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CGArena

Get Attention in the Computer Graphics Community

IN THIS ISSUE

Interview with Marek Denko, Making of Sonya Blade, Cafe Racer, Tribal Woman, Post-Apocalyptic Engineer, 10 showcases with stunning CG artwork

In this issue

COLOPHON

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Special thanks to
Marek Denko, George Patsouras, Andrea Lazzarotti, Jose Carlos Montero, Silviu Dinu

Cover Artwork
Silviu Dinu

Prime Focus Technologies to acquire DAX

Prime Focus Technologies (PFT), the technology subsidiary of Prime Focus announced that it has signed a definitive agreement to acquire DAX, a leading provider of cloud-based production workflow and media asset management applications to the entertainment industry for a base consideration of US$ 9.1 million (~INR 56 cr) in a uniquely structured performance linked transaction.

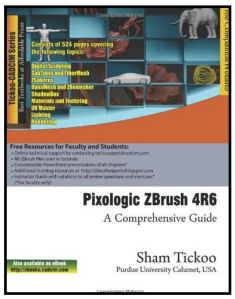
This acquisition gives PFT ownership of DAX's patented technology (US Patent No: 7,660,416/ 8,218,764) and products including the Primetime Emmy award winning Digital Dailies solution which is the de-facto industry standard in television production. This acquisition also sets the course for PFT's strategic expansion in North America.

Canadian VFX firm Modus goes out of business

Modus FX, a Canadian visual effects vendor that counts "Now You See Me" and "This is the End" among its credits, is shutting down after six years.

Roughly 100 people have been let go, co-founder and visual effects supervisor Yanick Wilisky told this. The company was undone after a number of projects it was slated to work on were delayed. "We were swinging from rope to rope and we went to grab the other rope, but it was too far away," Wilisky said.. The company, which is based just outside of Montreal, was also suffering from cash flow problems. After a payment for a past job failed to materialize last Friday, Wilisky said he and his partners decided they could no longer afford to stay in business.

Pixologic ZBrush 4R6: A Comprehensive Guide - Pixologic ZBrush 4R6: A Comprehensive Guide textbook covers all features of ZBrush 4R6 in a simple, lucid, and comprehensive manner. It gives in-depth details of the concepts and explains the usage and functions of the most commonly used tools of ZBrush. In this addition, a new feature, ZRemesher, is added which is an automatic retopology tool to recreate a new polygonal mesh with a controlled flow of polygonal structure for a model. This textbook caters to the needs of both the novice and advanced users of ZBrush 4R6 and is ideally suited for learning at your convenience and at your pace.



How to Cheat in 3ds Max 2014: Get Spectacular Results Fast - Why take months to learn every button in 3ds Max when you can create great visuals with just a few key tools? Utilize the tool of choice, 3ds Max 2014, for generating realistic environments, seamless CG effects, and jaw dropping games in a matter of hours. You can use the memory-hogging methods that choke your display and take forever to render, or you can get it done quickly and efficiently. You will find coverage on brand new features and tools such as Scene Management, iRay, Nitrous, Mass FX, and particles and physics.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Working hard and more than the others is an advice which never gets old, so stick with this tip.

Interview with Marek Denko

Hello Marek, could you tell us a bit about yourself and your background in CG and are you self-taught or have taken some training?

Hello CGArena, My name is Marek Denko and I was born in 1980 in former Czechoslovakia in the small town in the central part of Slovak republic. My first cg attempts were on the early Atari computer and later moved to the first generation of PCs. I crossed my path with 3dstudio and 3dsmax later on and that was the time when got into 3d. I've studied a lot (got a university degree in civil engineering) but officially never art or cg/3d related stuffs.

Please tell us about your current jobs.

I'm co-running a studio in Prague called Noemotion (www.noemotion.net). Currently we are working on several projects. (Stereo rides, feature film and few commercials)

Please tell us which services are provided in the NOEMOTION studio and how many artists works under you?

Basically everything our clients need. There are 2-20 people… all adaptive and flexible.

You are working in industry from last 10 years, so how's the journey from archviz, to character modeling, freelancing and so on…

I've had my ups and downs, my fair share of bumpy roads and heavy winds. That's what made me what I am today. (:D)

Do you do any preliminary drawings before you starting in 3d, or do you just start and see what happens and how long on average would you spend on an image?

Lately, as my kids are drawing more and more I started to draw too, and designing my stuffs a bit. Not much, but definitely more than before. Usually I have all in my head. What I do all the time are quick overpaints of the early renders which is always helpful.

From a creative standpoint, is it easier to work on personal work or client work?

The client usually knows what he wants. I'm fighting more with my personal project creative side. I was the main critique of my work. I make decisions and sometimes it's a challenge to stay honest to myself.


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What are your major influences? Any artists in particular who influenced you a lot, or other media such as music and movies?

That changed a lot during the past few years. Lately I'm creating mostly for my kids. Before it was more of a sad/depressing themes. I like good movies, good art, music... hard to pick what influence me the most.

Please tell us in detail about your image Rooftops, Rockets and Adventure beyond the project. From where you got the idea and tell us about the difficulties faced.

That project was my friend for almost 2 years. There were of course long breaks due to work and other stuffs. But it was always in my mind. It was quite hard to let it go public without chance to touch it again. The idea of kids building the rocket just came up. I'm a space exploration fan, so it might have been influenced by that.

Here is a video I made with some additional technical information:

https://www.youtube.com/watch?v=8TJooGOwPRg

Which software's you have in your arsenal and why you prefer to use them?

I've grown up on 3dsmax, Vray and Photoshop combo. There is no why. It's just I've tried them first and I'm a conservative person, probably.

What would you suggest to someone wanting to become part of this industry? What are the essential skills to focus on when one starts?

It's really hard for me to say. I had a quite different starting point, then people have today.
But truly, "working hard and more than the others" is an advice which never gets old so, stick with this tip.

Rooftops, Rockets and Adventures Beyond
by ©Marek Denko 2013 www.marekdenko.net

Do you feel your life is more or less stressful than people in non-artistic careers?

Speaking for me personally (not to be generalized among all artists), I would say less stressful, but we all have our problems to deal with.

Where do you see yourself in the future, and how do you feel that you will be growing as an artist?

Professionally having a studio, sustainable clients, cool projects and surrounded by people I can rely on. Most of it is already achieved. As an artist hard to predict.

Web: www.marekdenko.net

Email: marek.denko@gmail.com


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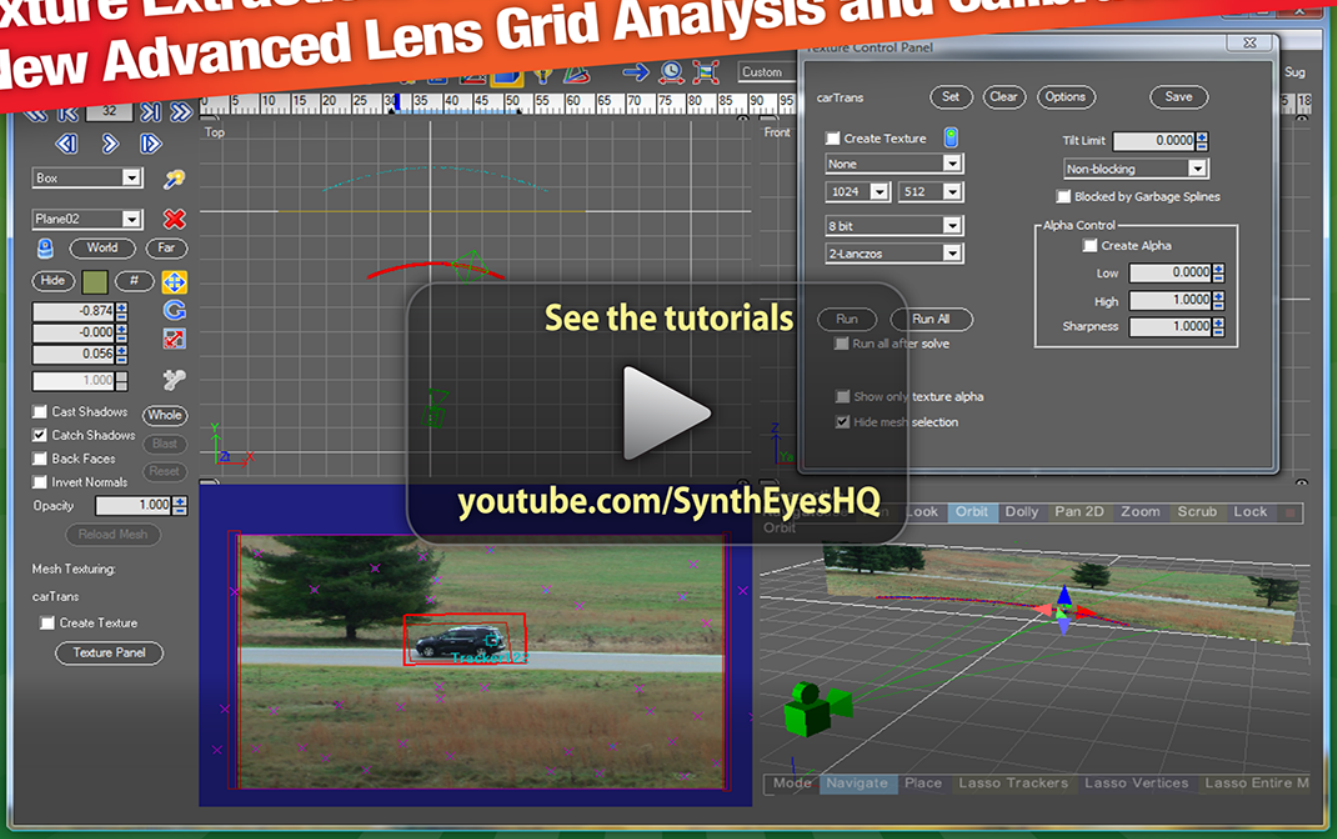

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Making of Sonya Blade

This image was painted as a homage to the 'Mortal Kombat' series, of which I'm a huge fan of. Sonya Blade is one of the most iconic characters in the 'Mortal Kombat' franchise being the first female character introduced in the original game, so I really wanted to do this character justice. In this tutorial, I will explain how I painted the character of Sonya Blade based on the newest 'Mortal Kombat' game, starting from the sketch all the way to final painting.

The first step of anything I illustrate is to study the subject matter carefully. Gather all the information you possibly can on the subject you're trying to depict. In this case, I gathered reference photos of various media released of 'Sonya Blade' in the newest 'Mortal Kombat' game, as I wanted the image to stay true to the most recent look of this character especially in regards to her clothing. The images below show the references I used for the painting, with the rightmost image being the reference for the pose/lightning.

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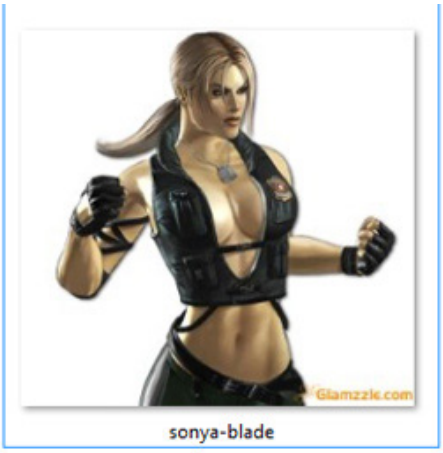
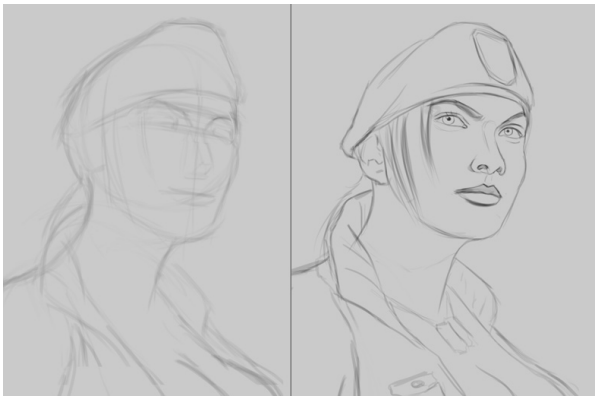


sonya-blade

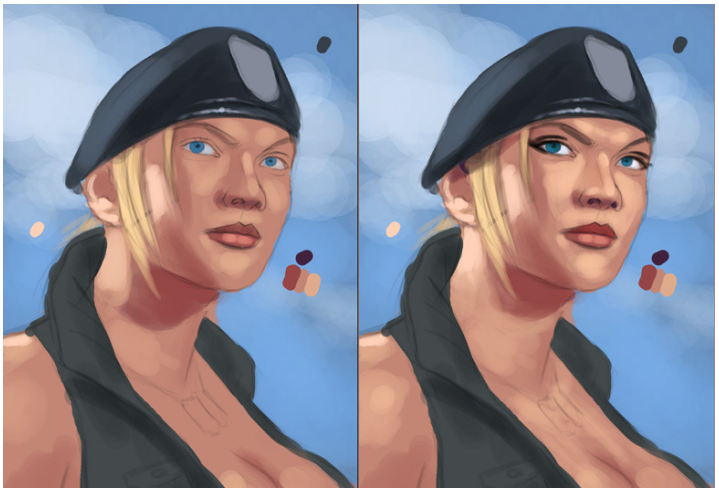
stock-photo-15245565-portrait-of-a-female-military-soldier

Once I'm comfortable with the subject matter, I begin to sketch in the image. I create a new document and fill it with a light gray color. I'm working the standard dimensions of 8.5 by 11 inches at 300 DPI. I create a new layer for the sketch. I'm sticking close to the angle of the reference photo for the face, and use the 'Ball and Plane' method to quickly sketch in the face (a technique introduced by Andrew Loomis). I use a fairly small hard edged brush for this step, with the opacity set very low to 15% and the color set to pure black.. Once I have the features at the correct angle,



I create another layer and clean everything up, making sure to incorporate the costume as well. Once I have the final line art, I delete the prelimary work as I it's no longer needed.

With the sketch complete, I decide on the colors. I want the image to have a very natural feel placed outdoors, so I pick a light blue color for the background, hinting at some clouds as well using a lighter and more desaturated tone of the base color. I try to be very neat here, so I create several layers and name them accordingly; In this case, I name the layers skin, hair, costume. Once I have my base colors down, I begin to add in some shadows using a darker and slightly more satured than the base skin tone.



Once I placed my shadows, I begin to paint in the highlights as well. The image has two light sources; Once very strong one coming from the left side of the image which really helps bring form to the face, and a more natural once in front of her to bring out the structure of the face. For the highlights, I pick a slightly lighter and desaturated version of the base skin tone, making sure to bring out the highlights on the nose, chin, cheaks, and on top of the eyebrows to give

it a 3Dimensional appearance. Next I pick out a very bright tone on the left side of the image which really helps make the face pop out, so I'm not to shy to add a ton of light here.

I bring some shading to the costume as well, keeping in mind the light source and also give her a dogtag. I want the background to be a more cyan blue, so I use Photoshop's 'Color Balance' tool to quickly alter the colors in the background. At this point all my shading is done with a hard edged brush, focusing on giving the image depth and a solid look. Blending the tones is an easy process, although it can be a bit time consuming. I try to give the image as much depth as possible using only hard edged brushes before I go about softening up the image.

Once I'm satisifed with the values, I decide to blend in the skin tones using a soft edged brush, with opacity set to roughly 33%. I blend in all the hard edged to make the skin appear more natural and smooth. I also alter the skin tone colors a bit using Photoshop's 'Color Balance' tool to add in some more cyan tones, which helpos unify the image.

Once I'm happy with the blending, I focus more on details using a very small brush, giving some highlights to the lips, nose, and eyes. I spend quite a bit of time adding some skin texture as well to give it a more realistic look. For this effect, I simply use a soft edged brush and paint in some very quick dots, and blend it using the smudge tool as well as the Blur tool for a more natural look. The close up below helps to show this technique:

And that's it! Once I'm happy with the detailing, I flatten the image. I hope you enjoyed this tutorial and learned something in the process!

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Making of Cafe Racer

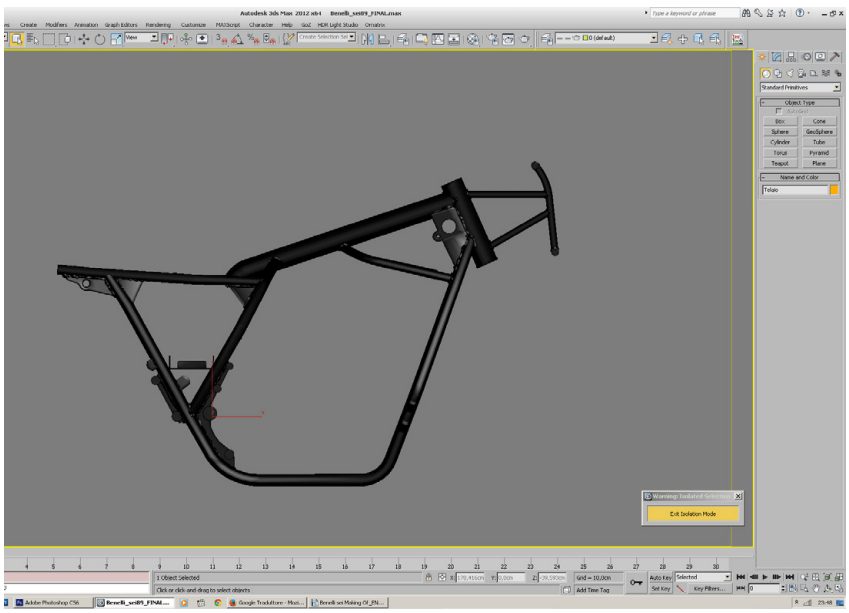
Through this “Making Of” I want to share some more details about my latest creation.

This is Benelli 900cc six-cylinder 4-stroke 3 carburetors. This is one of the bike symbol of Made in Italy industry than once, as well as the first six-cylinder motorcycle in history, a significant challenge for the engineers of the past. Although the market has not rewarded, however, is and remains a piece of motorcycling history

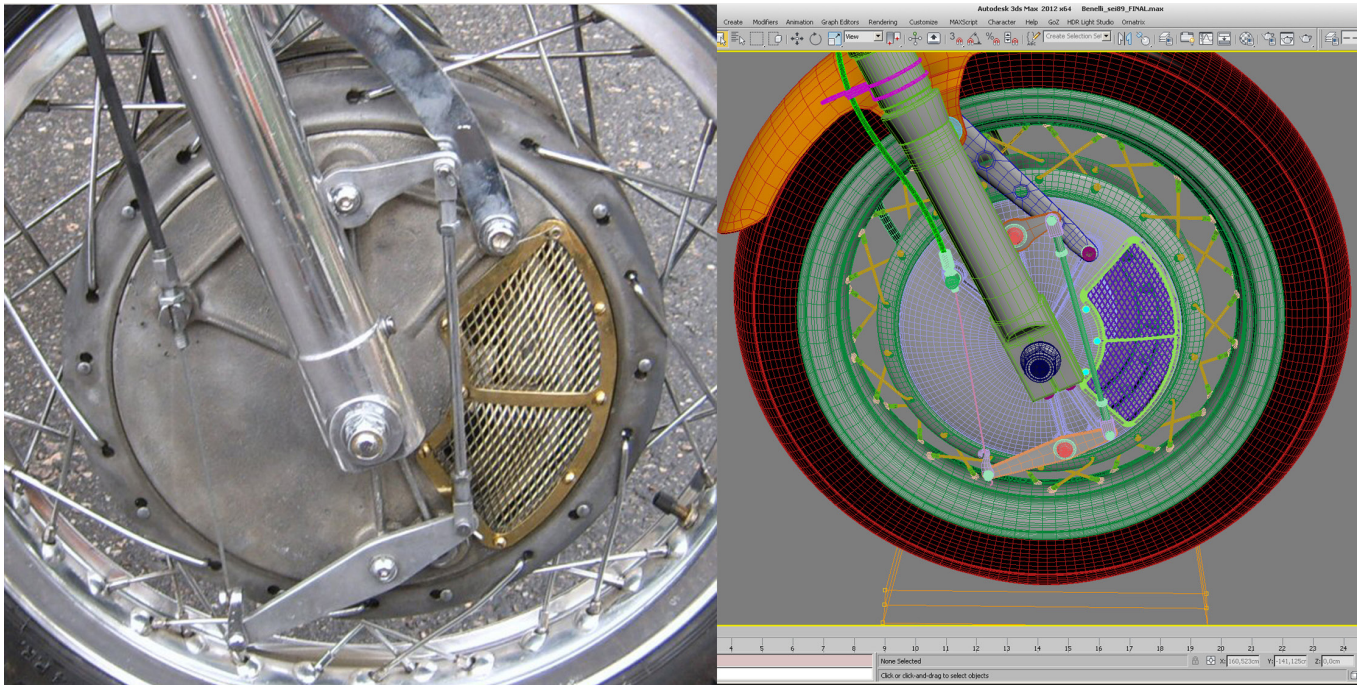
I decided to produce this digital model of motorcycle that I’ve always liked

The original model was equipped with 3 carbs, 2 per cylinder, but I opted to mount carburetors 6 (of 22 DELL?ORTO)

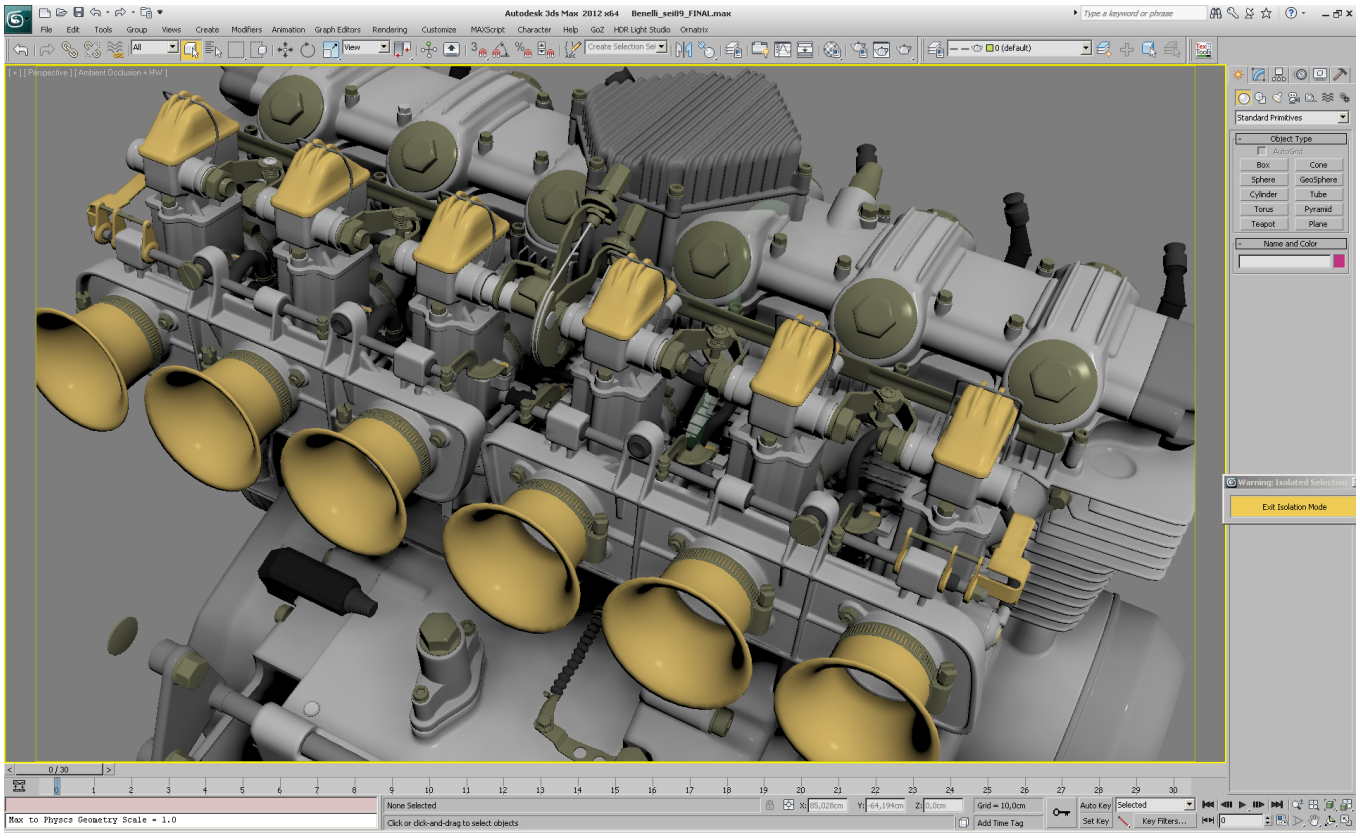
after looking at pictures and material on the net , I started to place the tubes of the frame and il have used a script for simulate the tube welded.



1. or the choice of the brakes I preferred to keep the version drum, in particular the type of brake “fontana” present in those years

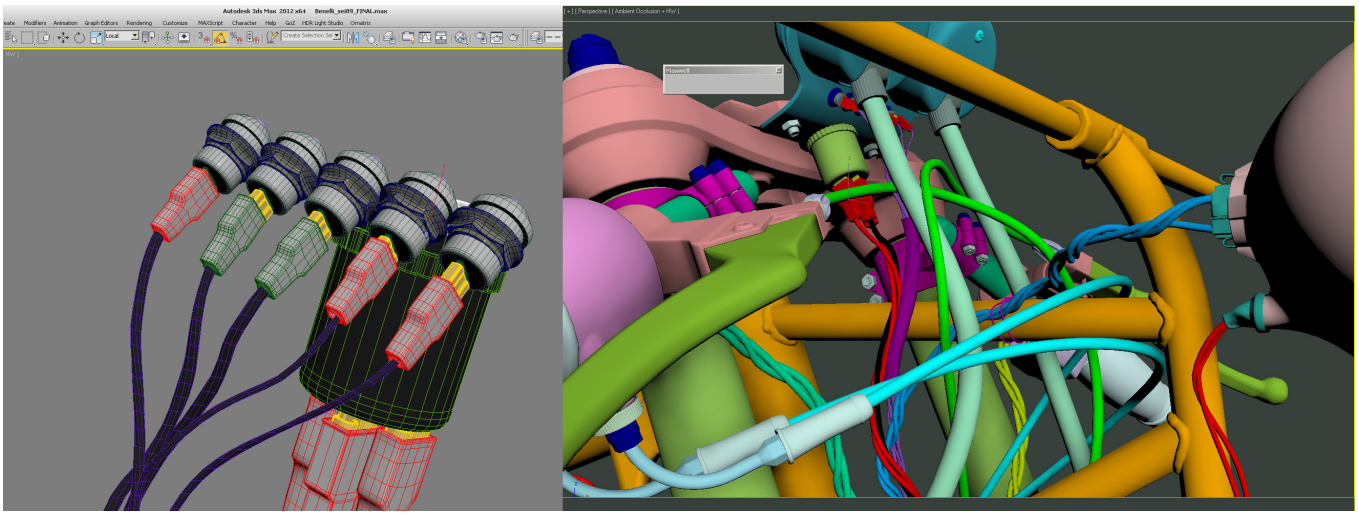


Modeling of the engine took a long time, I modeled piece by piece, blending volumes and connecting them with a fillet .... this is typical of NURBS modeling but I preferred to entrust to the polygons to have a better control.

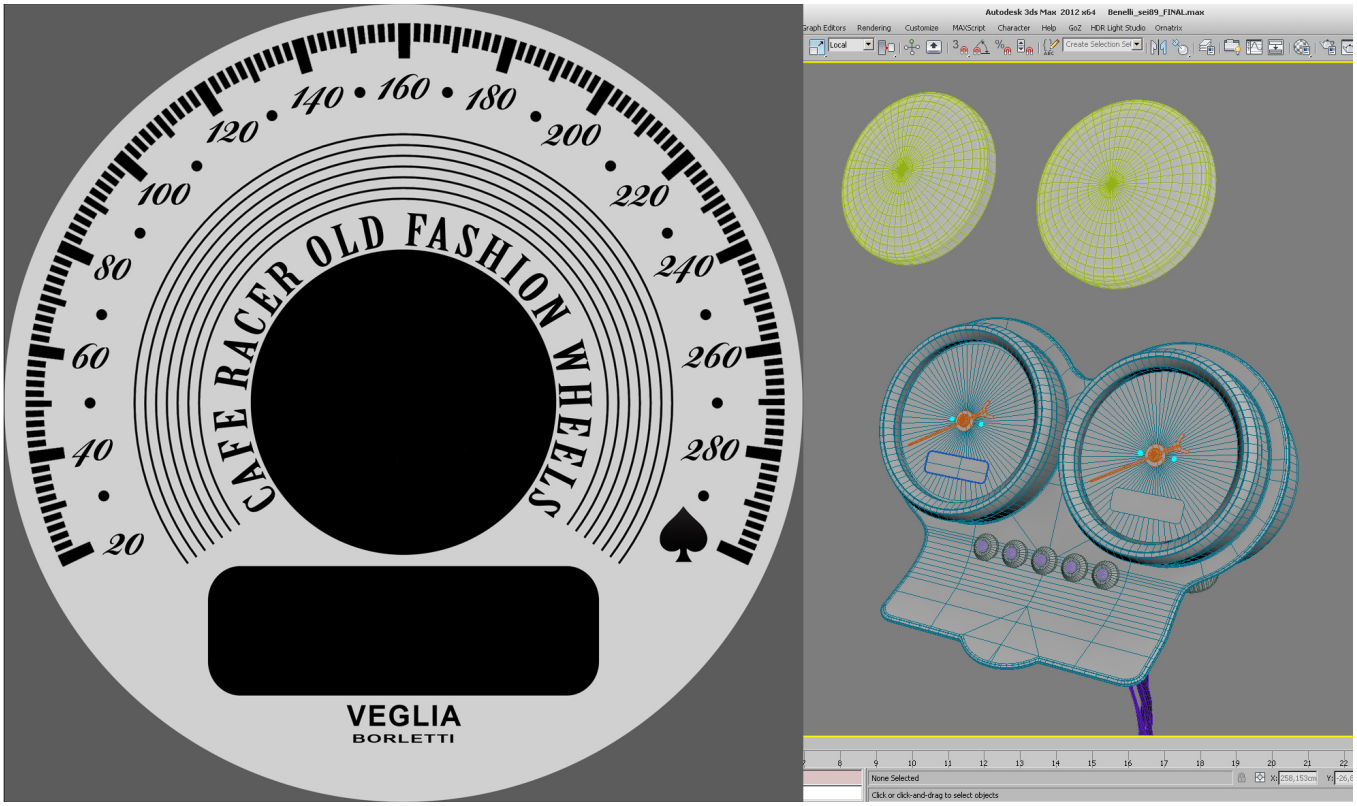


Model the engine required a lot of patience, and respect of the measures, otherwise the mis-match of parts. the end, however, the result has paid the wait.

Luckily I have knowledge of engines and this gave me the opportunity to be able to understand all the parts that I was modeling and therefore know where they placed. Not knowing which shot then I decided to use I modeled all the details even the little ones so you can render at any angle.



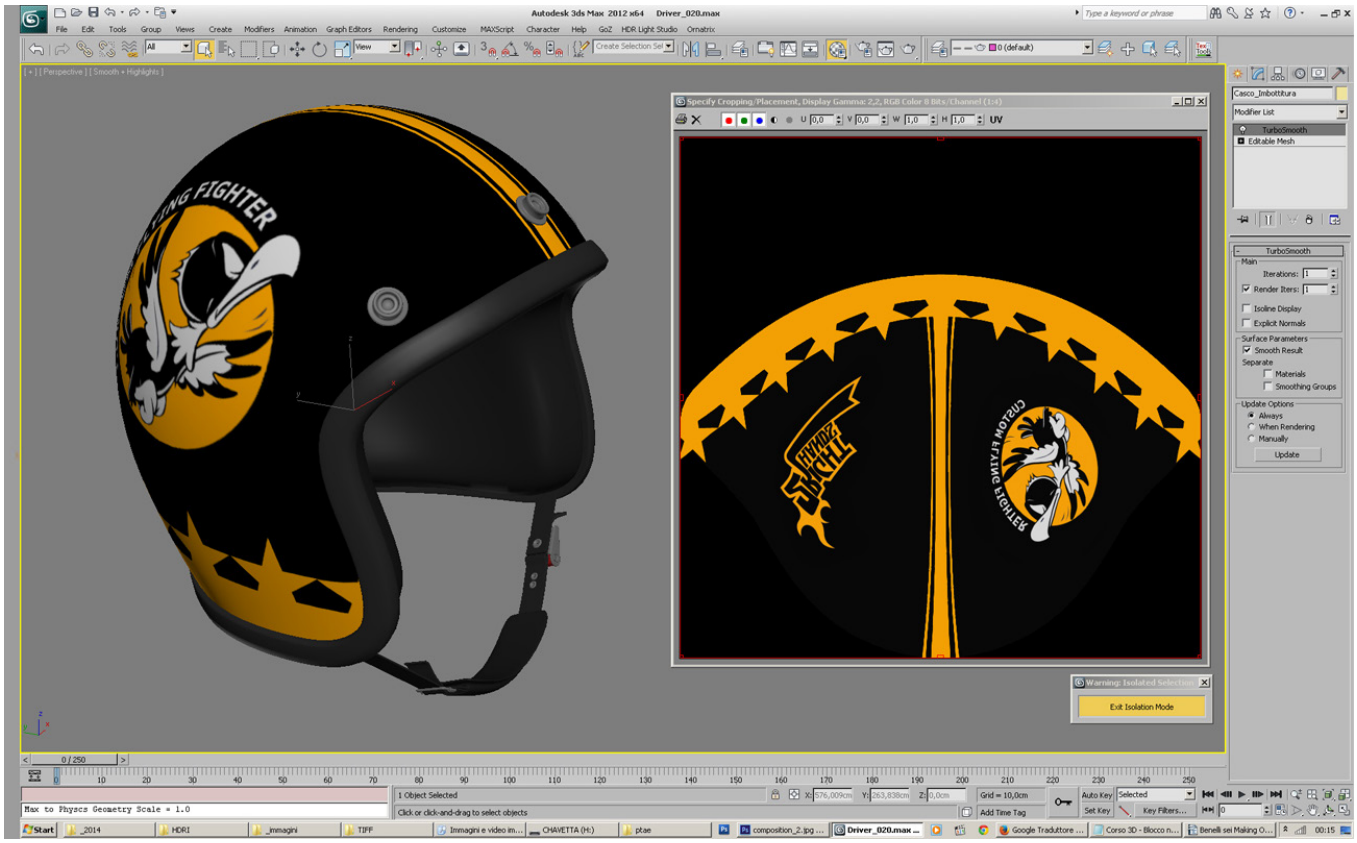
For instrumentation, I am made to go inspire business models in the network. I spent several hours to choose the basis on which to start ... at the end I created a version of my original on the inspiration of what I found on the net.



For the livery I took inspiration directly to the old camaro. I've always liked the combination of the

old yellow, black car, giving it a very vintage touch

For the design of the helmet I got help from my fellow enthusiast and creator of custom paint on any type of bike. You can also find other creations on the Facebook page “two right hands” - https://www.facebook.com/tworight.hands?fref=ts



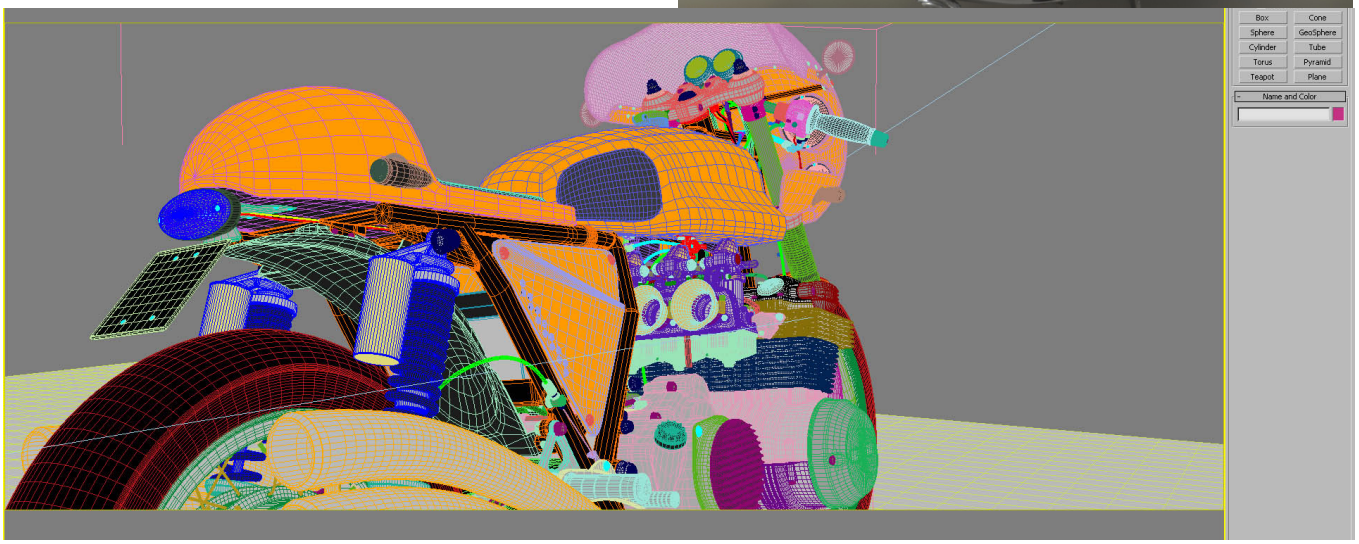
I created different location for the 360-degree HDRI panoramas of different places like the mountains, the sea, the park in autumn, and is used both as a backplate as lighting using the technique of IBL below the park location.

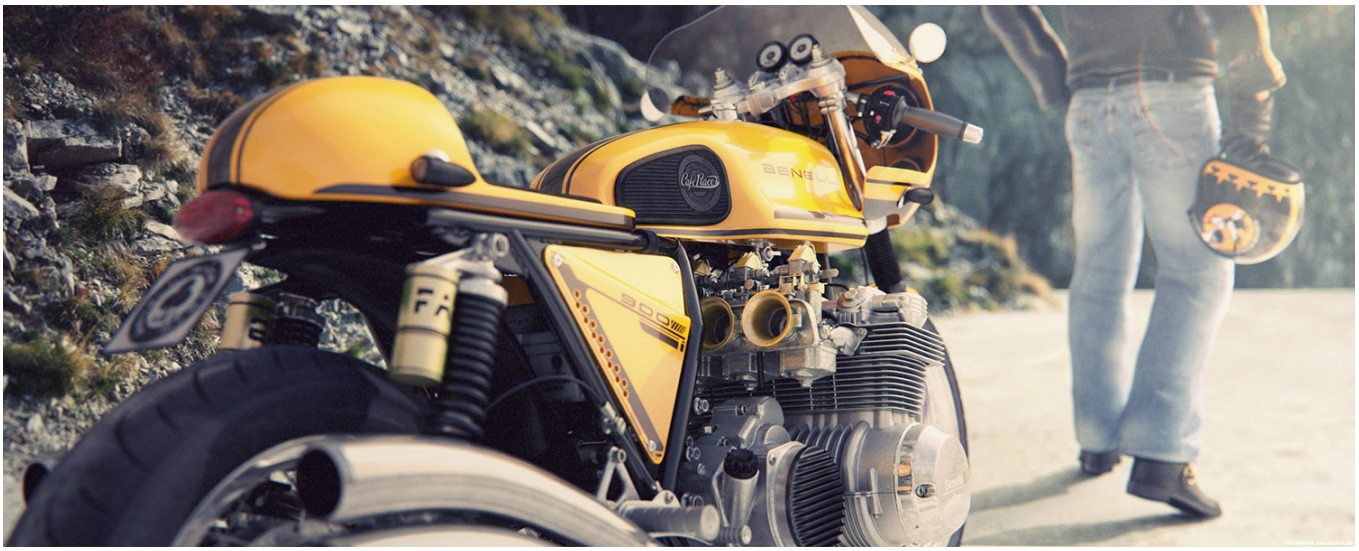
I used vray for rendering, I find this very handy engine and returns a photo realistic rendering

really, I just lit up the scene with a dome and a slight Keylight.

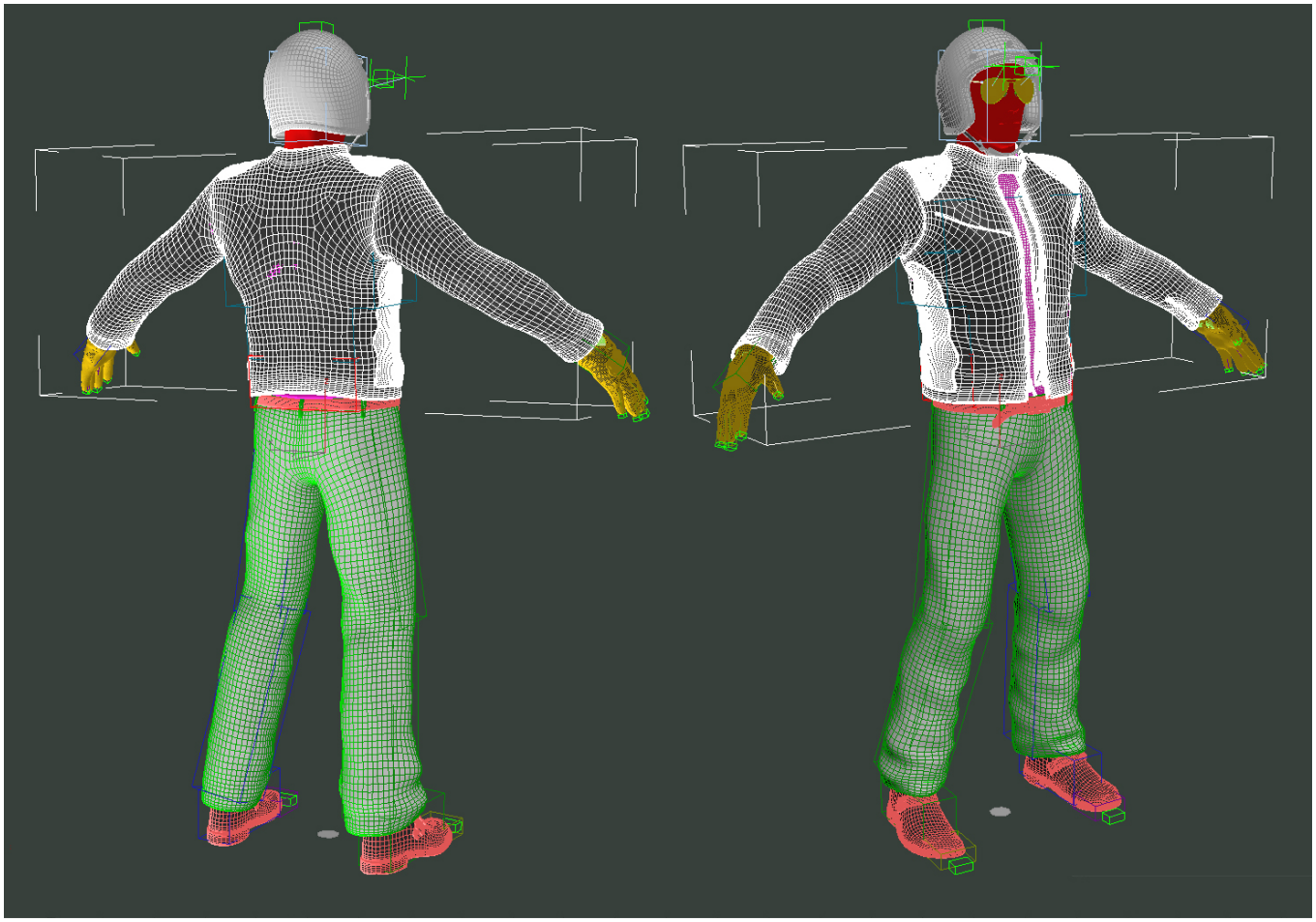
After which I saved the render files in Open-EXR and composited it all in after effect, where I applied several filters of the mix better yield, and adjust color correction, making it a little more old style.

This is the wire and the result of final render on the first location with character:



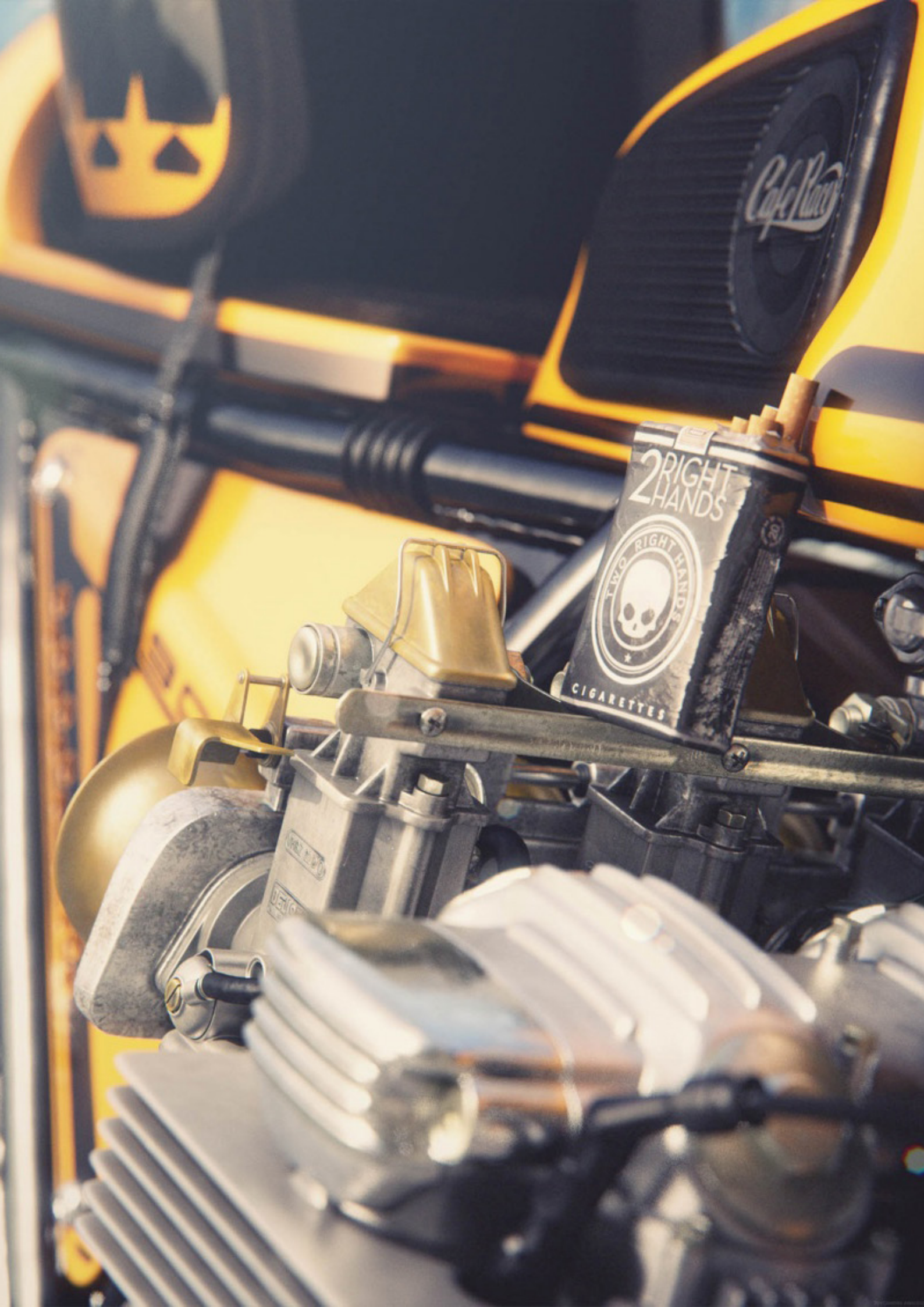


For the pilot I started from a base mesh of man and I have adapted to my needs, I created a rig to be able to bend and fit into the scene, after that I imported to ZBrush where I sculpted the folds of clothing and maps created as used in vray displacement.



Hope you enjoyed reading this small making off, if you have any comments or critiques then please let us know.

Web: www.farins.it
Email - andrea.lazzarotti@gmail.com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SCULPTING CLOTH IN ZBRUSH - In this course, instructor Jim Busike will be covering his process for sculpting wrinkles and cloth within ZBrush. Here he will be discussing various wrinkle types, the creation of alphas, and his process for using those alphas to help sculpt the different types of wrinkles found on his characters. You will learn lots of new things in this training video.

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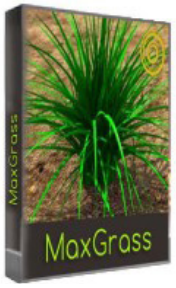

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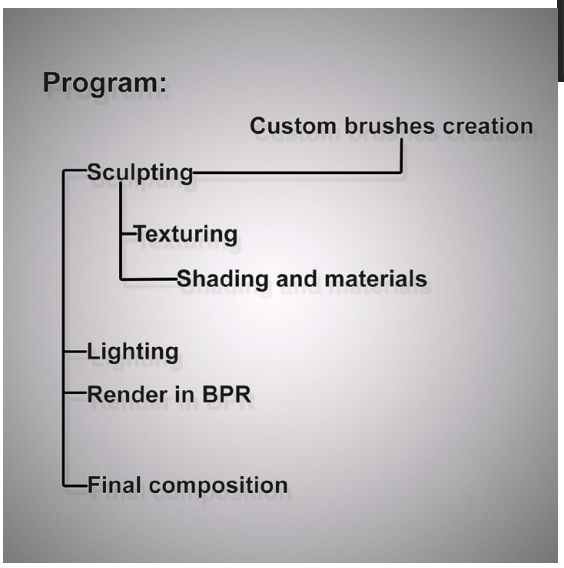
Making of Tribal Woman

Hi folks!! I´ve been invited to write this “making of” about my latest work “Tribal Woman”, and I am so glad to do it... Let´s go.

I´m a 3d artist with a solid experience on architectural rendering and environments, characters and assets creation for real time applications. But I felt the need to create human models based on pictures, giving attention to details as wrinkles and pores...

During the last couple of months, I’ve been studying ZBrush. I must say that it’s a bumpy road, my first attempt was a semi failure, but the key is to persist until success and learn from mistakes. This image was my first model to create realistic wrinkles and pores sculpting, and it became my geometry basis for my second model.

I must say I wasn’t satisfied with the result, so I did a “post-mortem” analysis of what skill and tasks should I improve.

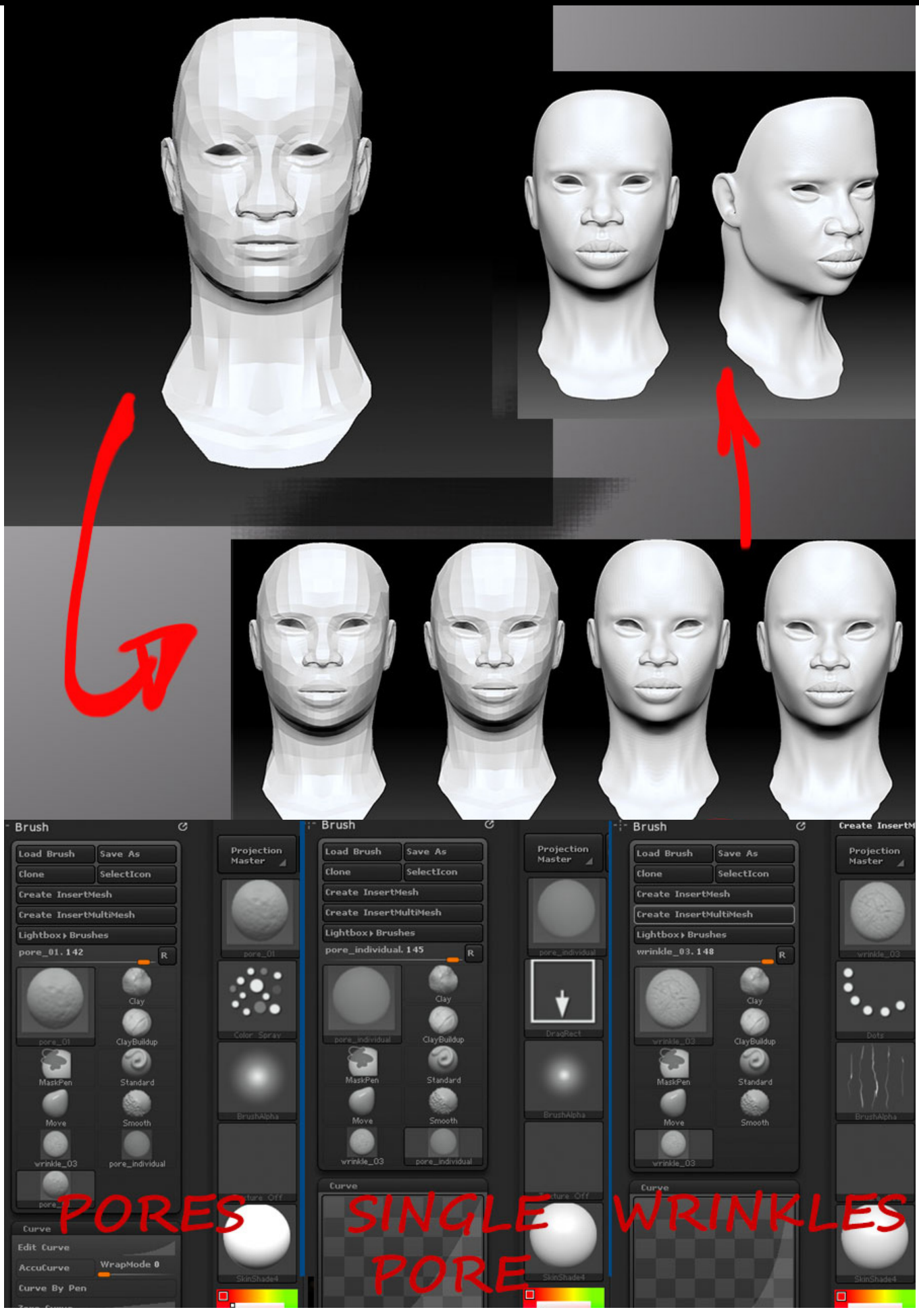


Once I had a clear idea about what to improve, I´ve started to gather a lot of pictures about African tribal people, I have to say that they’ve always fascinated me.

I decided to take as reference the red framed picture and I started to sculpt using the first geometry (on my first and discarded attempt, useful nonetheless). Shaping the geometry to fit my new project wa s an easy task because that (not having to start from scratch)..

The first tasks was to sculpt the general shapes of the woman factions, I also created the custom pores and wrinkles brushes for later.

At this stage I started to add the detail to the highest subdivision level geometry. I used 7 kinds of pores and wrinkles custom brushes.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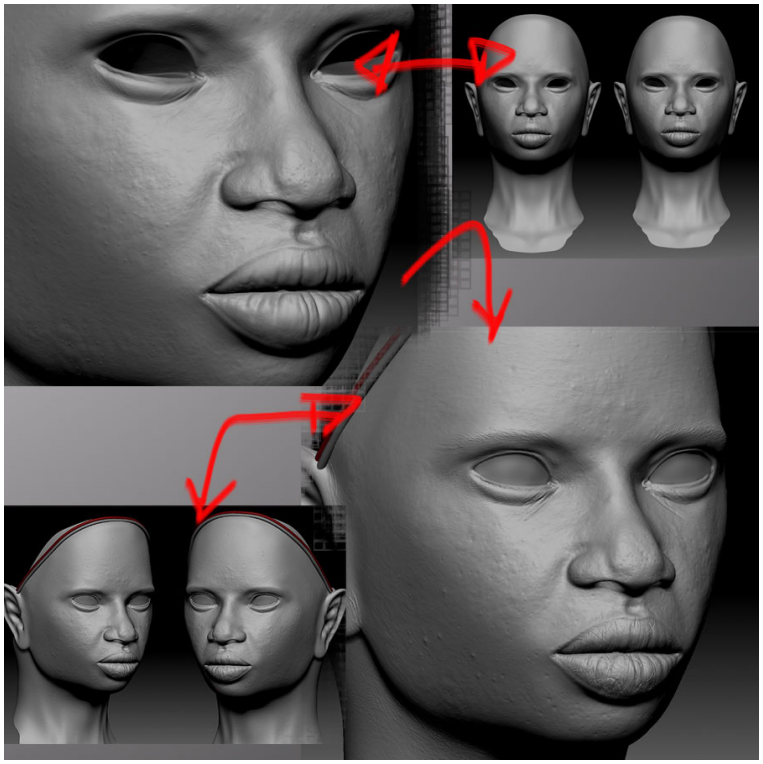
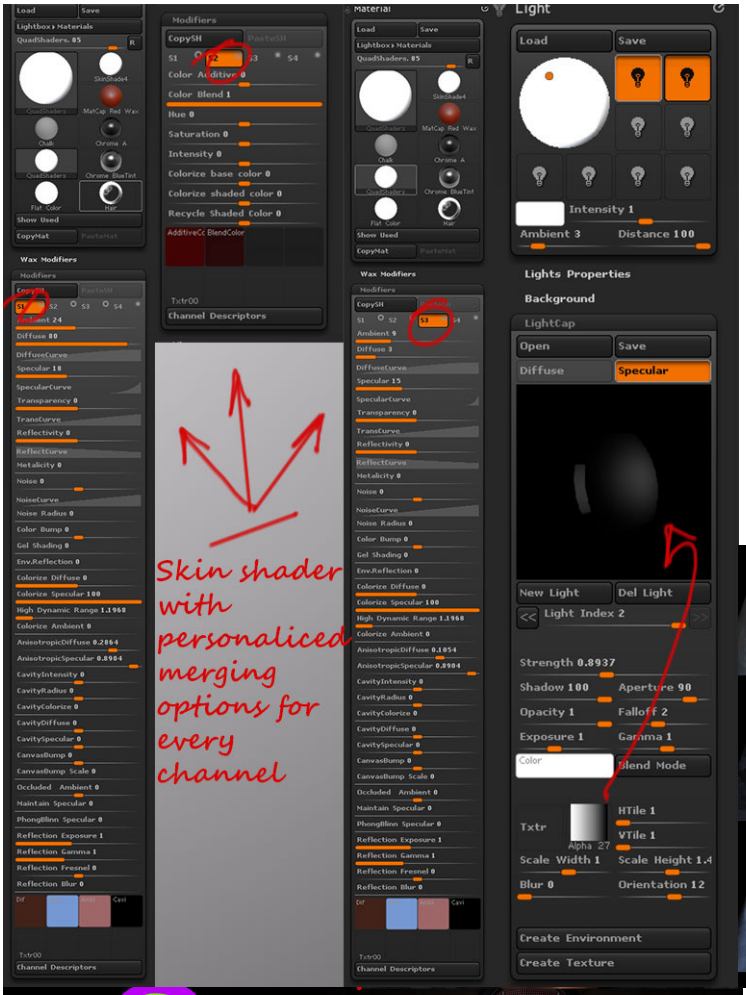


After I modelled enough details, I´ve modelled the blanket, some necklaces, beads and the arm. Also, I made the firsts attempts to texturize the model...

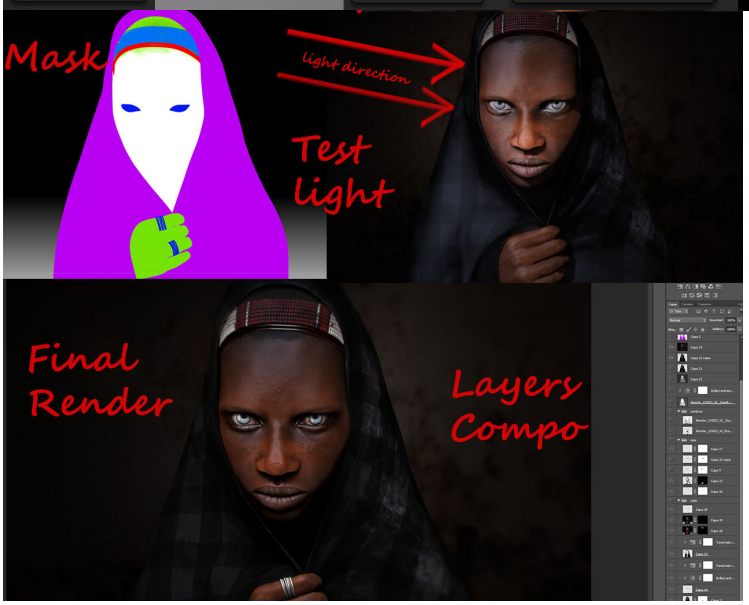
The following task, I modelled the definitive beaded headband, using a insertmesh brush. After the basis was modelled, I added details to give its imperfections and an aged look.

When I finished Texturing was the time to add hair (on the head and eyebrows) and the last geometry elements. So at this point I had completed all I needed to start with the shading and lighting. In order to do the shading, I used a quadshader for the skin, and basic shades for a blanket. This took a lot of hard trial-and-error work.

I did hundreds of illumination test, and lots of combinations for skin shading. The final result was obtained using two lights for general illumination and a 2 Lightcap light for speculators.



As results of the test, I obtained different kinds of skin shadings, and ideas of how to combine it after masking the elements of the final image. I used BPR rendering system to render the final composition. IMHO BPR is a quick render engine that fulfills the expected quality of the product.



The final stage was applying some color corrections, depth of field with defocus and iris blur filter to the composition.

Here is the result of the study.

I hope you enjoyed my work and this making of guide may help you.

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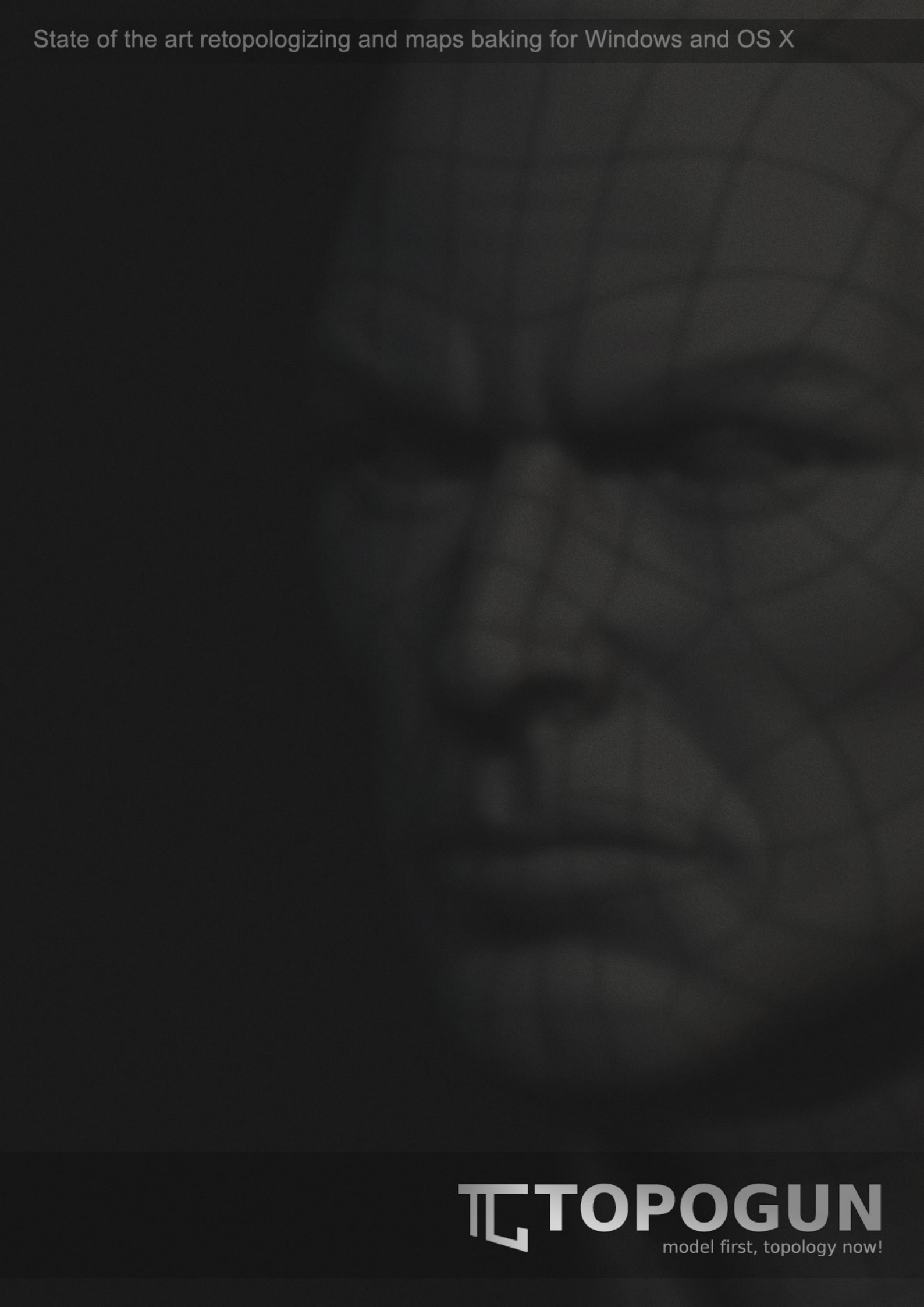
State of the art retopologizing and maps baking for Windows and OS X



TOPOGUN

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by Silviu Dinu, Romania

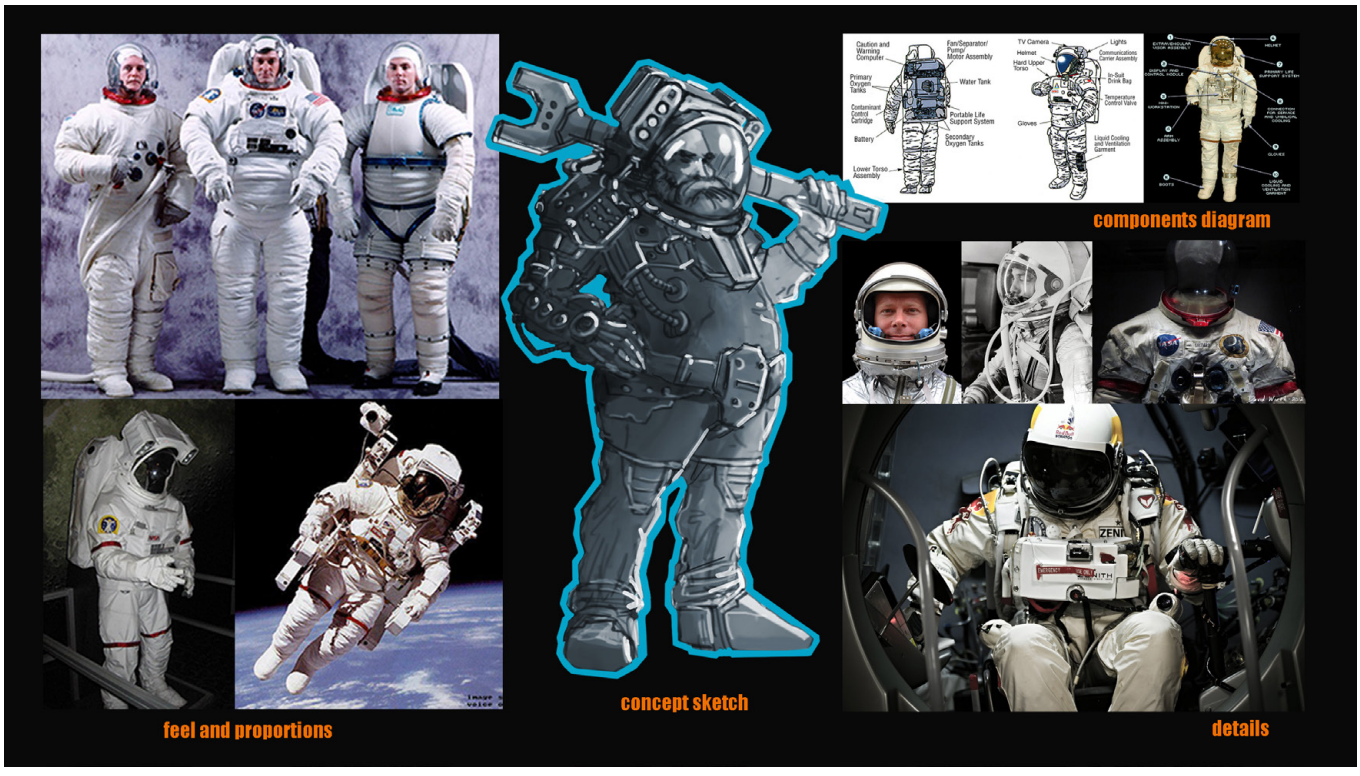
Making of Post-Apocalyptic Engineer

INTRODUCTION

Hello everybody, my name is Silviu Dinu and I am going to guide you to the process of creating the “Post-Apocalyptic Engineer”, trying to explain the techniques used to sculpt this character in Zbrush, to prepare it for render in Vray for 3dsMax and post-process in Photoshop.

This is a personal project I did in my free time. I was aiming to produce a good quality presentation in the shortest amount of time while further expanding my knowledge of the mentioned programs. Based on that plan I came to the conclusion that I should go with a simple composition, with a human character in a somehow static pose as the main focus. I also liked to try something placed in the post-apocalyptic universe with a slight twist: how would one adapt a spacesuit to serve his needs of survival in the harsh outside environment.

It’s always a good idea to do a simple sketch before you start sculpting, especially if you create something with multiple elements, to help you define the overall feel of the character design, pose and functionality.



Another important part that you should take into consideration before going into ZBrush is searching for reference images of things you might find in real life that directly relates to what you want to create. Also, it's a good idea to search for another concept artist works that could further enhance your idea or spring into some new ones. It's always nice to have these references fresh in your mind and a good understanding of their functionality before you start working.

While doing this I spent most of my time in ZBrush so I will try to focus my explanation on this program, but also try and be as explicit as possible while talking about 3ds Max and Photoshop.

GETTING STARTED IN ZBRUSH

There is no right or wrong way to start this character in ZBrush. You can create a ZSphere skeleton and make an adaptive skin from it, create the base mesh in another program and import it into or simply start from a simple sphere and sculpt your way out of it using DynaMesh.

When I work with a humanoid character I usually like to start from a ZBrush basemesh. For me that is the fastest method that produces the best results. I used the MaleAvarage.ztl which you can load from the Tool menu or simply open it from LightBox/Tool section.

SPLITTING THE MESH INTO DIFFERENT SUBTOOLS

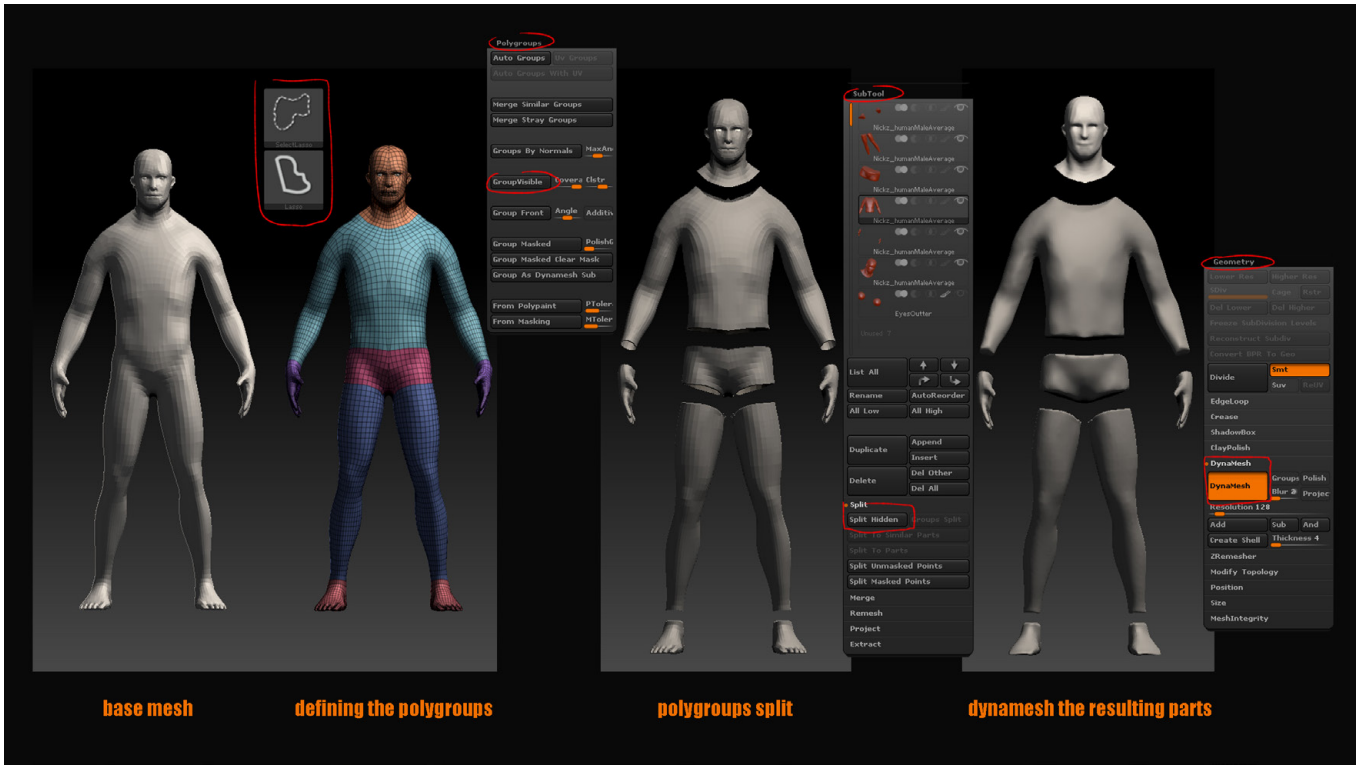
Looking at the initial sketch, I decided that I should split my mesh into different parts so it's easier to model and detail them further on. To achieve this I used the SelectLasso brush to hide the parts that I needed. You can do that by pressing Shift+Ctrl and dragging a lasso around the desired area. You can invert the selection by pressing Shift+Ctrl and dragging a box outside of the mesh. To hide polygons from the selection you can hold the ALT key while dragging. To unhide everything simply Shift+Ctrl click outside the mesh.

When you are happy with your selection you can go to Tools/Polygroups and press GroupVisible.

To check your Polygroups you can press Shift+F or click the PolyF button attached to the right side of the canvas.

After I finished Polygrouping the whole mesh I went ahead and split them into different Subtools. To do that, you can Shift+Ctrl click the desired polygroup and from the Tool/SubTool/Split menu click the Split Hidden button.

The next step for me was to convert each Subtool into Dynamesh. Dynamesh is a great feature for concept-sculpting as it reconfigures the polygons structure of the mesh depending on your chosen resolution as you reDynamesh the Subtool. To access it you can go to Tools/Geometry/DynaMesh and click the DynaMesh button. Start at a lower resolution and increase it as you see fit as you go on adding more details.



SCULPTING WITH DYNAMESH

To get the major shapes blocked in I mainly used a combination of ClayBuildup and Move Brush and smoothed the results with the Smooth brush.

For the areas with harder edges like the details on the gloves, upper legs, chest area and shoulder pads you can make use of masking and GroupLoops techniques

You can mask the desired area while holding Ctrl, invert the selection by Ctrl clicking outside of the mesh area and rise the unmasked part with the help of Move brush.

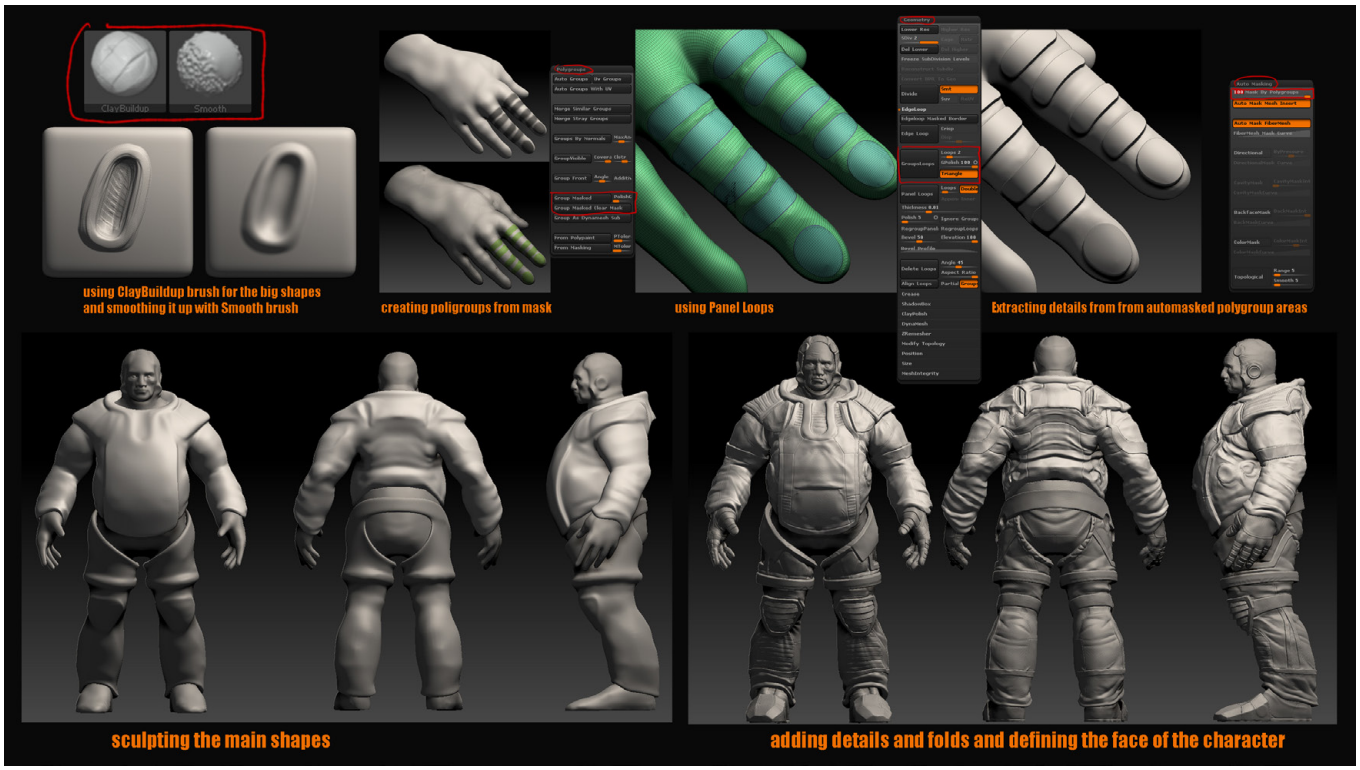
For a sharper result, I am going to use GroupsLoops. To make use of the Groups Loop feature you need to mask an area, go to Tools/Polygroups and click Group Masked or Group Masked Clear Mask. This is going to create a Polygroup over the masked area. Hide the rest of the mesh and leave the Polygroup visible and from Tool/Geometry/Edge Loop set the Loops slider to 2 and GPolish to 100 from the GroupsLoops section and click GroupsLoops. This will create a smooth edge with 1 ring of looped polygons around the old Polygroup.

You can now select the center Polygroup (without selecting the other loop) and move it outwards using the Move brush or the Transpose Move function which you can access from the top bar or by pressing the W key.

For the cutlines and folds on the cloth areas you can use the DamienStandard and Clay brush and smoothing the result as you see fit with the Smooth brush. For a deeper cutline effect you

can also use the Pinch brush.

I didn't go too crazy with detailing this character because I knew from the start that I will place the camera at a fair distance from the model and most of the fine details will simply not show on the final render.



HARD SURFACE

To create the metal attachments on the guy suit I did Insert some primitive shapes like spheres,cylinders or cubes from the SubTool menu, moved, rotate and scaled them into place using the Transpose tools, DynaMeshed them and cut the shape out from them using the Clip-Curve brush which you can access by holding Shift+Control and selecting it from the brush menu.

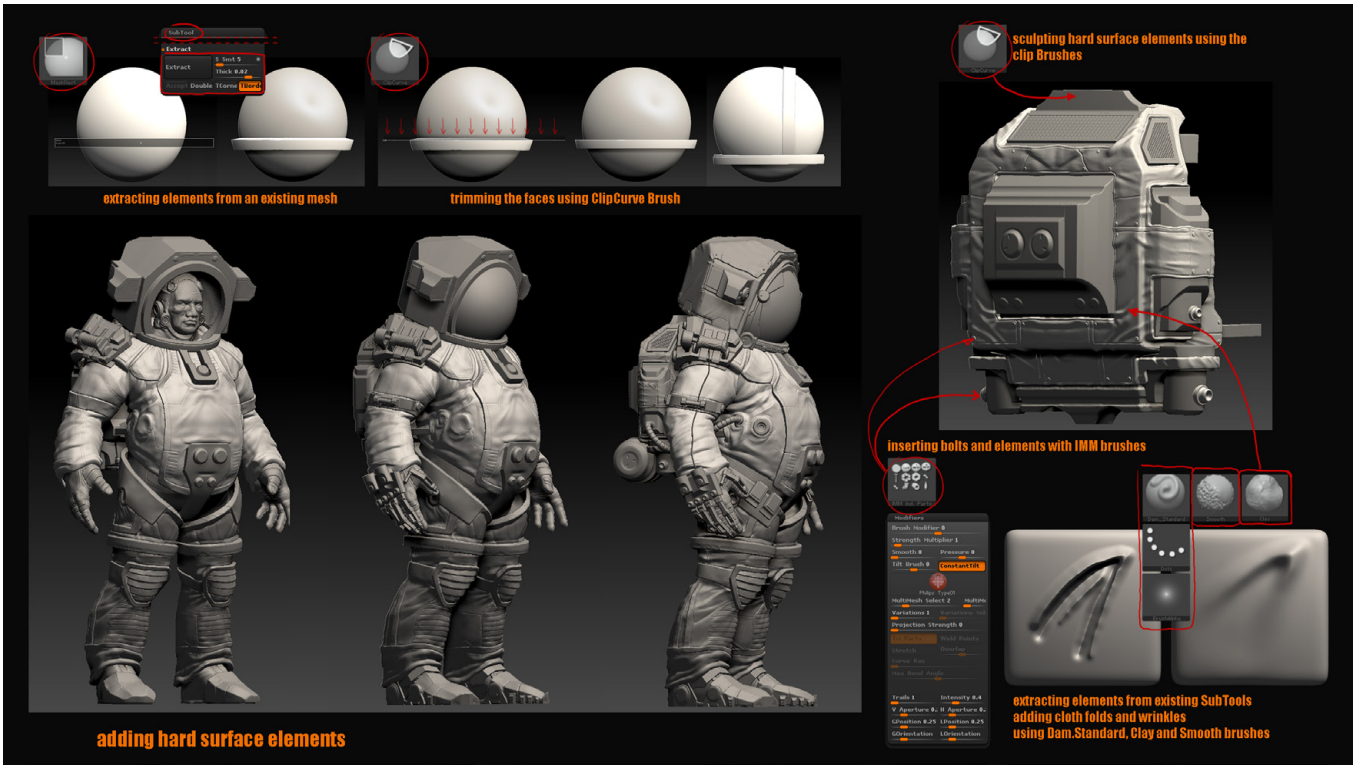
With the ClipCurve brush you define a plane by which you cut into the mesh. The mesh is not actually cut, the pixels below the shadowed side of the described are just pushed plane towards it. Click and hold to define the size and orientation of the plane, release the click to cut. To move the plane, while still holding the click down, press Space and move the plane to the desired location. To curve the plane tap Alt once while holding the click down or tap twice for creating angles.

You can Make use of the masking and hiding features while using the clip brush, making it easier to obtain the shape your after.

To add more hard surface details to the character like bolts, valves or other elements that you previously created, you can use the IMM and Insert brushes. I used the IMM Ind. Parts brush to

add the bolts to the backpack and helmet. You can simply click and hold the mouse button down as you rotate the element in the desired place. To select a different element for the insert brush (in this case different type of bolts) you can go to the Brush/Modifiers menu, click on the element and select a different one from the dropdown menu. You can also further rotate, scale and move the element right after you placed it because using this brush to automatically mask the rest of the SubTool and PolyGroup's the inserted element making it easier to modify or split it as you see fit.

To create the tiled details on the backpack and the hood of the character you can take any brush and alpha of that brush and tile it. For this particular example, I masked the area I didn't want to affect, changed the stroke type of the brush to DragRect and from the Brush/Alpha and Texture menu changed the Alpha Tile to the desired number.



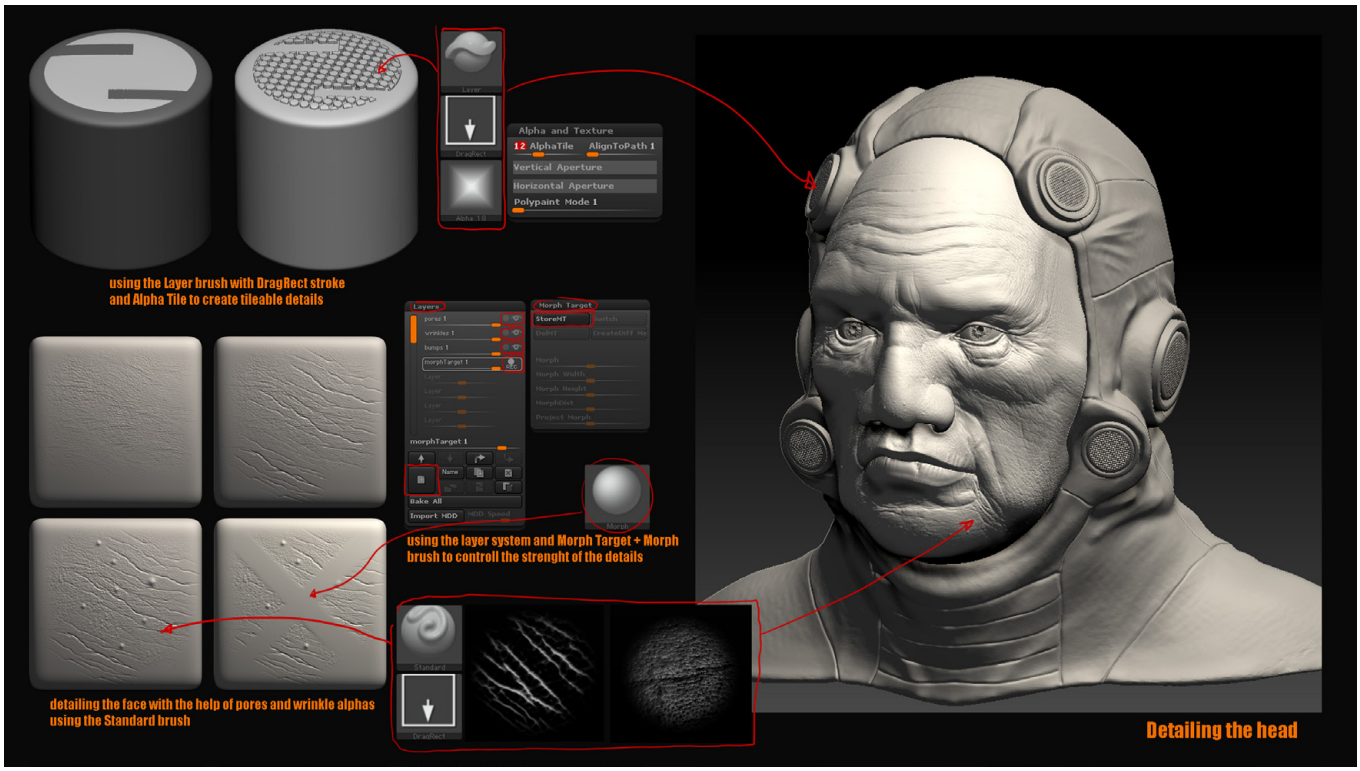
CREATING THE FACE DETAILS

While creating skin details you can use the Standard brush with the DragRect or Spray strokes, combining different alphas for the pores and wrinkles.

To better control this phase you can use the layer system implemented into ZBrush. You can find it in the Tool/Layers menu and combine it with the Morph Target feature (Tool/Morph Target StoreMT). Morph Target will store the geometry configuration of the SubTool on the active subdivision so you can recall it later.
In the Layers menu you can click the New button and sculpt away the details on the selected layer. For this particular case I created 3 layers for the pores, wrinkles and bumps. You can ad-

just the strength of the sculpted detail on the selected layer by adjusting the sliders. You can also drag it to a negative value and subtract the added details and vice versa.

With the Morph brush you can also tune down the sculpted details over the Morphed Target that you previously stored.



RADIAL SYMMETRY

One more thing I would like to mention before closing the sculpting section is the radial symmetry. It's a great way to sculpt details into circular elements. For the Radial Symmetry to properly work you need to have a symmetrical topology.

You can access the radial symmetry from the Transform menu. To activate it, click on the Activate Symmetry, the R and the desired axis button. With the RadialCount slider you control the number of times your brush gets duplicated on the described radial path.

I used this method for some of the caps and valves that you can find attached to the suit and the weapon handle. To create the spiraled details on the handle I used the DamianStandard brush with radial symmetry. For the clear spaces between the spirals I used ClayBuildup combined with Polish brush.

Also for the weapon cap I used radial symmetry while masking to extrude the parts that define the tubular wrench shape of the cap.

POSING THE CHARACTER

In this case there is not much posing to be done for the character. I only repositioned the arms and hands of the character and gave a slight twist to the legs.

I will mention the posing method for individual SubTools.

It is recommended to be on the lowest subdivision level when posing a character. In this case you can make use of the Topological Masking in ZBrush. To do that you need to hold down Ctrl while in Transpose Move mode. Click on the area you want to start masking from to place the first pivot and drag towards the zone you want to stop the masking process to and release to place the second pivot.

After you masked the area you can use the Transpose Move or Rotate using the inner white circles of the Transpose Action Line. You can also move the Action Line itself by clicking on the outer orange circles.

Note that each pivot has a different functionality for example the rotate middle circle rotates around the axes of the Action Line while rotating using the end circles will rotate the object around the unused opposite pivot. Holding Alt will affect only the mesh in the vicinity of the selected circle enabling you functions like twist in the case of rotate, bend for move and taper for scale. Holding Shift will lock the action on the Action Line axis.

UNWRAPPING AND POLYPAINTING

This character is not meant to be rigged so I am not particularly concerned about creating correct UV's for it. However, in order to import the model into 3dMax I need to remesh or decimate all the SubTools because 3dsMax can't handle a high polygon mesh like ZBrush does.

The mechanical parts I do not intend to paint inside ZBrush I am going to decimate them. You can access the Decimation Master plugin from the Zplugin/Decimation Master menu.

First, you need to process the SubTool by hitting the Pre-process Current button. After that's done, you can adjust the % of decimation slider as needed and clicking the Decimate Current button. The aim is to have the lowest possible polygon count while keeping all the details of the SubTool.

For the clothes and face I am going to use the Zremesher and project the details back to the remeshed SubTool. I am going to duplicate the SubTool so I won't loose all the sculpted details and from Tool/Geometry/ZRemesher I am going to click on the ZRemesher button. ZRemesher is going to automatically retopologize the mesh keeping in mind the shape of the mesh while creating the flow of the polygons.

After the retopology is done, you will need to project the details back into the mesh. You need to keep visible only the retopoligized mesh that you duplicated and the SubTool that you are going to project the details from. Go to Tools/SubTool/Project and click on Project All button. This is going to project the details from all the visible geometry to the selected mesh. After that you need to subdivide and repeat the process until you are happy with the resolution of the details projected. To unwrap the model inside Zbrush you will have to use the UV Master Zplugin. To control where the seams are placed, you will need to click the Enable Control Painting button. You can paint out the areas you need protected or where you want to attract the seam by clicking the Protect or Attract button. You can also paint the zones you need magnified or diminished on the UV map layout by clicking the Density and chose the multiply or divide density value.

To check the seams click the CheckSeams button and to check UV map layout by clicking the Flatten button.

I decided to paint the clothes and face of the model in Zbrush. To do that I made use of the auto-masking system which you can access from the Tool/Masking menu. For this particular example I used the Mask By Cavity feature. You can fiddle with the Intensity slider, Cavity Profile and GrowMask and ShrinkMask to get the desired effect. To see the effect of the Polypaint that you are going to apply on the SubTool you can uncheck the ViewMask button.

I painted the whole model using Standard Brush with a combination of Strokes like Color Spray or DragRect and a couple of custom and default Alphas. To be able to paint you need to switch the channel to Rgb. You can leave Zadd or Zsubb on with a low Zintensity to add some volume

to the details of your painting.

To export the maps for the painted SubTools you can use the Multi Map Exporter Zplugin and adjust the settings for each map from there. I chose to export them individually from the Tool menu because from the Multi Map Exporter you cannot choose openEXR 32bit as a file type. You can export a 32 bit tiff format from the plugin, but 3ds Max sometimes have some issues with it.

I chose a UV resolution of 2048x2048 from the UV Map. For the displacement maps you need to click the Flip V button set the DPSubPix to 4 and choose 32 Bit for the map with a Mid value of 0 and Scale of 1. From the Normal Maps make sure that Tangent is on.

In closing of the ZBrush portion I am going to say that you can find detailed information about any of the program functions by hovering over it and pressing Ctrl.

EXPORTING THE CHARACTER

You can export subtools from Zbrush directly from the Tool menu or use the SubTool Master Zplugin. To create UV's for the hard surface parts that I decimated I imported them into Blender. Even decimated they still have a reasonable polycount and I know from experimenting with it that 3dsMax will struggle with it. In blender you can change the screen Layout UV Editing to better see the results of your work while unwrapping. Select the object that you need to unwrap press the Tab key to enter edit mode for that object and U to bring up the UV Mapping menu. Choose the Smart UV Project, leave the default settings for it and press ok. Smart UV Project its a great way to quickly unwrap hardsurface meshes and works great even with decimated models.

PREPARING THE SCENE IN 3DS MAX

As I said at the beginning of the making of I am not going to focus on explaining everything I did in 3ds Max because it's going to take a lot of space and time to talk about every setting and partly because I don't have a huge experience working with Max and Vray. Still I will try to mention some of the things I did and the settings for it.

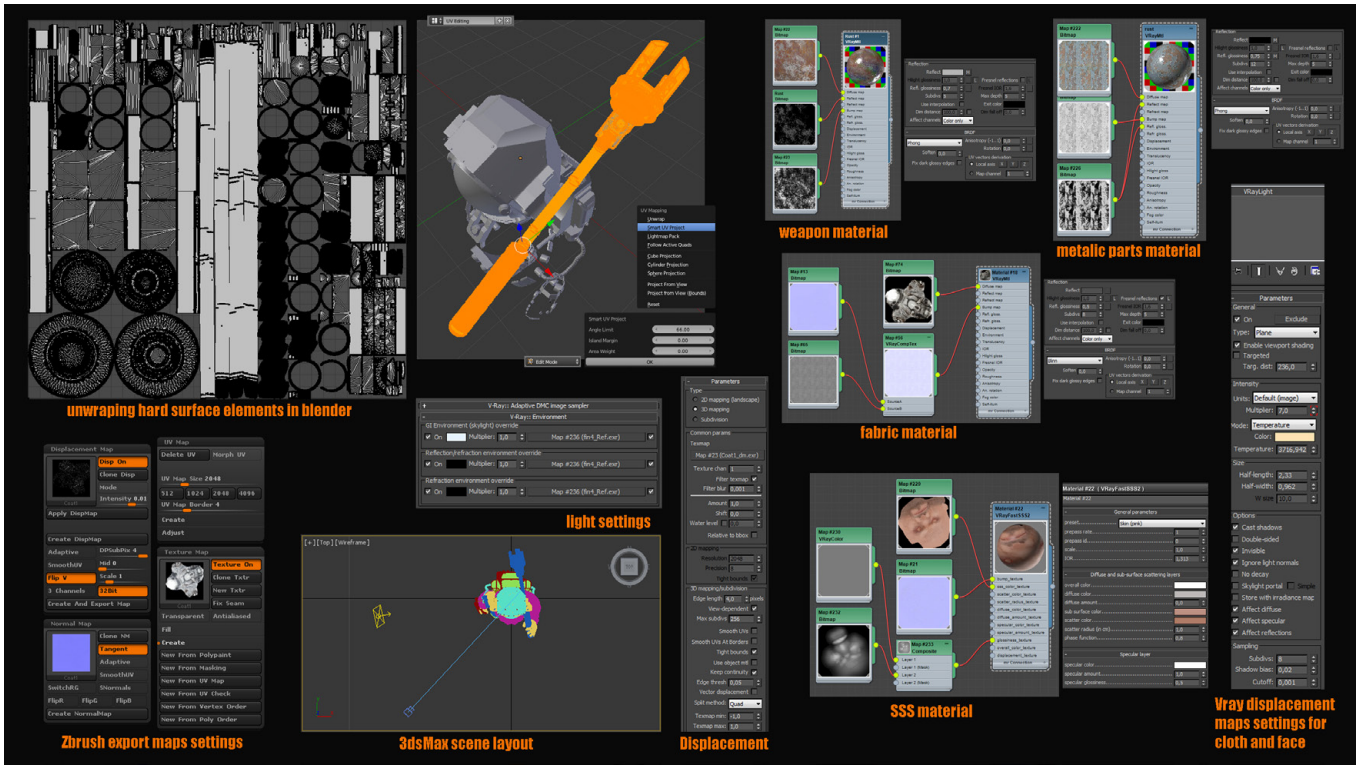
I imported all the subtools to 3dsMax and used a pretty simple setup for cameras and light. I am going to use a HDR image for the Vray Environment so a simple Vray Plane Light is going to be enough to cast some shadows on the model.

I created the eyebrows and beard with Hair and Fur modifier.

For the clothes and face I used an Unwrap UVW modifier, broke all the edges apart from the UV Editor and added a TurboSmooth on top of it with a render Iteration of just 1 because my imported mesh was dense enough. For the displacement I used the VRayDisplacementMod modifier with the 3d mapping enabled, imported the EXR files with a Gamma override of 1, set the edge length to 4 (you can lower it for better results with the cost of render times), unchecked Smooth UV's At Border and Smooth UV's and turned Keep Continuity on.

For the maps of the weapon and other hard parts I used some metal vray materials which you can find on Chaosgroup website for free.

Used a VrayMtl for the clothing where I added the texture map on the diffuse channel and the normal map combined with a fabric material map on the bump map channel.



The face got a VRayFastSSS2 material with a Skin (pink) preset, a prepass rate of 1, scale of 1 and 1,3 IOR. For the Diffuse and sub-surface scattering changed the phase function to 0,8. Left the Specular Layer and Options submenus untouched. Plugged the texture map to the sss_color_texture the normal map to bump_texture and a composite between the composite specular map with a gray VrayColor (to test and control the specular level) to glossiness_texture.

For Vray indirect illumination I used Irradiance map set to High preset for the Primary bounce and a Light cache with 1200 subdivisions for the Secondary bounce. From Vray settings DMC Sampler changed the noise threshold to 0,003 and selected my render passes from the render elements menu.

POST-PROCESSING IN PHOTOSHOP

There is no right or wrong way to edit the final image in Photoshop. You can experiment and try everything you like while working in Photoshop. I recommend working in a non-destructive way organizing your passes and effects into folders and using mask on layers rather then erasing them to better control the final result as you go.

I used the actual HDR image rendered separately as a background, applied a Lens Blur filter to it to create that blurred distortion of light that you see on the windows, darken the image and the corners to create some kind of a vignette effect and added the shadow cast from the character using Multiply as a blend mode.

For the character I used the shadow and the ambient occlusion pass as Multiplier and specular

pass with Lighten blending mode to reconstruct some of the light and shadow of the character.

I hand painted and used a Lens Flare Filter set on Screen mode for the artificial lights of the character. Used some custom brushes on Screen and Color Dodge blending mode to add the smoke. Added some images with fire sparks on a Lighten mod with a motion blur filter applied to it to create that flying debris effect that you can see on the bottom of the image.

Painted away some details on the suit, corrected some mistakes from the render and post-processing and added some accents and light to the contour of the character to create a rim light effect.

After this it was all color correcting, adding some more blur in the background and setting the contrast for the image.

Hope you enjoy reading this making of as I was writing it and hope that you got something useful out of it.

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