

FOURTH EDITION : The Official Mini Magazine

MARVELOUS DESIGNER

MARCH 2026 #4TH ISSUE

+26

ARTWORK
SHOWCASE

“IT IS ALWAYS
INCREDIBLY
SATISFYING
TO WORK
WITH, ...

IT'S A TOOL I KEEP
COMING BACK TO
AGAIN AND AGAIN.”

—
Artists'
Interviews

Behind-the-scenes

INSIGHTFUL
STORIES

+ ARTIST INTERVIEWS

+ EXPERT TIPS

+ ROADMAP

+ ART GALLERY

marvelousdesigner.com

UNLEASH YOUR
CREATIVITY

The SOFTWARE behind
some of the most ICONIC
OUTFITS in ENTERTAINMENT

CONTENT

04—51

MARVELOUS DESIGNER: THE INDUSTRY STANDARD

- 04 Dmitry Bezrodniy
| 3D CHARACTER ARTIST
- 10 Super Very More
| MOTION GRAPHICS STUDIO
- 18 Sato Imozou
| VIRTUAL MENSWEAR
/ AVATAR ARTIST
- 24 Zeion-Jeremy Bernil
| 3D CHARACTER ARTIST
- 30 SangYeop Jeong
| 3D ARTIST
- 38 Chan Yao
| 3D ARTIST
- 46 Anna Martseniuk
| 3D ENVIRONMENT ARTIST

52—65

BEST OF: CELEBRATING AWARD- WINNING ARTISTS

- 52 Ngan Hoang
| 2025 ROOKIE AWARD:
3D ANIMATION
- 58 Elliott Holmes
| MARVELOUS™ AWARD WINNER:
CHASM'S CALL 3D COMMUNITY
CHALLENGE



CONTENT

Continued

52—65

BEST OF: CELEBRATING AWARD-WINNING ARTISTS

- 62 Lost Waldo
| “MARVELOUS” AWARD WINNER:
RAMPAGE RALLY 3D COMMUNITY
CHALLENGE

66—79

MARVELOUS INSIGHTS: EXPERT WORKFLOWS FROM THE TEAM

- 66 Anatomy of Motion: Skin, Muscles, and Fat for Creature FX by Sean Frandson
- 70 Building “Smart” Resizable Outfits with Marvelous Designer and UE 5 by Victor Valcárcel
- 72 Workflow for Creating Rendered Character in UE 5 Using Marvelous Designer LiveSync by Leo Nguyen
- 76 Creating Hanbok (Korean Traditional Dress) with GPU Simulation by Julia Lee

80—81

MARVELOUS DESIGNER 2025: EXPLORE THE LATEST FEATURES & ENHANCEMENTS

- 80 New Library Window & Preset Support
- 80 Automatic Quad Mesh Improvements
- 80 Off-Avatar 3D Pen Drawing
- 81 Keep Topology after Autofitting
- 81 [Beta] AI Pose Generator
- 81 Convert Patterns to Trims and Accessories
- 81 MetaHuman DNA Importer
- 81 Keyable Properties Expansion

82—83

WHAT’S NEW: THE LATEST IN MARVELOUS DESIGNER 2026.0

- 83 Lacing Tool
- 83 3D Pencil
- 83 Preserve 3D Garment Shape on 2D Scaling
- 83 Toon Shader
- 83 Isolate Selection
- 83 GPU Accelerated Trim Simulation

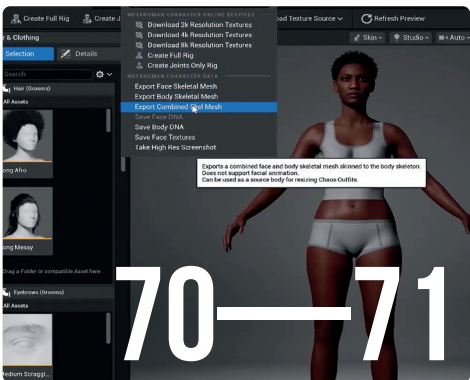
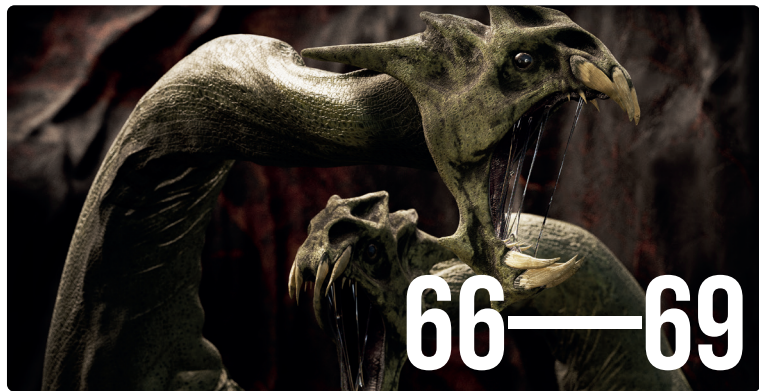
84—87

EXPANDING THE ECOSYSTEM: USER-FOCUSED INITIATIVE

- 84 Introduction of Marvelous Designer Indie Pricing
- 85 Marvelous Designer Linux Support
- 86 Let’s “CONNECT”: Meet Our Global 3D Community

88—99

#MADEINMARVELOUS: CELEBRATING 2025’S ARTISTIC ACHIEVEMENTS



MARVELOUS DESIGNER THE INDUSTRY STANDARD



UNLEASH YOUR CREATIVITY

| CHARACTER ARTIST



ARTSTATION.COM/DMITRYBEZRODNIY

Interview
with

**DMITRY
BEZRODNIY**

CHARACTER ARTIST

Hello, my name is *Dmitry Bezrodniy*. I'm from Minsk, and I have been creating 3D models for games since 2006. I spent about half of that time working on the *World of Tanks* project as a team lead. During that period, I only encountered *Marvelous Designer* indirectly, through the work of artists in my department. In 2015, I realized that I was tired of everything and decided to go freelance. Quite quickly, I understood that I wanted to focus exclusively on creating game characters. Software packages such as *Marvelous Designer* and *Substance Painter* played a key role in helping me succeed in this area. I have never considered myself a super-talented artist or sculptor, so the ability to quickly achieve appealing, believable shapes and fabric folds — combined with procedural texturing — became the key to creating realistic characters.



Could you explain the project preparation process? – Intentions, goals to achieve, the approach to the cloth design, and references.

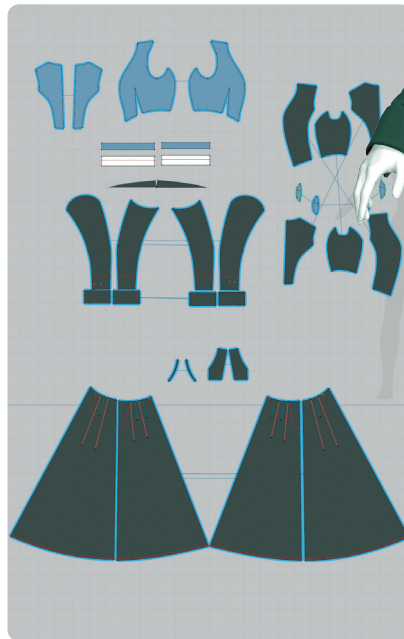
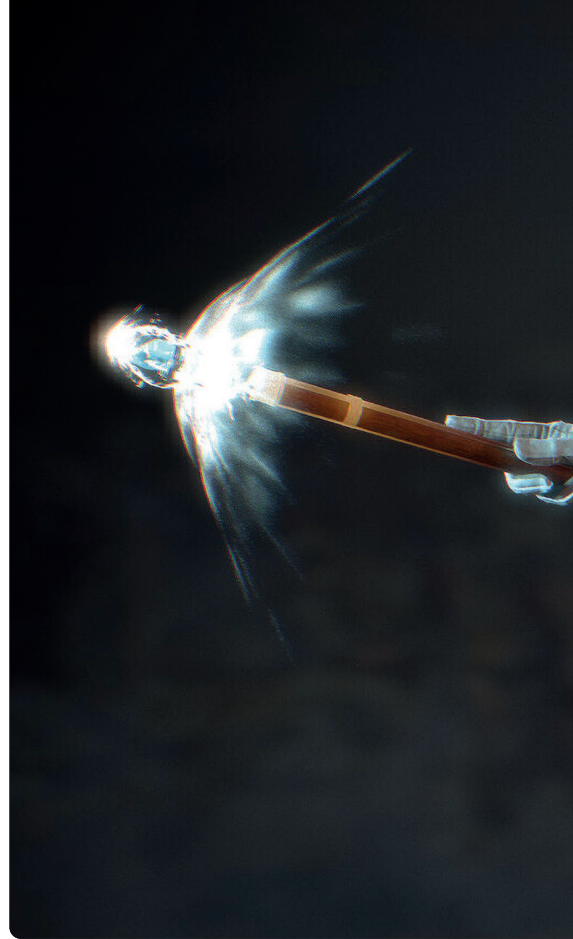
I used *Marvelous Designer* in all of my personal projects. Even in the gothic armor project *Lady and Dragon*, I relied on *Marvelous Designer* to create fabric ties on the armor and to simulate the cloak reacting to wind. Real and fictional clothing, bags, backpacks — naturally, all of that is created in *Marvelous Designer*. I actively

use *Marvelous Designer* during character design to explore new shapes and silhouettes. In my personal projects, I do not start with blocking or a 3D sketch. Clothing creation is the very first stage of my modeling process. I begin by creating the main garments, using auxiliary patterns to imitate rigid elements such as stiff belts or armor plates. After that, I move on to medium-detail elements, assemble everything in *ZBrush*, and, if necessary, add more cloth elements using *Marvelous Designer*.

How do you work with *Marvelous Designer*, any tricks you find to increase efficiency, and advice when working on the design.

When I first started working with *Marvelous Designer*, I happened to be creating characters set in a WWII-inspired environment. I aimed for historical authenticity, even though the projects themselves were dieselpunk, such as *Panzer Huntress* and *Shock Trooper*. I tried to use real historical patterns for tunics, breeches,

and skirts used by the *Red Army*. Since then, whenever I need to create historically accurate clothing, I always look for real patterns. Working with them gave me an understanding of the principles and logic behind garment construction — something that is far from obvious for someone who has only worn clothes their entire life but never sewn them. I usually cut and sew garments at a particle distance of 12–10 and switch to 5–7 for final detailing. However, maximum detail is not always the key to quality. Sometimes it's better to export well-looking medium-detail folds and refine them in *ZBrush* than to spend hours chasing perfection in *Marvelous Designer*.



I ALSO CROP THE BASE MESH AVATAR TO THE SPECIFIC SIMULATION AREA: ONLY LEGS FOR TROUSERS, OR JUST THE TORSO FOR A SCARF.



I actively use **Pins** and frequently pull the fabric with the cursor to achieve more interesting and natural folds. Often this needs to be done at high density, so to improve simulation speed, I work on each garment in a separate project. I also crop the base mesh avatar to the specific simulation area: only legs for trousers, or just the torso for a scarf. This significantly speeds up the process. I use the **Steam tool** to create more volume and wrinkled fabric, **Piping** to add stiffness to elements like cloak edges or collars, and **Layer Clone Under** for winter and quilted clothing.



Explain your workflow from Marvelous Designer to other software. How do you prepare your project to continue working in other software?

I am fairly conservative in my workflow and have been using essentially the same pipeline for about 10 years. I export selected elements without thickness and without welding. Since everything is assembled in *ZBrush*, I automatically create polygroups right after import and then weld the mesh. Next, I add other elements to the model like armor and belts and adjust clothing shapes using the **Move Brush** to achieve a pleasing silhouette. Once I'm satisfied with the result, I add thickness to fabric elements with Panel Loops and remove polygons that won't be visible, for optimization purposes. After that, I duplicate the tool and perform a *ZRemesh* on the duplicate. I then project the details from the original tool onto the new topology. I add subdivisions and repeat the projection process — usually twice. I know that *Marvelous Designer* can convert meshes into quads, but when I first started working on characters, this operation at high detail levels would simply freeze my PC. Over time, I got used to my workflow and achieved a high level of automation with it.



Your personal experience with Marvelous Designer.

As I mentioned earlier, *Marvelous Designer* — alongside *Substance Painter* — opened the door for me to creating realistic characters. I have included it in my pipeline since my very first projects and can't imagine working without it. The more time passes (and the better performance becomes), the more character elements I create in

Marvelous Designer. For example, I used to rarely make footwear in *Marvelous Designer*, preferring to sculpt it instead. In my recent projects, however, I already simulate boot shafts, gaiters, wraps, and lacing in *Marvelous Designer*. In short, it's a huge piece of luck that a program like *Marvelous Designer* exists.

**IN SHORT, IT'S
A HUGE PIECE
OF LUCK THAT A
PROGRAM LIKE
MARVELOUS
DESIGNER
EXISTS.**



Interview
with

**SUPER VERY
MORE**

MOTION GRAPHICS
STUDIO





MARVELOUS DESIGNER THE INDUSTRY STANDARD

| MOTION GRAPHICS STUDIO



SUPERVERYMORE.TV/THE-TREE

Could you please introduce your team and the artists who participated in this project?

Hello, we are *Super Very More*, a motion graphics studio based in South Korea. The team members for this project include our lead artist, *Chanwoo Kim*, along with artists *Haena Jang* and *Minkyung Park*. The project was directed by *Youngmin Kim*.

Let's talk about 'The Trees,' the project you created using Marvelous Designer. Where did you find inspiration for the concept, and what was the visual style you aimed to achieve?

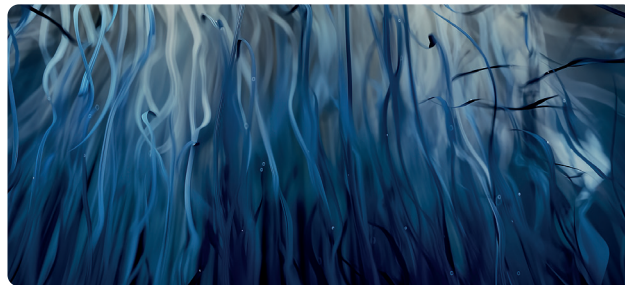
When we first began planning this project, we spent a lot of time reflecting on what kind of insights we could offer other users, especially since we don't consider ourselves "specialists" in *Marvelous Designer*. Since there are already so many talented artists showcasing incredible performance with traditional *MD* workflows, we decided to focus on what we do best.

We explored a wide range of creative approaches to integrating *Marvelous Designer* into motion graphics—from standard techniques and simple applications to intentionally complex and experimental use cases.

As we brainstormed these various ways to utilize the software, we needed a strong metaphor to tie all our ideas together. That's how we arrived at the concept of "Trees." Trees exist in countless forms across the world; sometimes they take on eerie, fantastical shapes that look as though they were intentionally designed by someone. We felt this perfectly aligned with the forms we wanted to express.



Visually, we wanted each tree to feel highly detailed and grand in scale. Our goal was to create a cinematic piece with plenty of visual interest—a video that offers a sense of “paradoxical fun” by being both tranquil and spectacular at the same time. We believe that this essence is what defines motion graphics, and it’s exactly what we excel at.





How did each of you use Marvelous Designer in this project? Also, if you discovered any “pro-tips” during the process, please share them with us!

Chanwoo: In my part of the project, I created an effect that took advantage of the **“Sewing” property**, where seam lines snap together instantly when the simulation starts. I felt this was a unique and playful way of expressing form that is only possible in *Marvelous Designer*.

Another standout strength is the ability for the user to intervene in real-time during a simulation. By using the **“Pull”** and **“Push”** functions, I could control the fabric intuitively as if I were physically shaking real cloth. This was incredibly useful for creating those one-of-a-kind, organic shapes.

Haena: I focused on the **“Elastic”** feature. I first created a flower bud shape by gathering the edges of the fabric. Then, by gradually lowering the Elastic values, I allowed the bundled fabric to spread out naturally, creating a motion that looked like a flower blooming.

The software’s ability to express realistic and detailed wrinkles is a huge advantage. In particular, even high-resolution polygon simulations—which can feel quite heavy in *Cinema 4D*—could be tested very lightly and quickly here, which significantly boosted my efficiency.

Minkyung: I utilized the various **“Fabric”** presets to create a **“Morph”** effect, where a rigid material like raw denim transforms into soft silk. By adjusting and keyframing values for **Gravity**, **Air Damping**, and **Wind** to match the characteristics of each material within the simulation environment, I was able to sophisticatedly express the changing textures and surroundings.

It was incredibly appealing to be able to use multiple simulation features in combination while still being able to record and edit the results easily. For those who want to achieve detailed simulation results quickly and efficiently, I highly recommend actively experimenting with *Marvelous Designer*’s wide range of options.

Since Cinema 4D (C4D) is a main part of your pipeline, how was the compatibility and overall usability between Marvelous Designer and C4D?

Chanwoo: In terms of basic compatibility, the connection was seamless without any major issues. However, when reprocessing Alembic files in *Cinema 4D*, there is a step where you need to convert them to an ‘Editable’ state for more flexibility. I found that this process significantly increases the file size, which was a bit challenging to manage. I think it’s important to strategically choose your workflow depending on whether you’ll use the file simply as a final simulation result or as an element for further modification.

Haena: The workflow between the two programs felt very continuous and fluid, which made the overall process highly efficient. It saved a lot of time because I didn’t need to do much additional cleanup or reorganization within *Cinema 4D*. I was particularly satisfied with the fact that the UVs come over already unwrapped, allowing me to skip complex UV tasks. Also, being able to check high-fidelity previsualizations in *Marvelous Designer* made it much easier to increase the final quality later when applying lighting and textures in C4D.

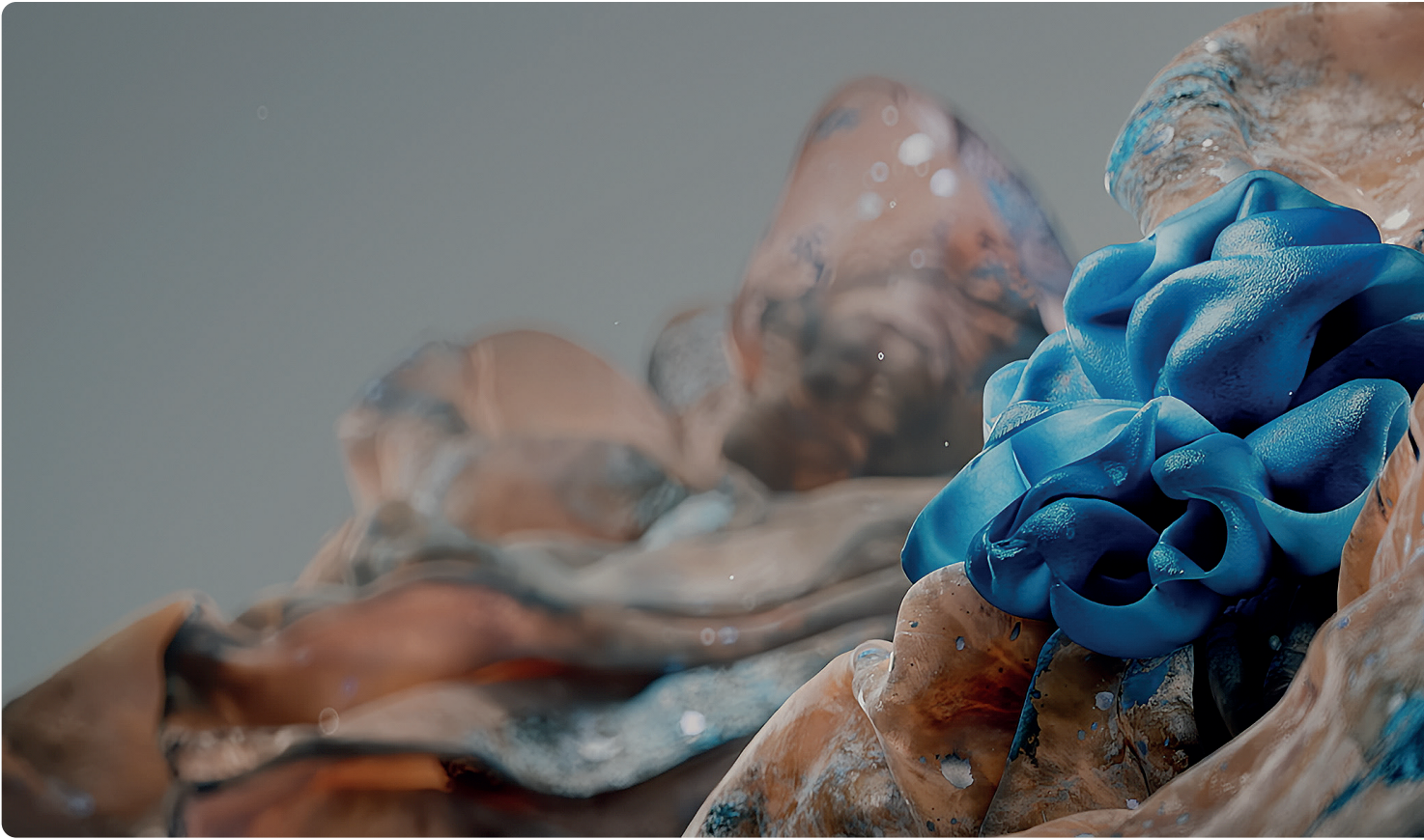
One observation, however, is that compared to C4D’s ‘Soft Body’ simulation, *Marvelous Designer* tends to feel relatively flexible even with thicker fabric materials. It would be even better if future updates allow for more freedom in expressing stiffer, weighted materials with fewer wrinkles.

I WAS PARTICULARLY SATISFIED WITH THE FACT THAT THE UVS COME OVER ALREADY UNWRAPPED.

Minkyung: I found that a methodical process works best: instead of creating every source from scratch in *Marvelous Designer*, I pre-plan the motion paths and positions in *Cinema 4D*, import them into *Marvelous Designer* for the simulation, and then bring them back to C4D. Early in the project, I faced some trial and error by overlooking the fact that you can’t set ‘Transform’ keyframes directly within *Marvelous Designer*. However, by repeating the process of moving between the two tools using FBX and Alembic files, I was able to achieve a much more flexible workflow.

One thing to be careful about is the difference in ‘Unit’ settings between the two programs. Also, I noticed that if you modify the ‘**Particle Distance**’ in *Marvelous Designer* after creating the result, the point structure changes from the original source used in C4D, which can break ‘**Morph**’ targets. If you keep these characteristics in mind, you can build a very efficient workflow. I believe that providing more of these useful tutorials will greatly help motion graphics designers utilize these tools in a more structured and planned way.





How do you envision expanding the role of Marvelous Designer in your upcoming workflows?

Chanwoo: Moving forward, I want to actively incorporate *Marvelous Designer* into projects that require abstract, non-traditional graphics. I'm particularly interested in creating surreal visuals where the line between fabric and liquid becomes blurred, as I believe this is a powerful way to communicate a brand's identity to its audience. To me, the true charm of *Marvelous Designer* lies in the "accidental beauty" that emerges from its unpredictable, organic flow.

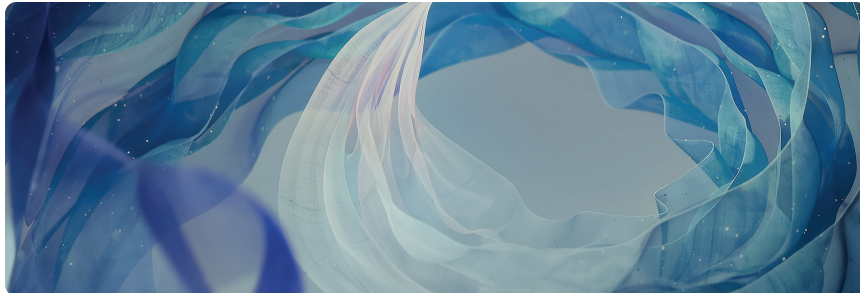
Haena: It will remain my go-to tool whenever I need detailed, realistic attire or specific fabric textures. Beyond that, I plan to utilize *Marvelous Designer* for projects that require unique and complex simulations—the kind of motion that is difficult to achieve through standard **keyframe animation** alone—to further elevate the overall production quality.



HEAVY SIMULATIONS INVOLVING MULTIPLE LAYERS OF OBJECTS SWAYING IN THE WIND—LIKE SMOKE OR FLOWER PETALS—CAN BE CONTROLLED BOTH PRECISELY AND EFFICIENTLY WITHIN MARVELOUS DESIGNER.

Minkyung: I'd like to dive deeper into using the software for non-standard natural elements. For instance, heavy simulations involving multiple layers of objects swaying in the wind—like smoke or flower petals—can be controlled both precisely and efficiently within *Marvelous Designer*. Building on its unrivaled ability to express fabric wrinkles, I intend to apply its core features to a wider variety of creative directions.

I was particularly impressed by the 'Air Damping' option during this project, and I'm looking forward to experimenting with it further to create deep, immersive visual expressions in future projects set in underwater environments.



MARVELOUS DESIGNER THE INDUSTRY STANDARD



| VIRTUAL MENSWEAR / AVATAR ARTIST



TINMESHI.BOOTH.PM/



Rise of Menswear and Avatar Fashion in Virtual Reality.

We at down with *Sato Imozou*, a virtual menswear and avatar artist active in the Japanese *VRChat* community. Mirroring *Sato's* experience, *Marvelous Designer* has seen significant expansion in the virtual reality and metaverse fields—notably in avatar creation, the design of garments for self-expression, and the publishing of ‘wearable’ artistic works on platforms like *CONNECT Gamewear*.

Please introduce yourself and your brand 珍飯亭 (Tinmeshitei). Could you tell us what first inspired you to begin creating avatars for VRChat, and walk us through the history of how you established your current brand?

I create and sell avatars, primarily focusing on adult male, as well as realistic menswear garments. I was always aware that you could use custom avatars inside the game, but I actually started playing *VRChat* for the first time when a friend invited me. Originally, I just loved creating and animating original models, so I was only making them for my own personal use. At the time,

however, the number of male avatars on the market was still quite small compared to female avatars, and there was a similar shortage of clothing options for them.

As I became more immersed in *VRChat*, I felt a strong desire to help expand the variety of male avatars and clothing—even if just a little bit—so users could express more unique personalities. That drive is what led me to launch a shop specifically focused on male avatars.

**MARVELOUS
DESIGNER
SEEN SIGNIFICANT
EXPANSION IN THE
VIRTUAL REALITY
AND METAVERSE
FIELDS.**

The featured avatar, Zev, possesses a striking street-goth aesthetic that sets him apart from the typical VRChat avatar landscape. When you were conceptualizing this character, what kind of user persona or lifestyle did you have in mind?

Back when I was conceptualizing him, the target age for most *VRChat* avatars seemed to be in the teens and twenties, and I got the impression that male avatars were similarly clustered around the teen to early-twenties demographic. Personally, my favorite age range for characters is around 30, so I created *Zev* to be an avatar with a distinctly mature vibe.

The core of his character concept was designed around the idea of a “Russian outlaw-style man.” I envisioned him primarily for users who want to enjoy cinematic, hardboiled roleplay or video production that fits that aesthetic, as well as for people who simply want to express a slightly shady, dangerous atmosphere.

What led you to integrate Marvelous Designer into your VRChat production workflow?

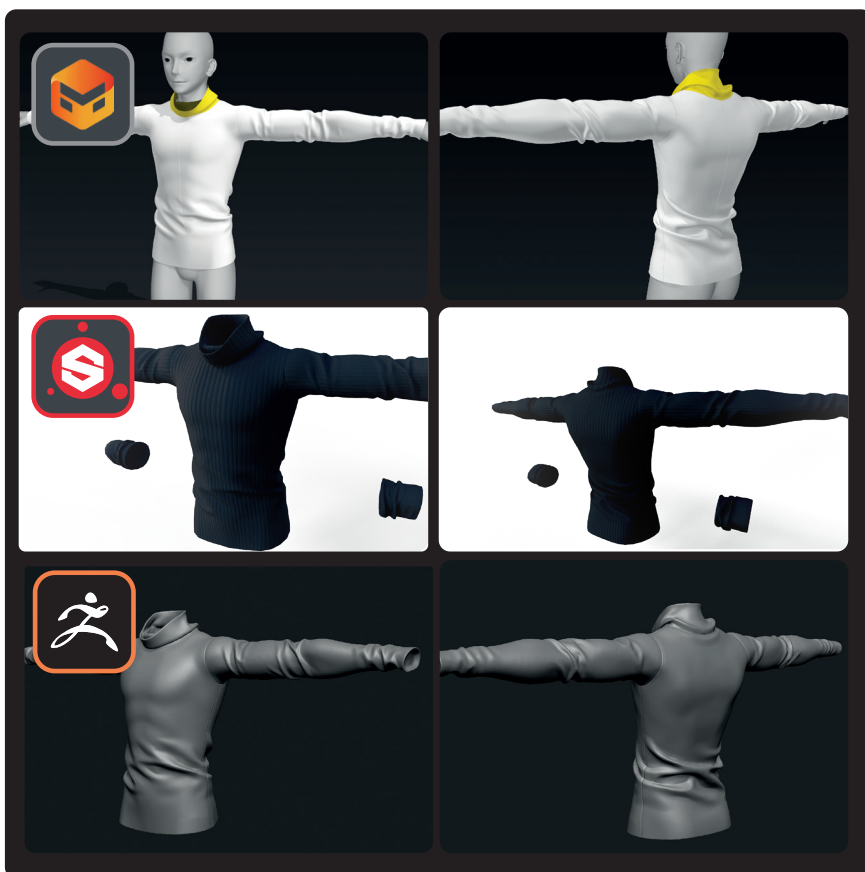
I first discovered *Marvelous Designer* in early 2017. I happened to see a promotional video and was absolutely blown away by the process of creating garments through cloth simulation. I remember I was exactly in a phase of trial-and-error, trying to improve the quality of my modeling, so I decided to purchase it right away. The UI and controls were so intuitive and easy to understand that I was able to teach myself without stumbling, which was a huge help.

Even back then, I was aiming for a semi-realistic art style. However, because my own sculpting skills weren’t particularly high, I inevitably struggled to make the clothes look realistic. By integrating *Marvelous Designer*, I was finally able to achieve my ideal look—such as realistic fabric textures and natural wrinkling—which dramatically improved my workflow and made it so much easier to create my art.



1 The parka's draping and turtleneck fit are very realistic. How much do you rely on traditional pattern-making versus 'digital trickery' or virtual-only retouches to achieve this look?

Originally, I was doing real-world sewing and dressmaking as a hobby, where I also drafted my own patterns. The knowledge and skill set obtained here proved to be incredibly useful when using *Marvelous Designer*. However, following the same patterns and theories as in reality doesn't always guarantee a garment will look good in VR.



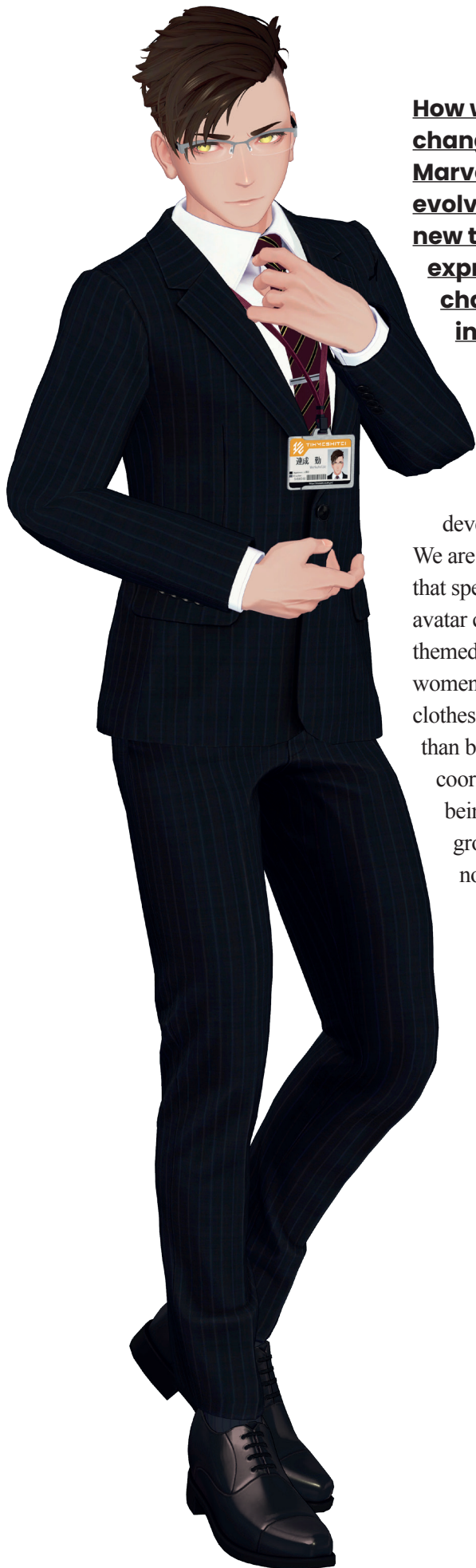
2 Unlike real clothes, the wrinkles essentially become baked and static on the final product. Considering this, I intentionally deform patterns or simulate them by bending the avatar's joints. I frequently make adjustments from all angles until the garment holds a shape that looks great not only in its default pose, but also while in motion.



What is the biggest challenge when moving high-detail fabrics into VRChat's restricted environment (polycounts, bones, etc.)? Could you share your specific retopology and normal map baking workflow?

I personally consider adding finer details in *ZBrush* essential to elevate the final look while retaining the original silhouette created in *Marvelous Designer*. However, the retopology work required to optimize that high-poly mesh for a real-time environment is undeniably the most labour-intensive part of the process. While there are automatic retopology tools like *ZBrush's ZRemesher* or *Blender's Quad Remesher*, they inevitably leave the topology a bit messy or waste polygons in unnecessary areas, so I basically do all of my retopology by hand. During this process, I carefully aim to ensure that the beauty of the silhouette isn't lost, without increasing the polycount more than necessary.

I do this by allocating denser geometry specifically to the large, raised wrinkles that define the silhouette, while cutting back / omitting geometry in areas where details can simply be expressed by baking them into a normal map.



How will virtual fashion change as tech and Marvelous Designer evolve? Are there specific new tools or artistic expressions you want to challenge yourself with in future projects?

Over the past year or so, I feel the market has broadened significantly, especially regarding the development of menswear. We are now seeing creators/stores that specialize entirely in male avatar clothing, as well as matching themed outfits for both men and women, which makes choosing clothes a much more fun experience than before. Fashion shows and coordination contests are also being actively hosted. With the growing attention on fashion—not just in the real world,

but in virtual reality as well—I would be thrilled if it became even easier for users to casually swap outfits from a massive variety to match their daily mood or the specific situation they are in.

As for my own work, I still naturally gravitate toward realistic fashion or “real-clothes,” but I don’t want to stop there; I want to challenge myself with artistic expressions that are only possible in a virtual space, while continuing to create convincing avatars and fashion that blend naturally and beautifully into the environment.

**WE ARE
NOW SEEING
CREATORS/
STORES THAT
SPECIALIZE
ENTIRELY IN
MALE AVATAR
CLOTHING.**

MARVELOUS DESIGNER THE INDUSTRY STANDARD



UNLEASH YOUR CREATIVITY

| 3D CHARACTER ARTIST



ARTSTATION.COM/ZBERNIL

Interview
with
**ZEION-JEREMY
BERNIL**

3D CHARACTER ARTIST

What do you specialize in, when did you discover 3D, and what inspired you to choose it as a job?

My name is Zeion-Jeremy Bernil. I'm a Senior Character Artist with five years of experience in the video game industry. I first discovered 3D sculpting while collecting *Sideshow Collectibles* statues. I learned that many of those pieces were sculpted digitally and then 3D printed. That really sparked my curiosity. As I dug deeper, I realized character art was an actual career path. That's when I decided to enroll in a 3D video game art program here in *Montreal*.

When did you start using Marvelous Designer, and how has it affected your workflow?

I started learning *Marvelous Designer* about six years ago while I was in school. We covered the basics in our character art classes, and I expanded my knowledge through tutorials on *YouTube*, *ArtStation* and on the Internet. At the time, I wasn't very comfortable with cloth sculpting, so *Marvelous Designer* felt like a game-changer. It quickly became an essential part of my workflow. I use it on almost every project. It allows me to generate realistic garments and simulate different fabrics efficiently, which saves me from spending excessive time manually sculpting cloth from scratch.

IT ALLOWS ME TO GENERATE REALISTIC GARMENTS AND SIMULATE DIFFERENT FABRICS EFFICIENTLY, WHICH SAVES ME FROM SPENDING EXCESSIVE TIME MANUALLY SCULPTING CLOTH FROM SCRATCH.

How do you work with Marvelous Designer? Are there any tricks you use to increase efficiency?

I tend to keep things relatively straightforward in *Marvelous Designer*. I mainly use it to simulate garments that serve as a base for further sculpting. It establishes the primary and secondary forms, which helps me avoid overthinking the cloth sculpting process. In most cases, *Marvelous Designer* gets me about 60–80% of the way there.

The final refinement and detailing are done in *ZBrush*. I usually work on garments in separate scenes. It's easier to manage individual pieces that way, and it keeps the scene running smoothly. For more complex garments, I like using the **Import (Add) OBJ to Garment** feature with the **"Trace 2D Patterns from UV Map"** option. I block out the garment in *ZBrush*, separate it into polygroups, and unwrap the UVs using the polygroup option. Those UVs are then converted into patterns when imported into *Marvelous Designer*. Since pattern creation isn't my strongest area, this approach saves me a lot of time.

How do you prepare your Marvelous Designer project before sending it to other software?

At the beginning of a project, I always start with a blockout in *ZBrush* to confirm proportions and identify potential problem areas. I push the modeling of elements that will interact with cloth like armor, straps, and accessories. These elements may be imported as avatars or positioned around the cloth inside *Marvelous Designer*. I then either create patterns directly in *Marvelous* or use the **OBJ to Garment** workflow. I simulate with different fabrics and adjust the patterns until I achieve the desired look.

Once I'm satisfied, I export two versions of the garment:

Export

- 1 The simulated garment (x_garment)
- 2 The flattened version (x_flat) after using **"Reset 2D Arrangement"**

In *Maya*, I create clean topology over the x_flat mesh using the **Quad Draw** tool. I then use **Transfer Attributes** to match the retopologized mesh to the x_garment version. After smoothing the mesh, I transfer attributes again. I repeat this process until I reach the resolution I'm satisfied with. The final retopologized mesh is then brought back into *ZBrush* for detailing and refinement.



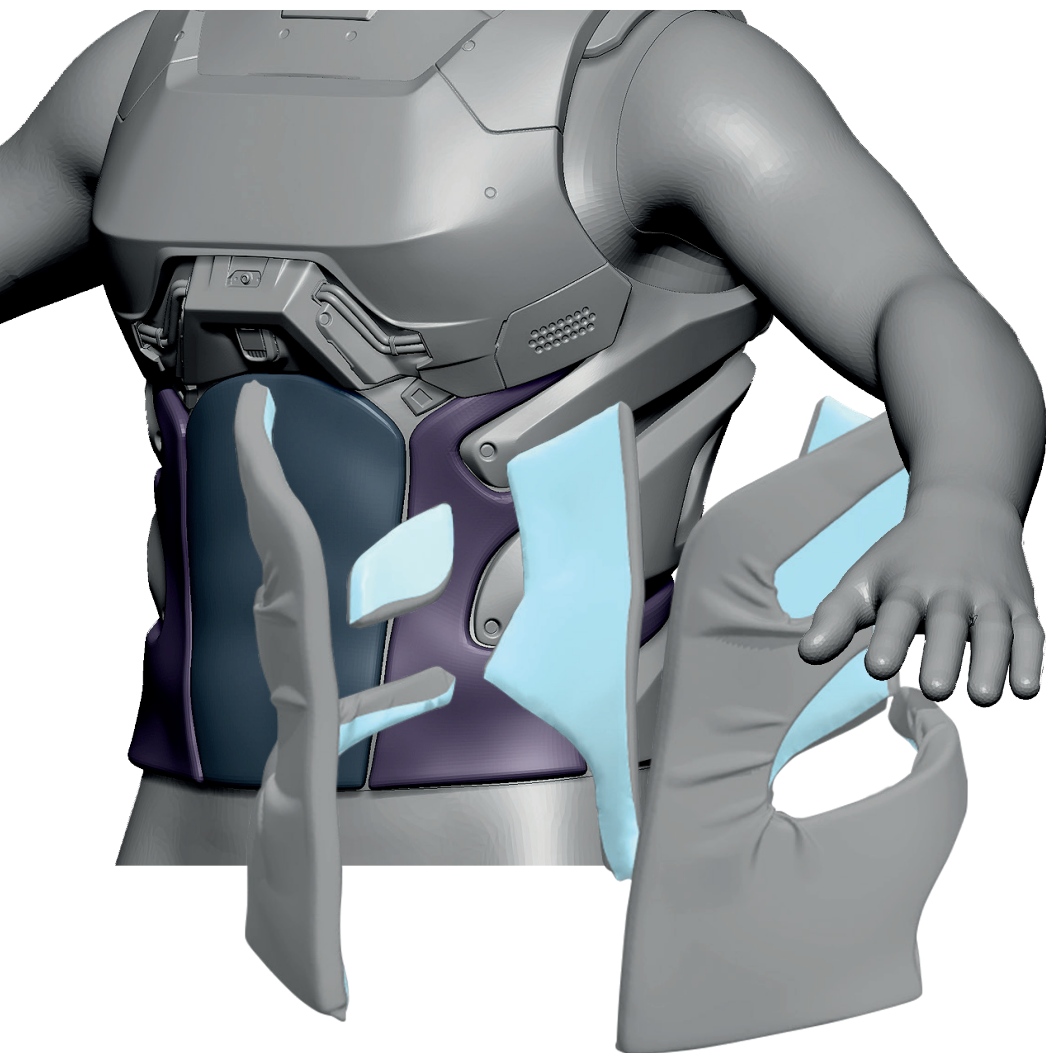
For your work on Star Citizen – Geist Armor, what was your workflow for the cloth interacting with metal?

I started with a blockout in *ZBrush*, modeling the hard surface elements first so I could establish accurate placement for the cloth. I created a mesh for the garments and split them into polygroups matching the concept's patterns. After generating UVs, I used the **Import (Add) OBJ to Garment** workflow in *Marvelous Designer*.

This armor featured two types of cloth: padded cloth and regular cloth.

For the padded sections, I modeled the base padding shapes in *ZBrush* and generated UVs for them. In *Marvelous Designer*, I imported the mesh twice—once as an Avatar and once as **OBJ to Garment**. I simulated the garment over the avatar with a high negative pressure value to ensure it wrapped tightly around the avatar. I then adjusted warp and weft values to introduce additional folds.





The remaining cloth was made with the mesh I imported with **OBJ To Garment** along the basemesh avatar. Before simulating, I froze the patterns that occupied the area of the hard surface elements and padding to avoid unwanted movement.

All final adjustments were done in *ZBrush*.

I CONSIDER MARVELOUS DESIGNER AN ESSENTIAL TOOL FOR CHARACTER ARTISTS, ESPECIALLY THOSE EARLY IN THEIR 3D CAREERS.

1 For Star Citizen – Siebe Helmet, how did you approach the neck and gas tube areas?

From the start, I knew simulating the neck cloth with the tube around it would be challenging due to how tightly they interact. To manage this, I worked in separate scenes.

In one scene, I imported the helmet with the basemesh as an avatar, then created the patterns. Garments were pinned where rivets would be located. The neck cloth was pinned along the base of the helmet.

In another scene, I imported the tubes I modelled as an avatar. I wrapped patterns around them and adjusted warp and weft values until I achieved the desired look.

2 For Star Citizen – Frontier Outfit, how did you create the buckling and folds on the hood and pants?

The hood and scarf were initially created as a single garment, except for the flap at the back. I wrapped a long rectangular pattern around the neck and sewed a hood onto each end. Achieving the right flow took some iteration. I cut and resewed certain sections to freeze areas I liked while continuing to adjust others.

The back flap was pinned at the top. I didn't worry about clipping at this stage, since I knew I could resolve it later.

In *ZBrush*, I refined the silhouette, sculpted additional folds, integrated the flap into the scarf, and eventually separated the hood to allow for in-game removal. I made the stripes in *ZBrush* to match the concept art.

For the pants, I began with a standard pant pattern and added internal lines for seams and paneling. To create folds around the knees, I sewed the pant hem to a frozen strap positioned at the top of the shin guard. The buckling effect was achieved using layer cloning over and applying a nylon featherweight preset, along with increasing warp values. I enhanced the buckling by subtly sculpting over the folds.

3 For Star Citizen – Dust Devil Armor, how did you create the torn cape and bandages?

Since our game supports cloth simulation, I used *Marvelous Designer* to establish the base shape of the cape—especially to achieve that diaper fold at the top. I pinned the cape to the armor inserts and pinned the corners to create an outward flare.

The torn edges were sculpted in *ZBrush*. I also rotated the cape upward about 30 degrees to ensure proper in-game simulation.

How would you describe your overall experience with Marvelous Designer?

I consider *Marvelous Designer* an essential tool for character artists, especially those early in their 3D careers. It helped me significantly when I was still learning cloth anatomy and garment construction. Beyond production work, I also use it for studies—observing where folds form and understanding why they occur. It's both a practical production tool and a learning resource.



1



2



3



© 2020 Cloud Imperium Rights, LLC & Cloud Imperium Rights, Ltd.

MARVELOUS DESIGNER THE INDUSTRY STANDARD

UNLEASH YOUR CREATIVITY



| 3D ARTIST



INSTAGRAM.COM/WORK__YEOP



Hello, I am Sangyeop Jeong, a 3D artist currently working with RABBIT WALKS in Seoul.

I have been self-teaching *Marvelous Designer* since 2014, when I first started studying 3D arts. Since I began my career as a modeler, I initially focused on creating character costumes. It became an essential tool that significantly boosted my efficiency in the clothing creation process.

Since incorporating *Cinema 4D* into my main workflow, I have frequently utilized *Marvelous Designer* for motion graphics as well. I now use it effectively across all projects that require clothing and fabric simulations



Could you explain the project preparation process? – Intentions, goals to achieve, the approach to the cloth design, and references.

The entire project was planned by *Chanmok Park*, the *Supervisor* at *RABBIT WALKS*.

I actively utilized *Midjourney AI* during the character design process to generate inspiration for my design.

I established the design direction around futuristic images with a cyberpunk mood, aiming for bold and exaggerated forms rather than costumes that might exist in reality.

Although these costumes are fictional, I strove to implement the pattern structures and physical properties of the materials as realistically as possible using *Marvelous Designer*.

SINCE A SOLID FOUNDATION MAKES SUBSEQUENT STEPS MUCH SMOOTHER, I INVEST THE MOST TIME IN ESTABLISHING THE OVERALL VOLUME AND SILHOUETTE.

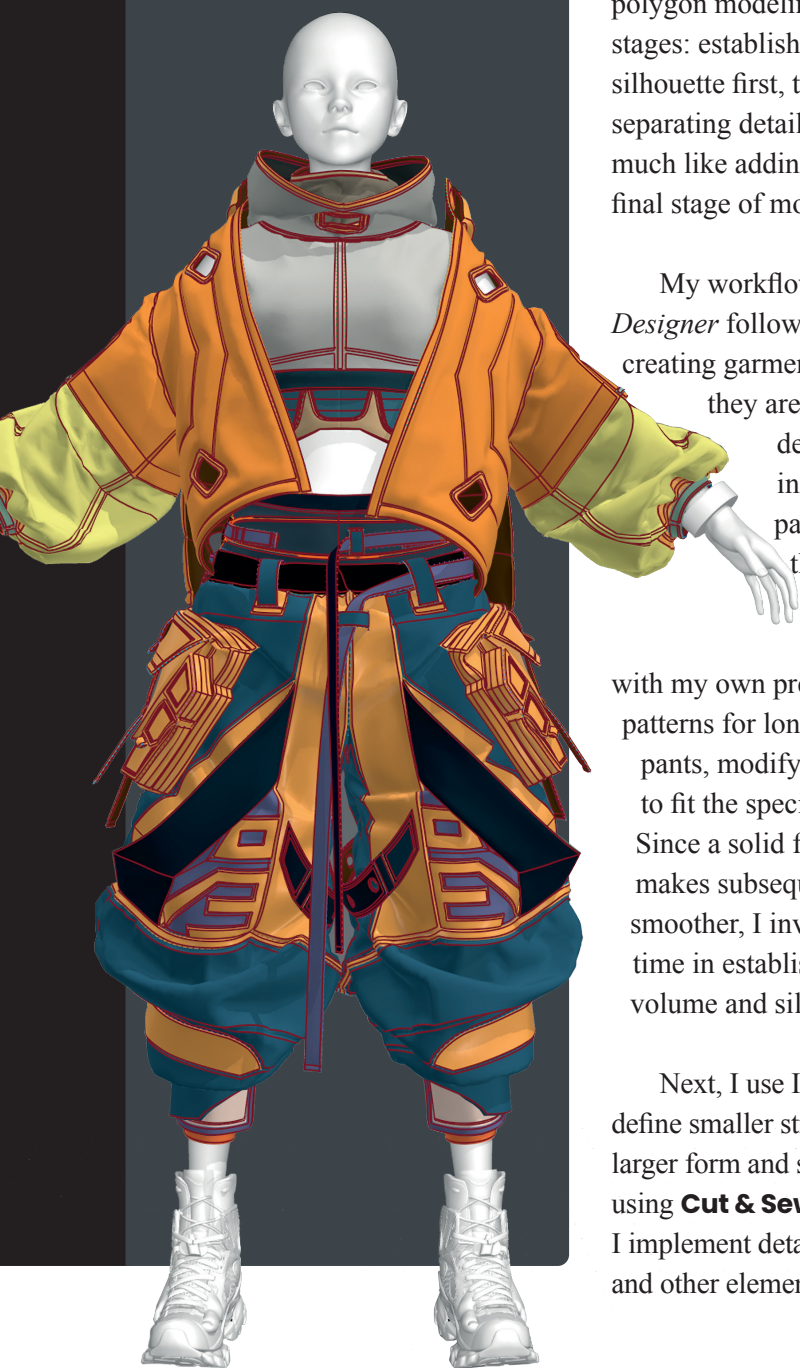
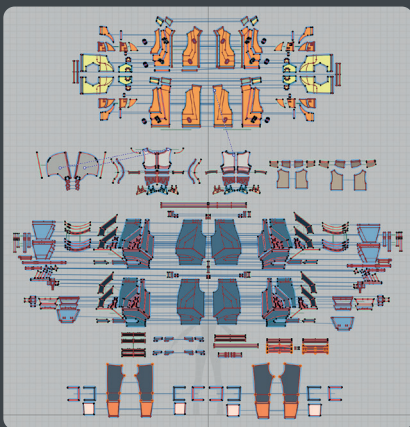
How do you approach a new design when you don't start with traditional pattern knowledge? What's the starting point?

Since I am not a fashion design major, I tend to rely more on visual intuition and observation than theoretical knowledge during my creative process. Therefore, I place great importance on the attitude of constantly looking, observing, and learning.

I always conduct thorough reference research before starting a project. On a daily basis, I dedicate time to honing my visual sense by consistently checking fashion-related accounts and posts on platforms like *Instagram* and *Pinterest*.

I archive the fashion designs or pattern images that leave an impression on me. When a specific project arises, I revisit these resources to conceptualize the design direction and mood. Recently, I have been incorporating AI tools into this reference collection and interpretation process, allowing me to rapidly expand my ideas and gain fresh perspectives.





You've developed a unique way of working in Marvelous Designer, can you walk us through your typical process when creating a new outfit?

Since my background is in *Maya* modeling, I approach pattern making in *Marvelous Designer* similar to how I handle polygon modeling. I proceed in stages: establishing the overall silhouette first, then defining and separating details one by one, much like adding bevels in the final stage of modeling.

My workflow in *Marvelous Designer* follows this logic, creating garments in the order they are layered. For this design, I proceeded in the sequence of pants, hoodie, and then jacket.

I start with my own pre-made base patterns for long sleeves and pants, modifying the shapes to fit the specific design. Since a solid foundation makes subsequent steps much smoother, I invest the most time in establishing the overall volume and silhouette.

Next, I use Internal Lines to define smaller structures within the larger form and separate patterns using **Cut & Sew**. After that, I implement details such as pockets and other elements one by one.

I basically create all patterns with a double-sided structure using '**Clone (Over)**' or '**Clone (Under)**' to add thickness. While I use single-sided patterns for lighter garments or test runs, I prioritize double-sided patterns for solid, heavy-looking clothing, accepting the trade-off of heavier file sizes. Once the patterns are near completion, I utilize the **Shrinkage** function to add extra volume or create natural wrinkles.

In the final stage, I add thin **Internal Lines** to all patterns to ensure the shape holds up when **Subdivision (Smooth)** is applied in other software. With this workflow in mind, I typically keep the **Particle Distance** between 6 and 10.

Then I proceed to **UV mapping**. For patterns I want to emphasize or feature prominently, I separate them to occupy their own UV tiles.

I work on the pants, hoodie, and jacket in separate files, then combine them in the final stage, dressing the avatar according to the layering order. Additionally, I save separate files for each stage of the pattern-making process to maintain a comprehensive version history.



**A MAJOR
ADVANTAGE OF
MARVELOUS
DESIGNER
IS THAT IT IS
RELATIVELY EASY
TO APPROACH
AND HAS A
MORE INTUITIVE
STRUCTURE
COMPARED
TO OTHER 3D
SOFTWARE.**

Many new users find the concept of patterns daunting in Marvelous Designer. What would you say to them about overcoming that initial hurdle based on your own experience?

Since *Marvelous Designer* and *CLO* are widely perceived as specialized fashion design tools, non-majors often feel a natural barrier to entry. I believe this stems from a vague fear: ‘Can I really use this tool effectively without studying fashion design or understanding patterns?’

I, too, did not major in fashion design. However, I simply had clothes I wanted to create, and I didn’t necessarily view the process through the strict concept of ‘patterns.’ Coming from a modeling background, I accepted it as just another form of

3D modeling rather than pattern making. From the very beginning, I focused solely on implementing the visual forms I envisioned.

As a result, the patterns I create might be closer to ‘fake patterns’ that can only exist in videos, rather than patterns suitable for actual garment manufacturing. While they may not be accurate enough for real-world production, I believe they hold sufficient value and meaning as designs intended for visual expression.

A major advantage of *Marvelous Designer* is that it is relatively easy to approach and has a more intuitive structure compared to other 3D software. Therefore, if there is a garment you want to create, I think it is crucial to just start, rather than being held back by the burden or fear of pattern theory.

Even if they aren’t ‘real patterns’ for manufacturing, I feel that my own ‘fake patterns,’ designed solely for the screen, possess their own unique charm and potential.

Then, has this trial-and-error approach you mentioned ever led to surprisingly good results that you might not have achieved with a more traditional pattern method?

Looking back, many of my projects have yielded great results in unexpected ways. The recent project I worked on for *AWS* was one such instance.

Since I used images generated by *Midjourney* as a base, there were many areas where the forms were distorted or unclear. I fleshed out these ambiguous parts by relying on my imagination or consulting my existing reference library.

Because I approached the work with an intuitive aesthetic sense—focusing on what would look visually superior—the output leans more towards the ‘fake patterns’ for visual media I described earlier, rather than realistic patterns for manufacturing.

However, I believe the final result successfully captured the futuristic and captivating patterns of the cyberpunk mood intended from the planning phase, especially when viewed within the context of the video.



Explain your workflow from Marvelous Designer to other software. How do you prepare your project to continue working in other software?

Since I approach pattern making in *Marvelous Designer* like modeling in *Maya*, the workflow feels relatively natural and organized. As I mentioned earlier, I add detailed Internal Lines specifically to ensure the mesh holds its shape when **Subdivision (Smooth)** is applied later in software like *Maya*, *ZBrush*, or *Cinema 4D*.

I also believe it is crucial to plan the texturing phase in advance when handling UVs. Establishing a clear direction at this early stage ensures a clean, error-free result when moving to *Substance Painter* after additional adjustments in *Maya*.

For areas that require emphasis, I intentionally scale up the UV islands, even if it means deviating from the actual 1:1 ratio. Similarly, I allot generous UV space for pattern areas where typography or graphic elements

will be applied, keeping the post-production process in mind. Furthermore, to achieve higher quality, I often distribute a single garment across multiple UV tiles rather than confining it to just one.

Because I utilize *Marvelous Designer* with a focus on video production rather than from a fashion designer's perspective, my workflow is more segmented and requires careful attention at every stage to suit the needs of motion graphics. In this context, I use *Marvelous Designer* not as a fashion design tool, but purely as a dedicated tool for 'cloth modeling'.



**MY PLAN IS TO
EXPLORE THE
FULL POTENTIAL
OF MARVELOUS
DESIGNER
BY CREATING
PATTERNS
WITH COMPLEX
STRUCTURES
AND INTRICATE
DETAILS.**

Let us know your future plans or what you would like to do next for the project.

Inspired by the recent *AWS* project, I aim to challenge myself with character work involving costumes with even higher levels of pattern detail. My plan is to explore the full potential of *Marvelous Designer* by creating patterns with complex structures and intricate details.

Simultaneously, I intend to conduct various simulation tests using relatively lighter garment patterns. Through these experiments, I am looking to expand the use of pattern-based simulation beyond character costumes, applying it more broadly across my entire motion graphics workflow.



MARVELOUS DESIGNER THE INDUSTRY STANDARD



| 3D ARTIST



ARTSTATION.COM/MAGICWAND



As a 3D artist with a background in UX design, how has that experience influenced your artistic philosophy and your creative workflow?

Hi everyone, I'm *Yao Chan*, a Shanghai-based 3D artist with a foundational background in UX design.

After completing both my Bachelor's and Master's degrees in *Digital Media at the Central Academy of Fine Arts (CAFA)*,

I spent over a decade as a UX designer, working with industry leaders such as *TCL Alcatel, Lenovo, Motorola, and SAIC-GM*.

Since 2019, while designing user experiences for automotive and digital devices, I found myself increasingly drawn to 3D elements. This constant

engagement with space, volume, and realism sparked a profound interest in 3D art—not just as a functional design tool, but as a medium for personal artistic expression. This realization prompted a shift in my creative focus, leading me to explore 3D art through the lens of my own life experiences, interests, and emotions.

My UX background deeply informs my artistic methodology. For me, 3D art is an essential expressive medium, and my experience in UX provides a structured approach that helps me balance the complexity of a scene with the rhythm of emotional expression. I tend to approach a piece from the perspective of “total experience”: considering how a viewer enters the frame, how their gaze is guided, and whether a natural “logic of

CONSIDERING HOW A VIEWER ENTERS THE FRAME, HOW THEIR GAZE IS GUIDED.

living” exists between spaces and objects. Furthermore, my long-term focus on user journeys makes me acutely sensitive to time and atmosphere. I strive to use 3D environments to present a “sustained state,” inviting viewers to linger, pause, and repeatedly immerse themselves in the world I've created.



Your work beautifully captures life’s fleeting moments and imbues them with profound emotional depth. How do you translate “memories and emotions” into tangible 3D scenes, and how do you strike a balance between a stylized aesthetic and realistic detail?

When searching for themes, I gravitate toward the subtle, evocative nuances of life and memory. It might be that lingering chill in a breeze amidst the vibrant renewal of early spring; the sweet, intoxicating scent of osmanthus drifting through an autumnal city; or the warmth of anticipation while waiting for roasted chestnuts on a snowy street corner.

Sometimes, it’s the mystical romance stirred by the medieval alleys of *York*, or the sheer awe of being cradled by the boundless sea beneath the *Neist Point Lighthouse*. These fleeting, minute fragments of life carry the very emotions I wish to share through my work.

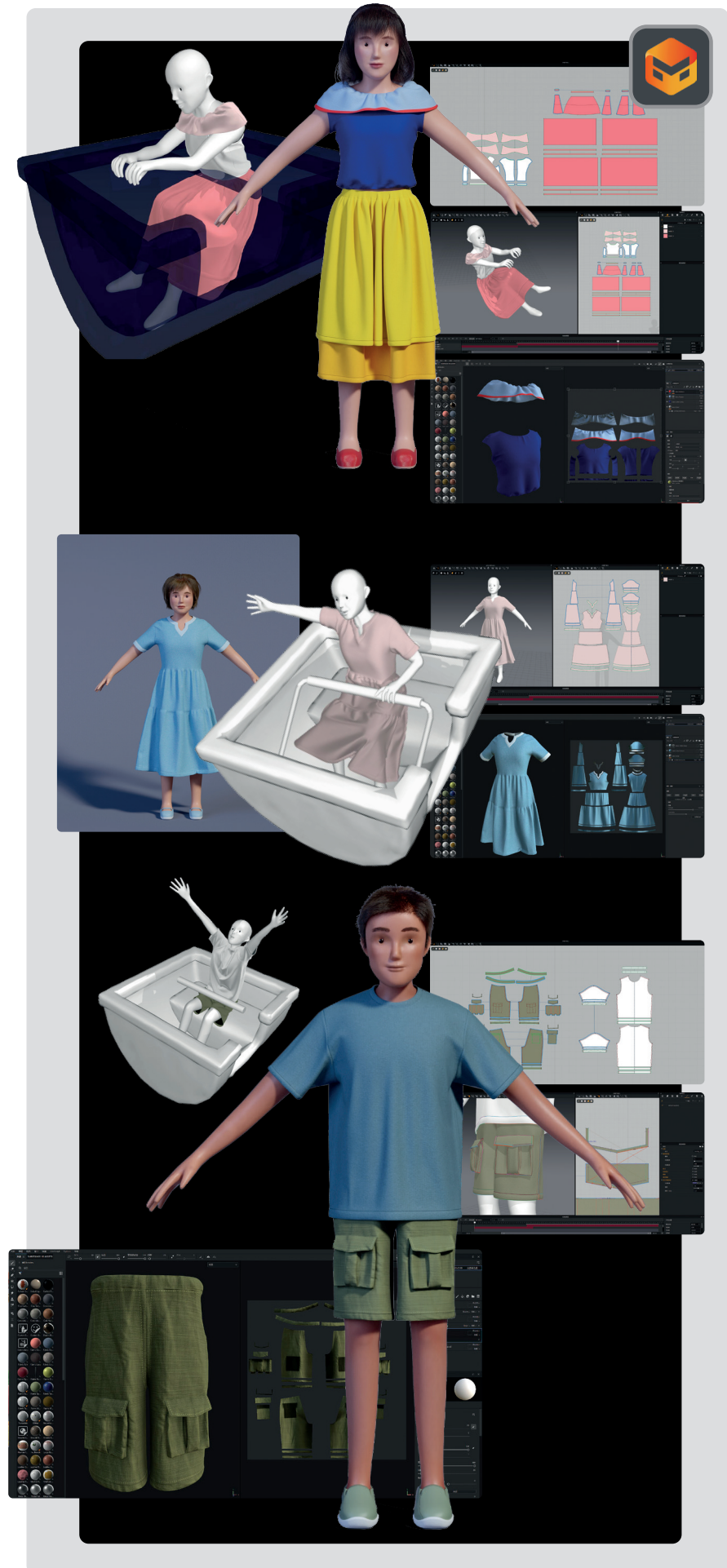
Memory and emotion are rarely complete or crystal-clear images; they are the result of personal feelings and imagination layered over lived experience—viewed through a subjective lens. Consequently, I don’t seek to replicate reality with precision. Instead, I aim to amplify the “spark”—a particular ray of light, a palette of colors, an atmosphere, or a fragment that refuses to fade from the mind.

For me, stylization is the distillation of realistic detail. By emphasizing key information in proportion, color, rhythm, and mood while softening distractions, I can focus the emotional expression. This aligns with my understanding of how memory works. Meanwhile, “realistic detail” is reserved for spatial logic, physical consistency, material textures, and the interplay of light and shadow. These elements provide a credible foundation, allowing stylized visuals to naturally carry authentic human emotions.

Marvelous Designer is renowned for its hyper-realistic cloth simulation, yet your work has a distinct stylized charm. How do you integrate Marvelous Designer into your stylized creations to add that unique touch to your pieces?

Marvelous Designer's realistic simulation provides a credible, real-world foundation for my stylized creations. Before integrating *Marvelous Designer* into my workflow, I relied on manual modeling or built-in cloth simulators, which often resulted in unnatural folds or slightly mechanical animations. *Marvelous Designer* allows me to achieve a baseline of organic realism, from which I can then fine-tune properties like texture, silhouette, and detail to seamlessly align with my specific visual language.

For me, fabric is more than just a component of realism; it is an active participant in emotional storytelling. Whether a material is sheer or heavy, draped or stiff, it instinctively communicates information about the atmosphere, the passage of time, and the rhythm of movement. In my piece *Winter Sun*, the soft, cocoon-like texture of the loungewear amplifies the sense of leisure and comfort under a winter afternoon sun. Conversely, in *Sunset Rush*, the wind-swept collars and fluttering hemlines help me visually articulate the exhilaration and wonder that come with speed and tempo.



I ALSO USED MARVELOUS DESIGNER TO QUICKLY CREATE ENVIRONMENTAL CLOTH.

In your recent projects like *Sunset Rush* and *4 Days Out*, what specific effects did *Marvelous Designer* help you achieve? What advantages did it bring to your character costuming and environmental fabric elements?

A common thread between *Sunset Rush* and *4 Days Out* is the interaction between characters and props—whether it’s a roller coaster seat or a manual generator. These relationships are central to the narrative. During the modeling stage, I prioritize the spatial relationship between the character and environment. Even before the garments are created, I pre-calculate how the fabric will behave in that space to prevent clipping or unnatural folding during the simulation.

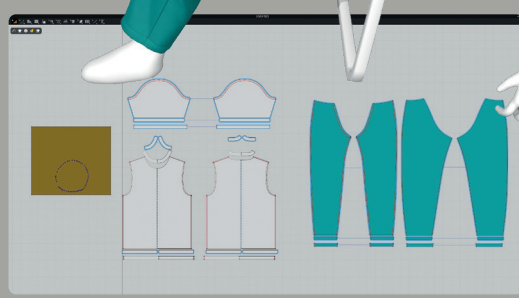
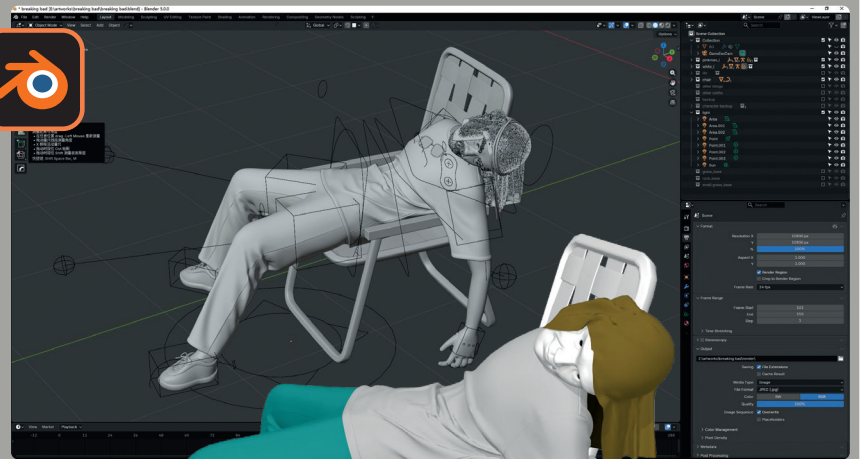
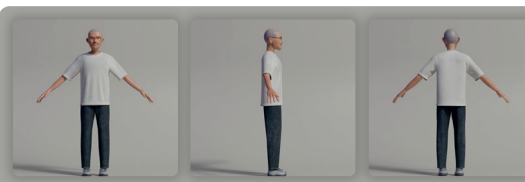
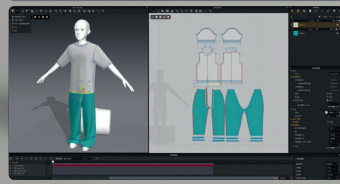
My workflow typically begins in *Blender*, where I animate the transition from A-pose to the initial frame, followed by the full sequence. Any props that interact with the cloth are also animated



and exported to *Marvelous Designer* as separate Avatars. In *Sunset Rush*, for instance, the roller coaster’s restraint bars interact directly with the clothes. To avoid clipping issues during the A-pose transition, I import props as separate avatars and use *Marvelous Designer*’s “**Activate/Deactivate**” feature. This allows me to stabilize the garment in A-pose first, then seamlessly transition into the animation start-frame for fine-tuning.

The sense of speed in *Sunset Rush* presented another challenge. Because the track is a condensed, high-speed miniature, the extreme inertia often caused the cloth to glitch or fly off-model under standard simulation speeds. By using *Marvelous Designer*’s **Scene Time Warp** feature, I could simulate at different time scales. This gave me precise control over the fabric’s behavior under extreme motion, maintaining dynamic tension while respecting physical logic.

For *4 Days Out*, the clothing was simpler, but used to define character. I modified base assets from the library to reflect their personalities: a well-fitted, “teacher-like” outfit for *Walt*, and oversized, hip-hop-inspired saggy pants for *Jesse*. For *Walt’s* makeshift towel hat, I used the **Tack** feature to secure the cloth to the model, ensuring it moved naturally with his head. To create *Jesse’s* looping animation for the hand-crank generator, I exported one cycle of the cloth animation as an Alembic file and used **MDD** and **Nonlinear Animation (NLA)** in *Blender* to create a seamless loop. I also used *Marvelous Designer* to quickly create environmental cloth, like the canvas on the folding bed and the jacket hanging on the rearview mirror, adding a sense of lived-in realism to the scene.



When using Marvelous Designer for stylized art, what challenges have you encountered? How did you overcome them to achieve your desired look?

One of the main challenges in stylized creation is handling garment thickness and seams—details that define silhouettes and realism. However, strictly adhering to real-world construction can often feel “over-engineered” for a stylized aesthetic.

Initially, I tried adding thickness directly during export from *Marvelous Designer* or using the **Solidify modifier** in *Blender*. While these methods provide precision for photorealistic work, they exponentially increase poly counts and computational costs in stylized projects. Often, these details aren’t even visible in the final render and can lead to distortion or clipping. To solve

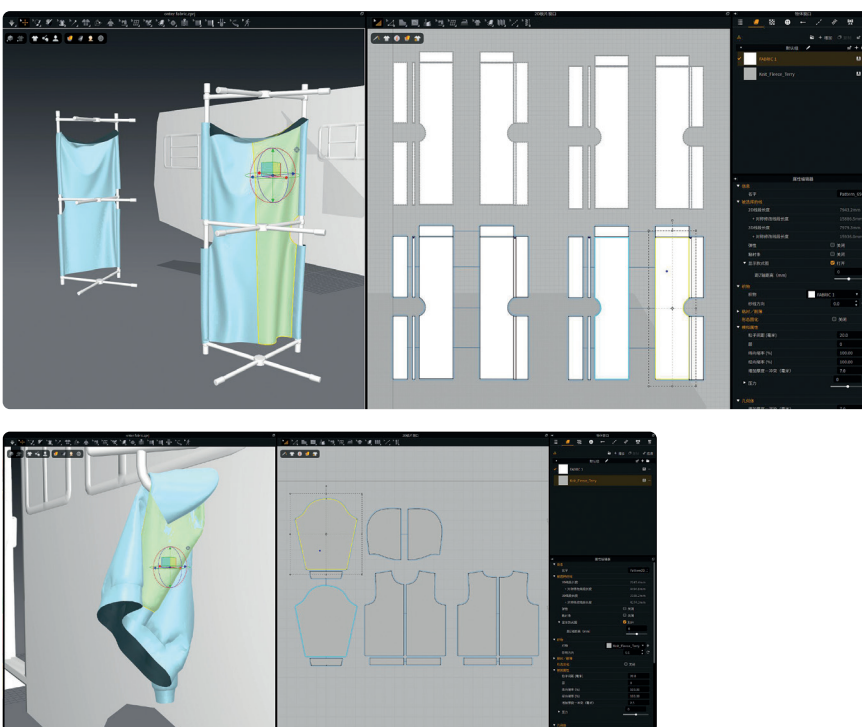
this, I simplified my approach: I only simulate thickness where it’s visually necessary—at the edges. By adding a small double-layered strip at the collar, cuffs, and hem and folding it inward for sewing, I achieve that premium, weighted look of real clothing without the heavy geometry. This keeps the animation fluid while maintaining the overall silhouette.

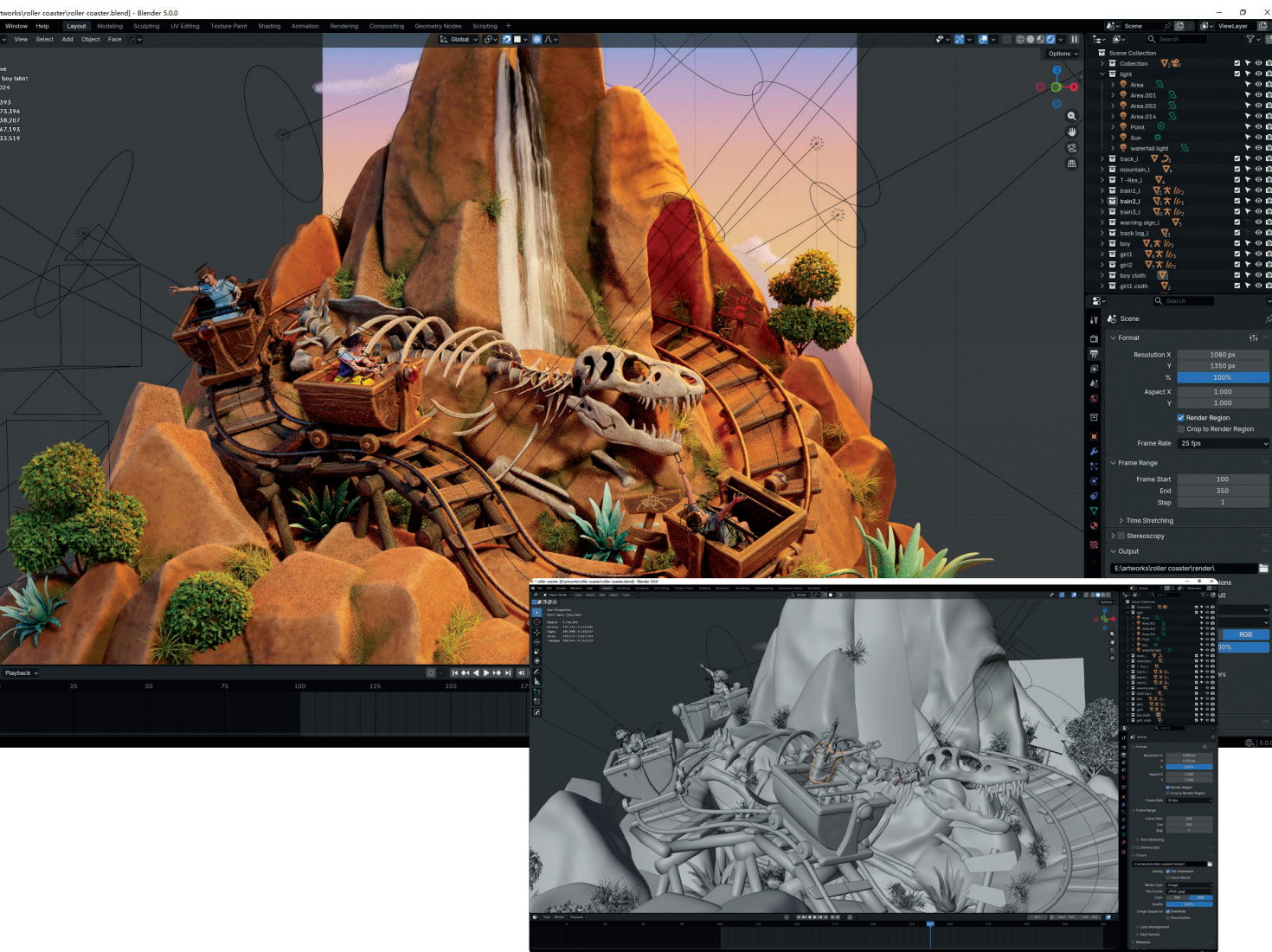
I take a similar approach with seams. In reality, seams create subtle undulations where fabric meets. To replicate and emphasize this without overcomplicating the mesh, I utilize Internal Lines in *Marvelous Designer*. I add two internal lines parallel to the seam edge; I set a small fold angle for the one closest to the edge while keeping the other flat. This creates a distinct structural change at the seam. Combined with exported Normal maps and further refinement in *Substance Painter*, the seams gain a rich, layered look that feels intentional and tactile.

For beginners who want to apply Marvelous Designer to stylized artwork, what advice would you give them?

A deep understanding of garment patterns and fabric properties is essential; it directly impacts your efficiency and the final output. Even with the most basic patterns, you can evoke entirely different “temperaments” in a garment as long as you have a clear vision for proportions and material attributes. My advice is to observe real-world clothing structures closely—study the differences in weight, softness, and tensile strength. Constantly experimenting with how these parameters translate within *Marvelous Designer* is the fastest way to build intuitive experience.

In stylized creation, I view *Marvelous Designer* as a tool for building a “credible foundation.” My goal isn’t to replicate every detail of a real-world structure, but rather to simplify and curate based on the needs of the frame. When you let technology serve the visual rhythm and the emotions you want to convey, the work becomes far more expressive.





How would you describe your overall experience with Marvelous Designer?

Overall, the experience with *Marvelous Designer* has been exceptional. It has become an indispensable part of my workflow; its ability to simulate the realistic physical properties of fabric provides a “credible foundation” for my work. This stability allows me to channel more energy into the visual rhythm, emotional atmosphere, and overall expression of the piece.

From a stylized creation perspective, I look forward to seeing more flexible controls that bridge the gap between realism and stylization. For instance, having more intuitive ways to modulate the degree of simulation—whether in fabric properties or animation physics—would make it much easier to switch between different creative requirements.

Additionally, for character or environment loops, having more stable and convenient tools to manage cloth transitions during cycles would significantly boost efficiency. Ultimately, I hope to see *Marvelous Designer* continue its legacy of realistic simulation while expanding support for stylized workflows, helping artists across all disciplines find their own unique way to create.

MARVELOUS DESIGNER THE INDUSTRY STANDARD



UNLEASH YOUR CREATIVITY

| 3D ENVIRONMENT ARTIST



ARTSTATION.COM/ANNAMARTSENIUK

Interview
with
**ANNA
MARTSENIUK**

3D ENVIRONMENT
ARTIST

Hi My name is *Anna Martseniuk*, and I am an environment artist in *Bloober Team*.

When did you discover 3D, and what inspired you to choose it as a career?

I was studying traditional sculpture and chose to expand my practice into the digital world as a natural step in my artistic development. During my time at the *Academy of Arts*, I also joined a game development student club, which played an important role in shaping my career path.

When did you start using Marvelous Designer and how has it affected your workflow?

I heard about this program a long time ago, and it immediately came to mind when I needed to create fabric assets for *Cronos: The New Dawn*. This was one of my first times using the tool in a professional setting, which really shows how powerful and accessible it is for someone with prior 3D experience.

Marvelous Designer simplified the task significantly and made my work faster and easier. I also really enjoyed watching the simulation process; it actually makes a big difference in how I work.

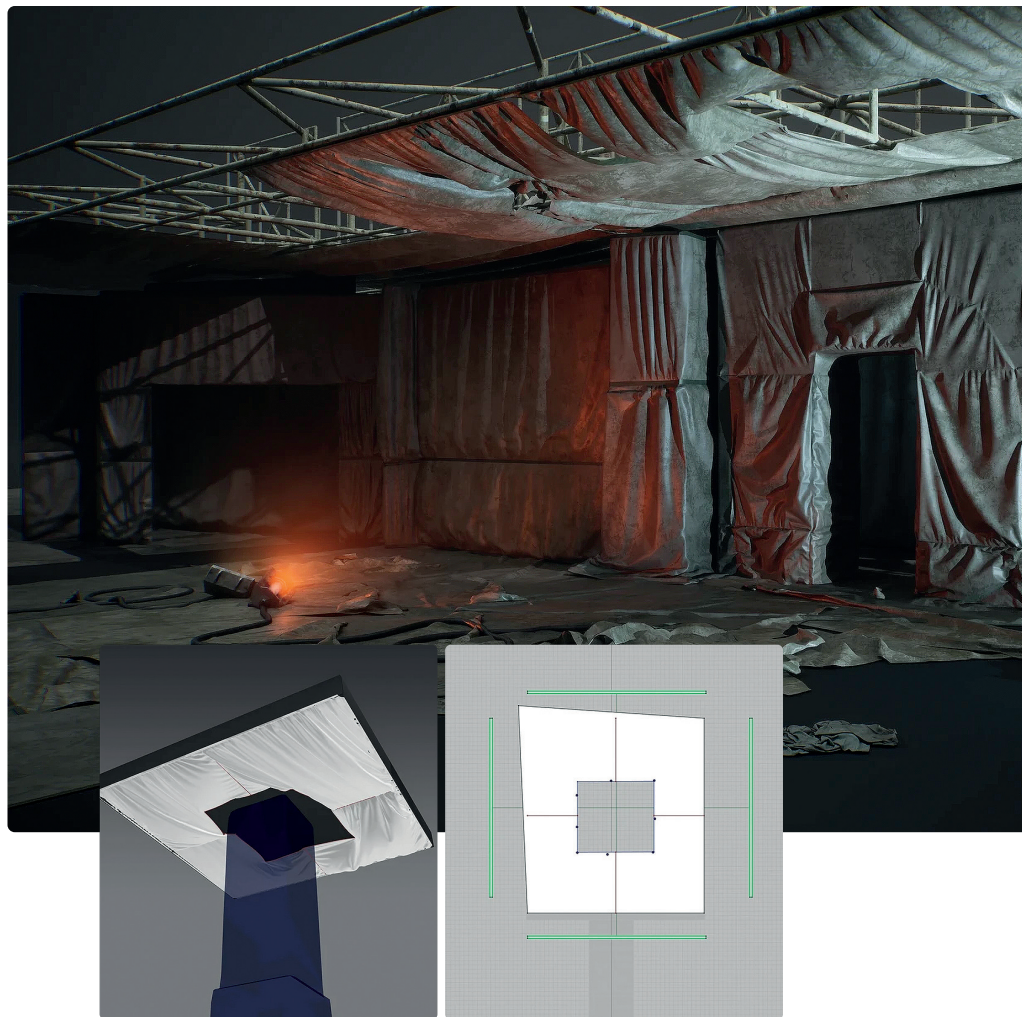
IT REALLY SHOWS HOW POWERFUL AND ACCESSIBLE IT IS FOR SOMEONE WITH PRIOR 3D EXPERIENCE.

How do you work with Marvelous Designer, are there any tricks you use and find to increase efficiency?

Just open it and click the Simulate button. But jokes aside, I usually start by watching tutorials, especially the official ones. There are a lot of them online, with plenty of great and useful tips.

For this tent task, for example, I watched this specific tutorial, *Marvelous Designer: Ridge Tent*. It clearly shows how to use the **Measurement Tool** to attach fabric edges to the avatar, and I ended up using it a lot in later tasks.

I also like the **Tack Tool**, **Pin Box**, turning gravity on and off, and experimenting with fabric settings. What really helps with efficiency is starting with a **high Particle Distance** to quickly find the shape, and then lowering it later for final quality. This helps avoid long simulation times while experimenting with the form.



For Cronos: The New Dawn, specifically the level art on isolation part of Factory Zone, explain this project and its preparation. How did you create the modular kit using fabric pieces?

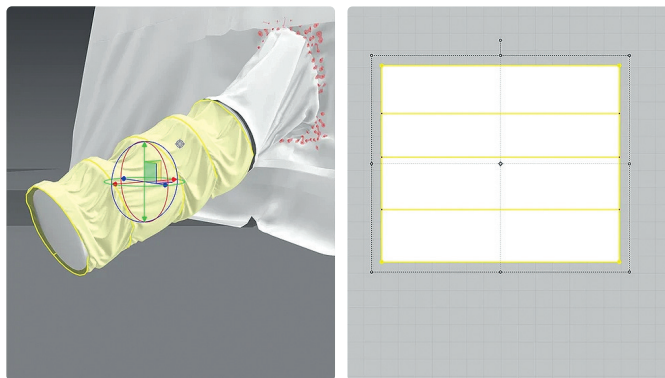
For creating modular fabric coverings, I used our wall, ceiling, and floor building modules as a base. I imported them into *MD* and used them as a foundation for attaching the fabric.

I also prepared separate sets for interior and exterior use. When working with fixed-size modules, it's crucial to ensure that the fabric mesh pivot and size matches the

pivot and size of the module it's based on, so that level artists can easily place and use the fabric assets in the scene.

To avoid harsh, hard-edge intersections between different fabric meshes in a level, I came up with the idea of attaching the module borders to a tape. This helps keep the edges flat and clean while still creating interesting and believable visuals.

As you can see in the screenshots below, I sometimes intentionally made the pattern pieces slightly deformed to get nicer folds.



**JUST OPEN IT
AND CLICK
THE SIMULATE
BUTTON.**

For Cronos: The New Dawn, specifically the level artwork on military fabric assets, how did you design the pipe fabric spline? Is the pipe split into increments that then fit together to form a tiling pipe?

Yes, exactly! For the pipe fabric, I first created an avatar that represents five internal circles supporting the fabric. In the **2D Pattern Window**, I then added a rectangular piece and divided it into four parts using the **Internal Polygon/Line tool**. These four parts represent four pipe segments, which helps break up repetition.

I attached the internal lines to the **Basic Circumference Measure** I had previously created on the avatar, then sewed the pattern sides to form a cylinder. At that point, I tweaked the fabric parameters to my liking, used the **Elastic** option to get more folds, and exported it to *Blender*.

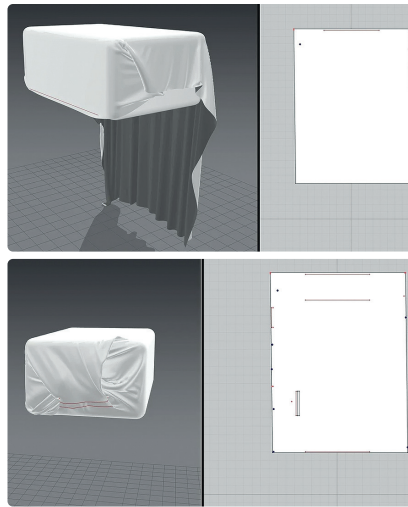
In *Blender*, I matched the outer polygon loops so they fit together perfectly when the mesh is repeated. This final asset is what gets exported to *UE5*, where I can apply it to a spline and make the pipe arbitrarily long. With a closer look, you might notice that every fourth segment repeats — but you really have to know where to look.

Did you use Marvelous Designer to create the paper packs or the covered crates? If so, how did you wrap the fabric around the assets?

Yes! For the paper packages, I used a classic high-poly / low-poly workflow. In *Marvelous Designer*, I first prepared the high-poly meshes. I created a simple rectangular piece in the **2D Pattern Window** and, in the **3D view**, placed it on top of bevelled box, then simulated the fabric.

By pinning the top areas of the simulated fabric and attaching the opposite edges using the **Tack Tool**, **Measurement Tool**, and **Pin to Avatar Tool**, I was able to achieve a wrapped look. After that, I added and sewed smaller tape-like pieces to create more natural and visually interesting folds.

Another element that helped make the box look more natural was the string I used to tie it around the box. To refine the details further, I fixed some unnatural edge endings in *ZBrush* by adding tape where needed.

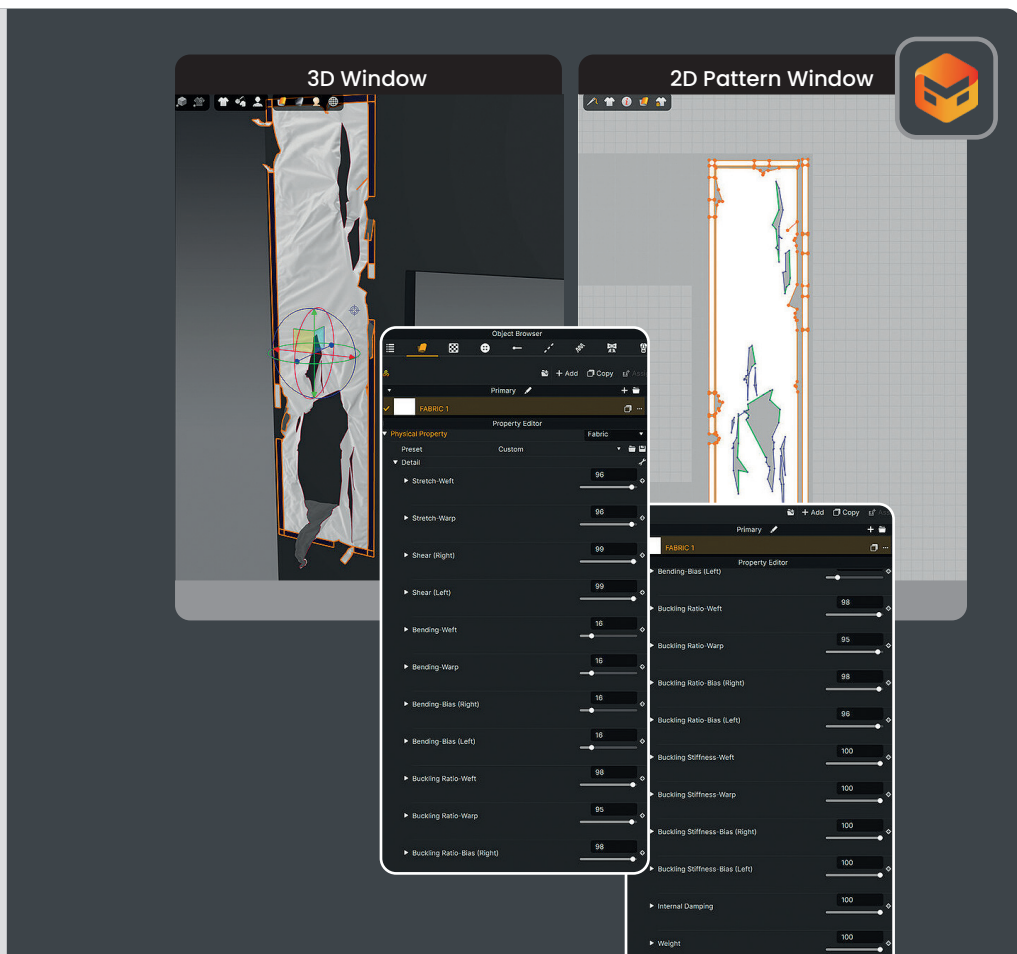


For Cronos: The New Dawn X-Rays/Fabric Props, did you use Marvelous Designer to create the ripped metallic fabric? If so, what is your process for creating rips and tears?

Yes, the aluminum foils used to cover the walls of *Edward's* apartment in *Cronos: The New Dawn* were also created in *Marvelous Designer*. The main difference in this task was creating a custom fabric material with stronger settings to achieve harder, more metallic-looking folds. I also experimented a lot with simulation

gravity, most of the time it was set to **0**, meaning no gravity at all. To create rips and tears, if they were located in the middle of a piece, I usually added a **Dart**, then inserted more points using the **Add Point / Split Line X tool** and adjusted them as needed. If a rip was connected to the edge of a fabric piece, I created an internal polygon line and then cut it.

I also used **Elastic** mode on some lines. For shapes like these, I sometimes like to add a small amount of negative pressure in the simulation properties to get a better result.



How would you describe your overall experience with Marvelous Designer?

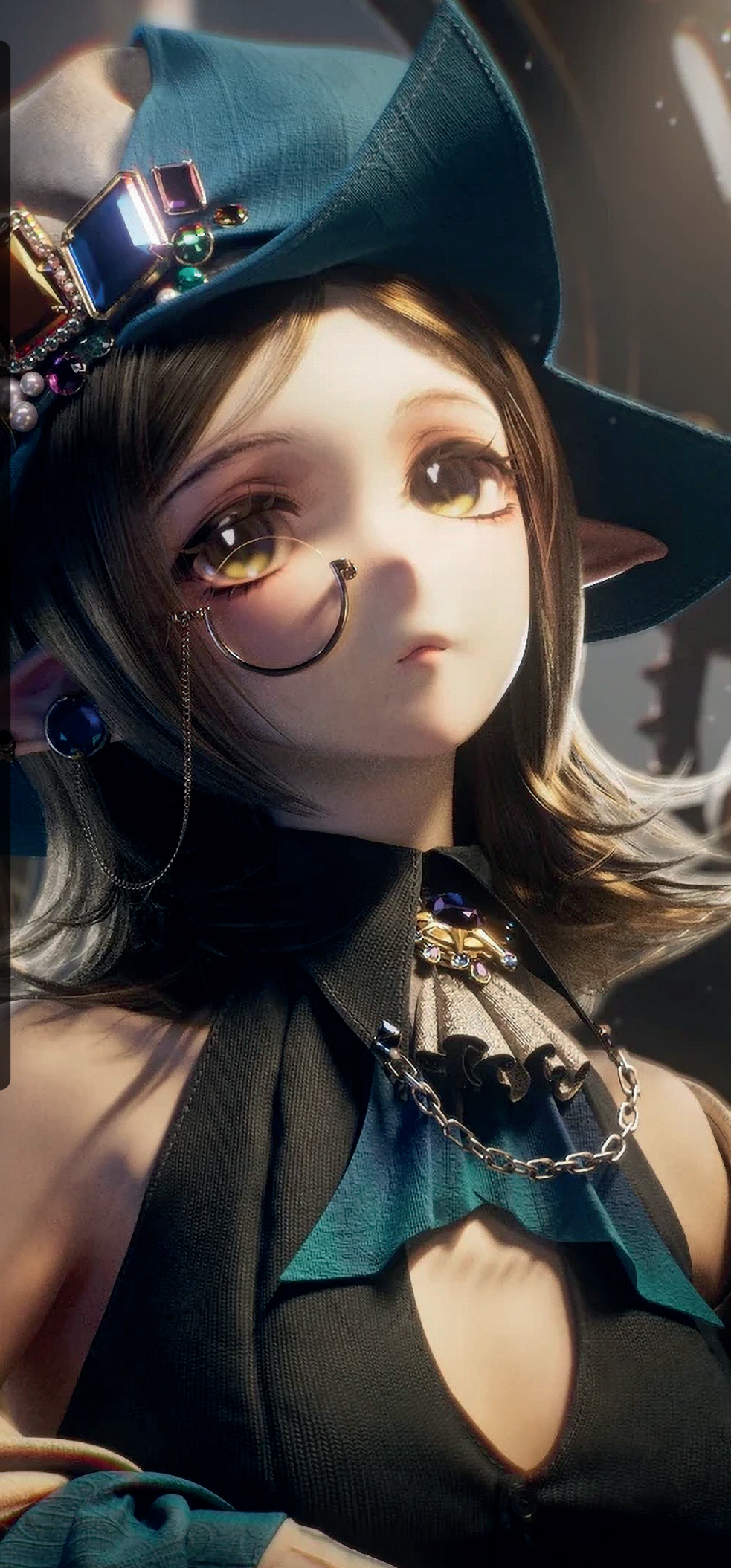
I really like the simplicity of this program. *Marvelous Designer* isn't overloaded with technically complex features from the user's point of view, and the entry barrier is quite low and satisfying. It's the best software dedicated to fabric simulation, and it does this job in the most natural way possible.

Anna Martseniuk

3D ENVIRONMENT ARTIST

BEST OF: CELEBRATING AWARD-WINNING ARTISTS

We believe in fueling creativity by sponsoring community contests. In this section, we highlight the winners of the Rookie Awards and the pwnisher 3D Community Challenge. These artists have demonstrated a mastery of Marvelous Designer by pushing the boundaries of digital fabric. We celebrate their dedication and look forward to seeing how Marvelous Designer continues to empower their workflows in future competitions.



Meet

**NGAN
HOANG**2025 ROOKIE AWARD: 3D
ANIMATION**| 3D ARTIST**[ARTSTATION.COM/PLAVILOTOS](https://artstation.com/plavilotos)

Meet Ngan Hoàng: Winner of Rookie of the Year 3D Animation category and Cover Artist for Marvelous Designer Magazine 2026

I'm Ngan Hoàng, I'm a recent graduate from *Gnomon*, and I specialize in 3D character art. I was originally a 2D digital artist and I was doing a lot of concept art and character illustration. But I started going into 3D because I wanted to make my drawing process easier by having a 3D base to paint over.

How did you feel at the time learning *Marvelous Designer*?

I think learning *Marvelous Designer* is a really great benefit and I'm glad that I started learning it early. At that time as a beginner, all that I had was a three years old gaming laptop. But the *Marvelous Designer* tutorials were very easy to follow. The user interface is not much of a challenge either. What I found my time being spent the most on, was getting used to the simulations and coming up with a way to optimize everything for my laptop. Even now that I have a workstation, I think making ports and separating my projects into different scenes is still a very important task that I'm learning over time and building my muscle memory.

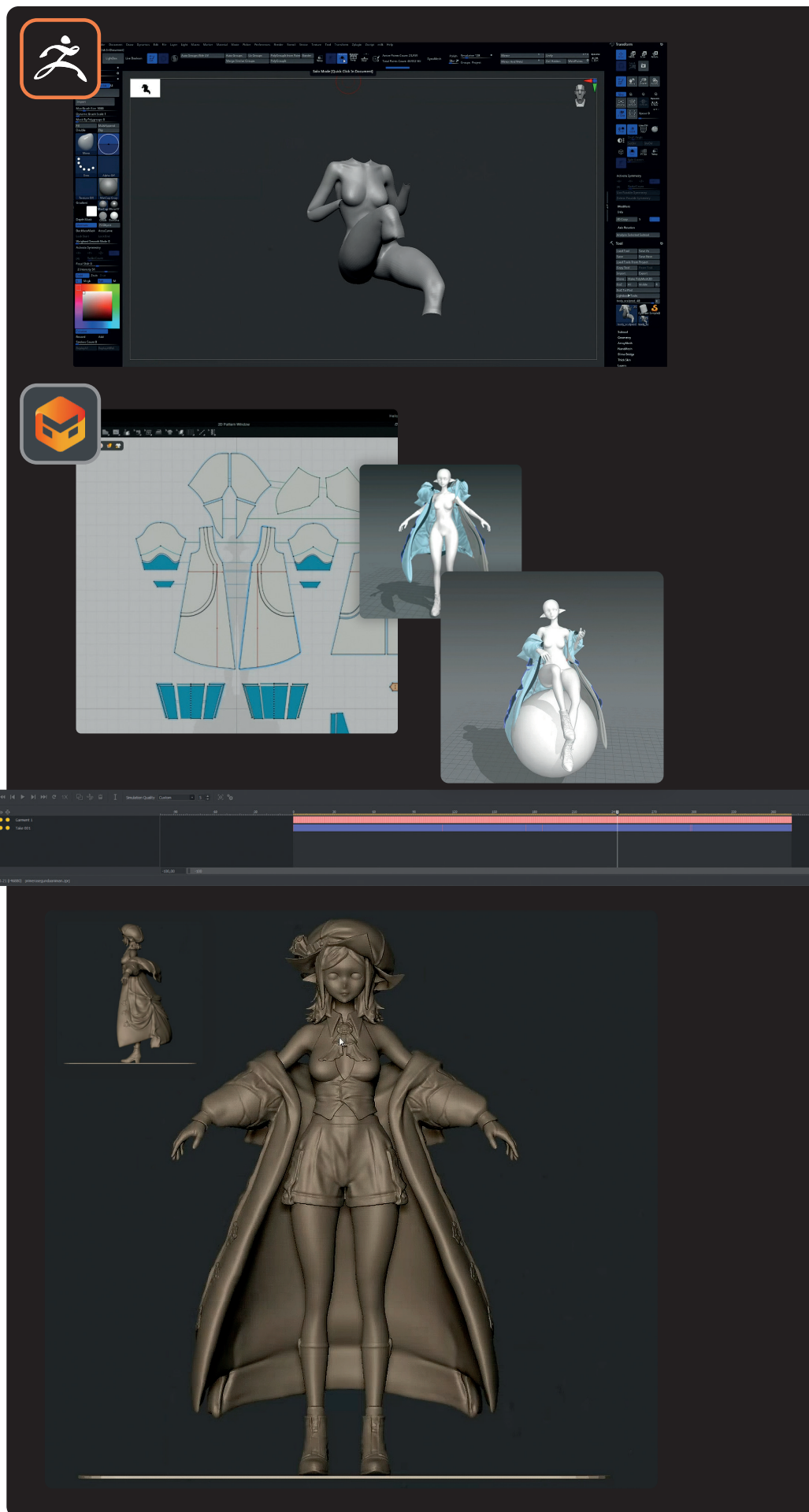
Could you explain your workflow and your intention for the project?

In the concept art there's only the front. So the back is something that I had to use my imagination to come up with.

I actually started with making the character base. I only have this character base with the head and the body. The reason I separate them is because, in the film pipeline, I want the head to have a lot more fidelity than the body.

After posing the character base, I find it more useful using a rigged animation rather than a morph target. A rigged character is a lot more predictable; for example, the character's hands would move very naturally using a rigged animation. Meanwhile, with a morph target, I feel like the result is less reliable. And what I've learned through experience is that by making the animation slower, the clothes have time to adjust into the pose. Otherwise, they would just clip out and look very broken.

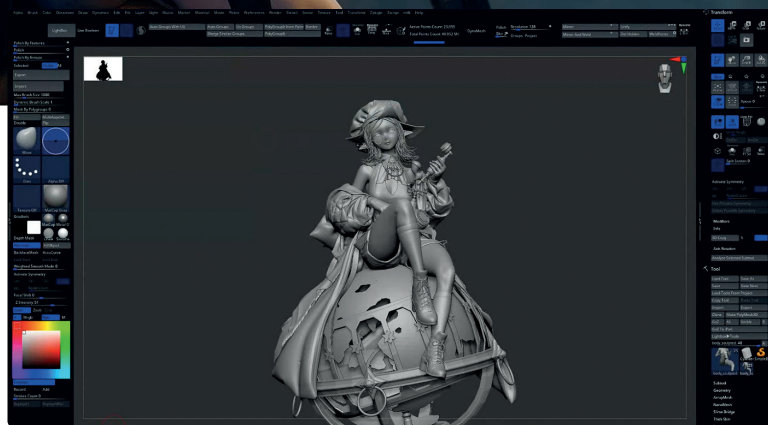
But for the tailoring part, I would use the character's standing pose. In the very beginning, I would have a sculpt of the clothes made inside *ZBrush*. The clothes are very wobbly, but the point is just to have the general silhouette of what it looks like, especially for the hat since it is a more solid clothing piece. I want to make everything very clear before I simulate them.





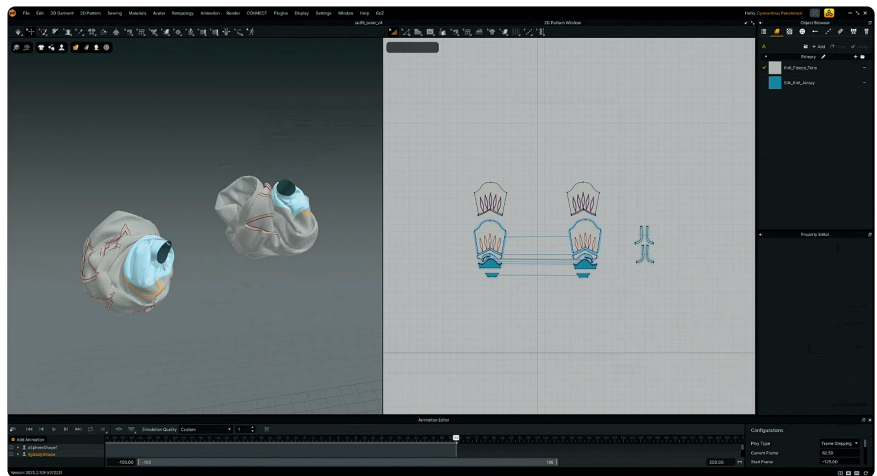
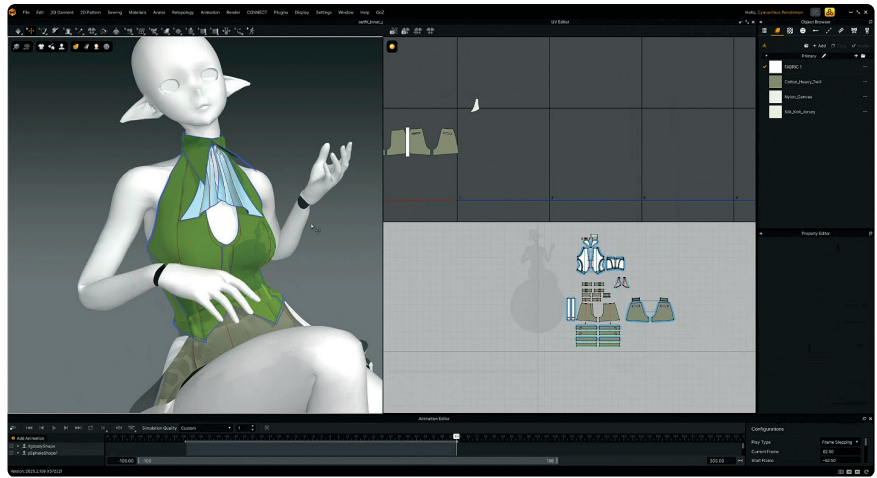
Do you think artists need any previous fashion knowledge before using this program?

No they don't. The way I begin, is either starting with a preset in *Marvelous Designer*, or I look for a pattern online and try to replicate it. But over time I learned how to create my own. I feel like it's not necessary because the fabric in the software is different anyways, and it's not like you have to sew everything together with a specific kind of sewing line. For the fabric, It took me a while to learn how different they are from each other through a combination of trial and error. I also find fabric charts from people who have posted them on



artstation. I find this process easier and it saves a lot more time than just going into the library and trying one by one. The silk fabric preset is my favorite, because it makes the clothing a lot more flowy.

One thing that I really want to experiment with is making really crazy shapes utilizing the curve tools. I saw some of that in the rookies entries for the digital fashions category and I really want to try that even though it will take a lot of time, but it's one thing that I haven't done before.



ANOTHER TIP IS TO FOCUS MORE ON MAKING THE GARMENTS LOOK GOOD RATHER THAN TRYING TO FOLLOW PATTERNS 100%.

How do you prepare your Marvelous Designer project to continue working on other software?

So with this already positioned, I would export it as an **FBX** and send it to *ZBrush* where I start to sculpt the details. The thickness is something that I add in the very final steps, because when sculpting with 2 sided clothes, sometimes the tool will affect the opposite side. So this is something that I only add in the very final step. I would add additional details using substance painter. For a more cinematic

quality, I would use **Z plugins** and make a displacement map out of those folds to get better fidelity. By the way, I use the UV maps generated inside *Marvelous Designer*. I prefer the marvelous designer UVs because they are very clean and straight. I do this instead of unfolding manually, which gives me very distorted results. With these clean shapes, it will apply things like patterns and sewing lines better.

Was there a lot of back and forth between software during this project?

Yes. The texturing to rendering is not a straightforward step because I would test it in render first, and most of the time the result doesn't look good on the first try. So I would bring it back and forth between sculpting, texturing, and rendering until I get what I want.



What were the challenges you encountered while creating this? Do you have any tricks or tips that you found that could help for your future self and also for other people looking to get into *Marvelous Designer*?

So part of the challenge is just figuring out which garments should be worked on separately. I split up my clothing outfits so that it is not too heavy to be simulated.

The number one tip I have is just to be patient and trust the process. When starting out, the fabric in *Marvelous Designer* may act differently compared to what is expected. I guess part of the learning process is just getting used to that.

Another tip is to focus more on making the garments look good rather than trying to follow patterns 100%. When I create projects, there's a part of the process where, if I'm following a concept, I realize that not everything can translate to 3D. Sometimes the pattern needs to be modified or it has to be different from the concept art because it's not physically possible to replicate the concept. When that happens, I think it's also important to decide which part can be simulated, and which part can be sculpted instead.

BEST OF: CELEBRATING AWARD-WINNING ARTISTS





| 3D ARTIST



LEARN MORE:
CHASM'S CALL 3D
COMMUNITY CHALLENGE



[ARTSTATION.COM/ARTWORK/NQYB3G](https://artstation.com/artwork/NQYB3G)

Hi my name's *Elliott* and I'm from *Leeds, England*. I've been creating 3D art for around five years, ever since I discovered the Alternative Realities challenge montage. I was captivated by the rich, imaginative worlds people were building and knew instantly it was something I had to learn how to do.

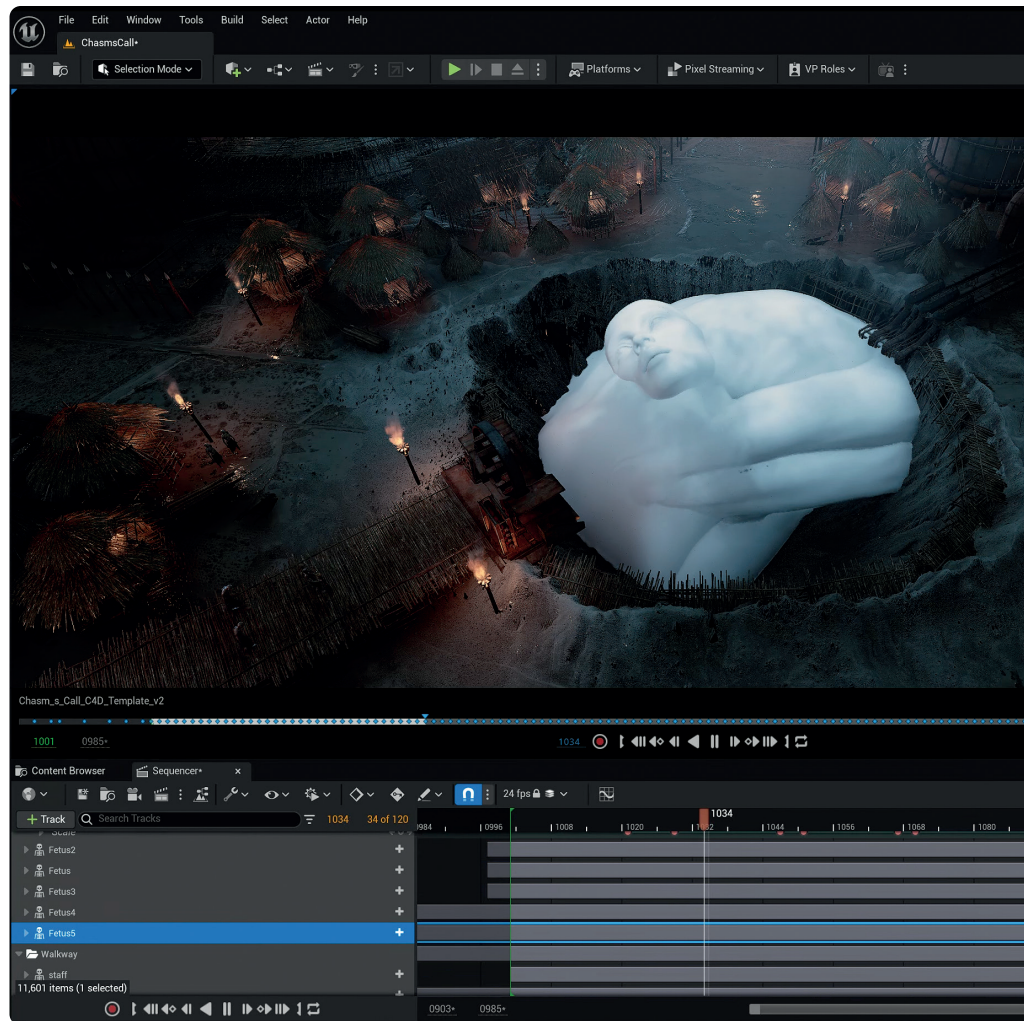
I began my 3D journey with *Cinema 4D* and *Octane*, but after seeing the incredible things being done with *Unreal Engine 5*, I made the switch in 2023 — and I've never looked back. My goal from the beginning was always to place in the top 100 of a future pwnisher render challenge, and I'm incredibly proud to have achieved top 100 placements in the last three!

THE WORKFLOW BETWEEN MARVELOUS DESIGNER AND UNREAL ENGINE IS SUPER SMOOTH TOO.

It's interesting to see how you used *Marvelous Designer* for creature cloth simulation—such a creative approach! What inspired you to choose *Marvelous Designer* for this project, and how did it support your artistic vision?

Marvelous Designer was actually a huge reason why I committed to this concept in the first place. Having used it in previous render challenges, I knew as soon as I thought of a fetus-like creature that *Marvelous Designer* would be perfect for achieving the look I wanted — and I was excited to see how it would turn out.

Because the creature is the main focal point of the piece, I knew that a realistic cloth simulation could create a strong visual impact immediately, helping to grab the viewer's attention.



Do you have any tips or advice for other 3D generalists looking to incorporate *Marvelous Designer* into their workflow?

There are so many great tutorials on *YouTube* that make it easy to get started, and *Marvelous Designer* itself is very intuitive once you learn the basics. Adding cloth simulation can really bring

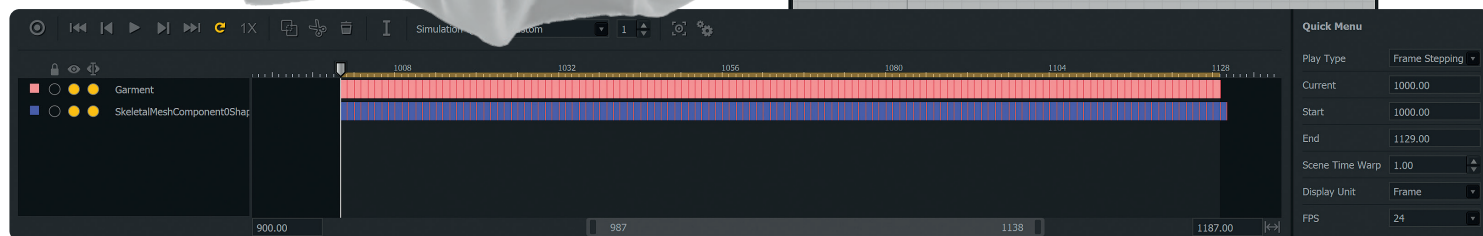
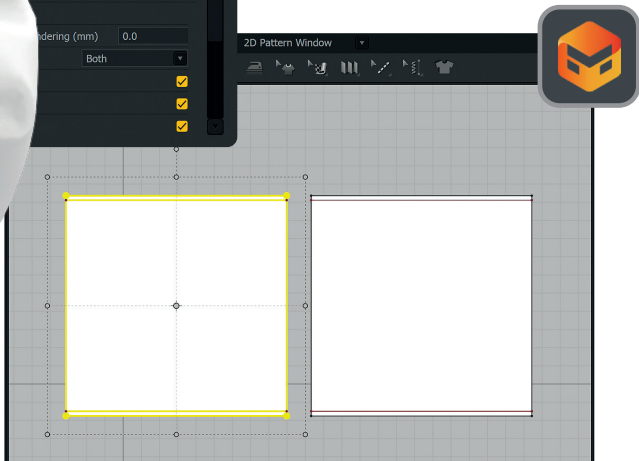
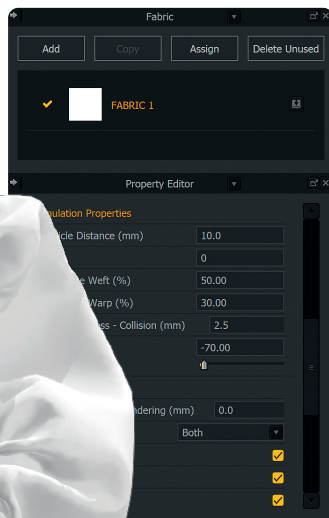
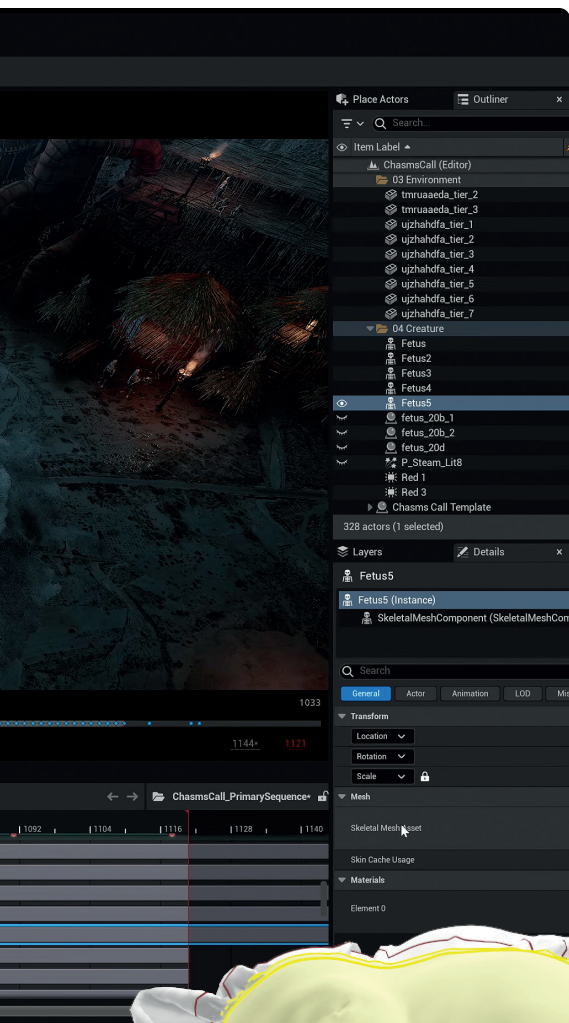
an extra layer of realism and magic to a project — it helps ground even the most surreal scenes into something tangible.

The workflow between *Marvelous Designer* and *Unreal Engine* is super smooth too, and it's really satisfying to see your final animations running with full cloth simulations in real time.

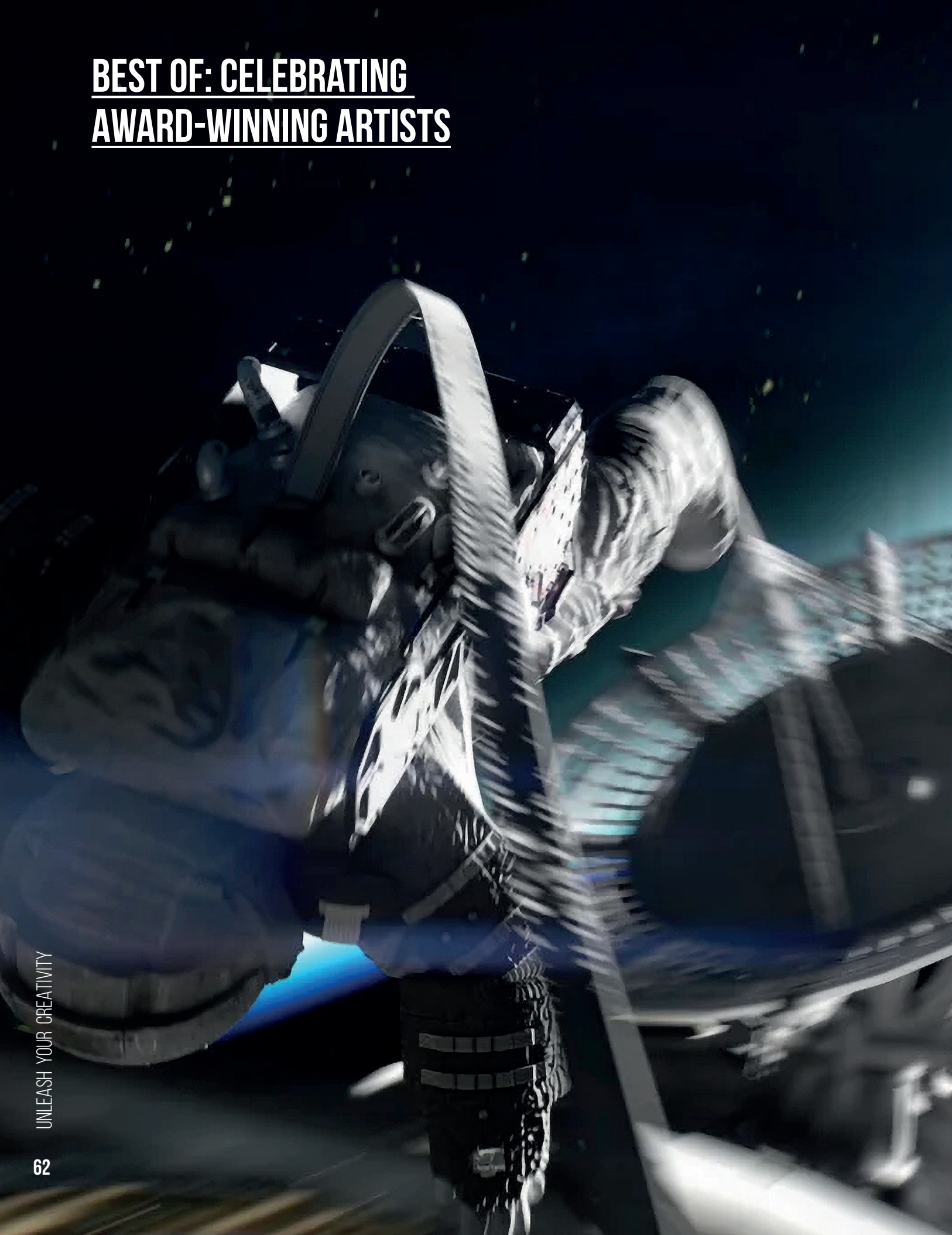
How would you describe your overall experience with Marvelous Designer?

It was a great experience! *Marvelous Designer* is always incredibly satisfying to work with, and although I still have a lot to learn, it's a tool I keep coming back to again and again.

In previous projects I've created full character clothing, but for this one, the simplicity of the fabric setup meant everything was really fast — allowing me to experiment with different settings and styles to create a unique look. It was a lot of fun to push *Marvelous Designer* into a more surreal direction rather than sticking to traditional character outfits, and I'm really happy with how it turned out.



BEST OF: CELEBRATING AWARD-WINNING ARTISTS



Meet

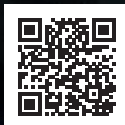
LOST WALDO

WINNER OF "MARVELOUS"
AWARD: RAMPAGE RALLY 3D
COMMUNITY CHALLENGE

| 3D ARTIST



LEARN MORE:
RAMPAGE RALLY 3D
COMMUNITY CHALLENGE



[ARTSTATION.COM/LOSTWALDO](https://www.artstation.com/lostwaldo)

I'm *Lost Waldo*, a hobbyist 3D artist with a background in engineering. I enjoy finding out-of-the-box ways to solve problems that technically follow the rules while still feeling unexpected. As a hobbyist, I roll with the challenges and create art that's unique to me.

Why Marvelous Designer Fits my Brain

Parametric thinking is how I work. I use software like *Fusion 360* and *SolidWorks* for engineering, so taking advantage of *Marvelous Designer's* physics and pattern-tweaking just makes sense to me. In *Marvelous Designer*, I can run a simulation, go back, tweak the pattern, and watch the change flow through the whole model. That vector-plus-physics loop makes *Marvelous Designer* a playground, and it fits me far better than straight sculpting.





**IT'S VERY
EASY TO GET
A PRODUCT
THAT LOOKS
INCREDIBLE
WITHOUT TOO
MUCH WORK.**

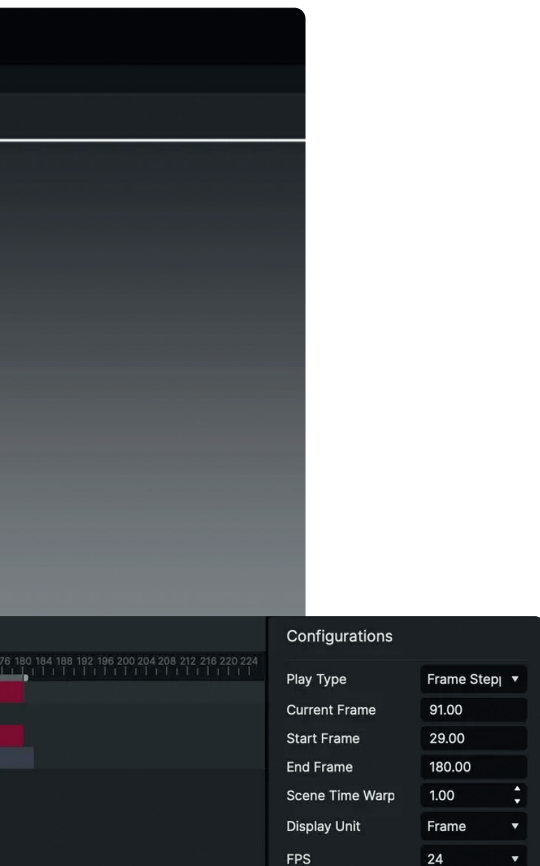
Rampage Rally: Concept & Choices

I leaned into choices that are allowed but unusual, like sending the character backwards and embracing uncontrolled motion rather than a clean vehicle jump. I inverted the horizon to pull viewers out of the standard diagonal most entries used, helping the shot stand apart through perspective alone.

I aim for a character who's clearly striving so viewers empathize and invest. For *Rampage Rally*, that meant an astronaut trying to grab the ship as things kept falling apart. It's a simple, readable struggle that the rest of the build supports.

What made you choose to use Marvelous Designer this way?

It's very easy to get a product that looks incredible without too much work. It's intuitive to change things on the go, change parameters and see how it's going to act. I can test in real time with simple simulations, then go to a final-quality simulation that acts fairly similarly but with higher fidelity. It's a very useful tool to experiment with, and I love experimenting.



MARVELOUS INSIGHTS: EXPERT WORKFLOWS FROM THE TEAM



Anatomy of Motion: Skin, Muscles, and Fat for Creature FX

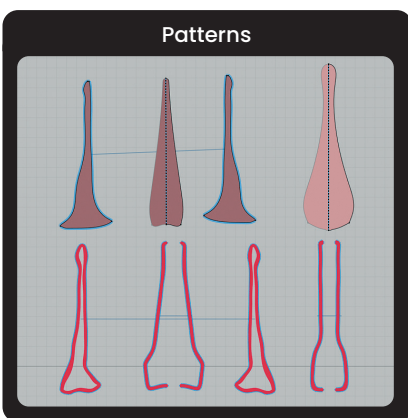
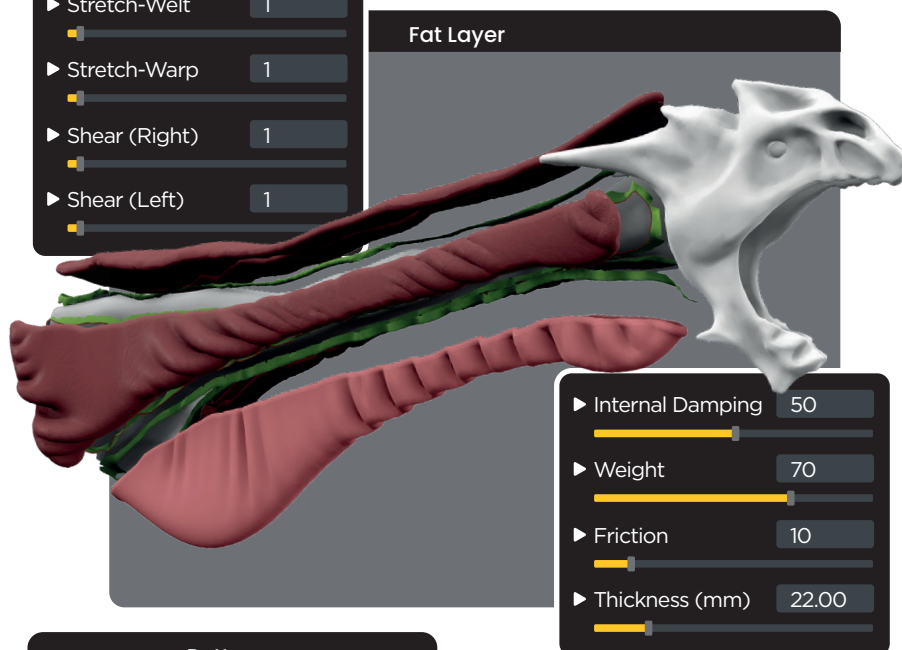
by Sean Frandsen

I've used *Marvelous Designer* for several unconventional purposes over the last few years, exploring how it can be applied beyond garment design. As a CFX artist, I had seen other software used for skin, muscle, and fat layers, particularly in creatures. So I decided to try using *MD* and see if it would work. I have come to rely heavily on *MD*'s quick results and relatively low learning curve compared to other software I have used in the past.



1 To start with, I created an avatar for what was going to be my dragon's neck and head. The goal was to obtain results fairly quickly, and then, if it worked, I would move on to a full creature and refine what I learned for future projects.

The first thing needed was an avatar. I started simple with basically just a thin tube I could animate in another software. I wanted the neck to be thin because this is where I planned to build the layer of fat/muscle on it. I sculpted a head and then exported the avatar. I started with an S-curve for the neck, but changed to an outstretched one as it was way easier to attach the pieces of fabric to the avatar.

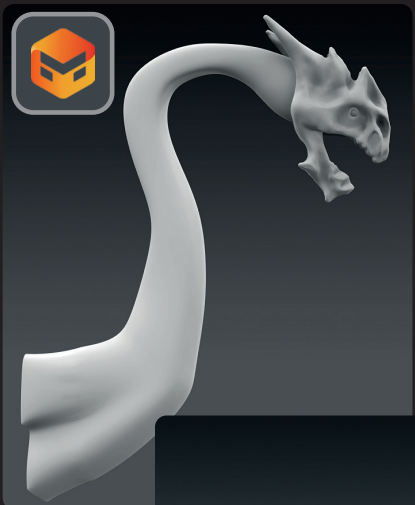


2 After some trial and error, I realized it was easier to have an anchored piece of cloth pinned to the body and then have the actual fat layer, which was basically a very thick piece of fabric. Separating into different areas gave me the ability to adjust the thickness of each fat layer.

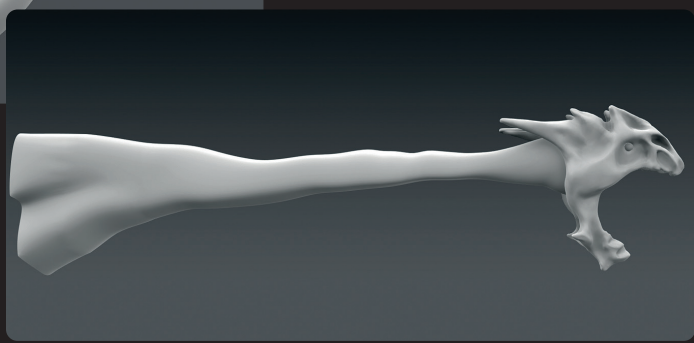
I decided to make the neck fatter than the rest of the neck. In the image below, the green fabric pieces are the anchors, and the pink parts are the fat.

3 In this image, the anchor pieces are all pinned, and the thick, fat fabric is sewn to the anchor pieces. The fat pieces can be adjusted horizontally or vertically, allowing for more or less fat as desired.

Note: The Fabric properties are very thick (22) and heavy (70) as well as very stretchy (stretch and shear all set to 1), and lastly, a friction of 10. The fat underneath is just a bit thinner.

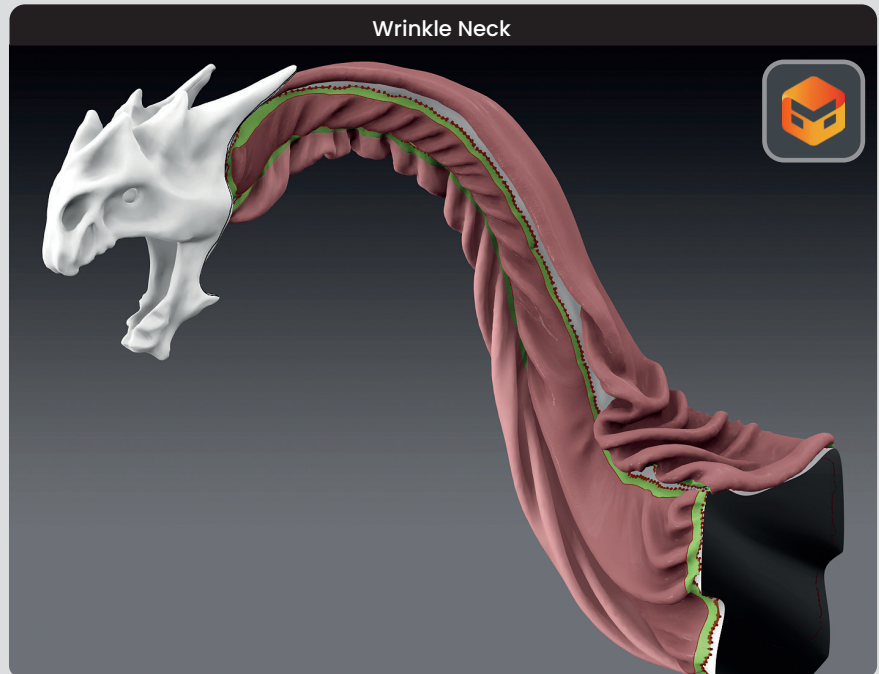


Note: If using this method for a full creature, I recommend having the limbs extended. An A-pose is usually best, as it is easier to attach the pieces of fabric to the avatar this way.



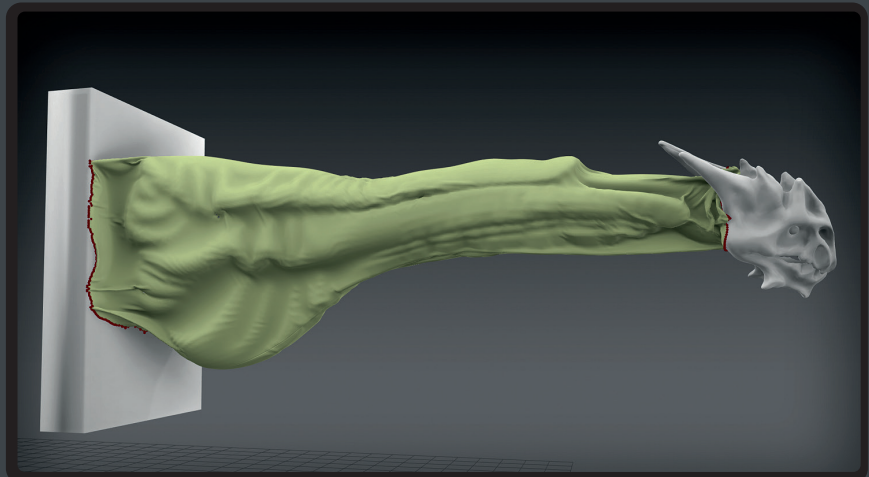
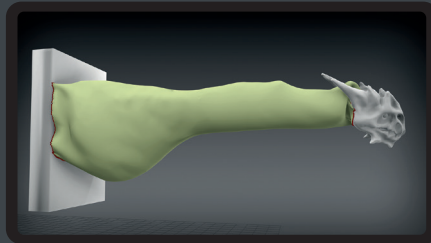
WHEN THE NECK BENDS, ORGANIC WRINKLES FORM, AND THE FAT LAYER BENEATH CAN BE SEEN TO MOVE.

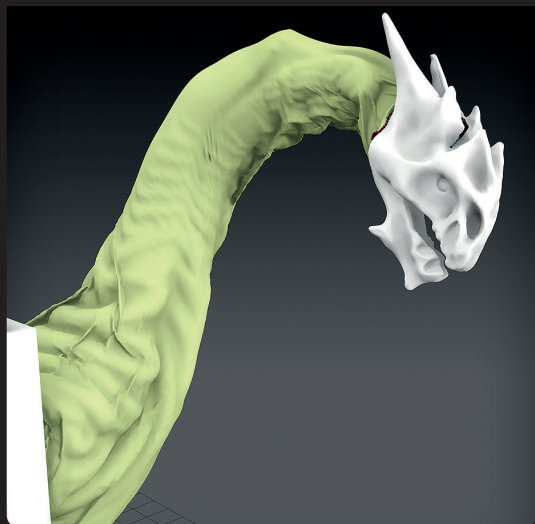
4 When the neck turns, a buildup of organic-looking wrinkles becomes visible. This is because it was first built on an outstretched neck, so when it bends, one side creates these wrinkles, and the other side stretches.



5 When it looked good after simulating the shot, I exported everything as an Alembic, including the avatar, making sure the fabric was set to thick. Then, I re-imported the Alembic into a new *MD* scene as the new avatar to apply the skin. I tried just putting on the skin in the same project file, but it creates undesirable results by deforming the fat.

I put the skin on using two pieces and wrapped the new avatar (which now contains the simulated fat) in the outstretched position.

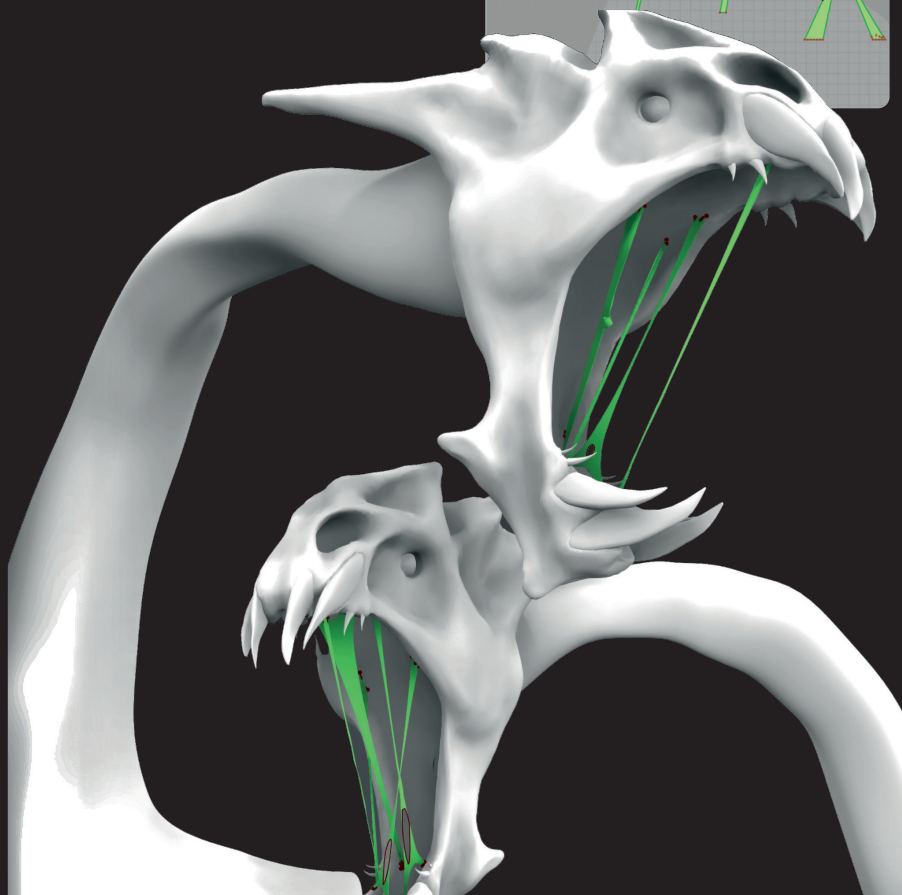
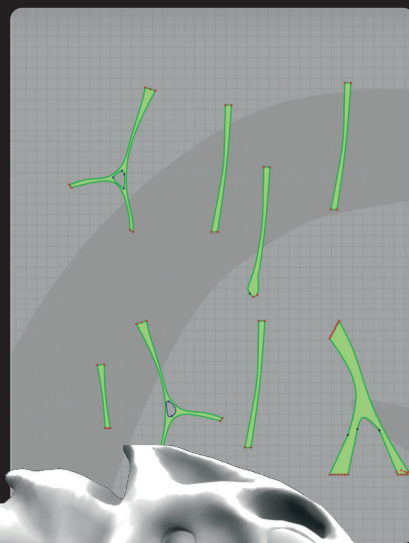




6 Interesting wrinkles form because I made the skin patterns have **negative pressure (-14)**, so it clings to the new avatar. The new avatar has **Static** and **Kinetic friction set to zero** so that the skin can slide. Fabric settings for the skin have **low bending (15)**, are **stretchy (sheer and stretch set to 15)**, and **buckling ratio and stiffness are all set to 0**. Again, no friction, and of course, the **skin is thin (2)**.

When the neck bends, organic wrinkles form, and the fat layer beneath can be seen to move.

7 For a final touch, I added some saliva in the dragon's mouth using *MD*. It was quite simple. I made the saliva shapes and then just selected all the edges and turned them into strong elastics. The edges are then just pinned to the mouth. Even when closed, because the elastics are strong, the saliva looks and moves naturally.



If you want to see this dragon's head moving, please check out the **Marvelous Designer YouTube shorts**. Also, you can stay connected here and see our next projects from the **3D Designer team**.

MARVELOUS INSIGHTS: EXPERT WORKFLOWS FROM THE TEAM

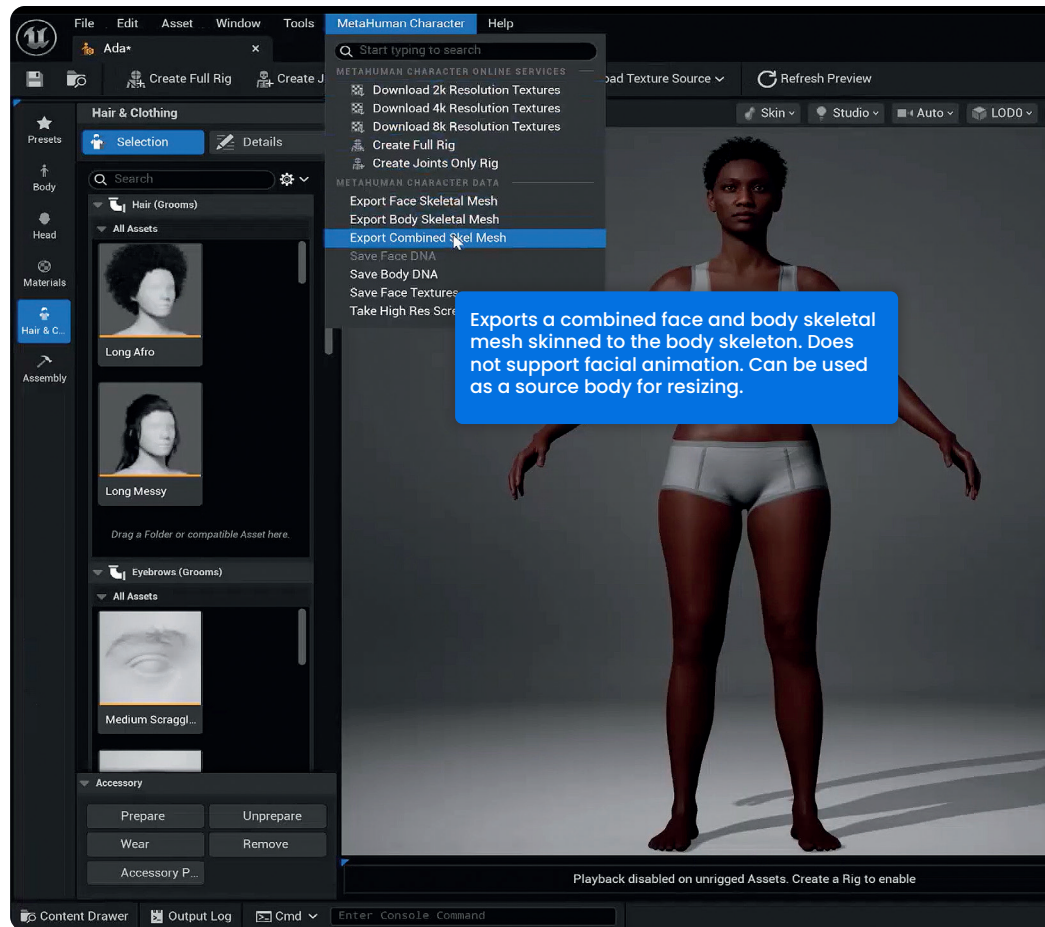


Building “Smart” Resizable Outfits with Marvelous Designer and UE5

by Victor Valcárcel

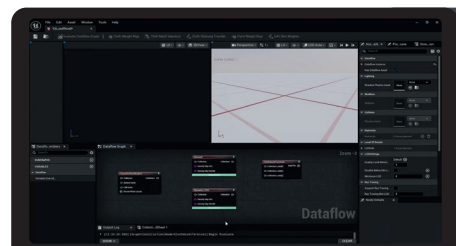
1 In traditional character production, adapting a garment from *Marvelous Designer (MD)* to various body types was a manual labor of trust (and a bit frustrating). You’d have to export dozens of versions, tweak weight paints for each, and pray the intersections didn’t break.

However, with the release of *USD (Universal Scene Description)* and *Unreal Engine 5’s Dataflow Graph*, we can now create **Resizable Outfits**.



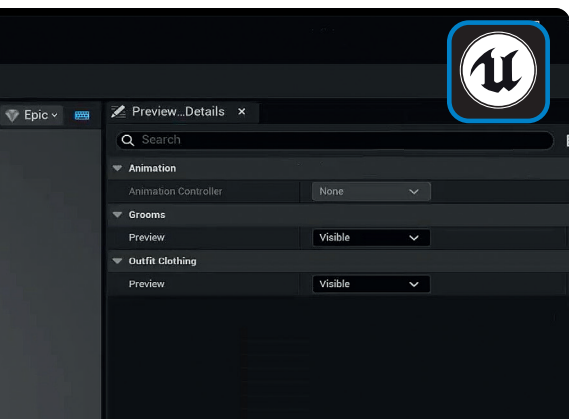
Here is how we use *Marvelous Designer* as the foundation for garments that intelligently adapt to any **MetaHuman** morphology.

The workflow begins by treating our **Marvelous Designer** creation not just as a mesh, but as a data rich asset. By exporting as a **USD file**, we preserve geometry data, shaders, and transformations in a format that Unreal Engine 100% understands. The goal isn’t to use the *MD* skeletal mesh, but to extract the **Static Mesh** of the garment to be driven by the **MetaHuman’s** skeletal structure.



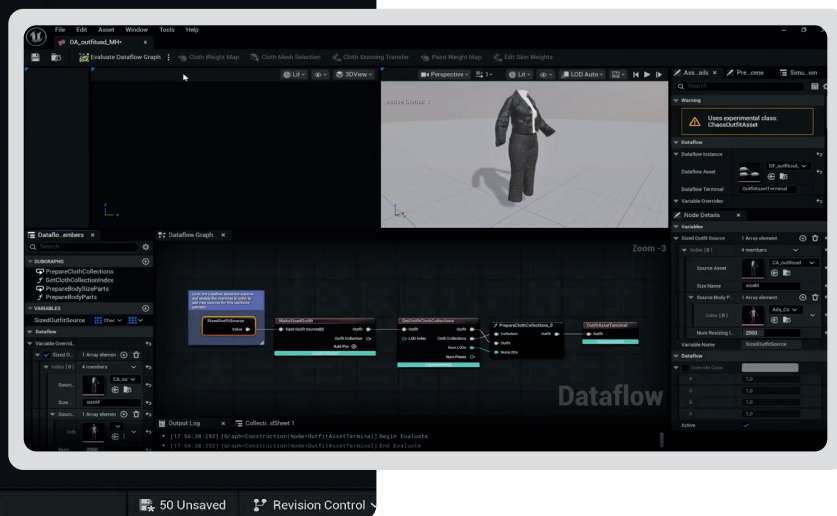
2 The real magic happens inside the **Dataflow Editor** (Experimental). This is where we transform “dumb” polygons into a “smart” physical asset.

By utilizing the **Transfer Skin Weights** node, we can bridge the gap between **MD’s** artistic output and MetaHuman’s technical rig. By setting the Transform Method to **Closest Point on Surface**, the garment “inherits” the movement logic of the **MetaHuman** body automatically.



3 The most important asset in this chain is the **Outfit Asset** using the **Resizable Template**. This allows a single garment to become “body-aware.”

By switching the Dataflow Graph to manual, we take control over how the asset processes size changes.



We link our Cloth Asset to the MetaHuman’s specific skeletal mesh. This creates a mathematical relationship between the character’s proportions (the sliders) and the garment’s vertices.

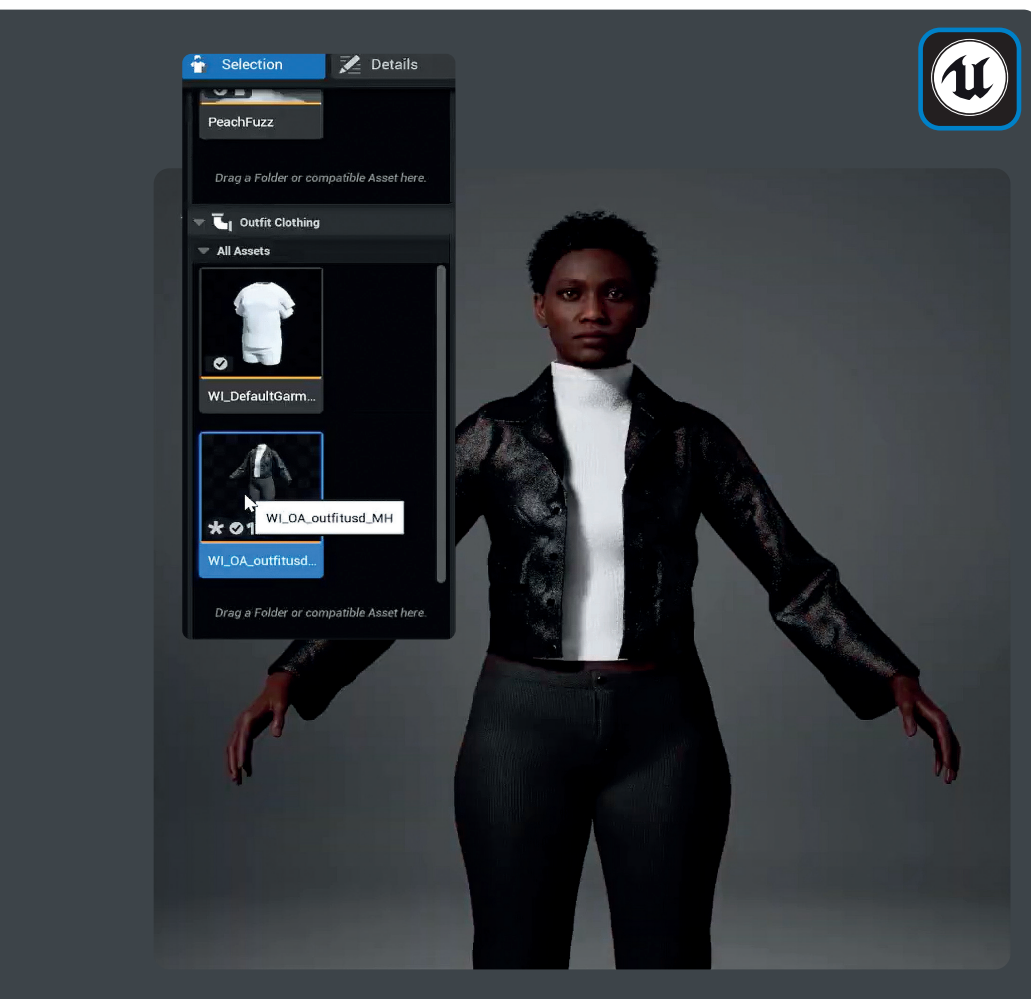
When you adjust a MetaHuman from Tall/Underweight to Short/Overweight, the Outfit Asset re-evaluates the mesh deformations in real time. The clothing doesn’t just scale; it conforms.

4 This can be very useful as if you need to change a pocket or a seam in *Marvelous Designer*, you simply re-import the USD. The Dataflow Graph handles the re-mapping of weights and physics instantly.

You no longer need a library of 18 different meshes for different body types. **One Cloth Asset + One Outfit Asset = a universal fit.**

This allows small teams to manage massive wardrobes for NPCs or customizable avatars without the overhead of traditional rigging.

With this workflow we now can reduce all those steps of back and forth with the clothing that can be so annoying in any production. By combining the high-fidelity simulation of *Marvelous Designer* with the procedural power of **Unreal’s Dataflow**, we’ve unlocked a workflow where fashion truly meets function at any scale.



MARVELOUS INSIGHTS: EXPERT WORKFLOWS FROM THE TEAM



Workflow for Creating Rendered Character in Unreal Engine 5.7 Using Marvelous Designer LiveSync

by Leo Nguyen

In this article, I will walk through my complete workflow for creating a high-quality rendered character in **Unreal Engine 5.7**, using the **CLO/ Marvelous Designer LiveSync plugin**, **MetaHuman**, and a combination of **ZBrush**, **Maya**, and **Substance Painter**. This process focuses on crafting a Vietnamese-inspired female character, building her garments in **Marvelous Designer**, and producing a final realistic-quality render.



1 Preparing the Character Sculpt in ZBrush

I began by sculpting my desired character directly in *ZBrush*.

The goal was to capture the facial features of a modern Vietnamese woman—soft contours, expressive eyes, and a short, fashionable hairstyle. This sculpt served as the foundation for the entire pipeline.

To integrate the sculpt into the **MetaHuman** ecosystem, I exported a base mesh from **MetaHuman Creator** and used it as the target for wrapping in *ZBrush*. This wrapping process ensured compatibility with

MetaHuman's topology and rigging tools.

I reset these settings to zero, the wrinkles remain thanks to the size difference between layers, creating a natural-looking effect. The slightly oversized outer fabric creates natural wrinkles and emphasizes details like seam lines and subtle puffing, particularly where different style fabrics meet. I enhance dimension by combining contrasting fabrics – soft, thin nylon alongside sturdy black material – to define the top and side design lines. These intersection points become opportunities for interesting design details.



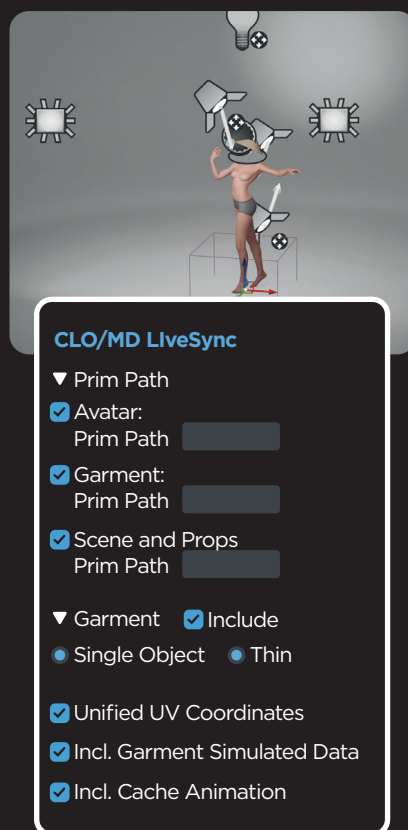
2 Bringing the Wrapped Mesh Back Into MetaHuman Creator

Once the mesh was wrapped in *ZBrush*, I re-imported it into **MetaHuman Creator** using the **Conform** feature.

This allowed me to refine:

- »Skin details
- »Makeup
- »Hair
- »Facial proportions (eyes, nose, mouth)

Additionally, **MetaHuman Creator** automatically generated a **Control Rig**, which is extremely useful for posing and animation inside *UE 5.7* through the **Sequencer**.



3 Setting Up the Project in Unreal Engine 5.7

To ensure optimal rendering quality, I used the **MetaHuman Lighting Scene**—a curated light rig that I originally migrated from *UE 5.5*. This scene provides a strong lighting foundation that makes rendering faster to set up and more predictable. I also installed the **CLO/MD LiveSync** plugin, which is essential for transferring animations and poses directly between *Unreal Engine* and *Marvelous Designer* without complex export/import steps.

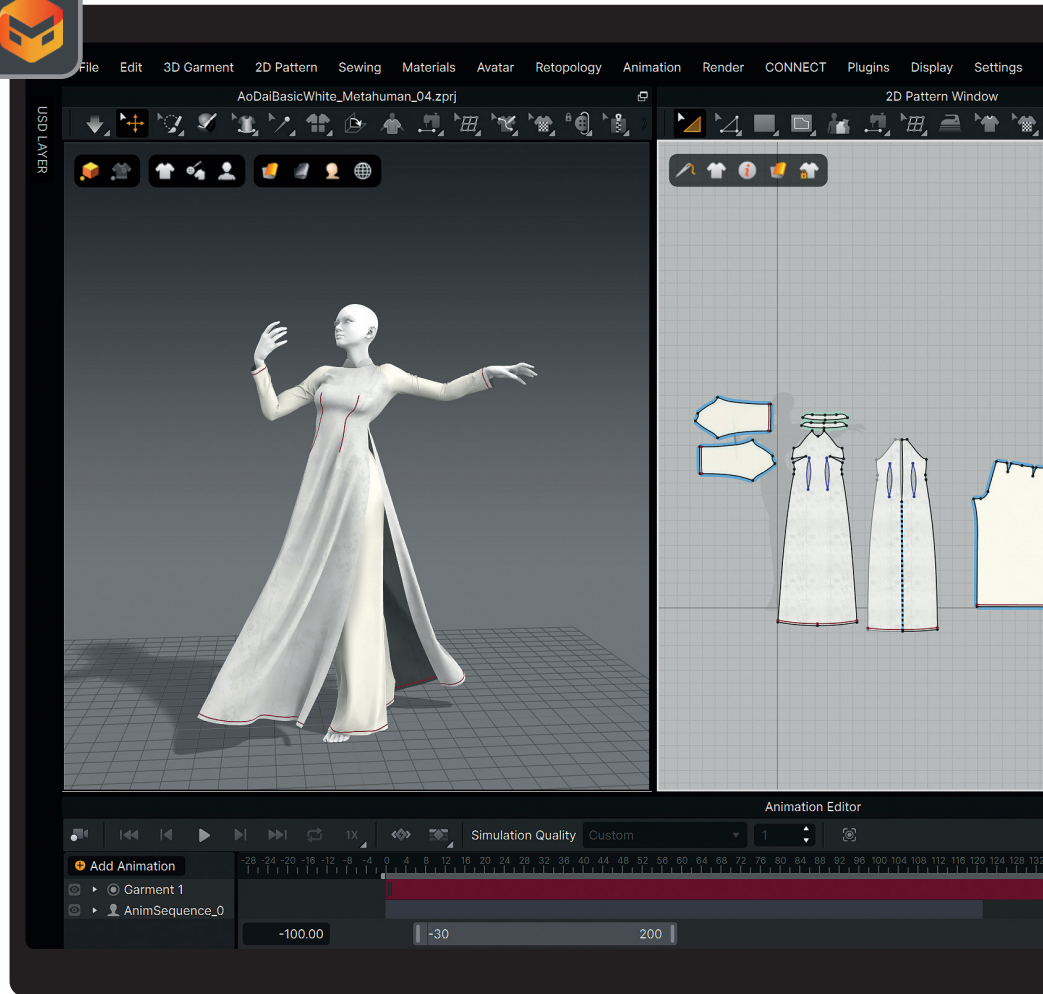


4 Character Posing in Sequencer

Inside *Unreal Engine 5.7*, I used the **MetaHuman Control Rig** to create a series of poses in Sequencer. Each pose was spaced 30–60 frames apart, leaving enough buffer for cloth simulation during the *Marvelous Designer* workflow later.

When the posing animation was ready, I used **MD LiveSync** to send the sequence directly from *UE* to *Marvelous Designer*.

This method is extremely fast and eliminates the usual **FBX export/import friction**.



I USED MD LIVESYNC TO SEND THE SEQUENCE DIRECTLY FROM UE TO MARVELOUS DESIGNER.

6 Texturing in Substance Painter

Once the cloth simulation was finalized, I exported the garment meshes to *Substance Painter*.

Here I added:

- Silk materials with subtle shine
- Fine memory folds and micro-wrinkles
- Weathering and fabric variation
- Textures for the accessories (fan, hat, strap, etc.)

This step brings depth and realism to the cloth that would not be achievable with simulation alone.

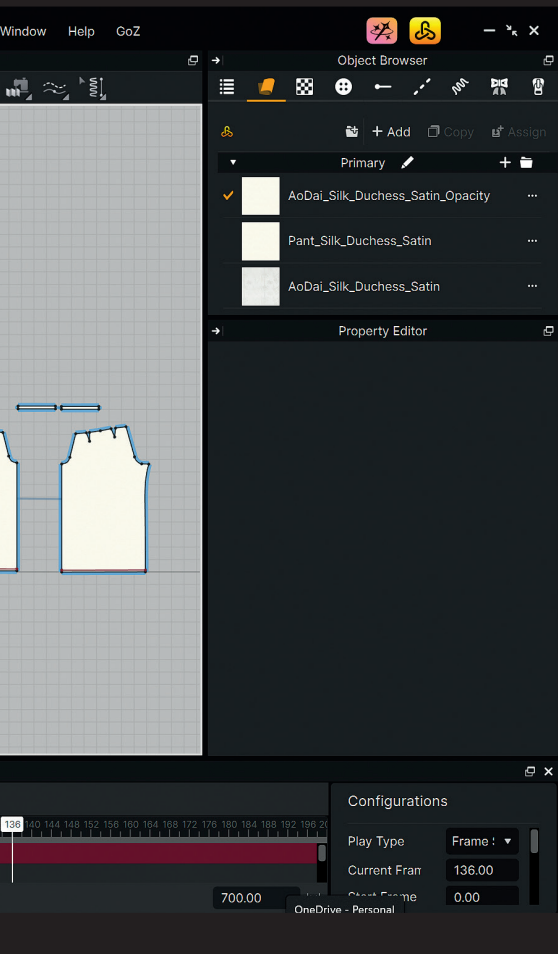
7 Final Rendering in Unreal Engine 5.7

The final textured meshes were imported back into my **MetaHuman lighting scene** in *UE 5.7*.

I adjusted:

- Key lights
- Rim and bounce lights
- Post-processing filters
- Depth of field and camera lenses

This stage produced the main render output.



5 Constructing the Garments in Marvelous Designer

Once inside *Marvelous Designer*, I began creating the outfit—an **Áo Dài**, the traditional Vietnamese garment.

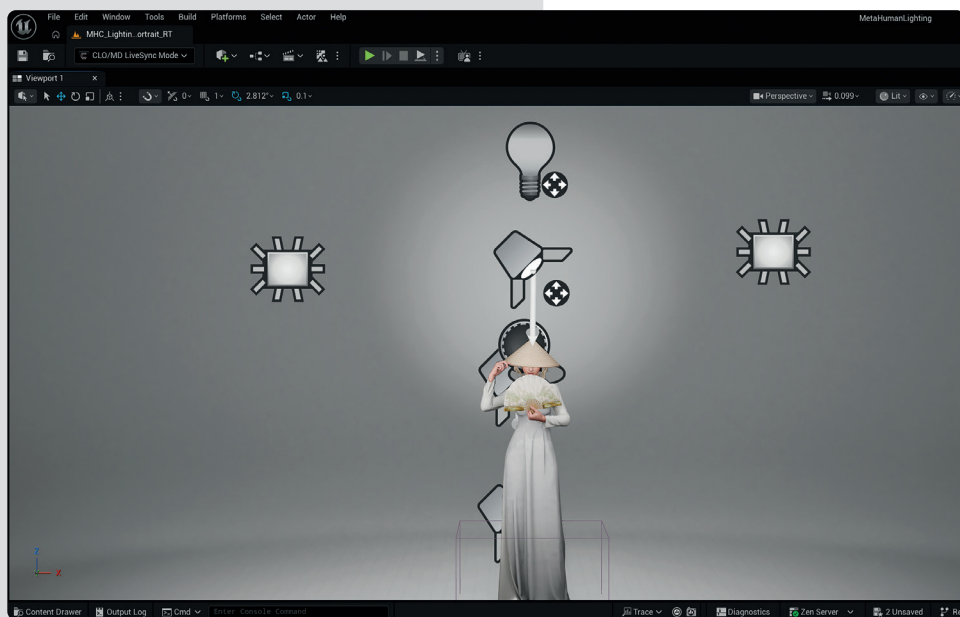
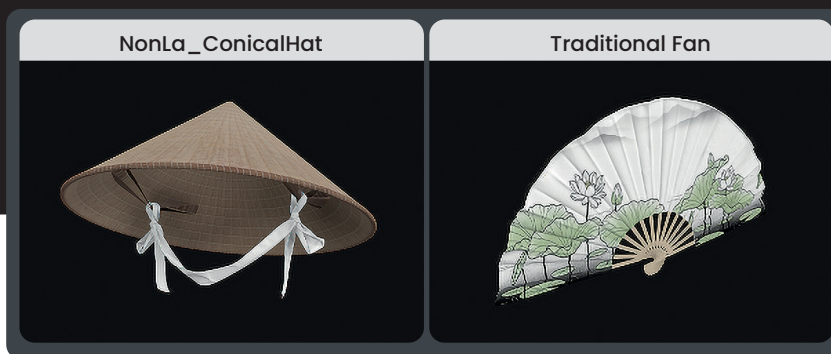
My process included:

- Drafting patterns
- Assigning fabric materials
- Adding thickness and sewing lines
- Creating buckling and subtle seam wrinkles for realism

I also created additional accessories:

- A nón lá (Vietnamese conical hat) modeled in *ZBrush*
- The hat's straps simulated in *Marvelous Designer*
- A paper fan, built using a combination of *Marvelous Designer* simulation and modeling in *Maya*

All of these elements were later textured in *Substance Painter*.



8 Final Touches in Photoshop

The last step involved polishing the final render in *Photoshop*:

- Enhancing skin smoothness and tonal balance
- Refining fabric highlights
- Fixing any unnatural material reflections

MARVELOUS INSIGHTS: EXPERT WORKFLOWS FROM THE TEAM



Creating “Hanbok” (Korean Traditional Dress) with GPU Simulation

by Julia Lee

In this article, we will share a workflow for creating a *Hanbok* (Korean traditional dress) using the GPU Simulation feature in *Marvelous Designer*. We will focus on effective tips for handling dress types with multiple layers and high-volume skirts.

1 Efficiency in the Garment Creation Process

System Specifications:

- GPU: Nvidia GeForce RTX 4070
- CPU: Intel® Core™ i7-13700

Simulating complex garments with these specs using CPU Simulation can be challenging due to significant slowdowns. Before the advent of GPU Simulation, creating multi-layered outfits required a fragmented approach—working on parts separately and integrating them later.

With the evolution of GPU Simulation, these garments can now be crafted entirely within a single workspace. The speed of pinching and adjusting draped patterns while simulation is active far surpasses that of the CPU. Furthermore, the accuracy of GPU Simulation has improved to the point where the results are nearly indistinguishable from CPU outputs.

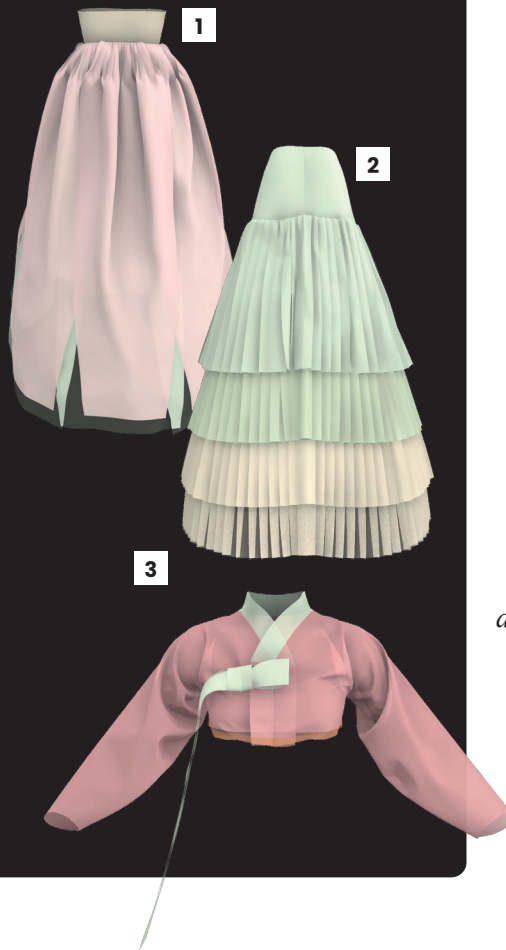
Previously, to maintain speed in CPU mode, users had to frequently Deactivate or Freeze parts of a high-volume garment. GPU Simulation eliminates these tedious steps, allowing for a much more fluid and efficient creative process.



2 Tips for Multi-Layered Dress Construction

1. Workflow for Complex Layering:

- Always begin with the innermost layer. For this Hanbok, we started with the pleated skirt, specifically building from the bottom-most pleat upward.
- Once a layer is complete, Freeze it to prevent unwanted deformation while constructing the layers above.
- Order of Operations: **Pleated Skirt > Two-layered Skirt > Jeogori (Top jacket).**



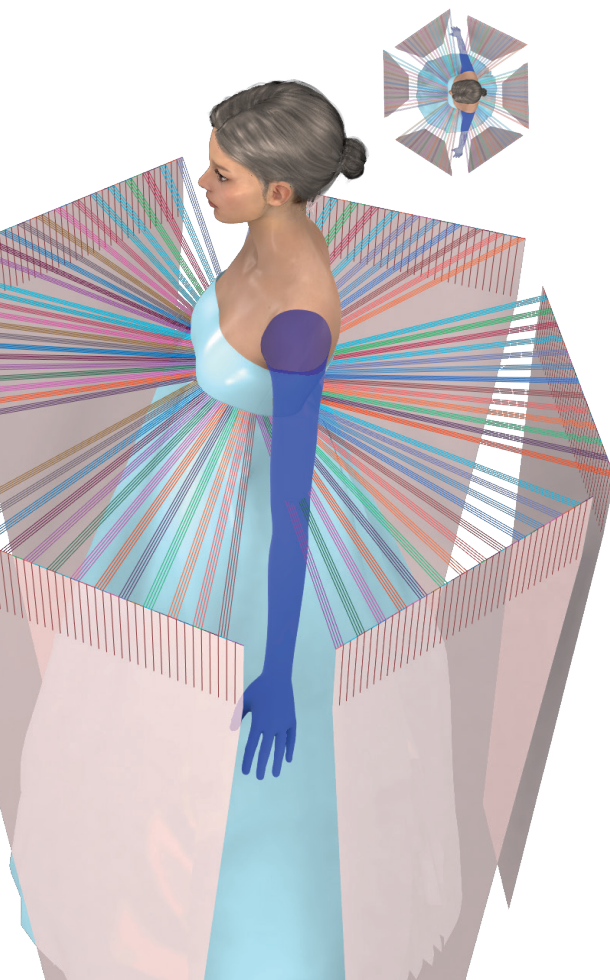
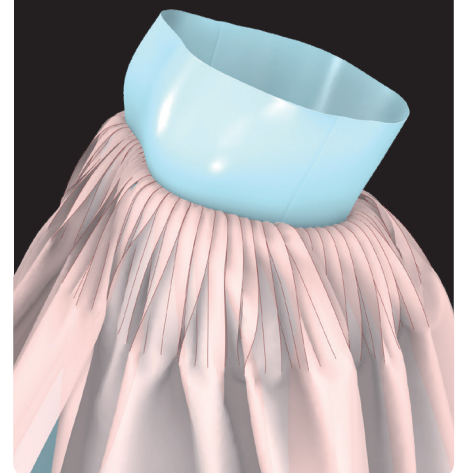
d. Thread Length & Calculation:

The colored threads between sewn patterns indicate the distance to be closed. Longer threads increase simulation time, while threads that are too short may cause patterns to snap together before they can drape properly. Adjust the thread length to give complex sections (like pleats) enough time to settle.

2. Optimizing Placement for Stable Simulation:

- Collision Prevention:** For high-volume patterns, it is crucial to arrange pieces so they do not collide during the initial simulation.
- Strengthen Tool:** Use the Strengthen function to stabilize large patterns, making them easier to pick and drape.
- Managing Obstructions:** Check if patterns will collide with the avatar's limbs. If the arms interfere with the skirt's fall, Deactivate the avatar's arms to ensure an unobstructed simulation.

- By applying these simulation tips, you can achieve a stable and realistic simulation for high-volume pleated skirts, as shown in the image below.



3 Controlling High-Volume Garments

1. Draping Control via Pressure:

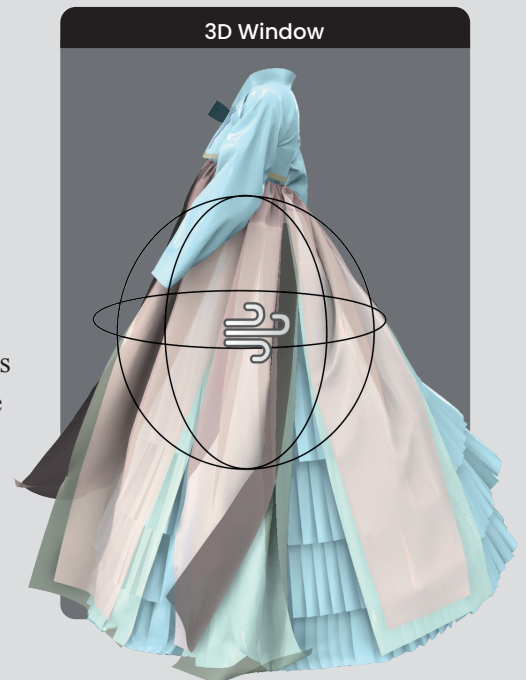
- a. Adjusting the silhouette of a wide skirt during simulation can be difficult.
- b. By setting the Pressure value to a subtle level (below 1.0) in the Pattern Properties, you can “lift” the fabric slightly, making it easier to shape.
- c. For this Hanbok’s lightweight material, a Pressure value between 0.3 and 0.5 provided the best control.



WHEN MANAGING HIGH-VOLUME ATTIRE, ADVANCED PINCHING IS HIGHLY RECOMMENDED OVER QUICK PINCHING.

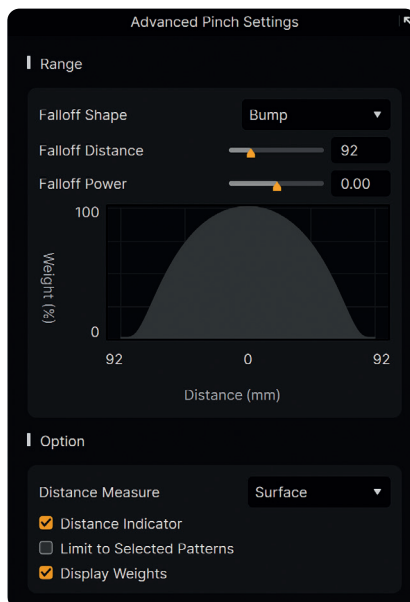
2. Refining Silhouette with the Wind Tool

- a. To achieve the natural, voluminous look characteristic of classic or medieval gowns, use the **Wind controller**.
- b. **Unlimited Bound:** Uncheck this to visualize the wind’s effective range. You can adjust the reach using the **Scale** icon on the **Wind gizmo**.
- c. **Dual Wind Setup:** You can use two separate Wind controllers with different ranges to vary the volume between the top and bottom of the skirt. For the best accuracy, adjust these ranges from the **Top View** in the **3D window**.



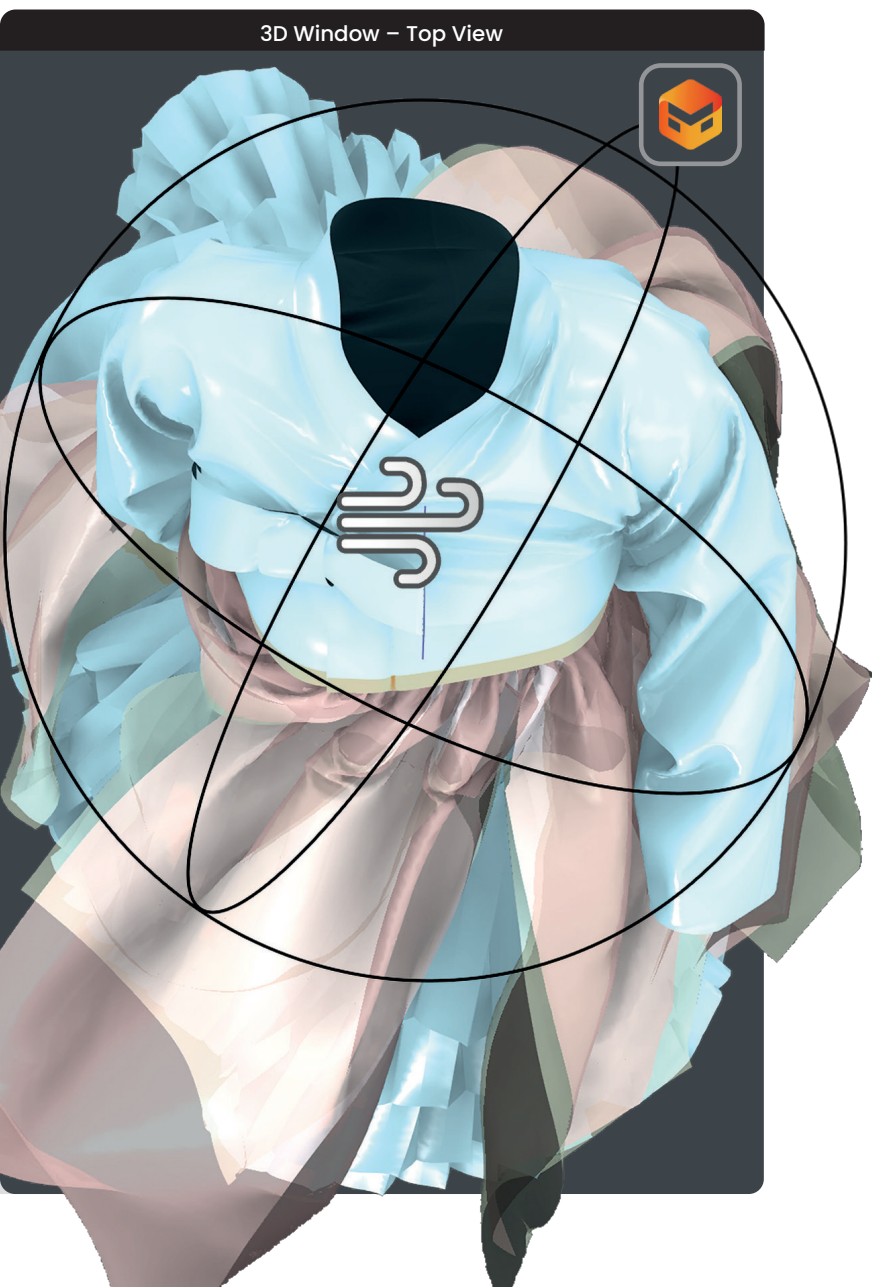
3. Adjusting Friction for Layering

- When multiple large layers overlap, fabric friction can make it hard to pull or adjust the top layer.
- Reducing the **Friction** value in the **Fabric Detail properties** helps prevent layers from “sticking” to each other, allowing for smoother adjustments.



4. Precision Control with Advanced Pinching

- When managing high-volume attire, **Advanced Pinching** is highly recommended over Quick Pinching.
- It offers granular options to fine-tune the shape and tension of your adjustments, ensuring a professional finish.

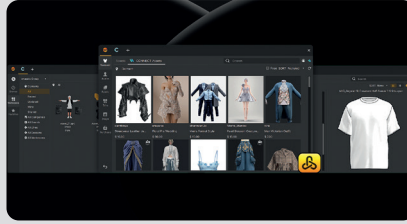




MARVELOUS DESIGNER 2025: EXPLORE THE LATEST KEY FEATURES & ENHANCEMENTS

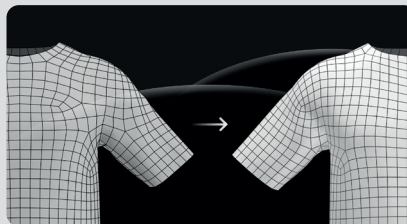
We're committed to evolving our tools to ensure your workflow is both seamless. Guided by your feedback, we implemented significant updates throughout 2025. While these are the standout highlights, many more improvements have been made under the hood. We always welcome your input as we continue to make this tool even more marvelous together.

2025.0 | Launch Date: May 2, 2025



New Library Window & Preset Support

You don't need to be a master of fashion or pattern making to create stunning results. By integrating **CONNECT (our Asset Store)** directly into the Marvelous Designer Library, you can now navigate default and store assets in one unified space. Instead of starting from scratch, accelerate your workflow using starting points from CONNECT's library of 14,000+ free assets—all available with a simple double-click.



Automatic Quad Mesh Improvements

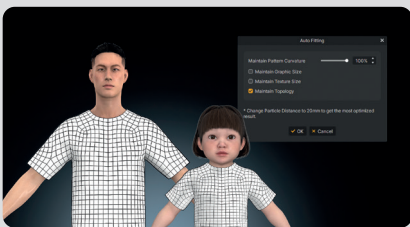
Achieving clean topology is now easier than ever. By simply selecting the "Quad (Optimized)" option in the Property Editor, you can convert your mesh from Triangles to Quads. Our improved automatic remeshing delivers cleaner topology with faster, more efficient post-processing.

2025.1 | Launch Date: Aug 20, 2025



Off-Avatar 3D Pen Drawing

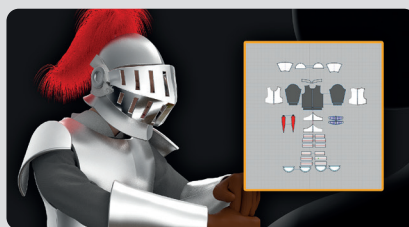
For artists who prefer working directly in a 3D environment, we've expanded the 3D Pen tool to support Off-Avatar Drawing. You can now create connected straight or curved lines both on and around the avatar. Once your silhouette is sketched in 3D space, simply use the Flatten tool to convert these strokes into production-ready 2D pattern pieces.



Keep Topology after Autofitting

This update introduces the ability to maintain original mesh topology during the Auto Fitting process, drastically reducing manual rework. By preserving the original structure, users can seamlessly reuse existing assets—including UV maps, rigging, blend shapes, and vertex colors—across their entire 3D pipeline without losing data during a refit.

2025.2 | Launch Date: Nov 17, 2025



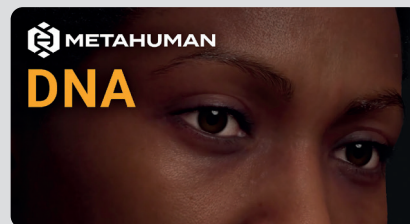
Convert Patterns to Trims and Accessories

Hard-surface modeling in Marvelous Designer is now more intuitive than ever. You can now convert your creative 2D patterns directly into Trims or Avatar Accessories. This allows you to turn fabric shapes into rigid or semi-rigid components, bridging the gap between soft-body cloth and hard-surface detailing.



[Beta] AI Pose Generator

You've created an incredible outfit; now it's time to bring it to life with the perfect pose. The new AI Pose Generator allows you to create custom avatar poses using simple text prompts or uploaded images directly within Marvelous Designer. This tool makes it easier than ever to test garment fit across different stances and produce high-quality, presentable results in seconds.



MetaHuman DNA Importer

Epic Games' MetaHuman technology has redefined digital realism, and Marvelous Designer has been a part of that ecosystem. With the new MetaHuman DNA Importer, you can bring ultra-realistic character data directly into your workspace. This ensures that your garment creation reflects precise facial structures and body proportions with exceptional accuracy, offering a seamless workflow for Unreal Engine-based films, games, and more.



Keyable Properties Expansion

Take full cinematic control over your animations with our expanded Keyframe support. You can now animate physical properties such as **Shrinkage (Weft/Warp)**, **Pressure**, **Solidify**, **Tack**, and **Trim Weight** via the Property Editor. These additions allow for powerful, dynamic storytelling through fabric—giving you the tools to create more complex and realistic animated scenes.

**WHAT'S NEW:
THE LATEST IN
MARVELOUS
DESIGNER 2026.0**

**THE INDUSTRY
STANDARD
FOR 3D CLOTH
MODELING &
SIMULATION.**





Lacing

Adding laces can completely transform a design—from Medieval and Gothic styles to modern high-fashion. However, modeling them manually is often a tedious and time-consuming task. Our new Lacing feature simplifies this process, allowing you to create and apply intricate laces intuitively within **Marvelous Designer**. Perfect for footwear, women's wear, accessories like bags, and detailed historical costumes, this tool streamlines one of the most complex parts of garment creation.



3D Pencil

Discover a more intuitive way to design with Sketch on Avatar. This feature allows you to draw directly onto the avatar's surface, instantly converting sketches into 3D Pen curves. These curves can be refined using the 3D Pen tool and transformed into 2D patterns via the Flattening tool, providing a seamless bridge between conceptual sketching and pattern creation.



Preserve 3D Garment Shape on 2D Scaling

Eliminate the need for manual 3D adjustments after resizing. This new feature allows you to scale 2D patterns while preserving the existing 3D shape. Avoid distortions and save time when pursuing multiple size adjustments or silhouette changes.



Toon Shader

Now you can preview and create toon-style garments directly in **Marvelous Designer**. By supporting the standard VRM material (MToon), we've made it easier than ever to design clothing for VRChat and other Unity-based VR platforms. Achieve that perfect anime look without leaving your workspace.



Isolate Selection

Focus on the details that matter without the clutter. The new Isolate Selection tool allows you to instantly hide everything except your selected patterns or components with a single click. Unlike the standard Show/Hide toggle, this mode is non-destructive—meaning you can dive into intricate edits and quickly return to your previous visibility state without disrupting your overall project setup. It's the fastest way to manage complex, multi-layered garments with precision and ease.



GPU Accelerated Trim Simulation

Experience enhanced collision accuracy for trims, now with full GPU support. This update grants artists greater control over physical properties like weight and stiffness, pushing garment realism beyond simple folds. You can now choose between CPU and GPU simulation at any time to optimize your workflow speed. This enhancement significantly amplifies the level of detail achievable through complex trim interactions.

EXPANDING THE ECOSYSTEM: USER-FOCUSED INITIATIVES



INTRODUCTION OF MARVELOUS DESIGNER INDIE PRICING

Indie studios have shaped the gaming industry in powerful ways. From standout visual styles to innovative gameplay, indies are behind many of the most celebrated releases in recent years. We have had the privilege of supporting the artists and teams behind many of these successes, and we're committed to making our tools more accessible to this growing community.

That's why we introduced the **Marvelous Designer Indie License**. This license provides the same professional benefits as the Enterprise License at an indie price.

To qualify for the Indie License, studios must:

- **Have a minimum of two employees**
- **Generate less than \$500,000 USD in annual revenue**
- **Be legally registered as a company in their country**

Whether you're looking to raise visual quality, speed up your character pipeline, or equip your team with industry-proven tools, the Marvelous Designer Indie License is built with indie studios in mind. To learn more, please visit our official website.



MARVELOUS DESIGNER LINUX SUPPORT

To meet the demands of fast-paced studio workflows, Marvelous Designer began official Linux support on September 30th, 2025. The Linux version has been engineered with a focus on stability, simulation accuracy, and pipeline efficiency.

In addition to providing all the latest Marvelous Designer features, the Linux version introduces a Python API, empowering technical artists and developers for:

- **Scripting:** Write and run scripts directly inside the Marvelous Designer environment.
- **Batch Processing:** Automate the import and export of large file batches.
- **Simulation Control:** Programmatically adjust simulation settings for consistent results.
- **Automation:** Streamline repetitive tasks to optimize production timelines.

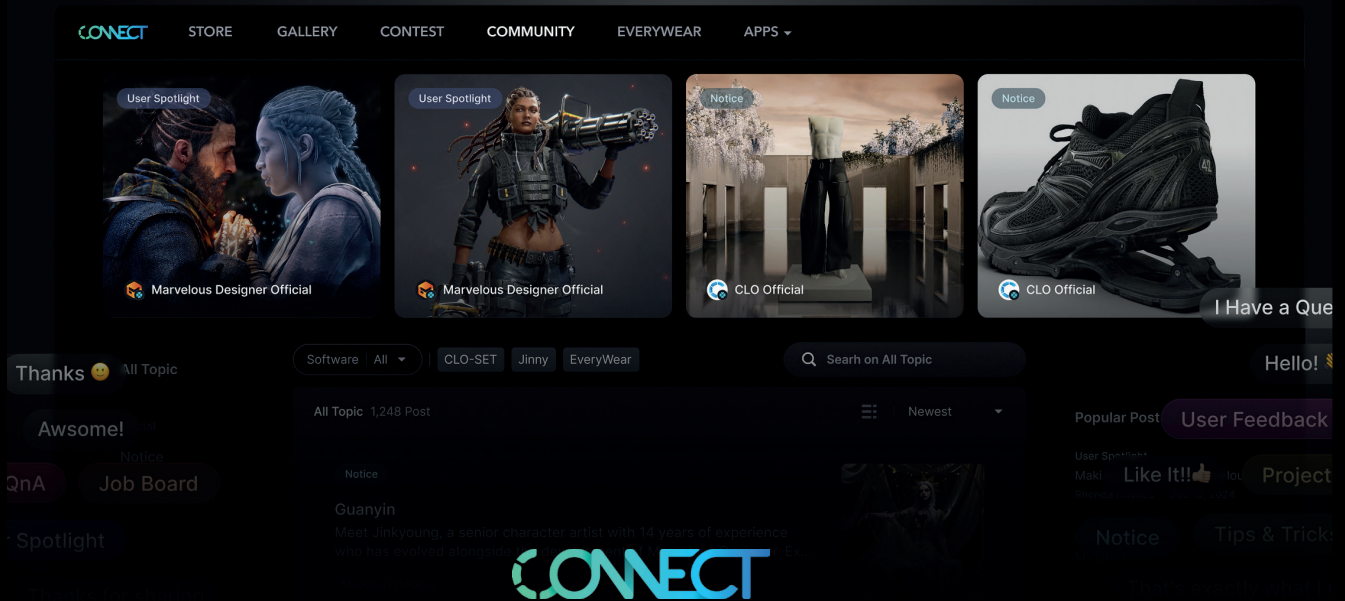
With these enhancements, Marvelous Designer is more powerful than ever for teams looking to integrate high-end cloth simulation into automated production pipelines.

System Compatibility: The software is designed for seamless integration and is available on Rocky Linux 9 and higher, with extended compatibility for **Red Hat Enterprise Linux 9 and beyond.**

*Note: Linux support is exclusively available for the Enterprise Network Online license type.

FEATURING: GAMEWEAR MARKETPLACE, USER SPOTLIGHTS, AND PORTFOLIO SHOWCASES

LET'S "CONNECT": MEET OUR GLOBAL 3D CREATIVE HUB



CONNECT is the go-to hub for *Marvelous Designer* creators—a place to discover free assets, engage with the community, participate in contests, find job opportunities, and sell your designs to make some extra cash! As a global community and open marketplace, both *Marvelous Designer* and CLO creators can showcase their portfolios and build professional networks. Beyond a marketplace,

CONNECT has hosted global contests with leading fashion and game companies, offering exciting prizes and industry recognition.

To further bridge the gap between garment creation and game implementation, we have updated **CONNECT** to support professional workflows through our latest GAMEWEAR expansion.



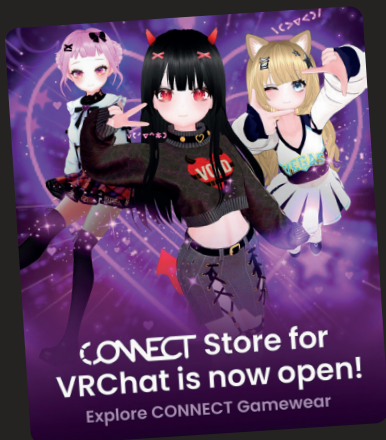
THE GAMEWEAR MARKETPLACE

The new **GAMEWEAR** category allows creators to monetize their assets and integrate them into major gaming platforms. Join us and be part of a growing network of Marvelous Designer users shaping the future of digital fashion and beyond.

- **VRChat & inZOI Support:** The VRChat Store is live for buying and selling VRChat avatars. We have also launched the inZOI Gamewear Store, allowing users to upload custom character content directly.

- **Revenue Opportunities**
Creators can now earn from their work by uploading outfits to the CONNECT Store, reaching a global audience of players and developers.

- **Direct Integration:** We are working on onboarding new game titles. This allows you to create assets in Marvelous Designer to use as official in-game skins.



STREAMLINED ACCESS: NEW LIBRARY & 14K+ FREE ASSETS

Get started instantly with over 800 free garments, fabrics, and trims. We've integrated these resources directly into the New Library window in Marvelous Designer:

- **Integrated Search:** Browse the CONNECT library without leaving the software.

- **Drag-and-Drop:** Download and add assets to your workspace in a few clicks.

- **Centralized Management:** View local files and CONNECT downloads in one unified location.



ENGAGING COMMUNITY & GROWTH

CONNECT is a functional space for creators across the CLO Virtual Fashion ecosystem. It is a hub for finding inspiration, joining contest, sharing ideas, accessing technical resources, and connecting creators.

Join us and be part of a growing network of Marvelous Designer users shaping the future of digital fashion and beyond.

#MADEINMARVELOUS: CELEBRATING 2025'S ARTISTIC ACHIEVEMENTS



Traveller
Cyberpunk Guan Yu



Character in Diablo IV

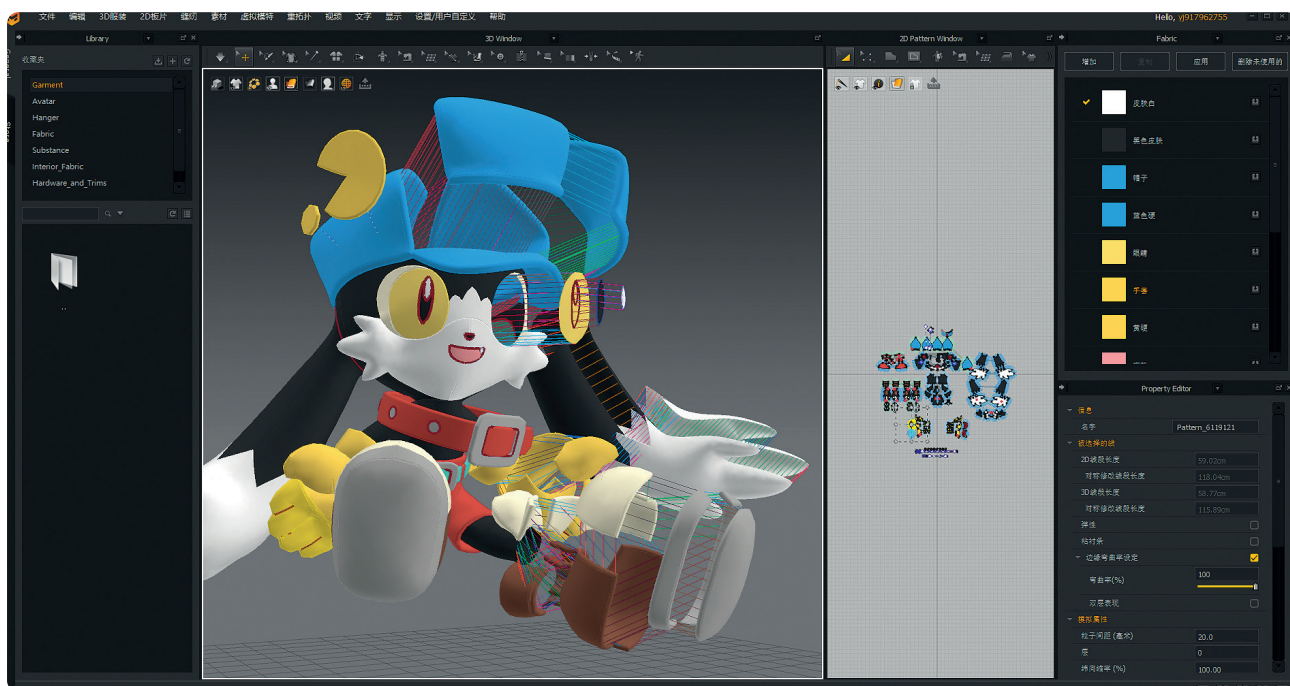








Designing Plush Characters with Marvelous Designer





© THEM Studio 2025.05

UNLEASH YOUR CREATIVITY





© Honghui Qiu 2025.06



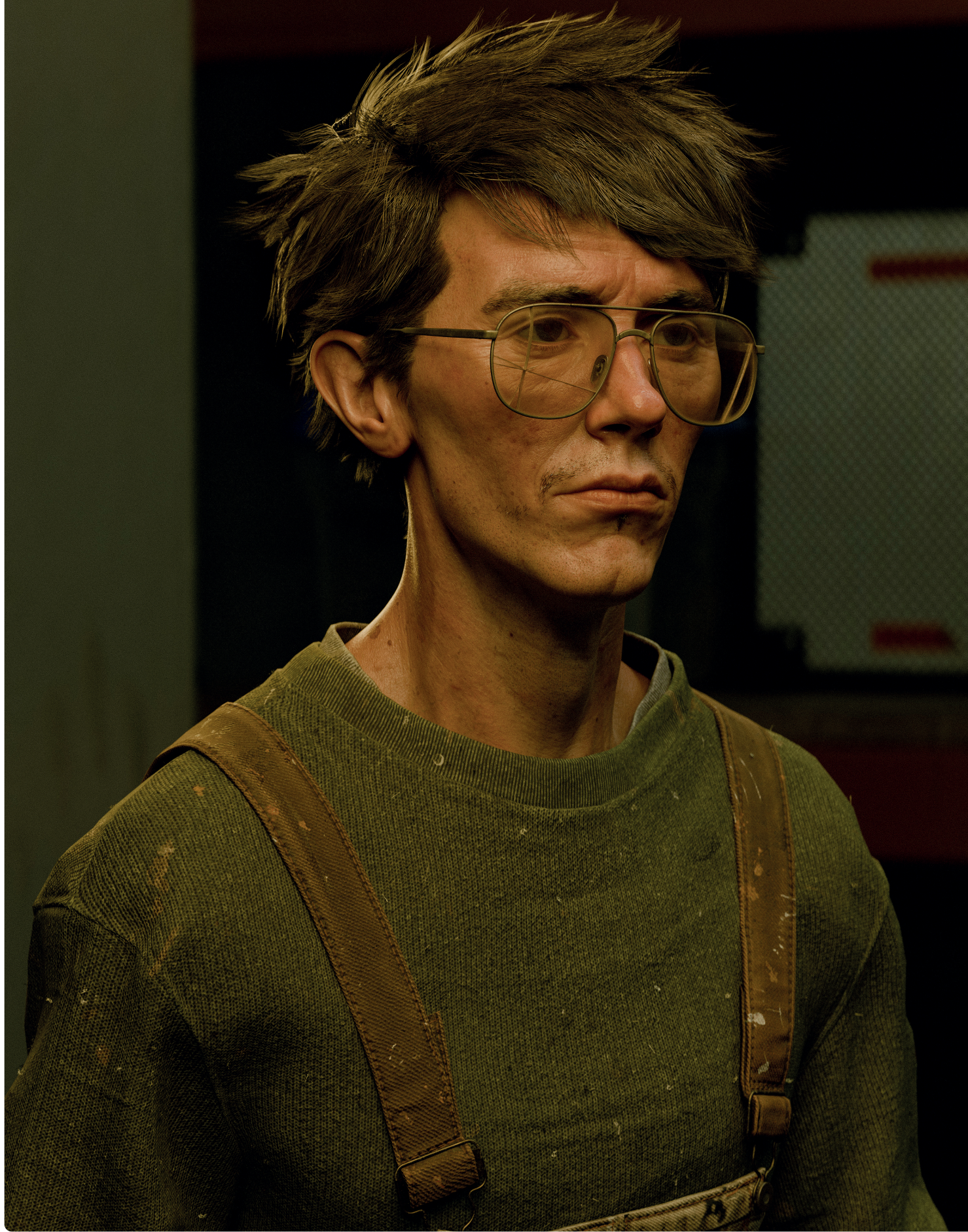
Recreating Lolita Dress in
Marvelous Designer



Tikal, Guatemala. Part 2



© Ilya Zakharovskiy 2025.07





© Kimia Bagherzadeh Homaei 2025.09



Winner of TOKYO CONTINUUM



Death is a beginning



LA MUERTE





YOYOGI MORI by ©Tenju



M I R A G E

NOTHING IS WRITTEN



DIRECTED BY
HYUNJONG KIM

CHARACTER MODELING BY
MINJI OH

FX DESIGN BY
EUNGJIK LEE
KEONYONG MOON

© Hyun-jong Kim & Min-ji Oh 2025.12

UNLEASH YOUR CREATIVITY





© Tony Zhou 2025.01



© Scarlett Brooks 2025.02



© Yao Chan 2025.03



© Lizichuan 2025.04



© THEM Studio 2025.05



© Honghui Qiu 2025.06



© Ilya Zakharovskiy 2025.07



© Basil Pop 2025.08



© Kimia Bagherzadeh Homaei 2025.09



© Eduardo Gala 2025.10



© Yoshiki Nakashima 2025.11



© Hyun-jong Kim & Min-ji Oh 2025.12



Picture Credits

Pages 4–9: © Dmitry Bezrodniy.
All Rights Reserved.

Pages 10–17: © Super Very More.
All Rights Reserved.

Pages 18–23: © Sato Imozou.
All Rights Reserved.

Pages 24–29:
© Zeion-Jeremy Bernil.
All Rights Reserved.

Pages 30–37:
© SangYeop Jeong.
All Rights Reserved.

Pages 38–45: © Chan Yao.
All Rights Reserved.

Pages 46–51: © Anna Martseniuk.
All Rights Reserved.

Pages 52–57: © Ngan Hoang.
All Rights Reserved.

Pages 58–61: © Elliott Holmes.
All Rights Reserved.

Page 62–65: © Lost Waldo.
All Rights Reserved.

CLO Virtual Fashion

Pages 1–99: © CLO Virtual
Fashion Inc. All Rights Reserved.

Artwork Credits

Front Cover: © Ngan Hoang.

Pages 66–69: © Sean Frandsen.

Pages 70–71: © Víctor Valcárcel.

Pages 72–75: © Leo Nguyen.

Page 76–79: © Julia Lee.

Page 82: © Maria Florencia

Nespola Mangariello.

Page 85 © A Miao.

Page 89: © Tony Zhou,

Scarlett Brooks.

Page 90: © Yao Chan.

Page 91: © Lizichuan.

Page 92: © THEM Studio.

Page 93: © Honghui Qiu,

Ilya Zakharovskiy.

Page 94: © Basil Pop.

Page 95: © Kimia Bagherzadeh
Homaei.

Page 96: © Eduardo Gala.

Page 97: © Tenju, Yoshiki

Nakashima.

Page 98: © Hyun-jong Kim

& Min-ji Oh.

Back Cover:

© CLO Virtual Fashion Inc.

Fourth Edition
2026
by CLO Virtual Fashion
clovirtualfashion.com

Printed in
the United States of America

Communication
marvelousdesigner.com

