to move).
- **G3 Standard Compliance:** The PSD output by LayerWeaver is designed to conform to the "G3 Template Standard" adopted by Reallusion's Cartoon Animator 5 (CTA5). Weaver functions as a "translator" to existing superior standards, allowing you to move characters immediately just by throwing the exported PSD into CTA5.

Step 3: Auto-rigging and Confirmation of Movement (RigWeaver / Moho)

- **Attach to the skeleton:** Using a script called RigWeaver, parts created in Krita are automatically linked to bones on Moho.
- **Completion of a moving storyboard:** At this stage, a "moving draft (video storyboard)" with motion (performance record) already injected is completed. While imagining the finished product, you can freely swap only the movement as if changing clothes, saying "Let's try a different movement (csv) here after all."

Step 4: Finish Carefully as Much as You Like (Cleanup)

- **Cleanup into vectors:** Trace over the moving draft and put in the final cleanup drawings on vector layers with higher degrees of freedom.
- **Drawn content synchronizes immediately:** Since the parent group already has movement settings (keyframes), the drawing starts to synchronize smoothly with the movement the moment you redraw the content.
- **SmartSwitch as a "Cleanup Vessel":** By using a group structure called SmartSwitch, you can keep "vector lines for cleanup" in the same place as the draft. This allows you to arrange every single line of swaying hair or clothes while synchronizing them with the movement.

3. Why a "Bridge between 3D and 2D" was Needed: Data Sharing System

What this tool values is taking the "best of both worlds" from each software's specialties. At the center of that is the `_3d.csv` data system.

3.1 `_3d.csv` is a "Performance Record" by Your Exclusive Actor

The `_3d.csv` file loaded into Moho is a "completed performance record" where "raw 3D movement" (BVH) is sophisticatedly translated (motion injection) so that we can easily use it as 2D animation.

- **A system to concentrate on original tasks:** With this file, you don't have to adjust difficult numerical data from scratch yourself. Because the system guarantees the movement, creators can concentrate on

"drawing convincing pictures and adding direction."

3.2 "Angle Extraction" from BVH and Utilization in 3D Software

"BVH," the master data, can be processed freely.

- **Freedom of Angles:** Using BatchWeaver, you can extract your favorite angles such as "High-angle" or "Low-angle" from BVH at any time.
 - **Creating 3D from a 2D Perspective:** Create actions in 3D software (Poser, Blender, etc.) and convert them to 2D using Weaver. By using this flow, you can directly link the "reliable production power" of 3D to the quality of your own 2D animation.
-

4. What I Wanted Most: Freedom of "Deformation" Possible Only in 2D

When making animation only with 3D software, I often think, "Just for this moment, I want to boldly break the shape and exaggerate like an anime!" But trying to do that with a 3D model often breaks the shape or takes an enormous amount of effort.

At such times, the fact that you **"can also have a 2D version of the character as a backup"** provides a great sense of security.

Switching to 2D as an "Emergency Escape"

If you are making animation on a 3D basis and think, "I lack deformation, I want more impact," please open Moho (2D) without hesitation.

- **Anime-like Exaggeration:** With 2D vectors, "deformation expressions" such as stretching arms to fill the screen or freely distorting perspective can be realized in seconds with just mouse operations.
 - **Moves at the same timing as 3D:** Because the 2D version also uses the same timing data (_3d.csv) as the 3D version, the pose and timing will not drift even if you swap the scene.
 - **Expanding the range of expression:** By adding "anticipation, overshoot" and "smears (afterimages)" unique to 2D to the regular movement of 3D, lively animation expression becomes possible. That alone adds nuances unique to 2D to the 3D movement, resulting in a more expressive video.
-

5. [Mechanism] Just Put "Signs" in Layer Names

When making this tool, I decided to "complete everything in the place where artists are most accustomed (the layer panel)."

Why put @ or > in layer names

You don't need to write difficult configuration files (JSON, etc.) or code yourself. When you separate layers in Krita, just add **"small signs (tags)"** like @Face or >Ribbon to the names. Those **"configuration rules"** become clear messages for LayerWeaver, such as "This part should be connected here" or "I want a folder created here." This is the form of the "configuration workflow for creators" that this tool aimed for.

6. A Request: Please Don't Worry Alone

The Weaver series is not an inflexible, rigid finished product. The internal mechanism is intentionally left "outside" so that you can change various settings and adjust them.

If you get stuck, thinking "It doesn't work well with my character" or "I want it to move more like this," **please do not fight the system alone.**

- **Consult the author (me) or knowledgeable people:** I also struggled through self-study, so I understand that feeling well. Often, just rewriting the internal configuration file a little bit solves the problem instantly.
 - **A relationship where you can say "Help" is best:** If you have a technical friend or contact me, the author, difficult parameter adjustments might be finished in seconds.
 - **Division of Roles:** Artists should draw wonderful pictures and direct as much as they want. Technical barriers are overcome together with the author or engineers. That is the best trick for enjoying this tool to the maximum.
-

7. Conclusion: Weaver Series is an Auxiliary Tool to Support Production

This tool was created to take advantage of the stable foundation of 3D and maximize the "freedom of expression" of 2D.

If you use the tools at hand to complete one animation, nothing would make me happier as a developer. So, let's take a step into animation production by utilizing Weaver.