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Marvelous Designer Workflow

Example with a military wear

This is a brief workflow of Marvelous Designer with other 3D software. This document will show a general overview and an example of how it could integrate into a character's garment creation pipeline. It is not the only way to work with Marvelous Designer and might not even be the best suited for your pipeline, however it is intended to come up with the high quality garment results that can be achieved with Marvelous Designer. If you have any questions concerning the contents, please feel free to e-mail me at sales@marvelousdesigner.com.

A Military Wear Project

For the purpose of this document, I will create a Military wear that has multiple layers of clothing with flack jacket to show how quick and easy this application can be coordinated and how well it may fit into the game and CG Movie pipeline.

Researching reference images

To get the idea how clothing look like when creating clothes in Marvelous Designer, the more accurate to real world patterns and designs you achieve, more successful your modeling will be. Therefore I did quite a bit of research on game called battle field 4, Iraq military uniform and how each piece of clothing is constructed.

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Default Avatar
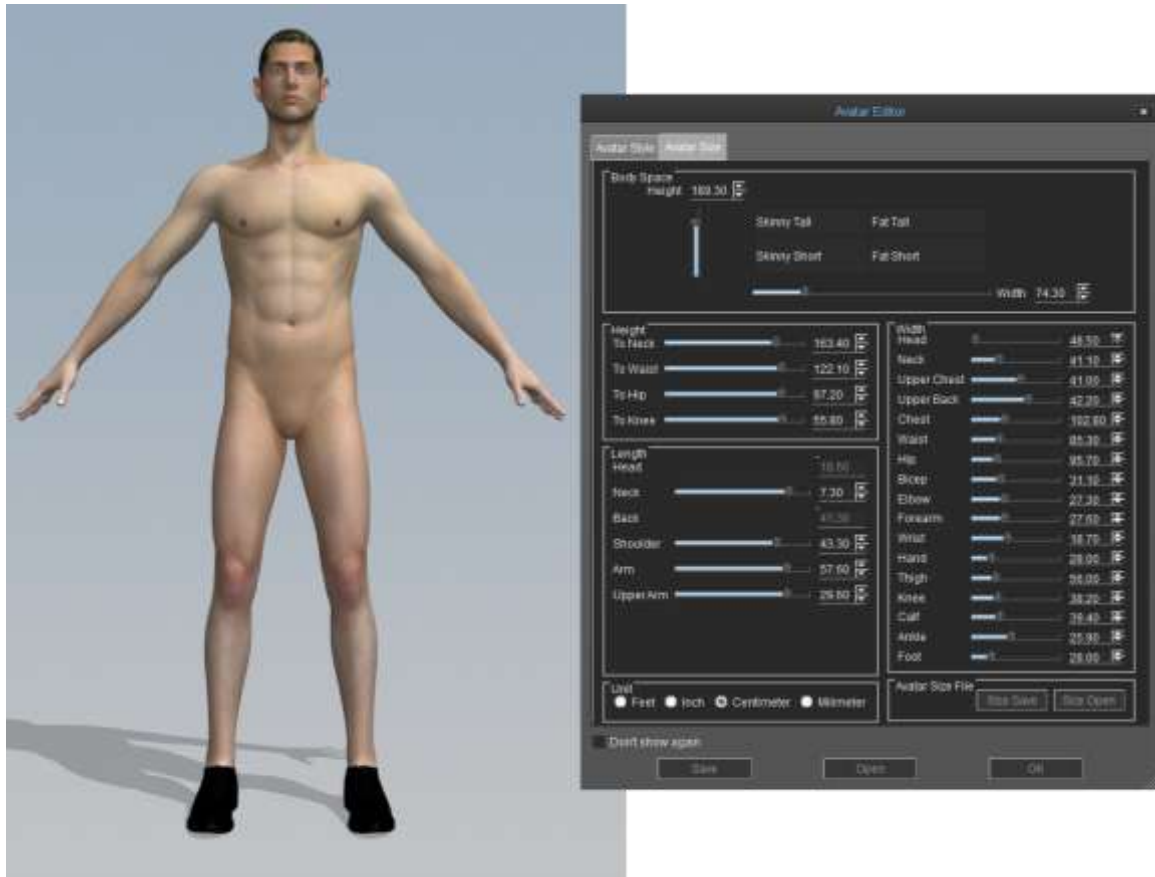
Importing mesh as a Default Avatar

As a start, I import my character as a default avatar into Marvelous Designer instead of using the generic female model that Marvelous Designer offers.

One thing to note, Marvelous Designer was created with real world measurements in mind and the default measurement is in mm. So you have two choices:

1. You can either scale your avatar to roughly match the scale of the standard avatar.

2. Set scale and units yourself

Tip:

I chose the first option, however if you choose to set the scale and units yourself, it can become a bit of a hassle later on if you intend to load animation or morph targets if you forget what scale and unit measurement you set up as Marvelous Designer does not remember them for you.

First Layer

Military Suit: First Layer

There are 2 way of making a first layer.

1. Load existing garment Set scale and units yourself

2. Rough out the pattern

I had a choice the first option. The first layer of clothing I loaded was the shirt and pants. Or Either way, you can rough out the pattern quickly and drape it on the figure to see what needs adjusting. Just for your information, for those who are not familiar with the pattern making, you can download the free pattern samples such as shirts, blouse, pants, jackets, padding jackets and so on from the Marvelous Designer website.

Tip:

You can access our web space, called marketplace where our users created and uploaded their garment modelings. Those items are currently downloadable for free. Please visit our marketplace at http://www.marvelousdesigner.com/Marketplace
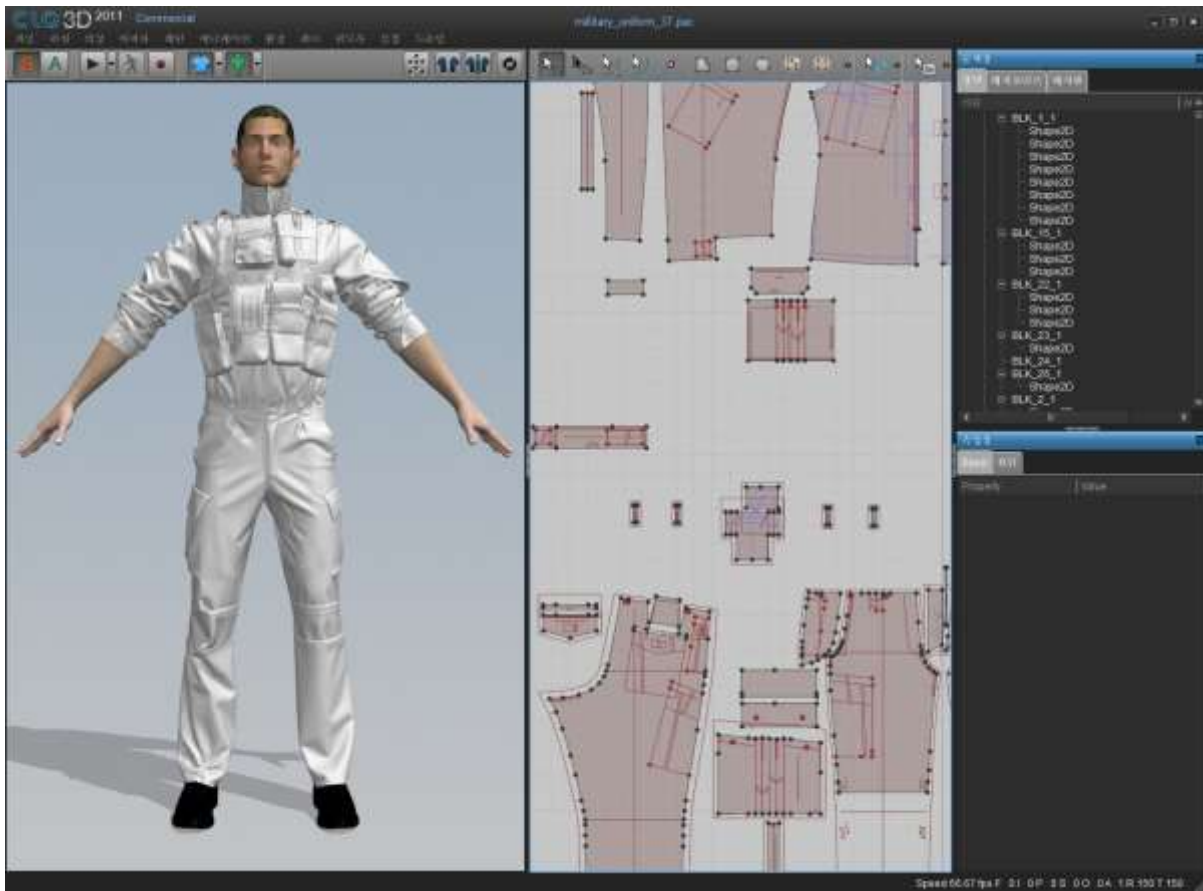
Final Military Suit
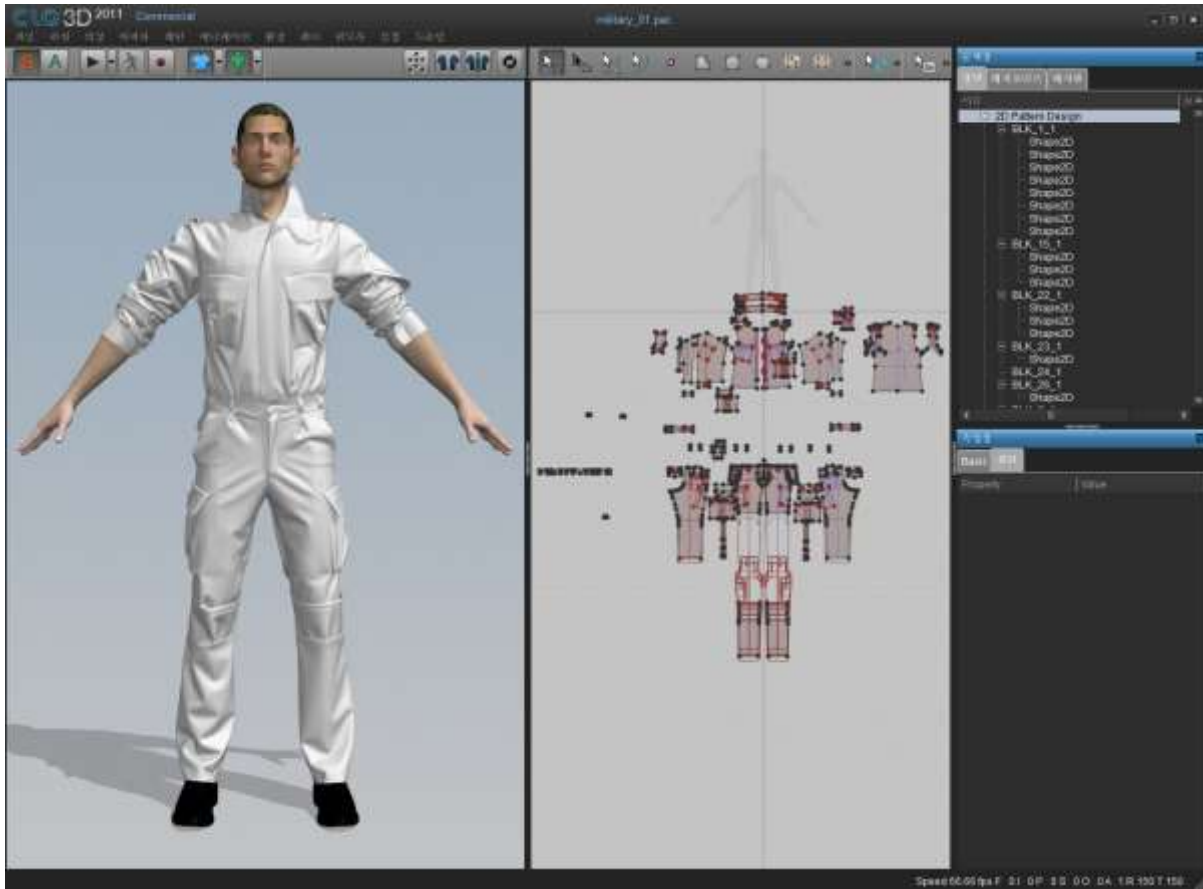
I divided the pants into 2 pieces and laid them on top of each other and stitched for making pleats. As a final step I would start to create internal lines to create seams and sewn on patches into the simulation. I made the pants to fit on the avatar by using shrinkage. Then I put Layer effect on the shirt in order to stay inside of the pants. At this point I have been working with a low particle distance. As I get closer to a final pattern with all of the details I want, I steadily lower the particle distance so that I get a more refined mesh that will hold all of the detail I would like in the final model.
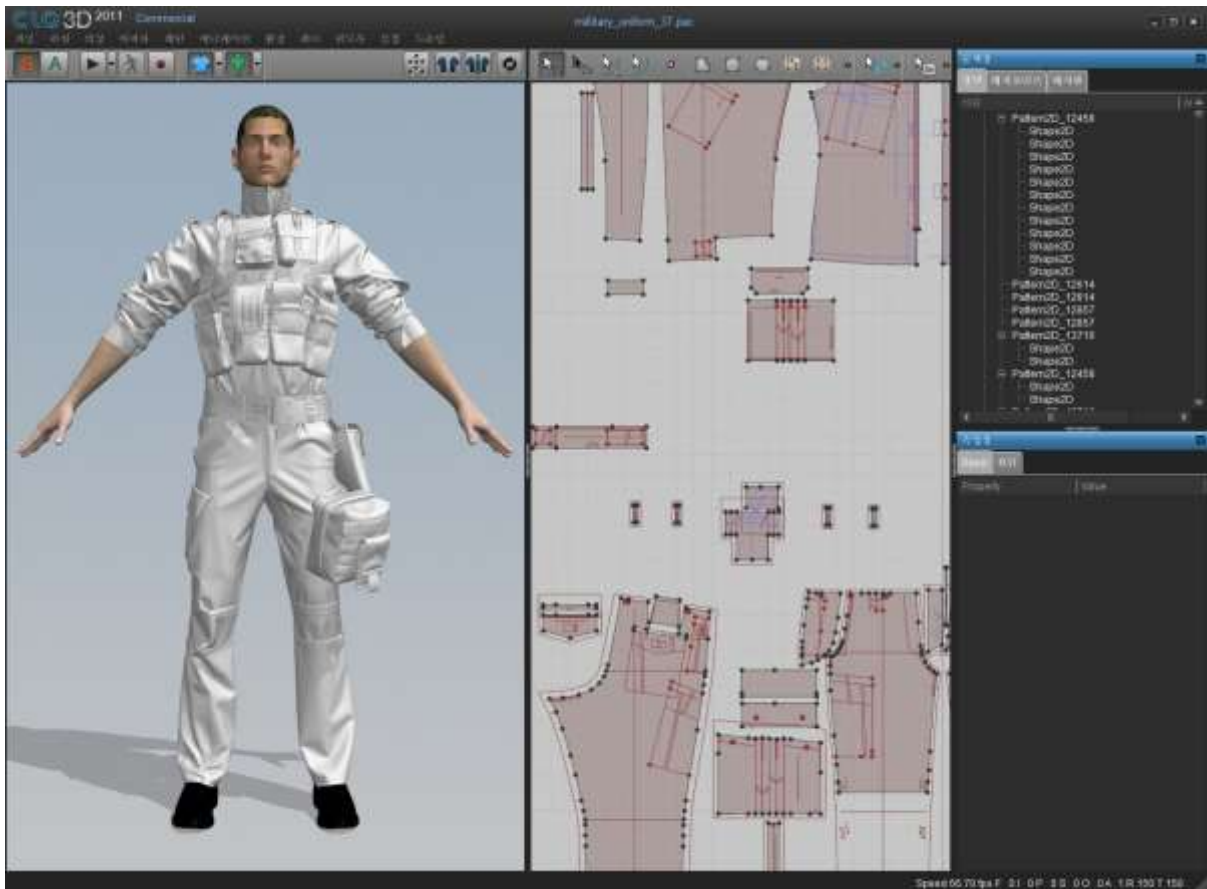
Layering garments

Vest over Military Suit Avatar

With the flight suit garment created and simulated I first saved the flight suit as a garment file. I added the flack jacket as garment file created on Marvelous Designer. This way I knew that whatever new layer I was adding would sit perfectly on top of the previous layers. I could get realistic wrinkle on the garment when coordinating multiple layer and garment in very easy way.
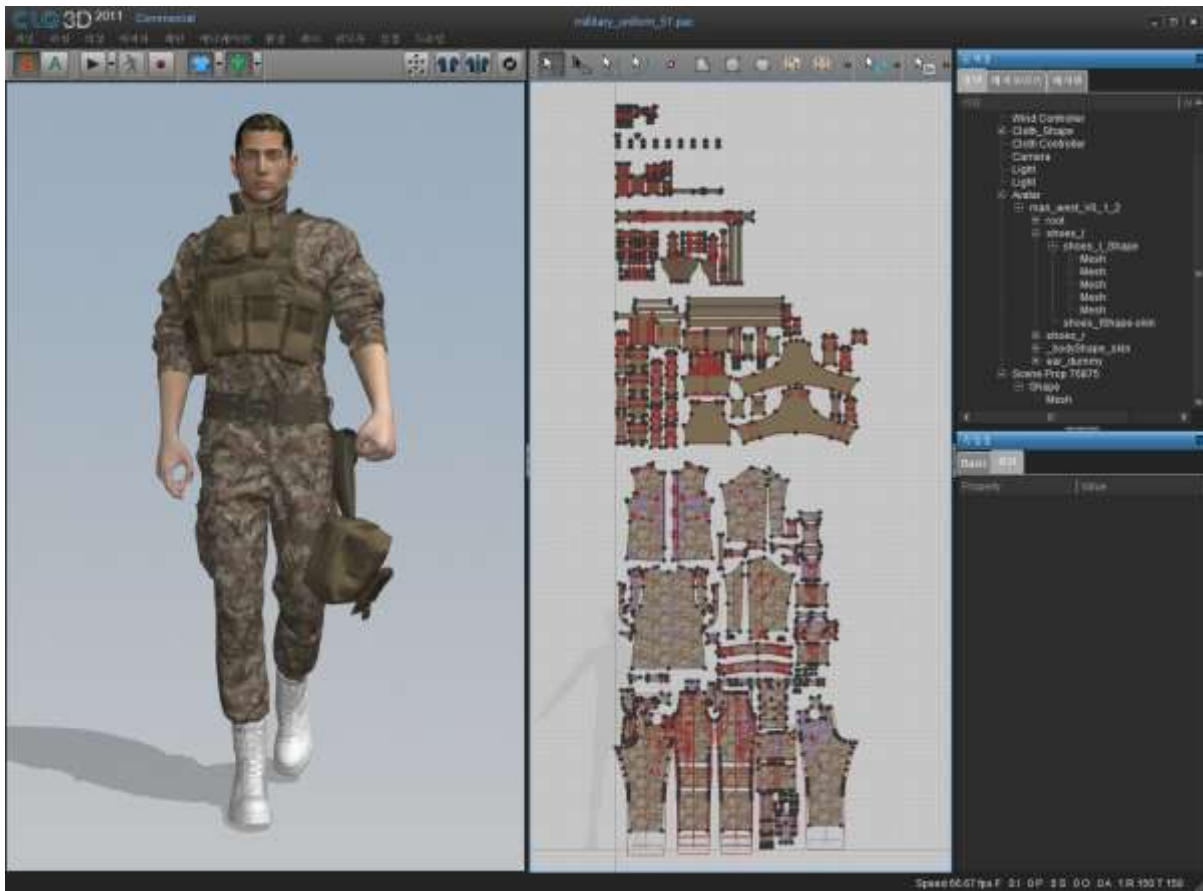
Final garment with all 4 layers simulating

I added a cartridge belt, gas mask, holster using the "Add Garment" command and ran a simulation to have all of the layers interact with each other. You will be able to make wrinkles using layer in easier and faster way.

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Simulating altogether

At Final step, I loaded pose file that I already had imported and military boots as obj file. I had to have the pants shortened and insert elasticity on them. Once the simulation was done I did a final export as an obj. Once you make clothes, It is far easy to make multiple clothes on each different pose.

You don't need to coordinate and unwrap UV in Marvelous Designer. Since UV and patterns are created at the same time.

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Import clothes and avatar into Maya

I imported clothes and avatar into 3D modeling tool, Maya in order to render image.

Tip:

With Marvelous Designer, you will make cloth simulation for CG movie in easy way. First of all you have to do is make character animation on Maya, Max and export it into Marvelous Designer as COLLADA file. Then you are able to fit it on the animated character and simulate it. Then bring simulated clothes back to other 3D software such as Maya, Max..

Create a Normal map

The image on the left side is low polygon cloth and the image on the right side is high polygon cloth that imported from Marvelous Designer. I created Low polygon model based on high polygon model that was made in Marvelous Designer.
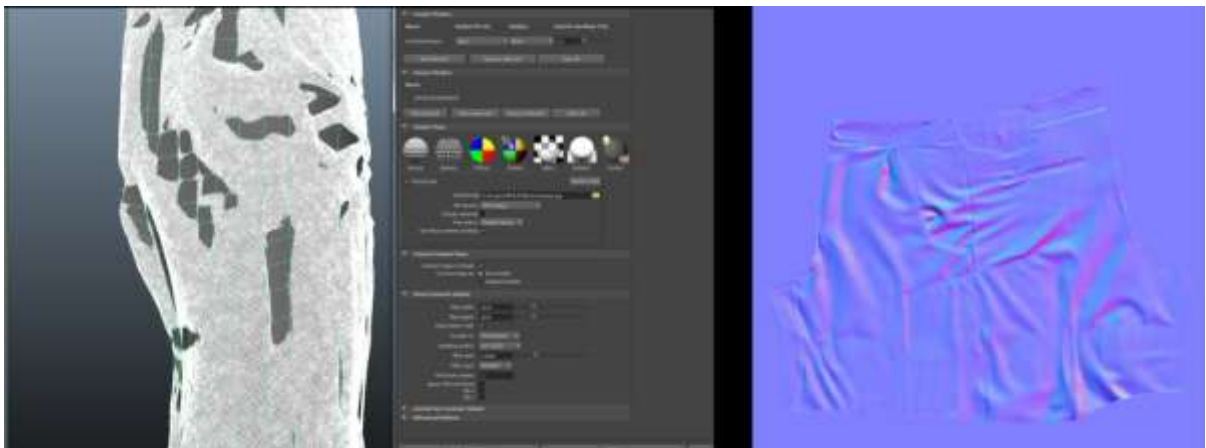
I baked normal map using Marvelous Designer modeling file.

Apply normal map on the Low polygon render image

It is available to extract normal map and apply it on the low polygon clothes model from Marvelous Designer. In order to save your time, making clothes in Marvelous designer enables you save more time rather than sculpting it on ZBrush and Mudbox. Making clothes by using Marvelous Designer is faster than Sculpturing entire garment on ZBrush and Mudbox
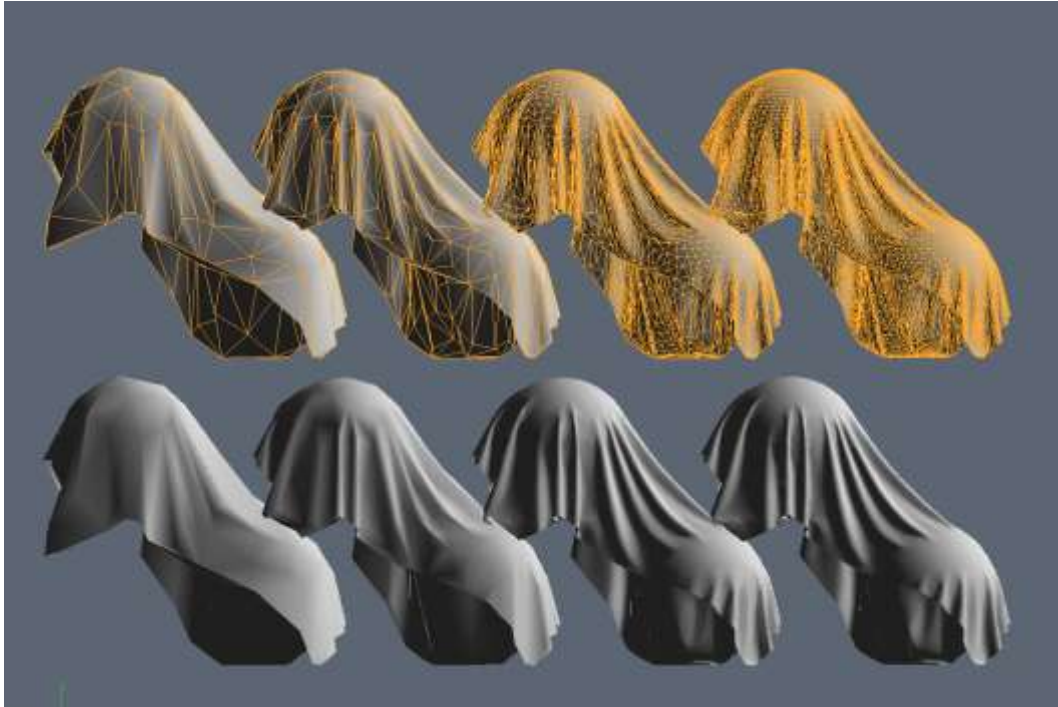
Final Render

I imported helmet, military boots from Maya and added character with background after rendering each of them.

Other cool uses

Drapery that can then be decimated

Multiple Resolutions of Decimation from Zbrush

High resolution cloth looks nice but is not very practical for in game objects. I have had very good success with using Zbrush's "Decimation Master" to create a low resolution game ready mesh. Then use the original high resolution to bake maps such as Normal and Ambient Occlusion.
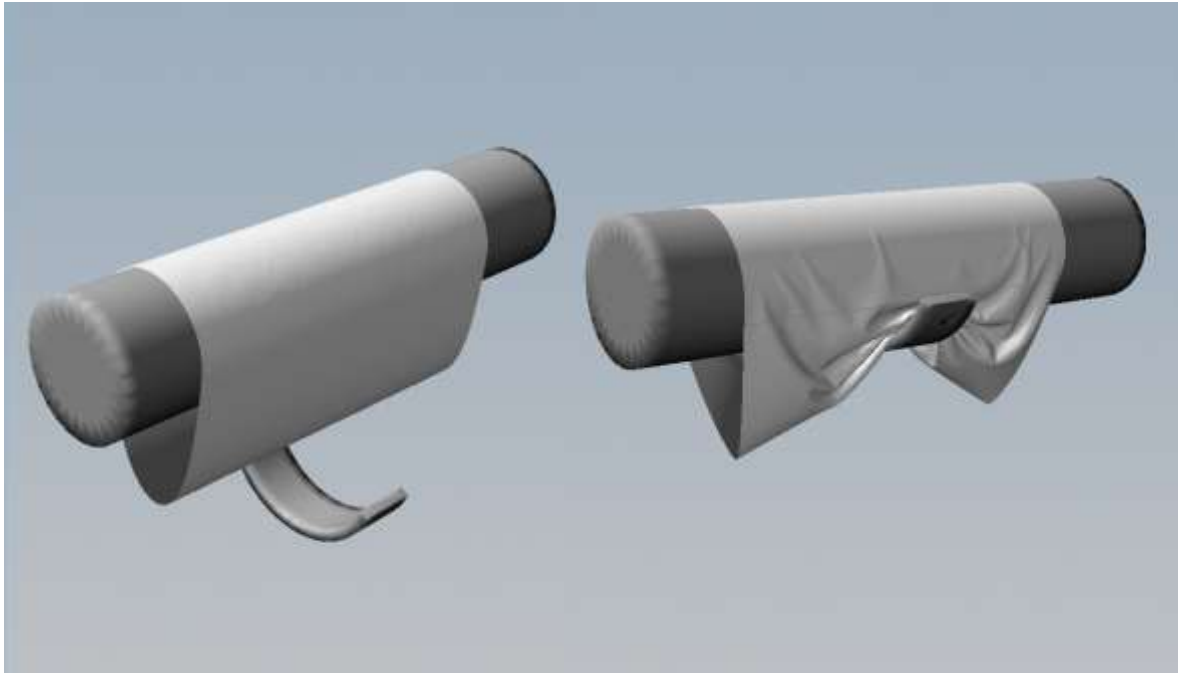
Creating alpha stamps
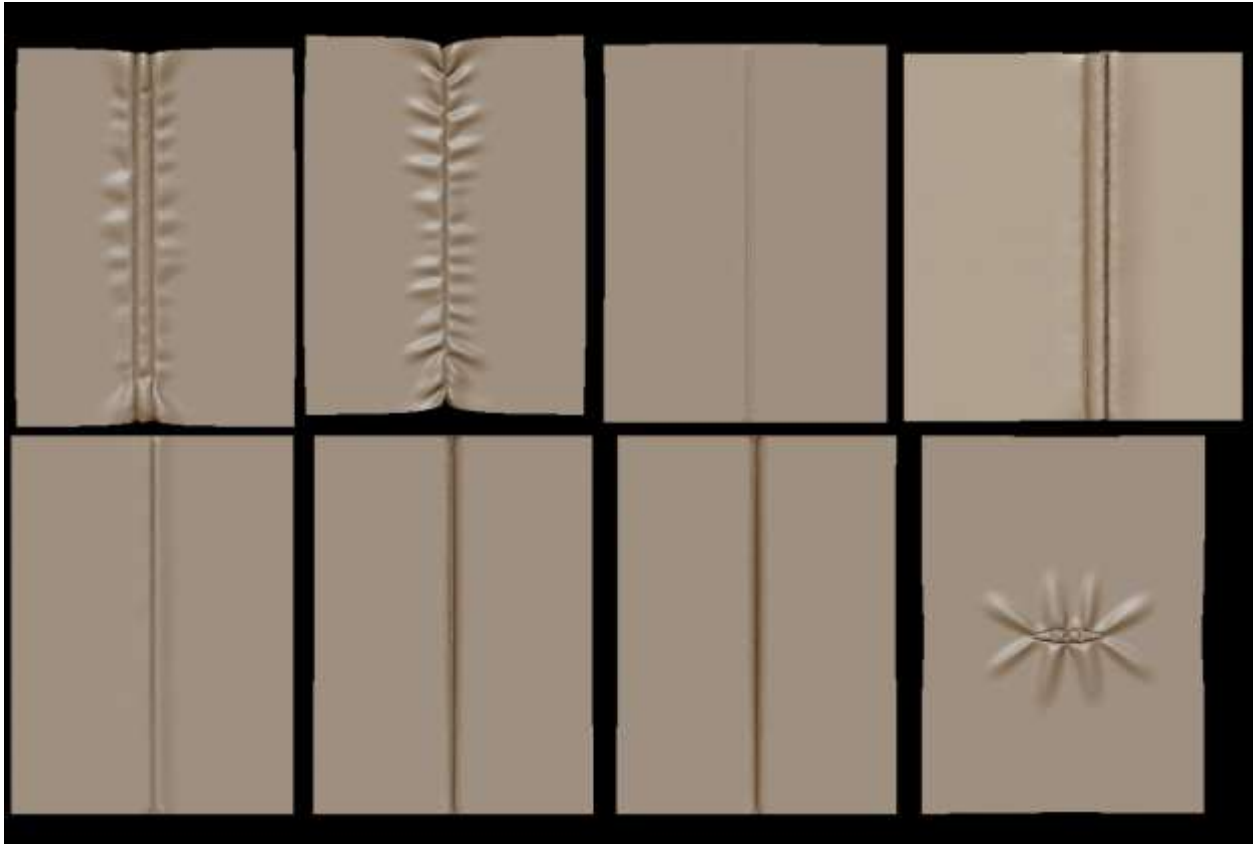
Marvelous Designer patterns exported to Zbrush

You can use a flat mesh with internal lines to create interesting stitches and wrinkle patterns for use as an alpha in Zbrush or Mudbox.

Animation and morphs

Example of using a morph target to affect complex drapery

Additionally you can import several versions of your avatar as morph targets to interact with the cloth simulation. This would be particularly well suited for cloth underneath rigid armor