



# BLENDER UV TEXTURE



*START*



<http://www.123dapp.com/123C-3D-Model/Merchant/1124338>

HOW TO



**END**



[3d.gimisa.ca:9000](http://3d.gimisa.ca:9000)

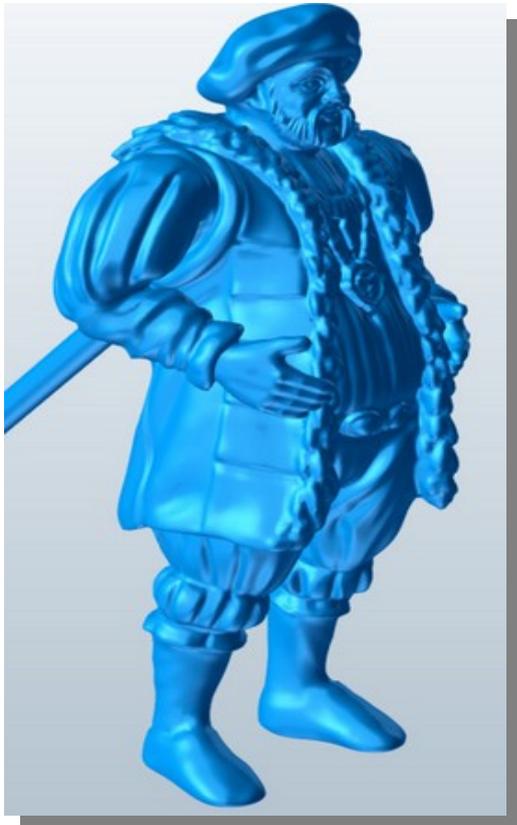




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## START



Downloading the model from 123Dapp is rather straightforward.

Its always a good thing to verify the copyrights of the stuff you want to use inworld. In the case of 123Dapp, the copyright is very open as follows:

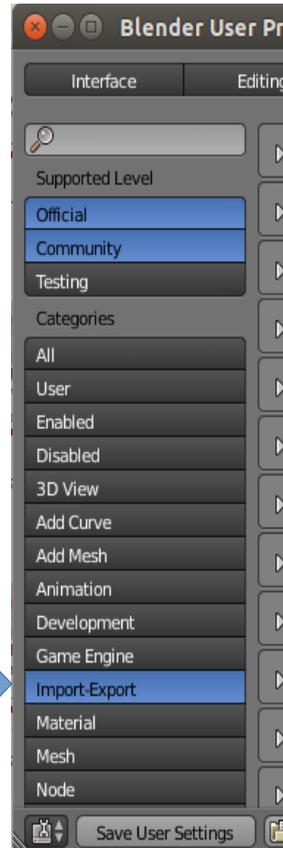
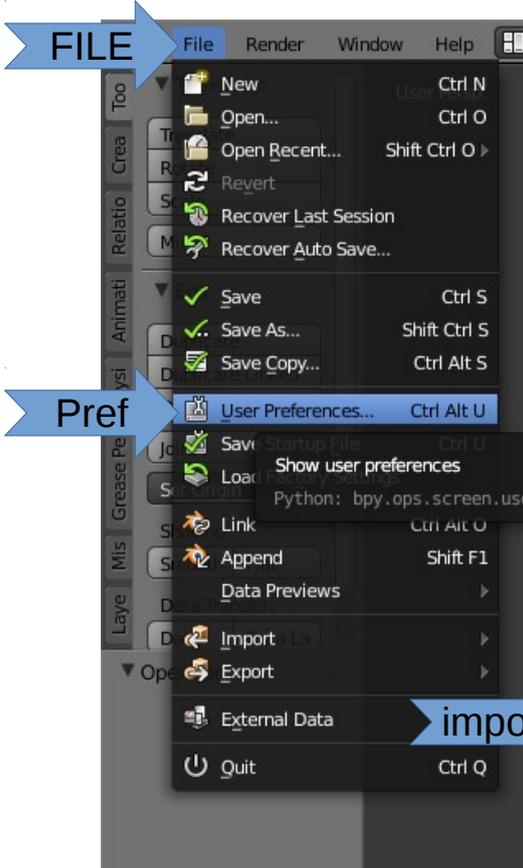
*world-wide, royalty-free, fully paid-up, perpetual, non-exclusive, transferable, and fully sublicensable (through multiple tiers) right and license (but not the obligation) to reproduce, distribute, redistribute, modify, translate, adapt, prepare derivative works of, display, perform (each publicly or otherwise) and otherwise use all or part of Content, by any and all means and through any media and formats now known or hereafter discover*

<http://www.123dapp.com/123C-3D-Model/Merchant/1124338>



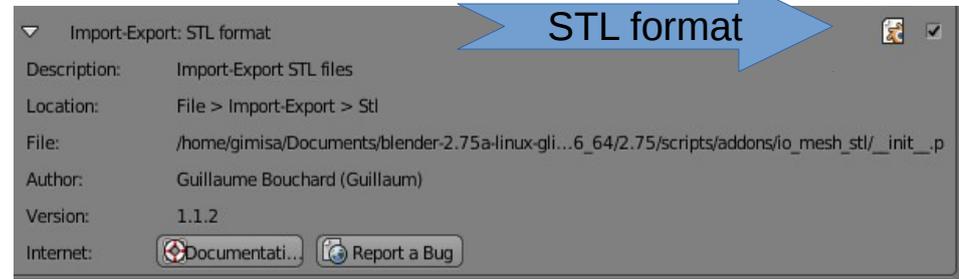


# BLENDER U/V TEXTURE



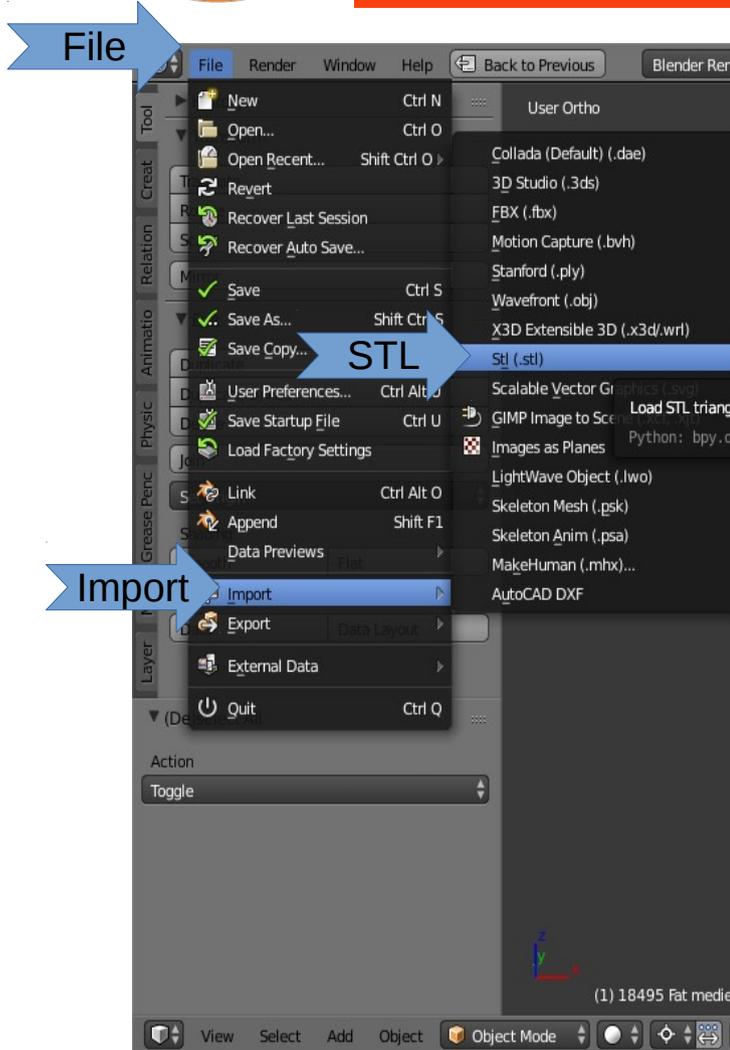
The downloaded format is STL. Nothing you can import inworld directly. As usual BLENDER is our friend.

Make sure you have STL import ADD-ON activated in your blender preference.

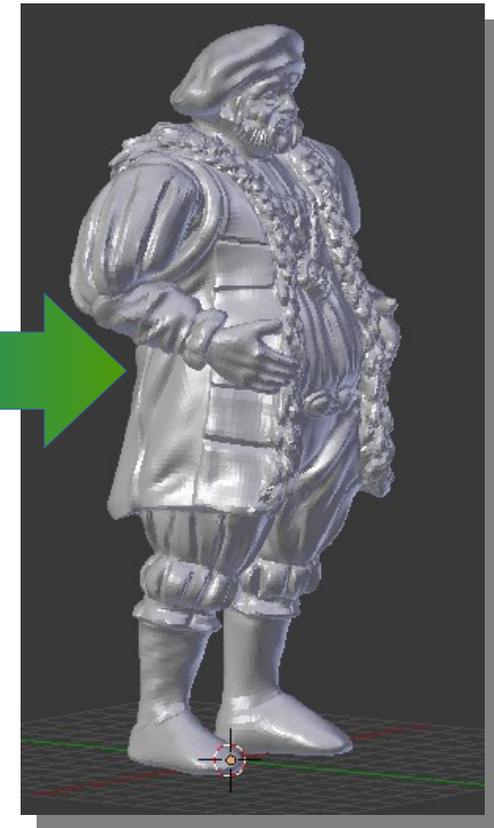




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Next is to import the model in blender as show. .





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This object contains 146,345 faces as can be seen from the top of the blender window. Its not that much to upload directly inworld should you like to do that.

But you need to know that you cannot have more then 8 material per object inworld. And you already know that one material is on texture.

What we are doing with blender in this tutorial is to create those texture and create a map to match that texture with the corresponding faces of our mesh.

So what you must retain is that we need more material at this stage.





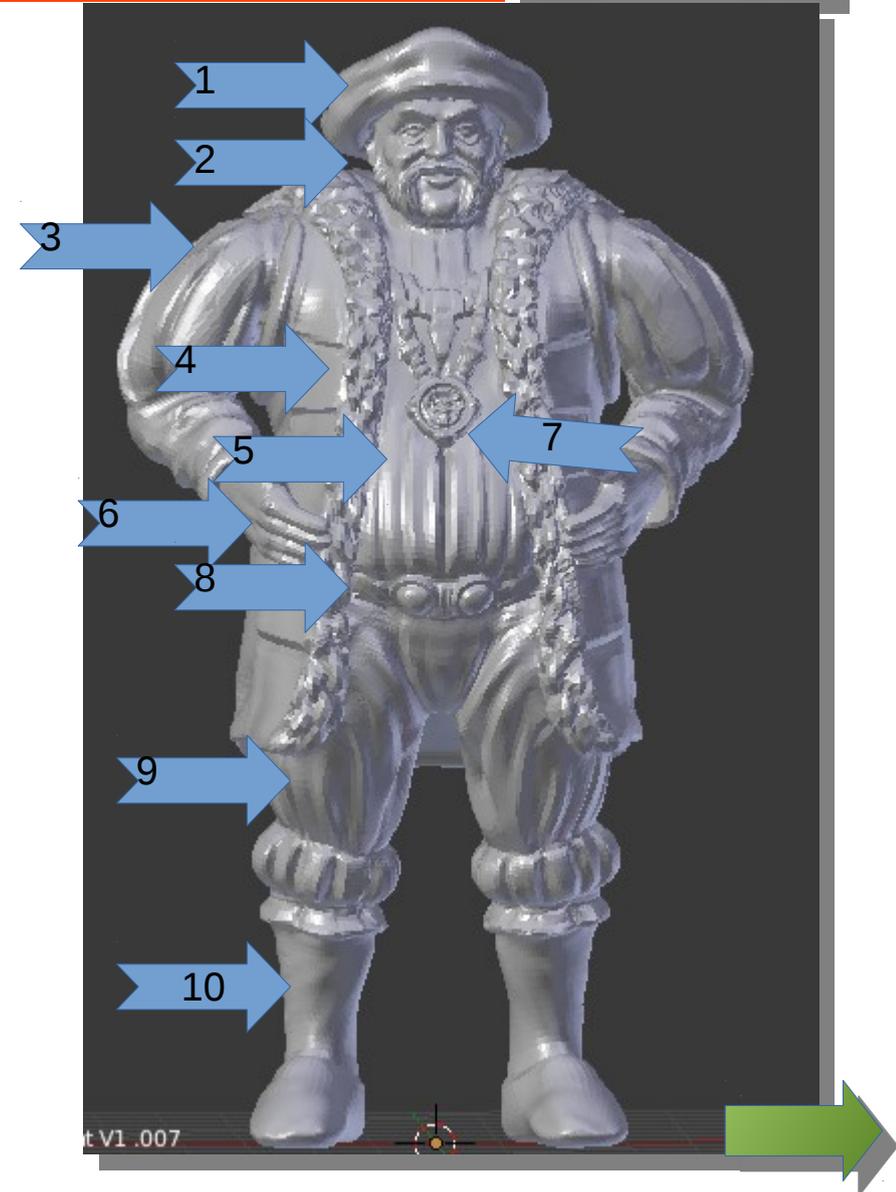
# BLENDER UV TEXTURE



So we could split our model in many materials. For exemple:

- 1) The hat
- 2) The face
- 3) The coat
- 4) The fur coat ornament
- 5) The shirt
- 6) The hands
- 7) The medal and garment
- 8) The belt
- 9) The pants
- 10) The boots

Its very quickly go overboard with 8 material on one object. We could group those like the hat and coat, they could be one texture.





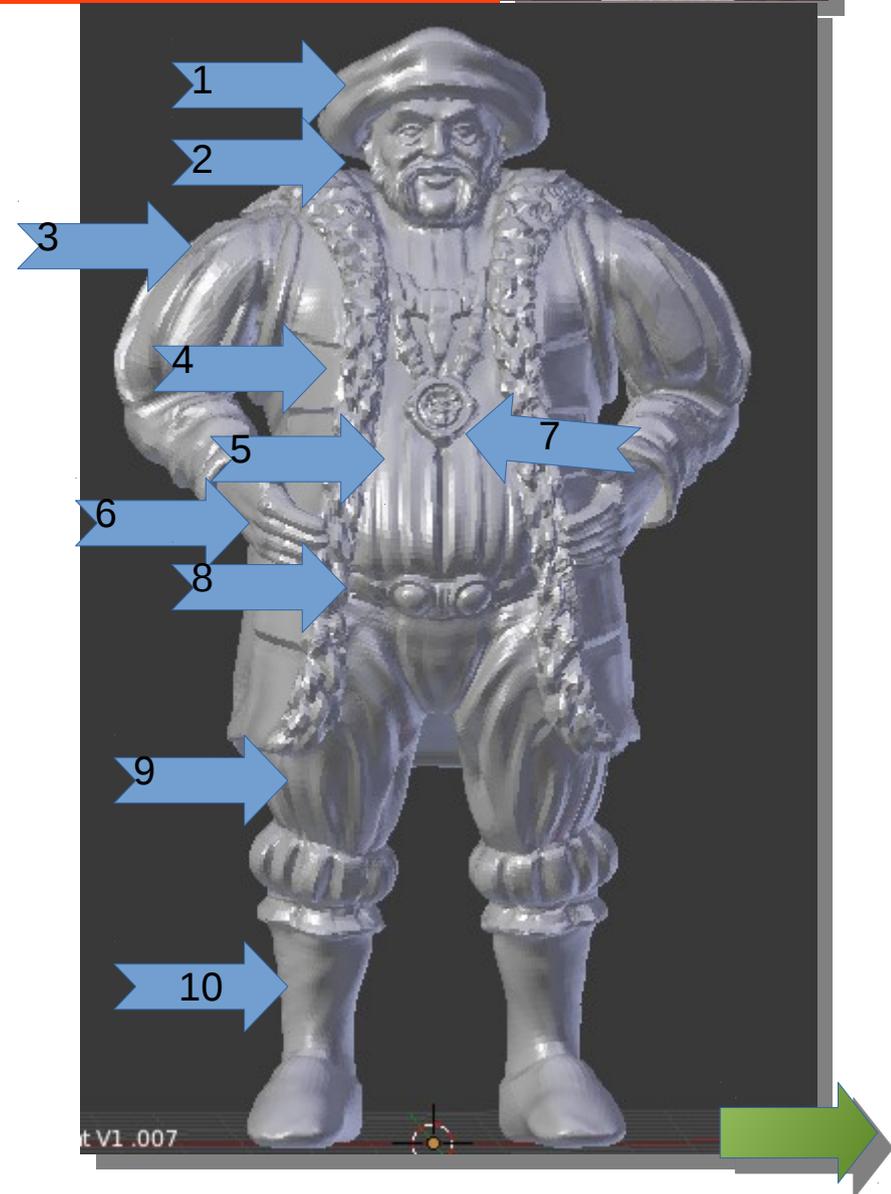
# BLENDER UV TEXTURE



Do we really need to get ourselves that much trouble when we have no limit on the number of object to import inworld. So instead we could have the following OBJECTS:

- 1) The hat
- 2) The face
- 3) The coat
- 4) The fur coat ornament
- 5) The shirt
- 6) The hands
- 7) The medal and garment
- 8) The belt
- 9) The pants
- 10)The boots

These objects would have each one face.  
And the beauty of that is that it will imported from blender as a linked set without more work.





# BLENDER UV TEXTURE



We are going to create the basic material

- 1) First in edit mode we select all the meshes with the shortcut "a".
- 2) Then in material we hit the + sign to add a new material.
- 3) Rename it all.
- 4) Assign it to all the meshes.  
(this is done by default but we make sure)

1 Edit

2 add

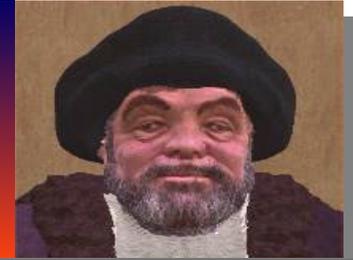
3 rename

4 assign





# BLENDER UV TEXTURE



In edit mode still we are going to select the hat and assign it the hat material.

- 1) Edit mode , make sure nothing is selected ( type "a" again).
- 2) In vertices and transparent mode so you see through the object.
- 3) hold ctl and drag from an empty area to use the lasso and crudly select the hat.
- 4) Add new material and name it "hat".
- 5) Assign the selected material to hat.





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Now is time to refine you selection still in edit mode (1) and with hat material on (2) .

- 1) ADD to selection first, by using the circle selector , shortcut "c" . Rotating you mouse wheel you can change the selection circle diameter.
- 2) Hit enter when circle size is to you liking and add to selection by dragging you mouse over the vertices with the left button push on.
- 3) Once all done to you liking hit the return button to complete the selection.
- 4) Finally hit the "assign" button to ADD to hat material.  
(Save you work in case you make a mistake.)

1 edit

2 hat

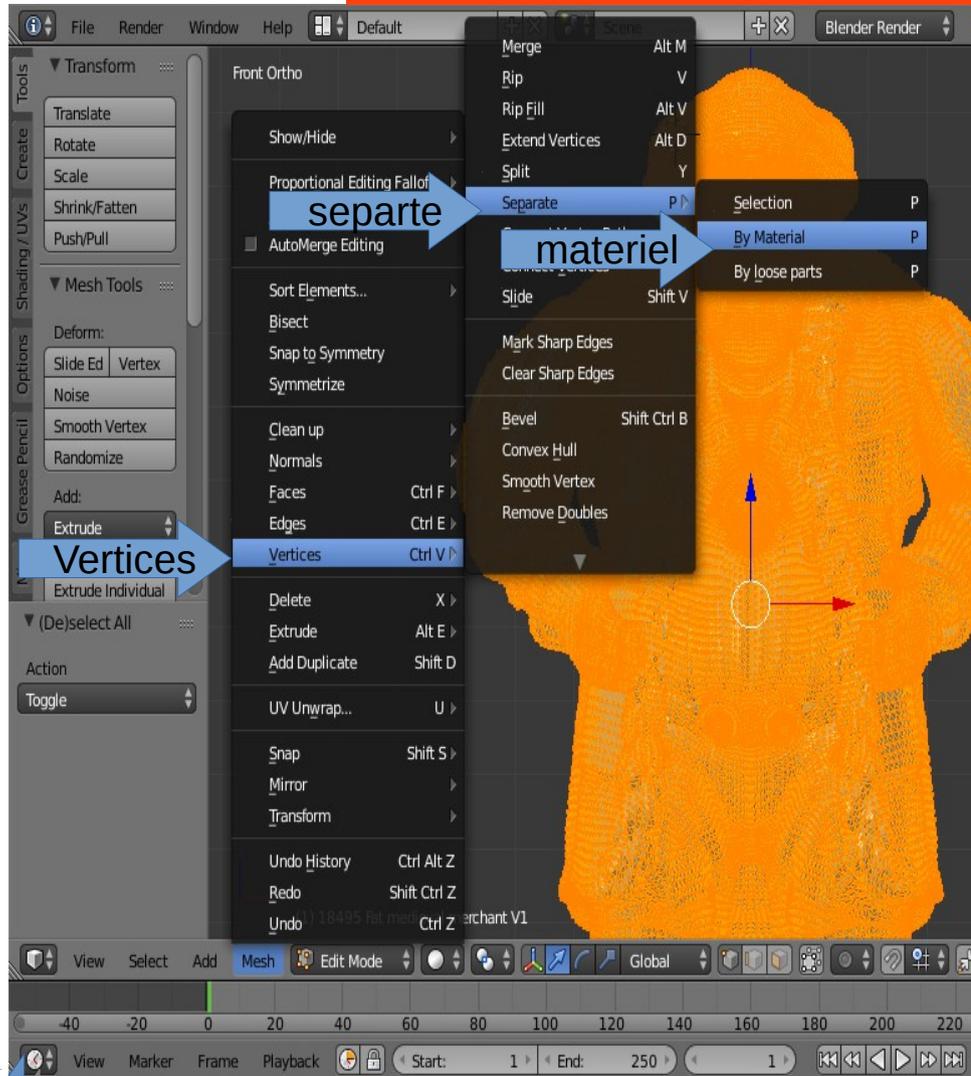
4 assign







# BLENDER UV TEXTURE



I will not be going through the other step to create the remaining materials. Yes I know I was saying doing multiple material was no necessary. Its not necessary but its advantageous. See the next step to create our 10 objects.

1) First hit “a” again to make sure nothing is selected. Then select the “all” material and make sure nothing is left selected in the “all” material that you have not assign to one of our other materials .  
(If all ok, save and then rename this next blender file so you can come back if necessary)

2) Now magic , select everything with “a” and using mesh menu separate submenu go by Materiel and separate our object into its linked parts....voila!!!



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1 object

We will be doing our first basic UV map for the project. The UV map connect the dot of the verticies with the underlying image we will be using to texture the hat.

Why is it call UV is cause it project a 3 dimension verticies location into a 2 dimension ( u and v) space on the texture image. Its a map for the texture to fit the hat.

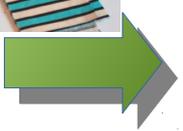
It like thinking of the hat in term of the clothing its made off. We need to assign a piece of tissue cut and sewed in a particular way for our patern to look as expected. The UVmap is like the cutting and sewing pattern of the object texture.

1) In object mode you can now select the hat alone.

2) You can see better in edit mode will all verticies selected using "a".



2 edit





# BLENDER UV TEXTURE



1) Move your mouse around the junction between the right side window you will see a pop up "area split"

2) You can join or split the area. In this case we split to add the UVtool editor.

The image shows a screenshot of the Blender 2.75 interface. The top status bar indicates 'v2.75 | Verts:3,661/3,661 | Edges:10,786/10,786 | Faces:7,126/7,126 | Tris:7,126 | Mem:219.25M'. The main 3D viewport shows a medieval merchant model. The right-hand side contains the Outliner and Properties panels. The Properties panel is set to 'UV Maps' and shows a UV map named 'hat'. A context menu is open over the 3D viewport, with 'Split Area' selected. A blue arrow labeled '1 split' points to this menu. Below the 3D viewport, a UV editor window is visible, showing the UV map of the hat. A blue arrow labeled '2 add UVeditor' points to this window. A large blue arrow on the left points left, and a large green arrow on the right points right.



# BLENDER UV TEXTURE

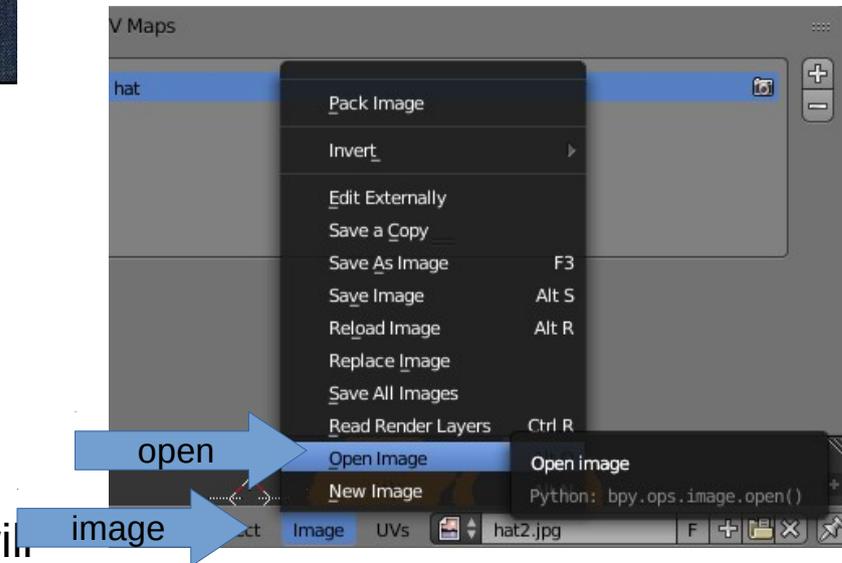


1) We need a texture for our hat. Something we might like to change at will but its representative of the kind of texture we would like to use.



2) Please dont over do it with texture selection. Imagine the hat where you will see it on the screen. For example the heading here , if you consider your screen size to be 1400 x 800 . This little guy up in the heading is probably 200 x 200 pixels and his hat not much more then 75 x 50 pixels. Consider the hat texture pattern we are selecting to be repeated 10 times across the surface of the hat as we see it. Your conclusion will certainly help you judge the kind of texture size you need for the purpose.

3) We will bring the hat texture into our UVimage editor by selecting opens as follows:





# BLENDER UV TEXTURE



1) Creating our UVMap. Hit + in the "data" tool and rename hat .

2) In edit mode with all vertices selected use UV unwrap and smart UV project to generate the map.

The image shows the Blender 2.75 interface with several annotations and actions:

- 1 data**: A blue arrow pointing to the 'Data' button in the Properties panel.
- 1a add**: A blue arrow pointing to the '+' button in the UV Maps section of the Properties panel.
- 1b rename**: A blue arrow pointing to the 'hat' UV Map entry in the UV Maps list.
- 2a UV unwarp**: A blue arrow pointing to the 'UV Unwrap...' option in the Mesh menu.
- 2b smart UV**: A blue arrow pointing to the 'Smart UV Project' option in the Mesh menu.
- 2 Mesh**: A blue arrow pointing to the 'Mesh' button in the bottom toolbar.

A tooltip for 'Smart UV Project' is visible, stating: "This script projection unwraps the selected faces of a mesh (it operates on all selected mesh objects, and can be used to unwrap selected faces, or all faces) Python: bpy.ops.uv.smart\_project()".

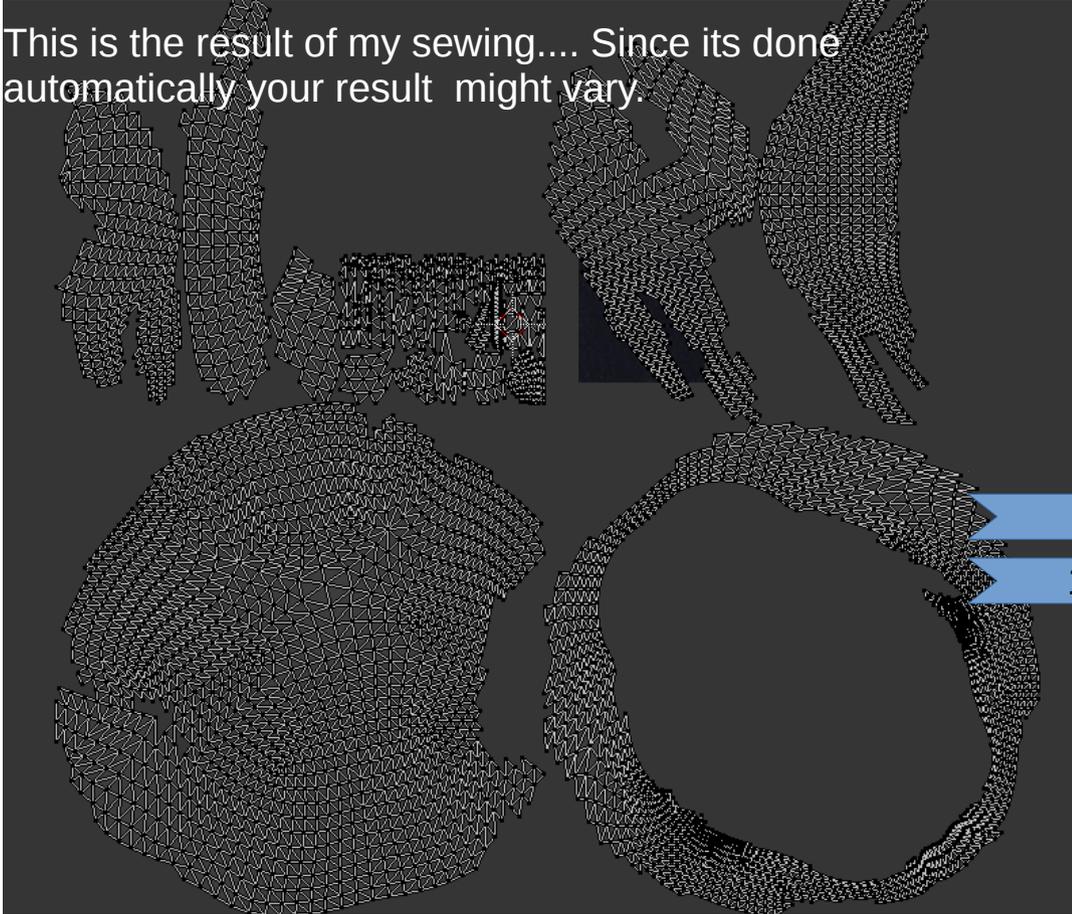
At the bottom right, there is a small inset showing a UV map of a hat, with a 'Split Area' button overlaid on it.



# BLENDER UV TEXTURE

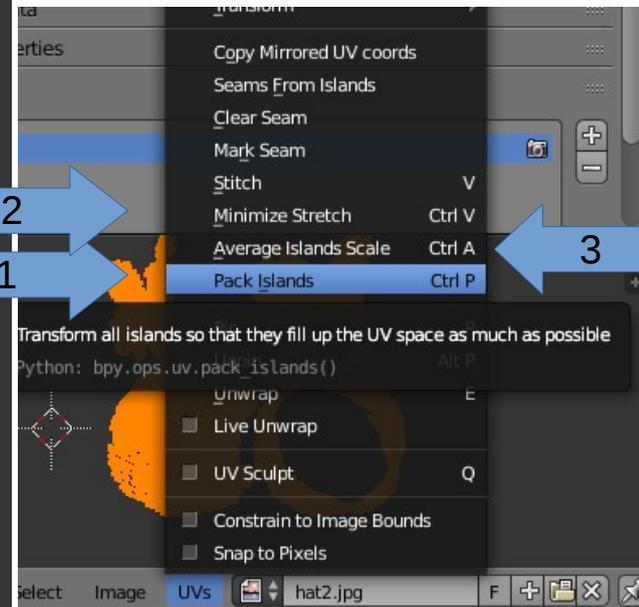


This is the result of my sewing.... Since its done automatically your result might vary.



Next is a bit of clean up.  
Using the UVs menu  
In order hit

- 1) Pack islands.
- 2) Minimise stretches.
- 3) Average scale.





# BLENDER UV TEXTURE



1) With all the model selected.

1-In edit mode and with  
1a-texture view  
1b- transparent off.

2) In the transform panel that you can make visible if not by hitting the little + on the right side top corner of the 3d view.

2a-Deselect display of all mesh overlays . This will give you a chance to see your texture .

3) Then in UV image editor use the shortcut "a" to select all then "s" to scale . Look at the patern change in 3D window and play with the scale to your liking.

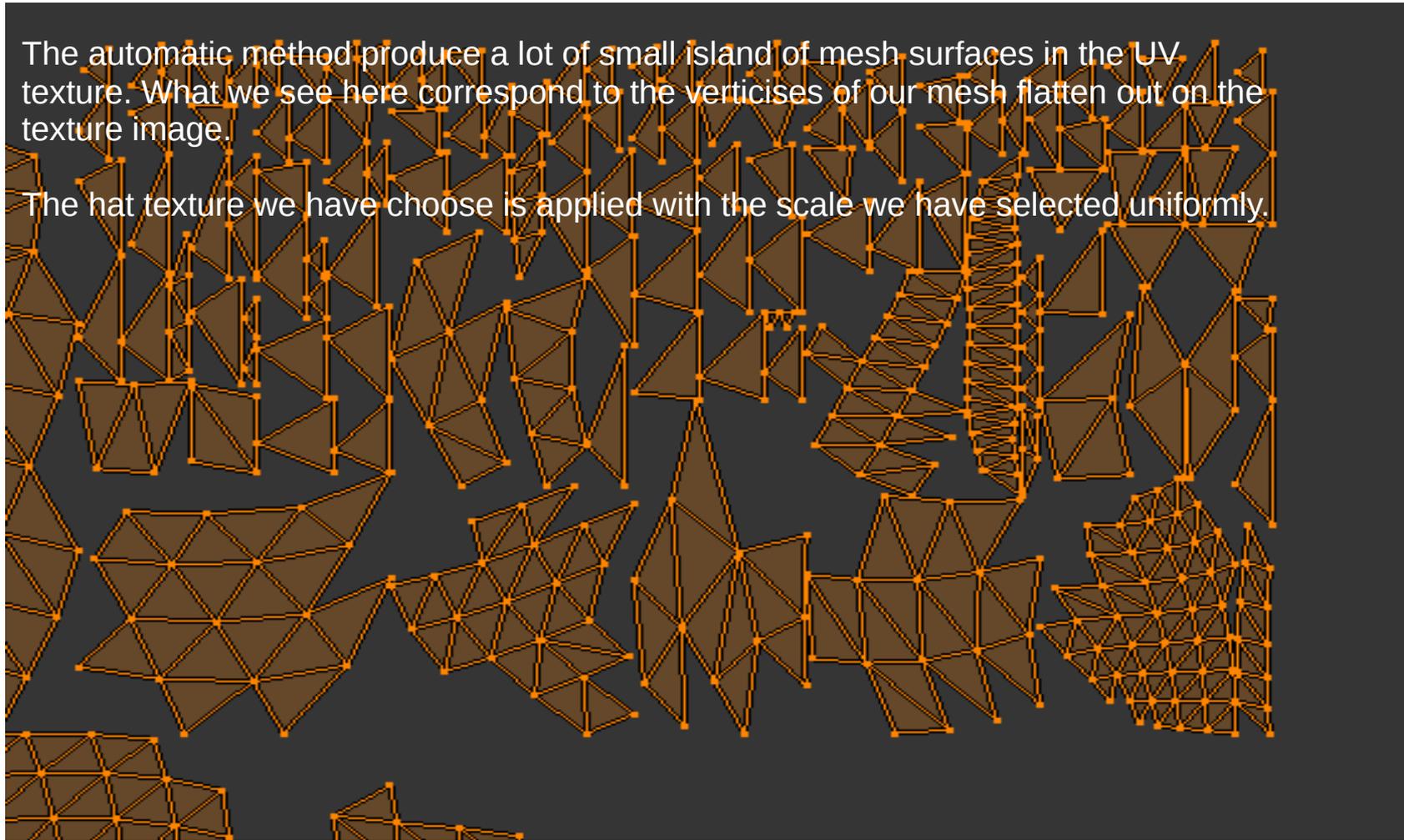


# BLENDER UV TEXTURE



The automatic method produce a lot of small island of mesh surfaces in the UV texture. What we see here correspond to the verticises of our mesh flatten out on the texture image.

The hat texture we have choose is applied with the scale we have selected uniformly.





# BLENDER UV TEXTURE

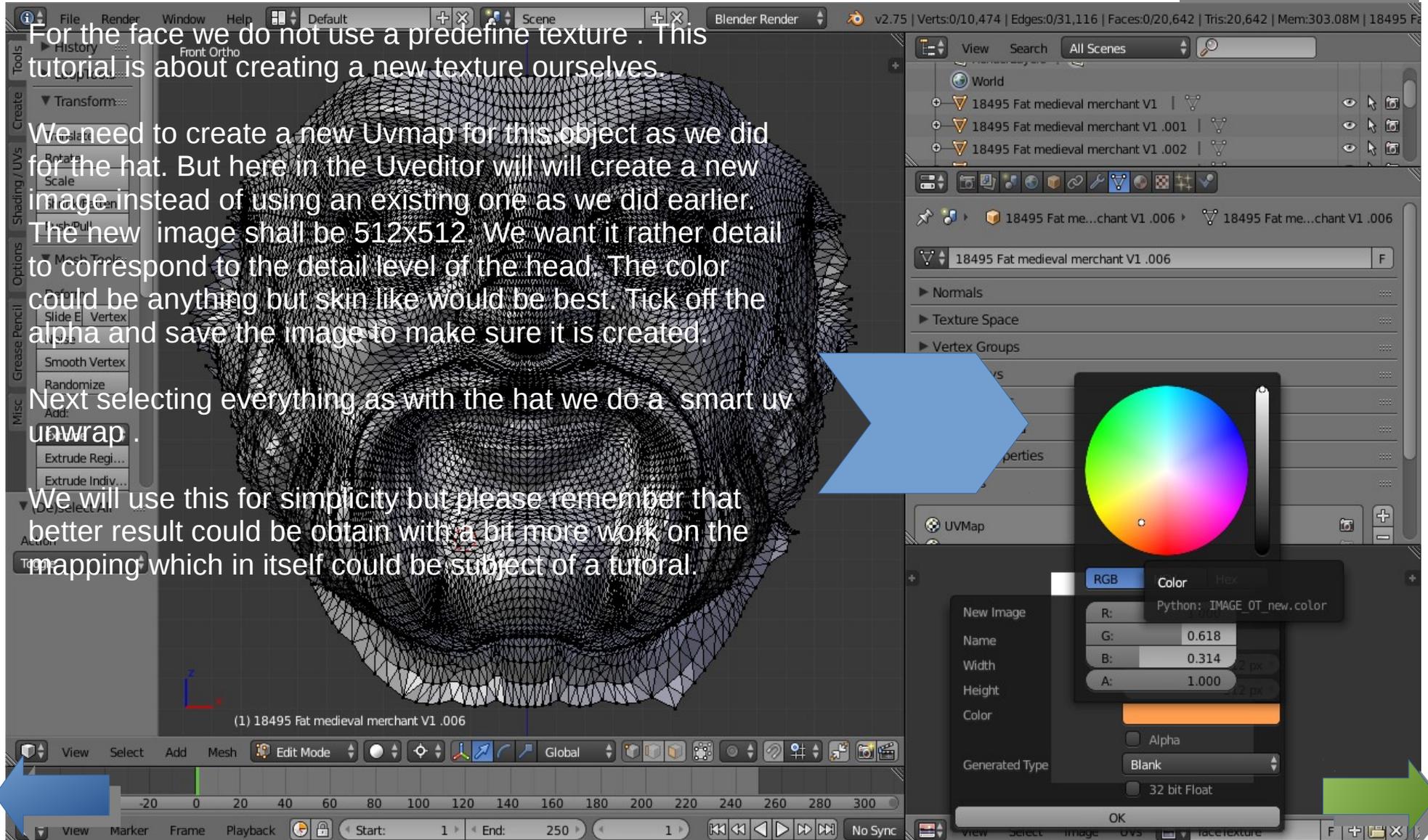


For the face we do not use a predefined texture. This tutorial is about creating a new texture ourselves.

We need to create a new Uvmap for this object as we did for the hat. But here in the Uveditor will create a new image instead of using an existing one as we did earlier. The new image shall be 512x512. We want it rather detail to correspond to the detail level of the head. The color could be anything but skin like would be best. Tick off the alpha and save the image to make sure it is created.

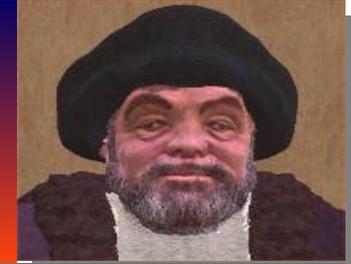
Next selecting everything as with the hat we do a smart uv unwrap.

We will use this for simplicity but please remember that better result could be obtained with a bit more work on the mapping which in itself could be subject of a tutorial.





# BLENDER UV TEXTURE



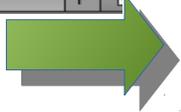
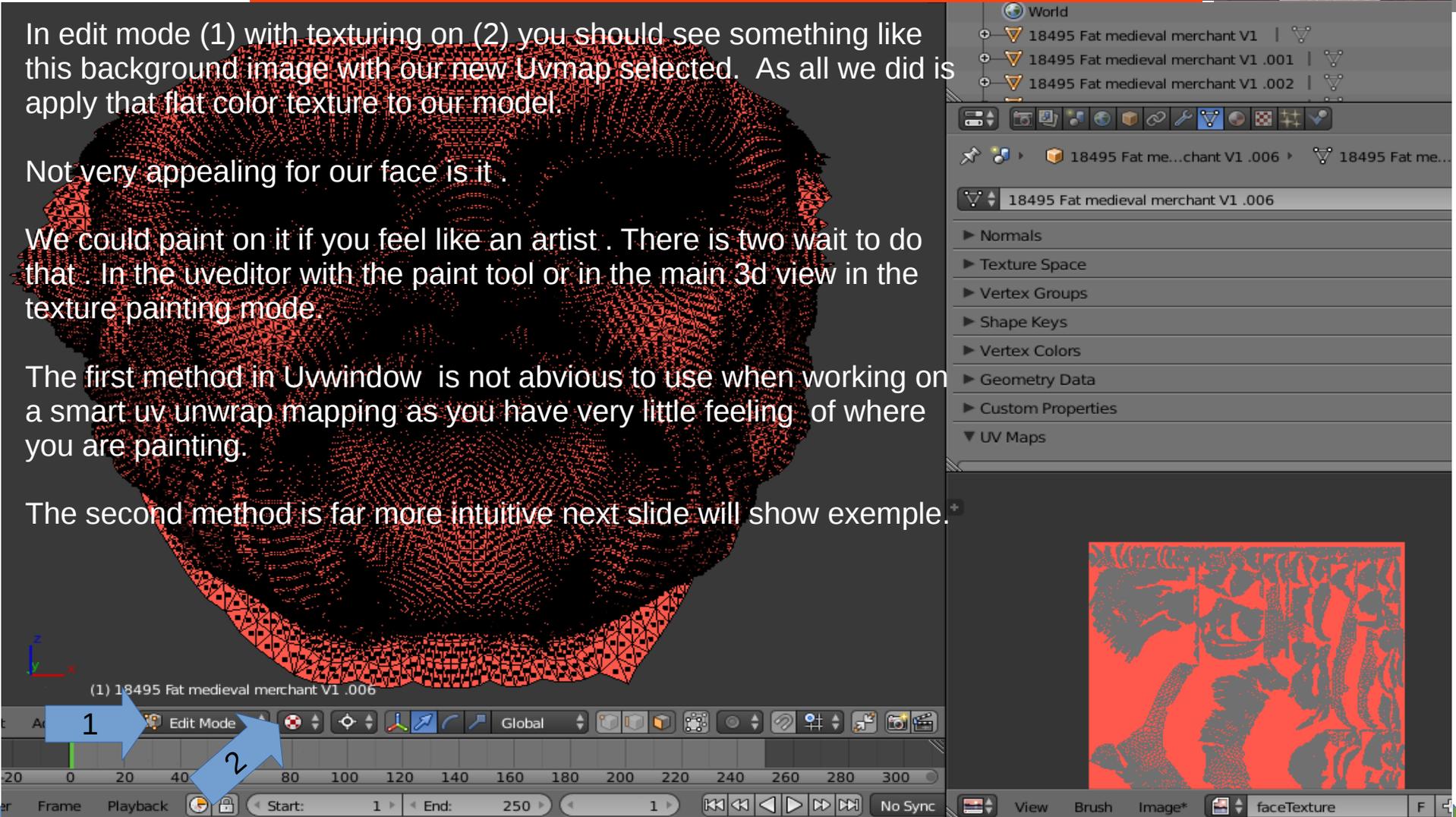
In edit mode (1) with texturing on (2) you should see something like this background image with our new Uvmap selected. As all we did is apply that flat color texture to our model.

Not very appealing for our face is it .

We could paint on it if you feel like an artist . There is two wait to do that . In the uveditor with the paint tool or in the main 3d view in the texture painting mode.

The first method in Uvwindow is not obvious to use when working on a smart uv unwrap mapping as you have very little feeling of where you are painting.

The second method is far more intuitive next slide will show exemple.





# BLENDER UV TEXTURE



**Slots**

**Mode Image**

**Canvas faceImage**

**The UVmap**

In the left side window you will see the slots tab. Use it to define the texture slot we want to use.

This slot basically define the canvas image and the uvmap we are using for painting.

(1) 18495 Fat medieval merchant V1 .006

View Image\* faceTexture 2 F





# BLENDER UV TEXTURE



change mode to solid so you can see better the head of our subject

In the left side window you will see the tool tab.

In the window select the TexBrush. Also choose the color and the brush size. Experiment with the mode of painting is interesting.

If you are an artist there is a lot of creative possibilities using brush tool.

The painting result get automatically translated into you faceTexture image to be imported inworld with your object later.

Save often to keep your modification synchronised with you external texture image.

Tools tab

TexBrush

Color picker

Brush size

Mode Mix

Texture Paint

Solid Rendering

Texture Paint

faceTexture



# BLENDER UV TEXTURE



I found this great picture on the net.  
Remarkably close to the model .

The next step of this tutorial will show you  
how to use this image to help you texture  
you subject using the blender clone brush.

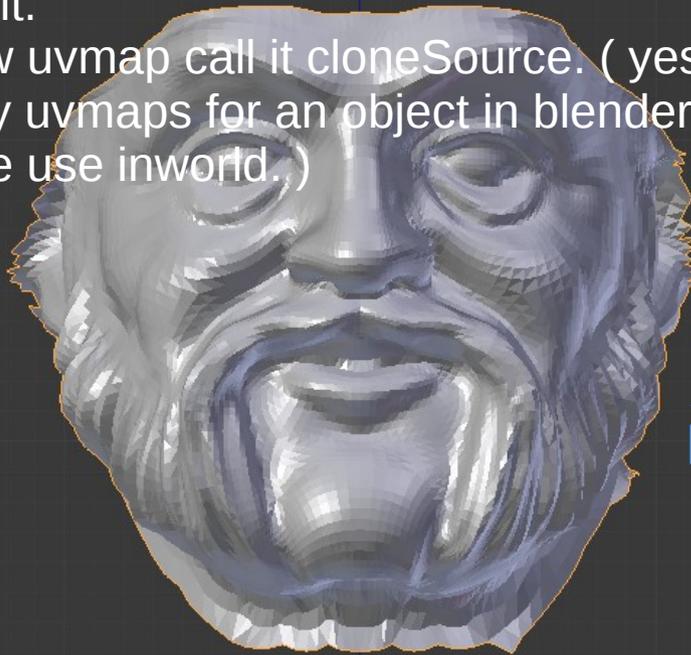




# BLENDER UV TEXTURE



- 1) In UVeditor open the image we found .
- 2) In object mode set front view and if necessary use view all to see it.
- 3) Create a new uvmap call it cloneSource. ( yes you can have many uvmaps for an object in blender but only one will be use inworld.)



Blender Properties Panel - UV Maps section

- World
- 18495 Fat medieval merchant V1
- 18495 Fat medieval merchant V1 .001
- 18495 Fat medieval merchant V1 .002

UV Maps list:

- UVMap
- pents
- manteau
- figUVmap
- cloneSource

Annotations: "Data" arrow points to the UV Maps section, "add" arrow points to the "+" icon, "rename" arrow points to the "cloneSource" entry.

Image Editor Context Menu

- Pack Image
- Invert
- Edit Externally
- Save a Copy
- Save As Image (F3)
- Save Image (Alt S)
- Reload Image (Alt R)
- Replace Image
- Save All Images
- Read Render Layers (Ctrl R)
- Open Image (Alt O)
- New Image (Python: bpy.ops.image.open())

Annotation: "Image / Open" arrow points to the "Open Image" option.

Front view

Object

Image / Open





# BLENDER UV TEXTURE



Now create the map but use project from view  
This will create a much more recognizable pattern on the image.

In Uveditor, adjust it using "a" to select all, "s" to scale it and "g" to grab and move it around.

Make sure mesh display is all turn off and that you are in vertices selection so you can see what you are doing.

**Project from view**

**UV unwrap**

**Mesh display**

**cloneSource**

**add**

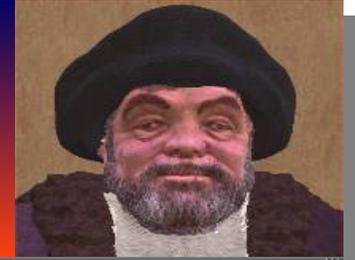
**Edit**

**Vertices**

**RichMarchand1.jpg**



# BLENDER UV TEXTURE



Align the eye or any other part of the face you want to work with.

The image displays the Blender 2.75 interface during a UV mapping process. The central 3D viewport shows a wireframe mesh of a medieval merchant's face, with orange dots representing UV vertices. The left sidebar contains the 'Tools' and 'Mesh Tools' panels. The right sidebar shows the 'UV Maps' panel with 'cloneSource' selected. The bottom status bar shows the current object is '18495 Fat medieval merchant V1.006'. A blue arrow points to the left sidebar, and a green arrow points to the right sidebar.





# BLENDER UV TEXTURE



Going to Texture mode and solid rendering.

we did earlier the slot should already have faceTexture and UVMap selected.

not make sure the UVMap is the UVMap highlighted not the cloneSource.

Texture Paint

Texture Solid

Slots

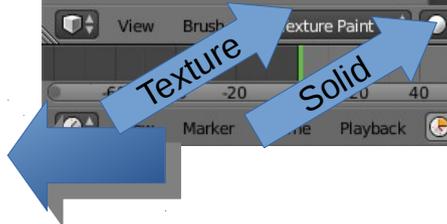
FaceTexture

UVMap

UV Maps

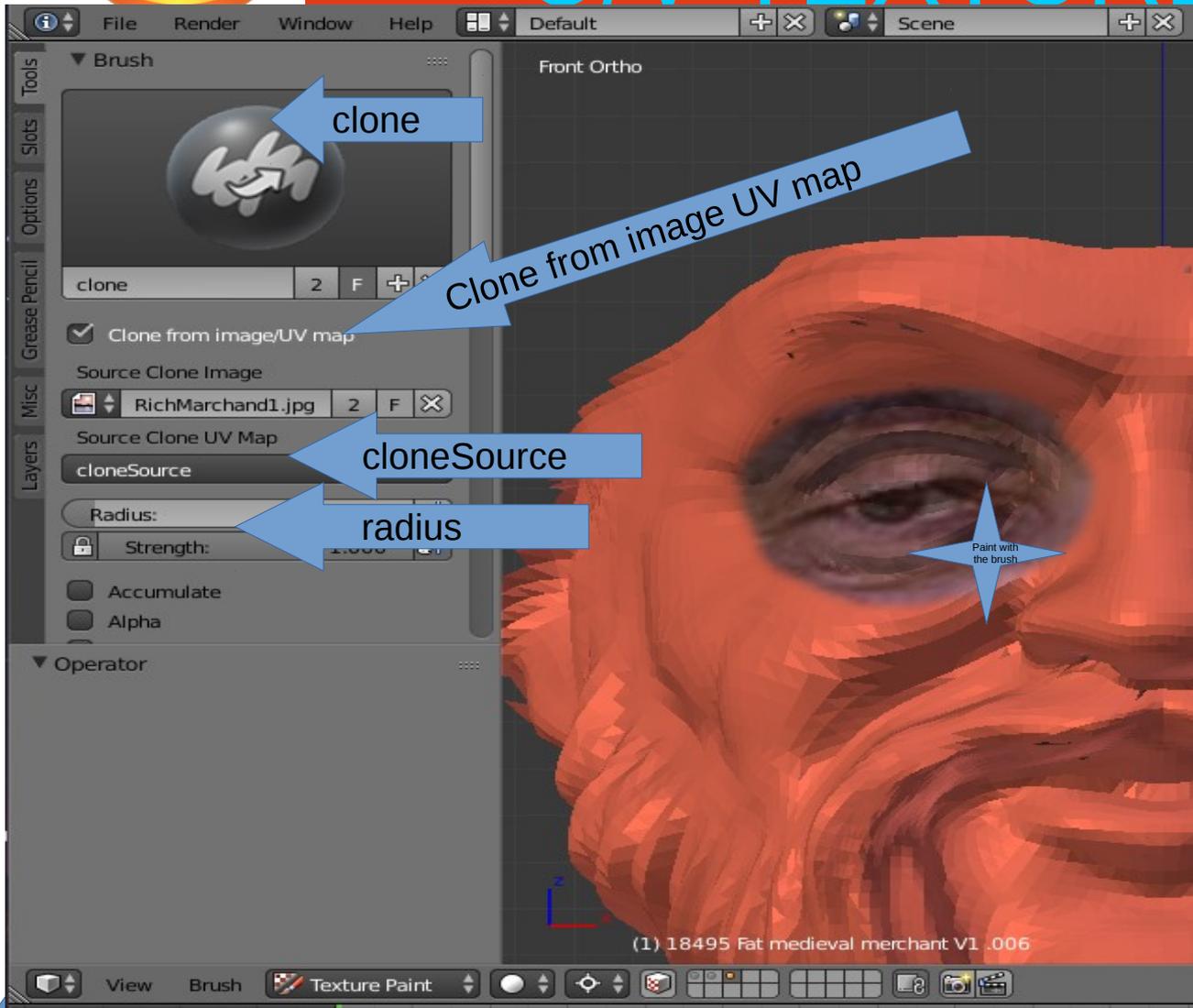
- UVMap
- pents
- manteau
- figUVmap
- cloneSource

View Image\* faceTexture 2 F





# BLENDER UV TEXTURE



Now the miracle. Using the clone brush .

1) Make sure the clone from UV map is selected.

2) select the richMarchand image. .

3) Also the clone UV map is the cloneSource.

4) Radius of the brush can be modify so is the zooming.



# BLENDER UV TEXTURE



Going back to edit mode, texture rendering and align the second eye.

You then in position to paint that part going back to texture painting.

- ▶ Vertex Groups
- ▶ Shape Keys
- ▶ Vertex Colors
- ▶ Geometry Data
- ▶ Custom Properties
- ▼ UV Maps
  - ◉ UVMaP
  - ◉ pents
  - ◉ manteau
  - ◉ figUVmap
  - ◉ cloneSource



Edit Mode | Global | [Tools]

40 60 80 100 120 140 160 180 200 220 240 260 280 300

Start: 1 End: 250 [Navigation] No Sync

View Select Image UVs RichMarchand1.jpg 2 F



# BLENDER UV TEXTURE



Using the clone brush .

Make sure the clone from UV map is selected it is probably changed.

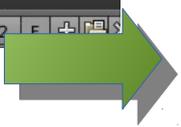
And go ahead have fun with the second eye.

Slot

UVMap

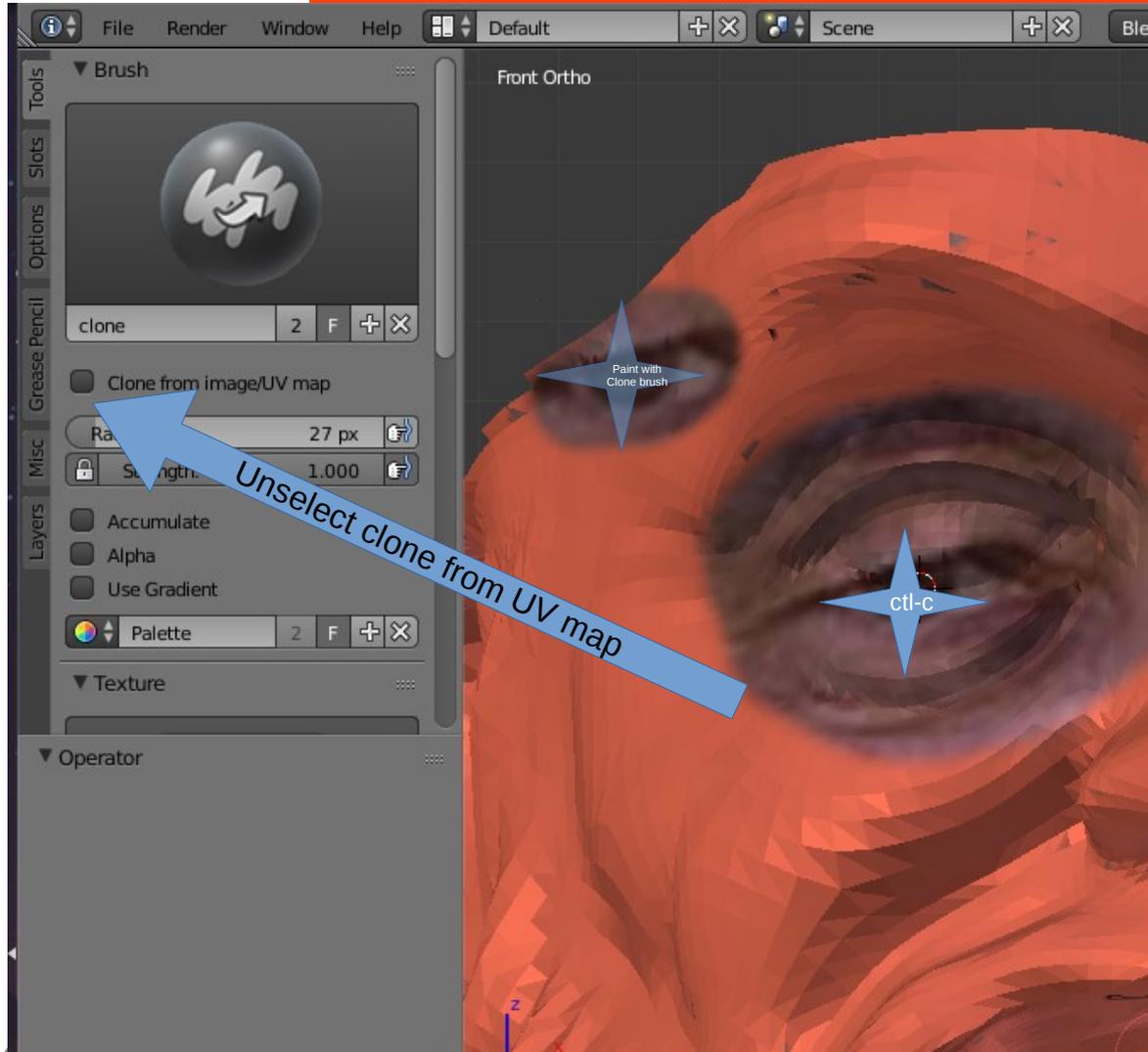
UVmap

Paint with the brush





# BLENDER UV TEXTURE



One interesting feature of the clone brush is to use it without cloning from imageUV map.

In that case use `ctl-c` with the brush located somewhere.

Then you can paint with that information somewhere else on the object.

Very hand to make touch ups to your creation

Remember to save you faceTexture UVtexture often.



# BLENDER UV TEXTURE



After a bit of work iterating between the cloneSource map to match the part to paint and coming back to texture painting to do so, this is what I obtain.

When all done with the marchand 10 objects. Select them all and export the objects to DAE. Make sure the correct active Uvmap is selected for each object..

Inworld get the DAE and all the texture you created. Import them together or apply them to each part as required. If you need help see Mesh import tutorial to do it.





# BLENDER UV TEXTURE



## SUMMARY

- Making UVtexture is not obvious and blender offers many possible solution and tools.
- The first part is to create a repetitive map so any uniform texture can be applied to the object
  - 1)This tutorial present creating a UVmap using smart uv mapping tool in blender
  - 2)Then applying an existing texture.
  - 3)Using UVeditor change the map scale to create a repetitive pattern for the texture.
- Then tackle the head by using clone texturing.
  - 1) Create a second UVmap to be use for clone source.
  - 2) Apply a cloning image on it.
  - 3) Align it with your object and paint the mesh appropriately
  - 4) Align and paint until you are done with texturing .
- Then import inworld the DAE of the object and texture you have created.

