

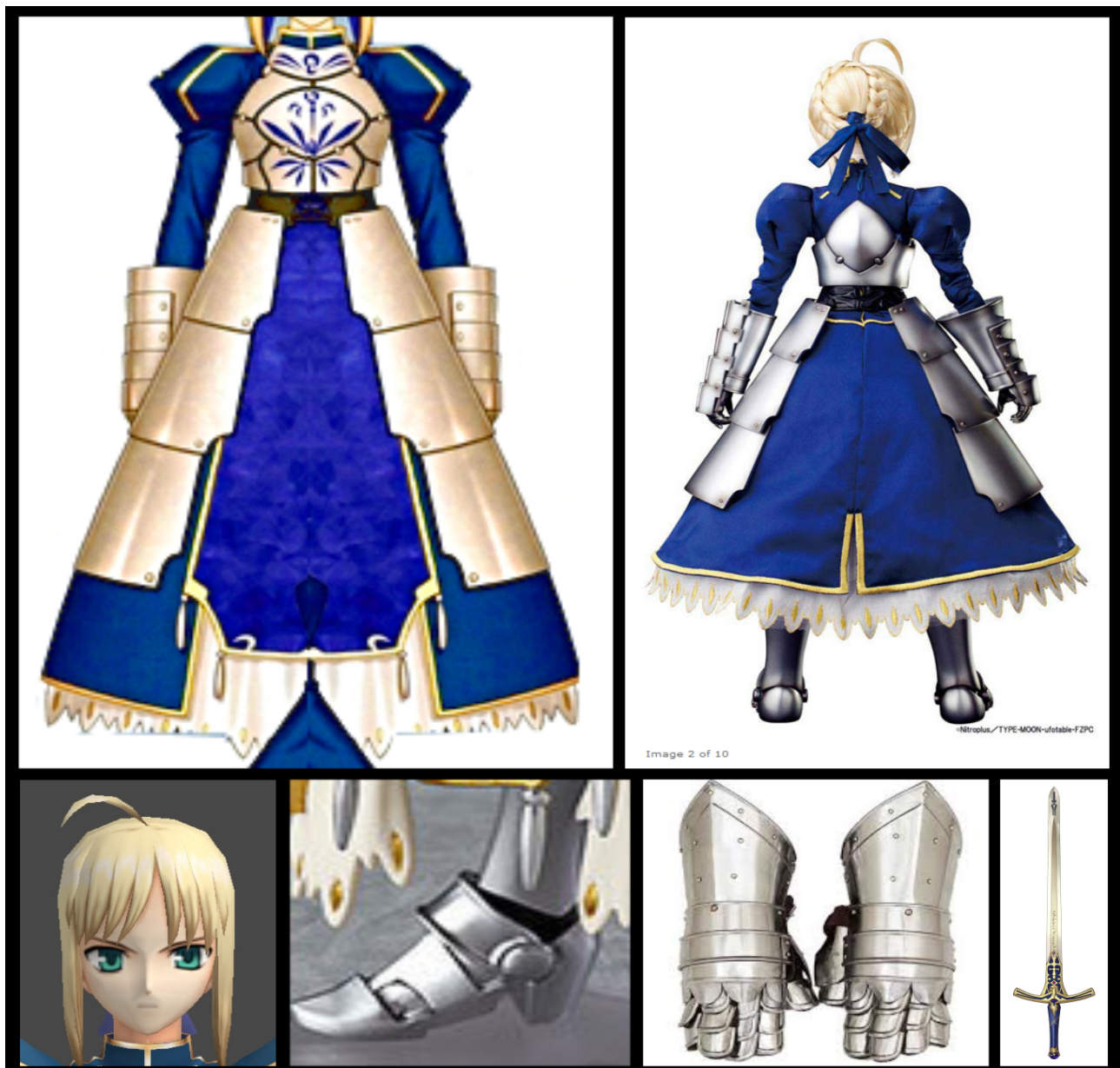
Hey guys ! For those who are interested in playing Blade and Soul as their favourite character I prepared some detailed instructions with the easiest methods possible to achieve it. Don't worry if you are not a pro designer. This tutorial will show you step by step how to paint a whole new character with just few drags of a mouse ! Some corrections and few hours of time will be needed of course to get the result close to the one shown below. Because of quite a big number of requests I decided to upload my work process instead of creating a different character for everybody (just like the one here...). It took ages to make so I hope it will help all the BnS mod community to grow.



PREPARATIONS: DOWNLOAD AND INSTALL – BnS Mod Tool, Umodel, UPK Manager, Hex Workshow, Blender or Maya + PSK. plugin, Gimp or Photoshop (google it and make it work)

1. SEARCHING FOR DESIRED CHARACTER

If you already decided that you want to play Blade and Soul as your favourite character, then you need to find some pictures from the internet with good quality and resolution. I recommend to get references which are necessary to paint your character way faster. I always use 2 orthogonal images of front and back side of the body. Pictures shown below can be easily painted on 3d model with orthogonal view enabled. You will see very soon how fast and easy it is.

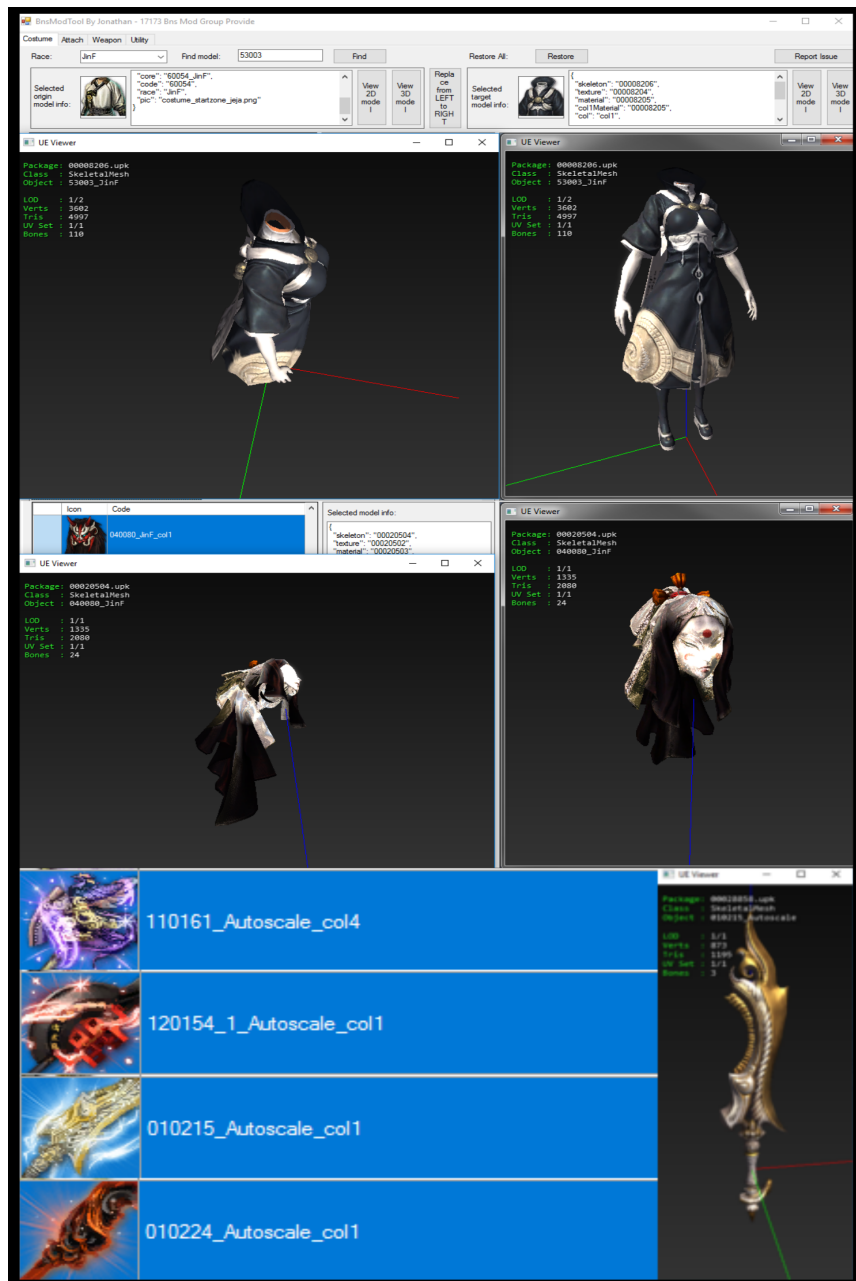


2. FINDING APPROPRIATE 3D MODEL

Second step requires decent knowledge about the items from the game. We need to find an outfit with the model similar to our character references. The best way to know which items to choose is to open some upk. viewer like BnS Mod Tool by Jonathan. Just set the 'Race' and „Type of item" in the program, then check all the available models and compare them with your character. It's important to look for potencial cuts in the model. What I mean by that is to see how many „layers" of polygons the model has. For example the one shown below which I used for the Saber from Fate Zero is full of stripes and baggy parts of the outfit. Those elements are what I call „layer 2". Layer 2 can be easily modified to create different shapes. Layer 1 is the main body. If you cut layer 1 in 3D software, you will have a holes in your character. It's mainly the whole body skin and some parts of the clothing. The model is like a blown easter egg. You don't want to see what's inside. Only decoration matters. (Keep note: Outfits can't be combined with other outfits set as e.g head item. The game will crush a lot.)

If you intend to create realistic face, standard character customization fails no matter how hard you try. For this issue the best way is to find face mask similar to the one is the pictures.

The last thing is a weapon. Look for the icons with special effects to get nicer look. It's not easy to find a model matching desired look but all the special effects kind of compensate it.

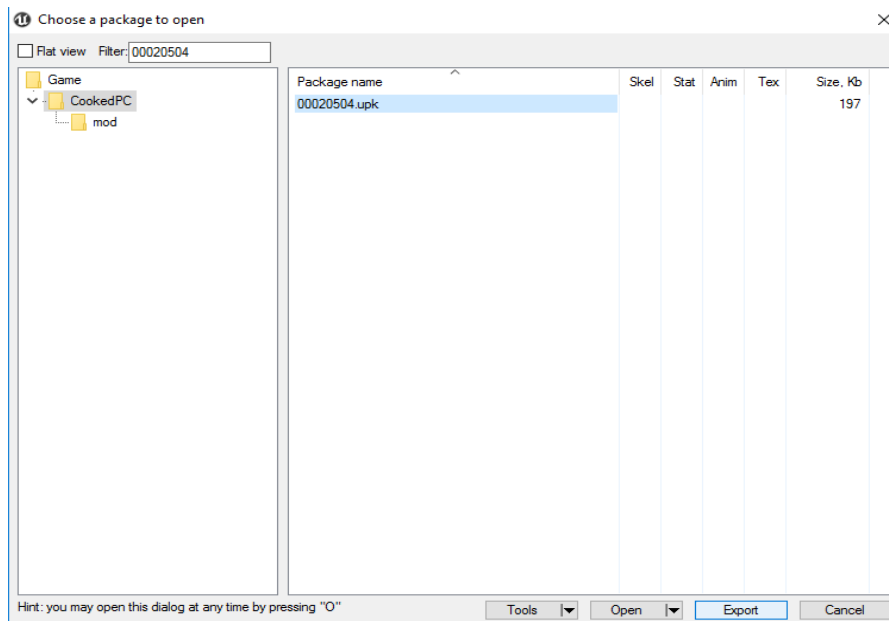


3. GETTING EDITABLE FILES

After choosing the items it's time to make them editable in 2D and 3D software. Copy the numbers of every item you consider worth remaking from BnS Mod Tool or any other upk. viewer. Use any text editor to save the upk. numbers and make some adnotations describing the items:

```
"skeleton": "00020504",
"texture": "00020502",
"material": "00020503",
"col1Material": "00020503",
"col": "col1",
"core": "040080_JinF",
"code": "040080",
"race": "JinF",
"pic": "Attach_040080_JinM_col1.png" Geisha Mask
```

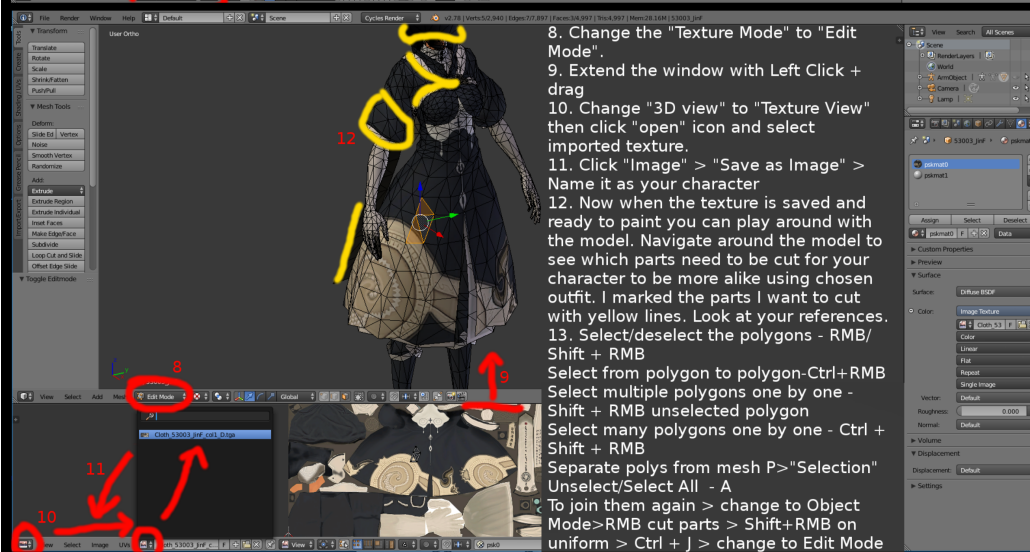
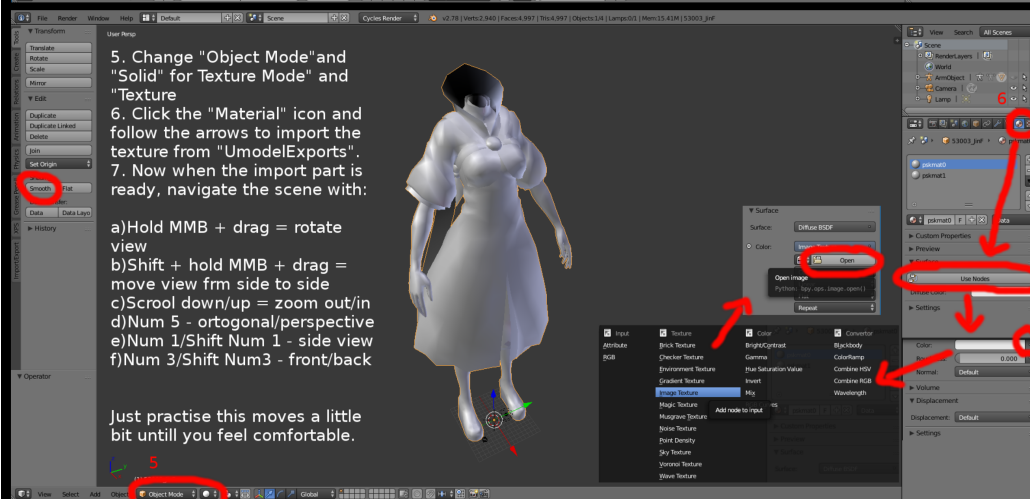
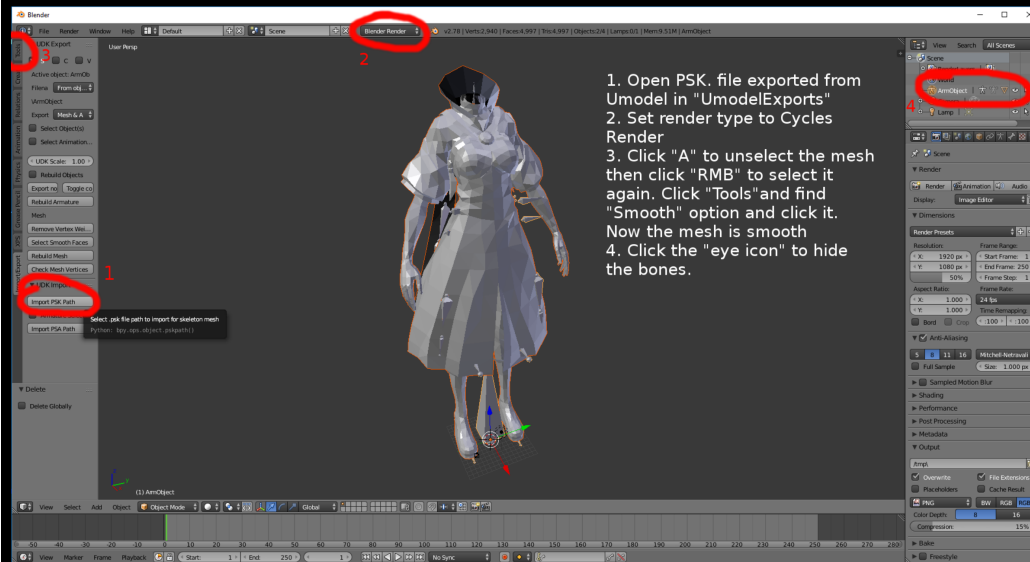

Open Umodel and wait for it to load all the upk. game files (3-10 min. of empty black console sometimes...) Now when the files are loaded use the „filter” to find your files. You need „skeleton” and „texture”. According to numbers typed here, the files for Geisha Mask we need are 00020504 and 00020502. Copy+Paste them in the filter. The file you need will pop up in the table. Select it and click „export”. Now you will have the folder named „UmodelExport” with the files you have just exported. It should be in the program folder or \BnS\contents\bns . The software converted „texture” to tga. format and „skeleton” to psk. format from Unreal Development Kit (upk., udk.) files. Now we can close Umodel but don't be hasty. Remember it takes ages to load it. Make sure you have all the wanted files exported. Save the numbers obtained from BnS Mod tool. We will need it later.



4. IMPORTING AND EDITING

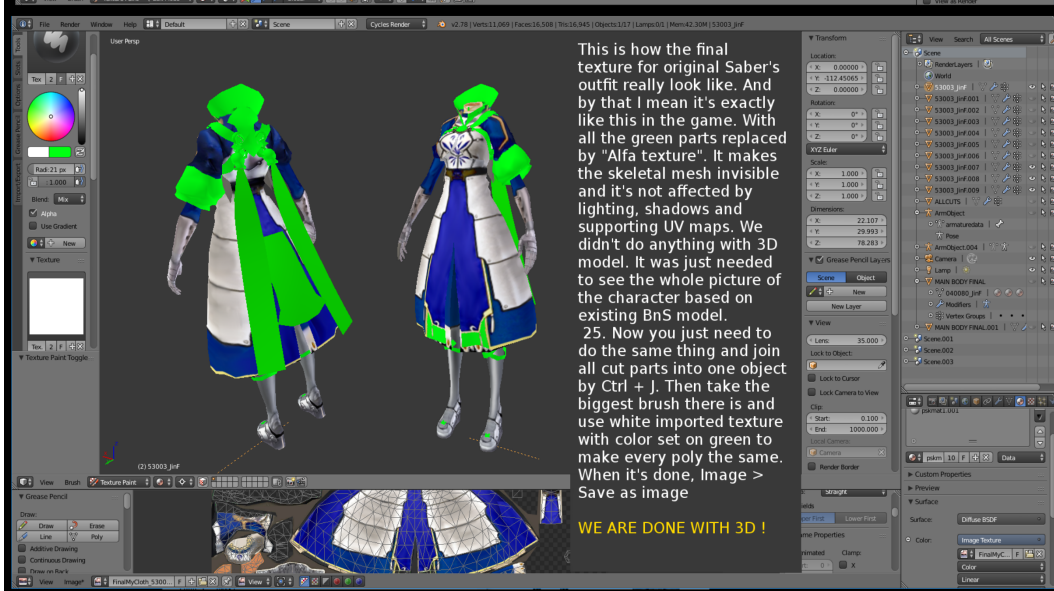
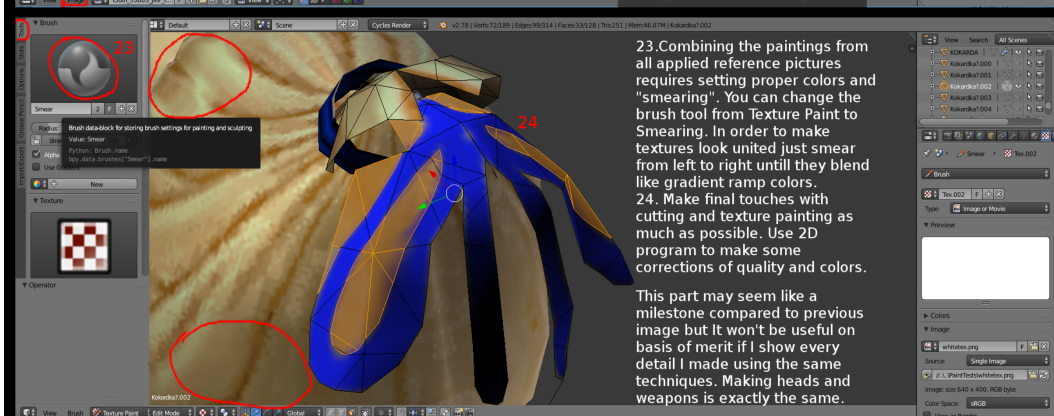
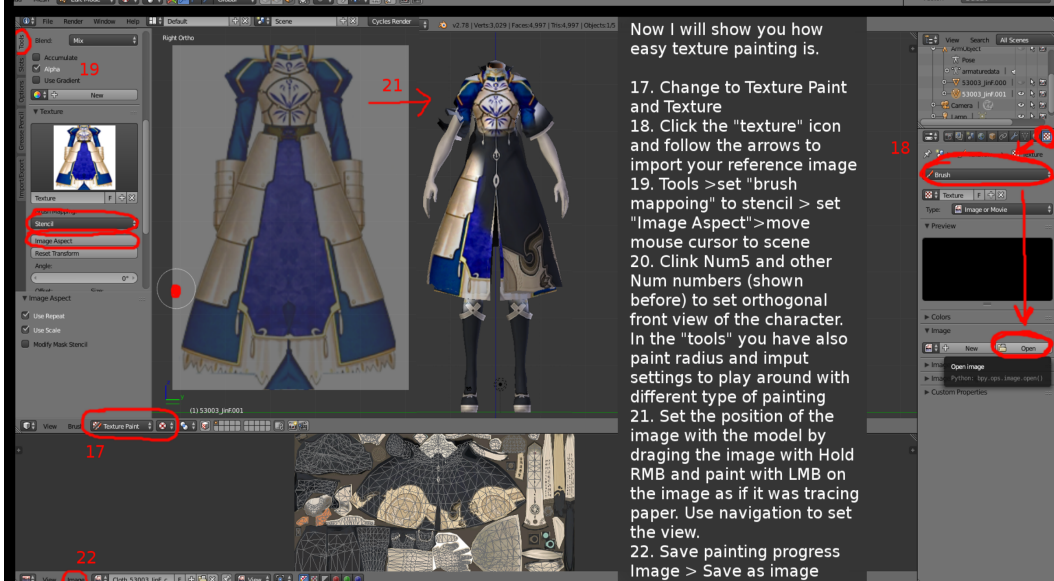
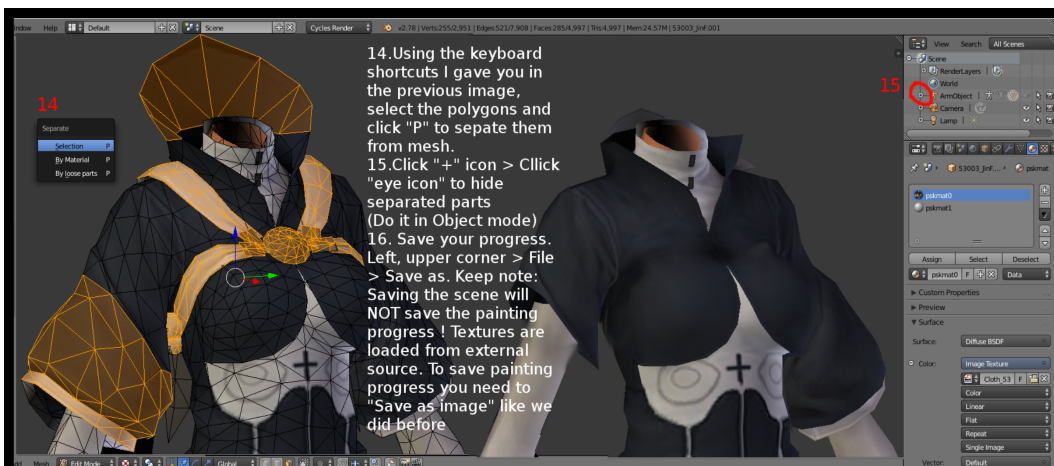
This is easily the most time consuming and challengable part of the tutorial. We will start with opening 3D software with installed psk. plugin. In my case, it going to be free software called Blender. I can't teach you how to use it at full scale with just one simple tutorial but I will use only few simple techniques to create the whole character. Hopefully it's going to be easy for you to copy all the steps without any knowledge about 3D design.

I used very limited ammount of skills needed to learn. I followed my steps to check if I didn't make any mistakes while writeing the instructions. Just follow the red circles and describtions to learn everything you need to create good looking character.



Before we go to cutting and texture painting, take a look on the stages needed to create a whole thing. Cut parts are marked with green color and some of them are hidden to have a good view at character's body. Look how many haircuts and faces you can make with masks like this one.





5. QUICK UV MAPPING

Compared to previous part, this one is super fast. We just need to open our custom diffuse texture and make few changes to create a set of textures interacting with the game's graphic engine. There are 4 main types of textures:

- diffuse map (standard texture with painted details and colors)
- normal map (bump effect, faking 3D shapes by reflecting the lighting on certain parts of the diffuse texture)
- specular map (also known as reflection map, bright parts of the texture reflect more lighting)
- emission map (texture create it's own light source, bright parts of the texture produce stronger emission)

There are other UV maps but those are used to create additional details. Specular maps have usually green and blue colors used to define the power of reflection. However, many of them have red parts used for character's skin to match the brightness and color of your BnS character. The only part of the character's body which really have the skin color you have chosen in the starting character customization is the face. For example, you can make an outfit with your specular map all red and you will end up having super bright diffuse texture with a pale, white skin character and super dark outfit with a dark skin character.

In order to create full basic set of UV textures open your diffuse map with Gimp, Photoshop or any other 2D software then do the following:

1) Diffuse map (D)

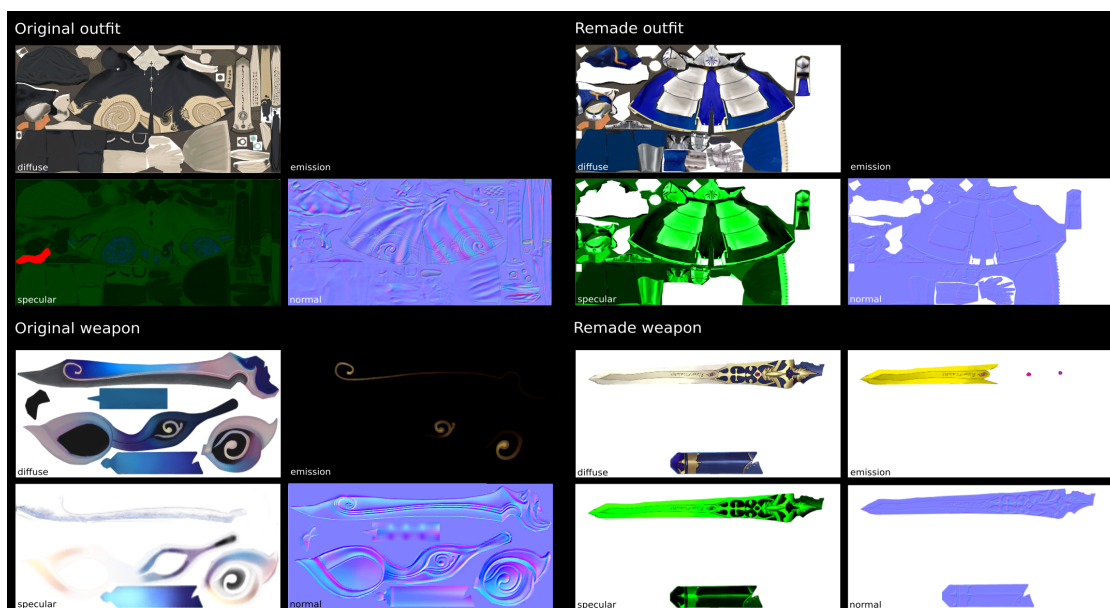
Your custom texture has a lot of bright green parts used to determine which polygons should be cut. Now you just need to „select by color” to select all the parts with this color. Then just delete it to make it transparent. Make sure to clean up the texture from the green egdes if something didn't select properly. Export texture with File > Export as > choose folder and format (tga. or png.)

2) Specular map (S)

Keep the diffuse map open. Now colorize the whole texture to be all green or light blue. Adjust some contrast to make dark parts less reflective and light parts more reflective. Look at the image below. You can see that the neck of outfit's specular map is red. It means the brightness will scale on this part depending on the skin color your character has. Export as png. or tga.

3) Emission map (E) – You can make weapon emit any color you want. I painted it as yellow/purple

4) Normal map (N) – Put your diffuse map to any online converter. Customize your settings. Save.



6. EXPORTING TEXTURES INTO THE GAME

The artistic part is finally over. It's time to rebuild the game files with our custom textures. Open UPK manager. Let it load game files. Choose „Show files in type” > „Texture 2d”. Look for the texture numbers in the filter on the lower window (from the text file you made based on BnS Mod Tool). Tick the upk. numbers and File > Export Selected Files. This process will create custom folder for all your modded textures. You will see the files inside the folder with dds. format (actual format of textures used in game). This folder can be saved anywhere on the disc.

Open the folder with all customized UV textures and compare them with the UPK manager's export folder. See if you have the same number and type of textures as the original files. If you see some additional files then create some empty, transparent textures to prevent the effect of original textures on custom ones. You can't just delete them from the folder. Blade and soul will crush this way or it will try to rebuild missing files.

Name your files the exact same way they are named in the UPK Manager's export folder with dds. format.

Upload all your custom UV textures in any DDS. online converter. Make sure to set the conversion settings supporting alpha channels (DXT4 or DXT5). Don't set it to R8G8B8 etc. You will end up getting all the item's cut parts white or black instead of transparent.

Copy your custom, converted dds. textures and paste them in the UPK Manager's export folder. It will ask you if you want to replace few files. Make sure it's the number of textures inside the folder you want to replace. Otherwise, you probably called them wrong or they aren't dds. files.

The last step is to create a new upk. file in BnS\contents\bns\CookedPC\mod. UPK Manager will do it automatically if you go to „Rebuild” tab>search for bns/CookedPC>tick the upk. numbers with replaced textures>”Rebuild”(near Edit and Settings)>Rebuild Selected Exports

DONE ! Your custom character is already in the game ! Now it's only a matter of having replaced items in the game or having any outfit, head and adorning to see if it worked as intended.

7. REPLACING CHOSEN ITEMS

For the last step I don't recommend using BnS Mod Tool. It's very good at replacing outfits but the adornments and head items are bugged very often. With older versions of the program you can't replace weapons. We will use Hex Workshop in order to do it.

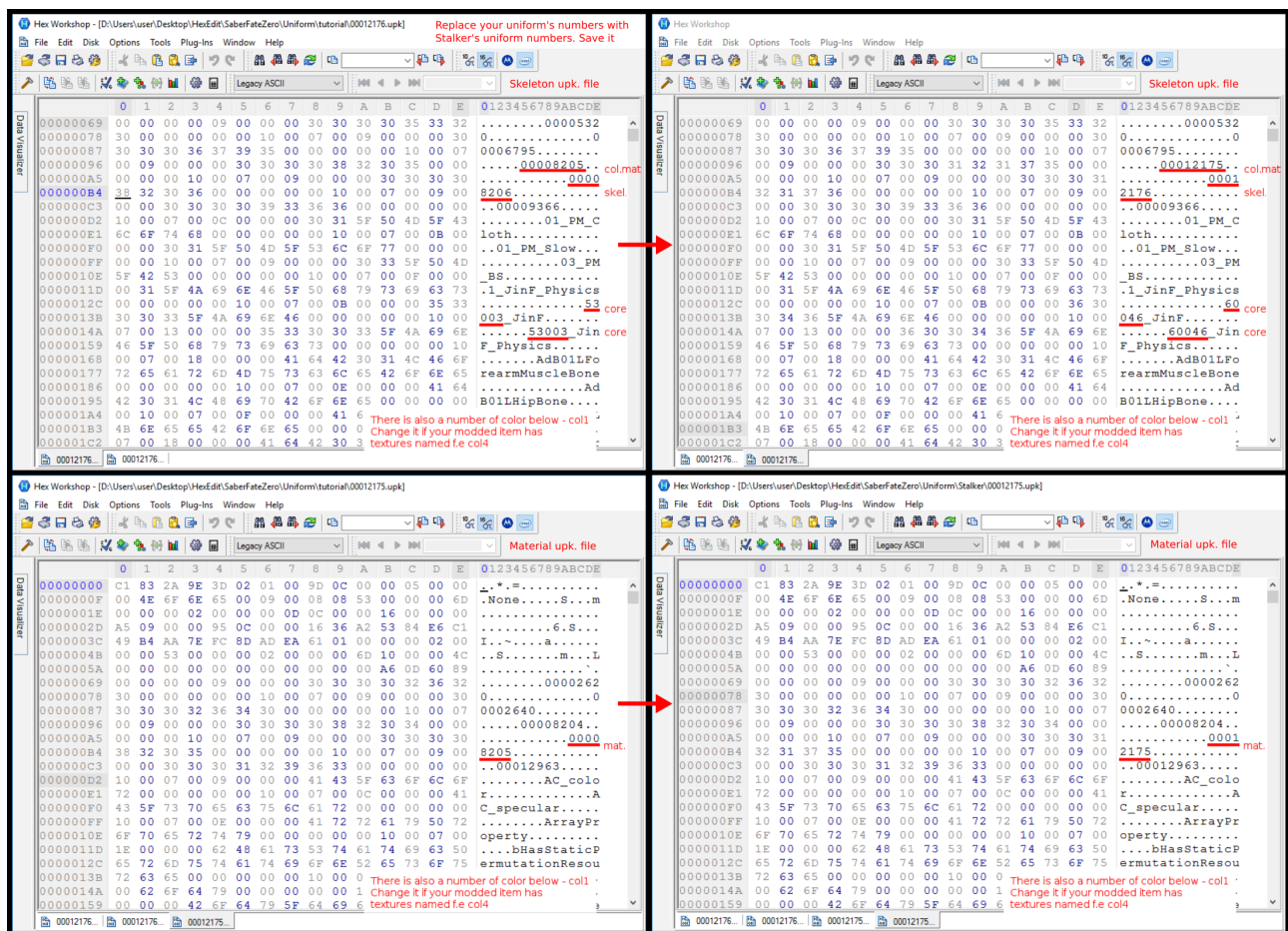
Go to ...\\BnS\\contents\\bns\\CookedPC and find the upk. files of original outfits you want to replace with your custom textures. We already have them in the text file created at the beginning of the tutorial. Copy upk. of „material” and „skeleton” to a new folder (call it HexEditMods or something). Save this folder on the pulpit or other place. Use BnS Mod tool to search for numbers of items you want to swap. For this tutorial we will use JIN FEMALE Training Weapon (lvl 1), Stalker's Head and Stalker's Outfit (lvl.6, first boss, items drop easily from Wheel of Fate). For my outfit the numbers are – 00008206.upk (skeleton) and 00008205.upk (material)
For my head the numbers are - 00020504.upk (skeleton) and 00020503.upk (material)

Rename the „skeleton” and „material” with the name of upk. files belonging to items you have already in game. (in this case – Stalker's Head and Stalker's Outfit)

For Geisha Mask (and now our character's head) to replace Stalker's Head I renamed:
skeleton: 00020504.upk to 00012184.upk
material: 00020503.upk. to 00019135.upk

For baggy, dark blue outfit to replace Stalker's Outfit I renamed:
skeleton: 00008206.upk to 00012176.upk
material: 00008205.upk. to 00012175.upk

Open copied skeleton upk. file from custom folder with RMB > „Hex edit with Hex Workshop”
Now do the following:



Repeat those steps for every item you want. It doesn't matter if it's a weapon, head, outfit or adornment. Don't try to replace Jin Female's items with other races's items. It will end up crushing the game. Sometimes replacing col.mat with other col.mat doesn't work. You can try mat. instead.

Now just put hex edited items in ...\\BnS\\contents\\Local\\NCWEST\\ENGLISH\\CookedPC\\mod
If you don't have „mod” folder just create it manually in this directory.

DON'T PUT IT IN ...\\BnS\\contents\\bns\\CookedPC

You should also check if your programs created „mod” folder in the right direction. If not, cut them and paste them here ...\\BnS\\contents\\Local\\NCWEST\\ENGLISH\\CookedPC\\mod

You may eventually end up getting error this way - „Unauthorized folder was found in the CookedPC folder”. It will still work fine but it's quite annoying to click „Ok” for every mod you put into the game and... I have plenty of them.

DONE ! The items are already in the game !

Note:

I tried to merge 2 outfits to make custom 3D model and replace one of them for adornment. The second outfit just didn't show up in the game yet it was crashing every 2 minutes. The reason it happened is because the physics node from Unreal Engine is trying to simulate 2 items with mesh collision set to „block all”. 2 spawned outfits in the same place are glitching with each other making unwanted log outputs.

8. PLAYING !

Finally we ended the whole process of creating custom character. You can now launch Blade and Soul and see if everything is working. It's also the best way to check if our character is made properly. Sometimes there is too much bump, reflection, emission or the whole shaders are broken. If you followed the tutorial without any mistakes it should look just fine. I gave you the exact files used by my Saber from Fate Zero so you have a proof it can be done.

Have fun playing your custom characters ! :)

9. FAQ

This topic will be extended based on players's questions on <http://www.bladeandsouldojo.com/forums>