

# PrintAhead 2.0

PC

## User Manual

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**Abalone LLC.**

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## System requirements

### Required hardware

**WIN:** PrintAhead runs with the following minimal hardware:  
A Windows-based personal computer or laptop with the following minimal requirements:

Screen of a resolution at least 1024x768  
500 MB free disk space

### Needed system software

PrintAhead runs under the following system software:  
Windows VISTA, W7, W8, W10 operating systems.

To read pdf manuals Adobe Acrobat is recommended

To watch "How-to" videos Windows Media player is recommended:

Abalone LLC offers tech support through email and Skype  
Email address is [info@abalonellc.com](mailto:info@abalonellc.com)

# **About the manual**

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Chapter 1 – PrintAhead QuickStart

Chapter 2 – PrintAhead Tabs

Chapter 3 – PrintAhead Advanced Operations

Chapter 4 – TroubleShooting

## What is PrintAhead 2.0?

PrintAhead 2.0 is an easy-to-use standalone Windows application that turns a portrait photo into a 3D printed full color statue as shown below.



**In the following we will show the few steps needed to create your first 3D printed statue.**

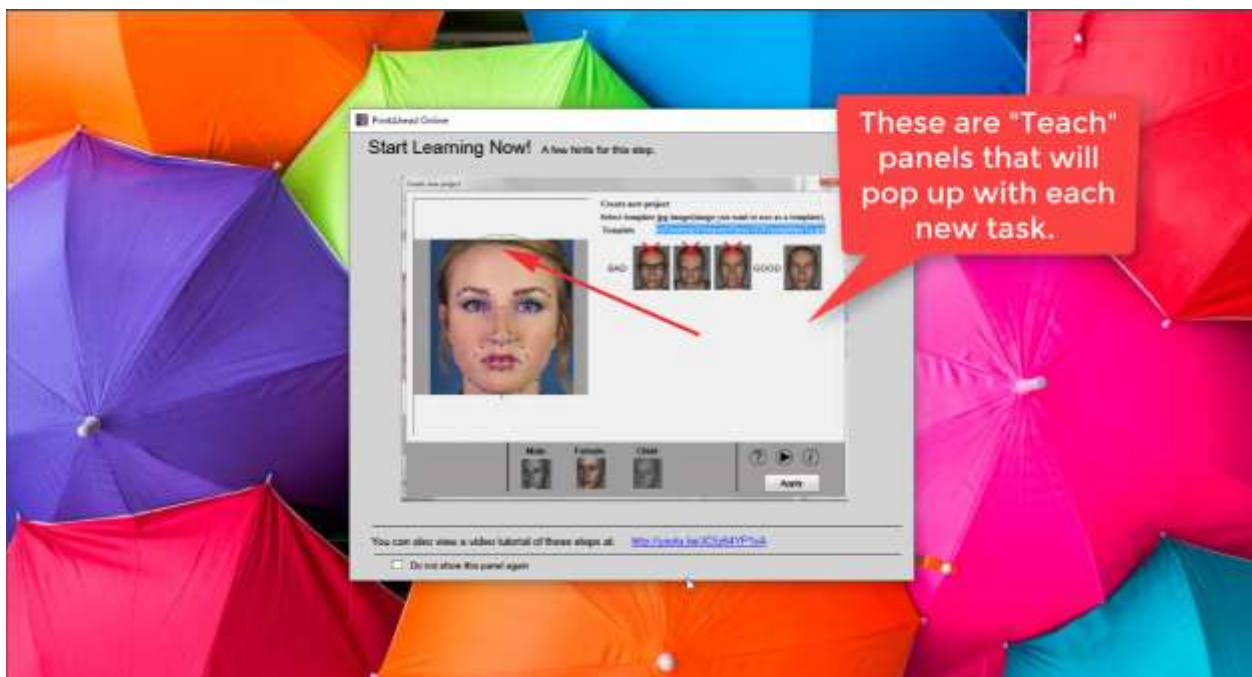
# Chapter 1: QuickStart

Video: [https://youtu.be/\\_QbkF\\_4t7Ck](https://youtu.be/_QbkF_4t7Ck)

**Step 1.** Launch PrintAhead 2.0 by double clicking on the RH.HeadShop.exe application. You will see a splash screen greeting you.



Next you will see a „Teach” panel. Each of the tasks ahead of you is explained in a „teach” panel. If you no longer want to see these panels, you can click on the „Do not show” box at the lower right corner. You can always find and reopen these „Teach” panels under the Help menu.

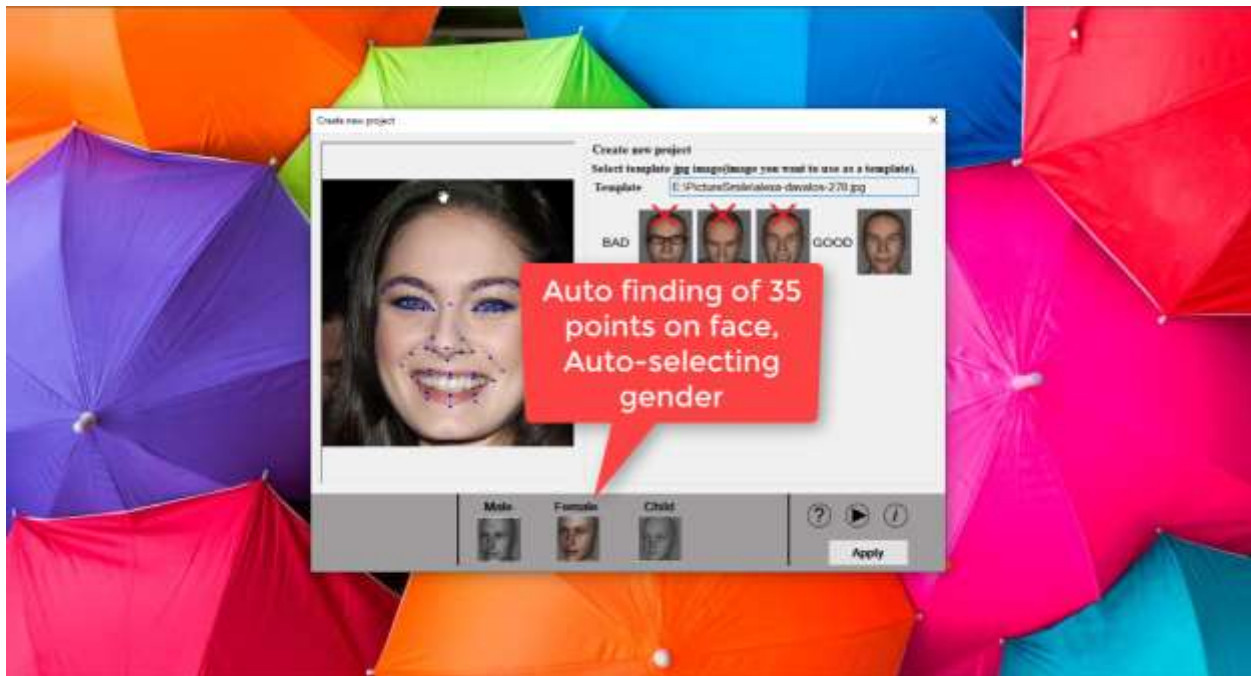




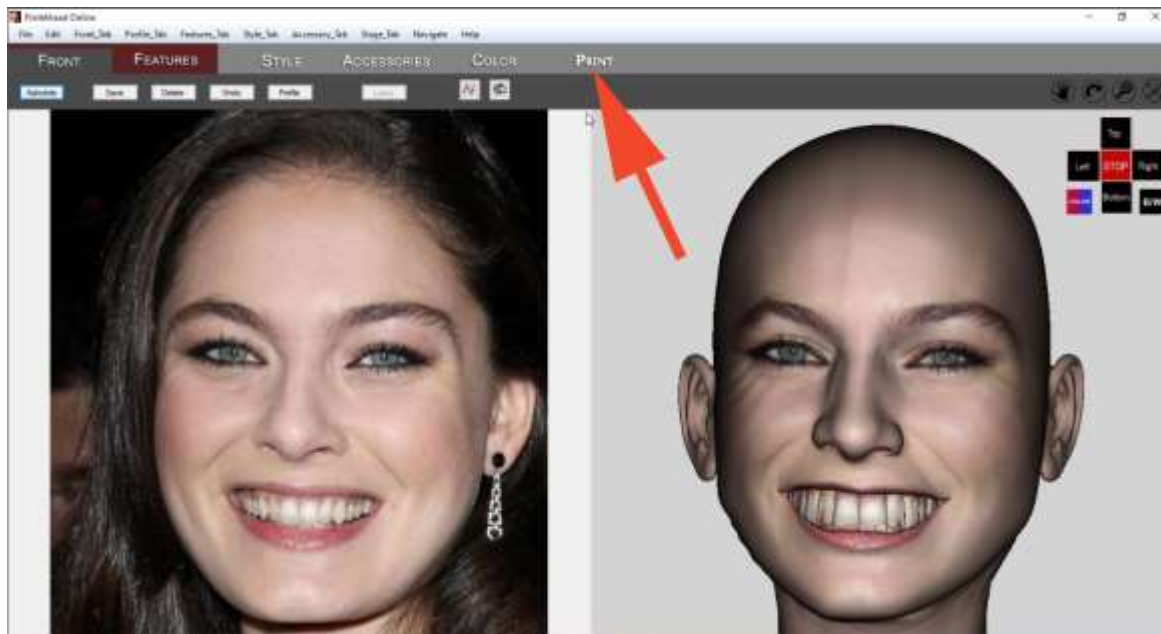
**Step 2.** When the SetUp dialog appears do the following: Browse for your portrait photo. Make sure that the photo is well lit and high-resolution (but not bigger than 2000x2000). Since you will spend money on the printing process, it is important to ensure that you receive quality output.



Notice that once the picture is placed, PrintAhead will auto-find 35 significant points on the photo and also auto-detect the gender of the photo. (In case a young child you need to manually click on the Child button).

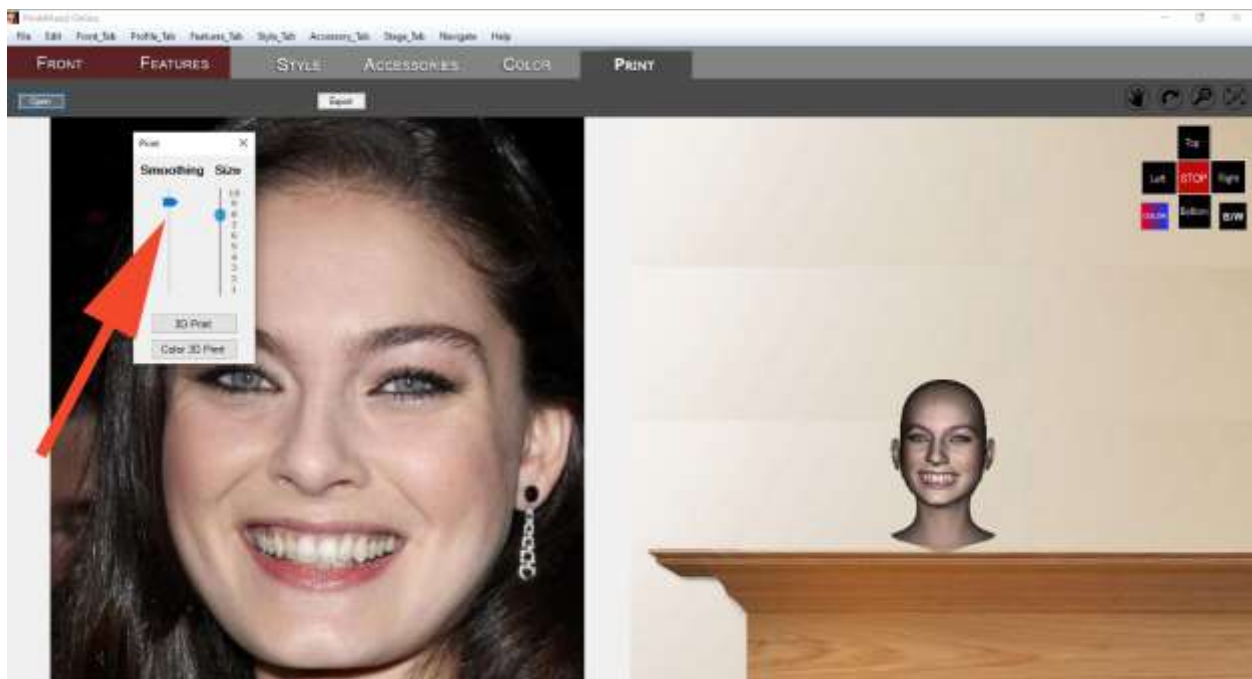


**Step 3.** The workscreen appears. Notice that there are six tabs on the top: Front, Features, Style, Accessories, Color and Print. This also describes the workflow – even though you do not need to use all of the panels. For example, for this QuickStart project we will only use a few.



On the left side you see your original photo, on the right a 3D head. You can view the 3D head from Front, Back, Left, Right via the Navigation cross, or rotate the head using the Rotate tool above the cross.

If you find that the 3D head looks a little „rough”, you can click on the „Print” tab to fix it. By moving the „Smoothering” slide down, you can smoothen the photo to your liking.

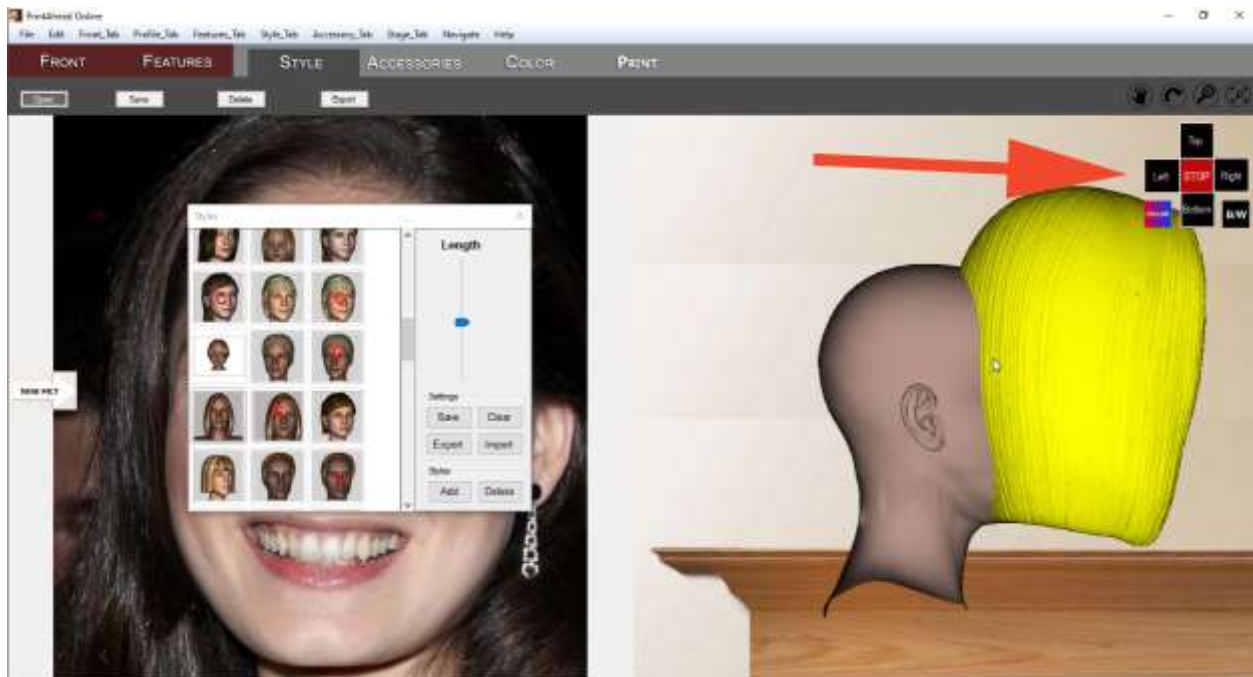


**Step 4.** Next click on the „Style” tab and then open the Style Library. Here you will find many hair styles. The ones labeled with „C” are meant for child statues.

Select and drag a hair style over to the right side to the 3D head.

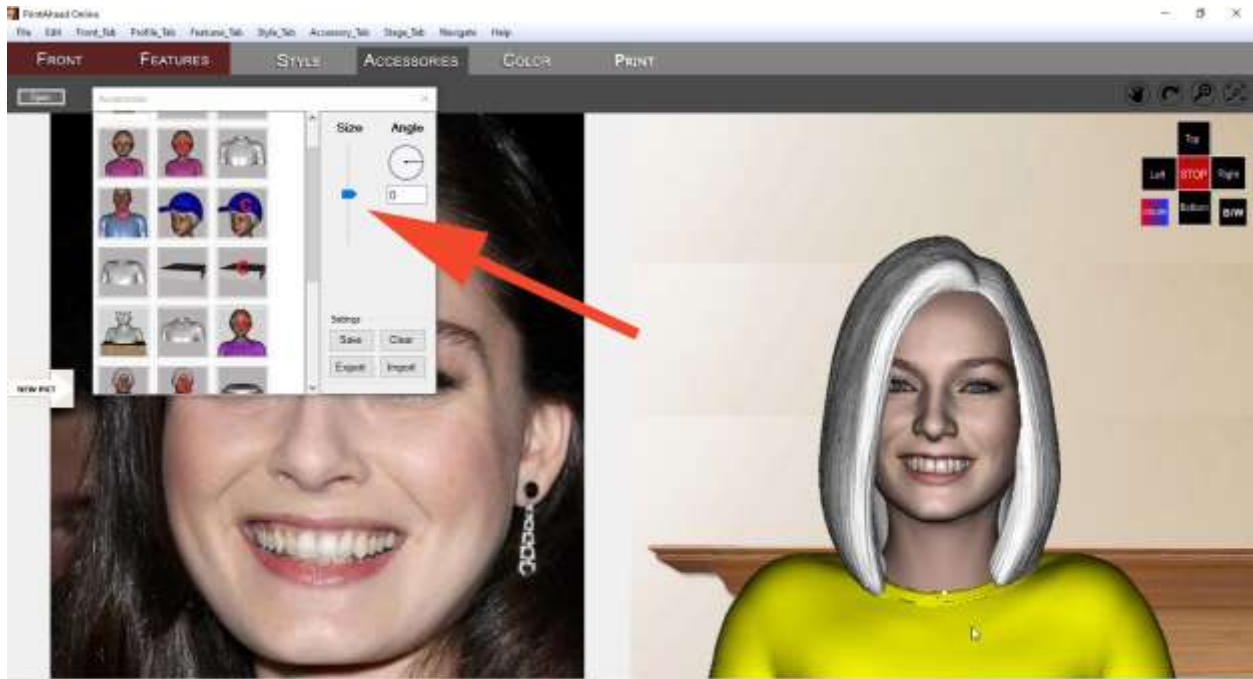


You must fit the hair on the 3D head. Drag it to the correct position. Use the Navigation cross to ensure that it looks OK from all sides.

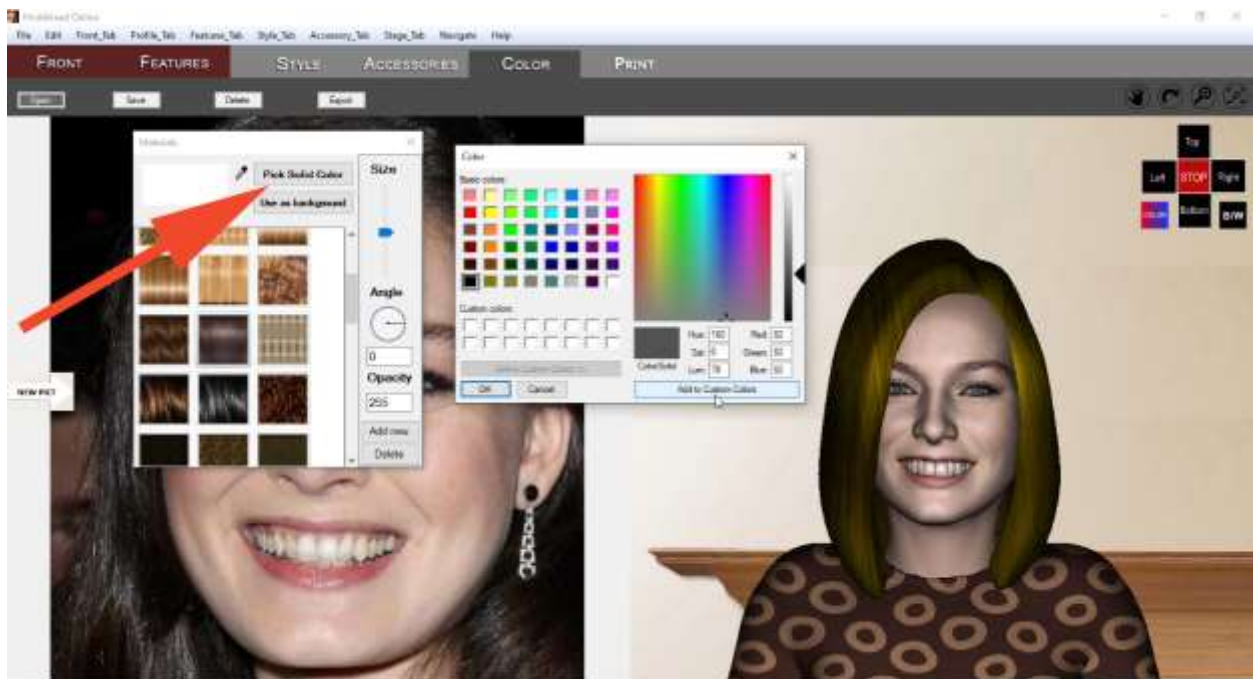


**Step 5.** Once you finished with the hair, you can proceed to the next tab, the „Accessories” tab. Here th library contains shirst and pedestals. Select a shirt and drag it over to the right and fit it to the 3D statue. Again, use the Navigation cross to make sure it fits.



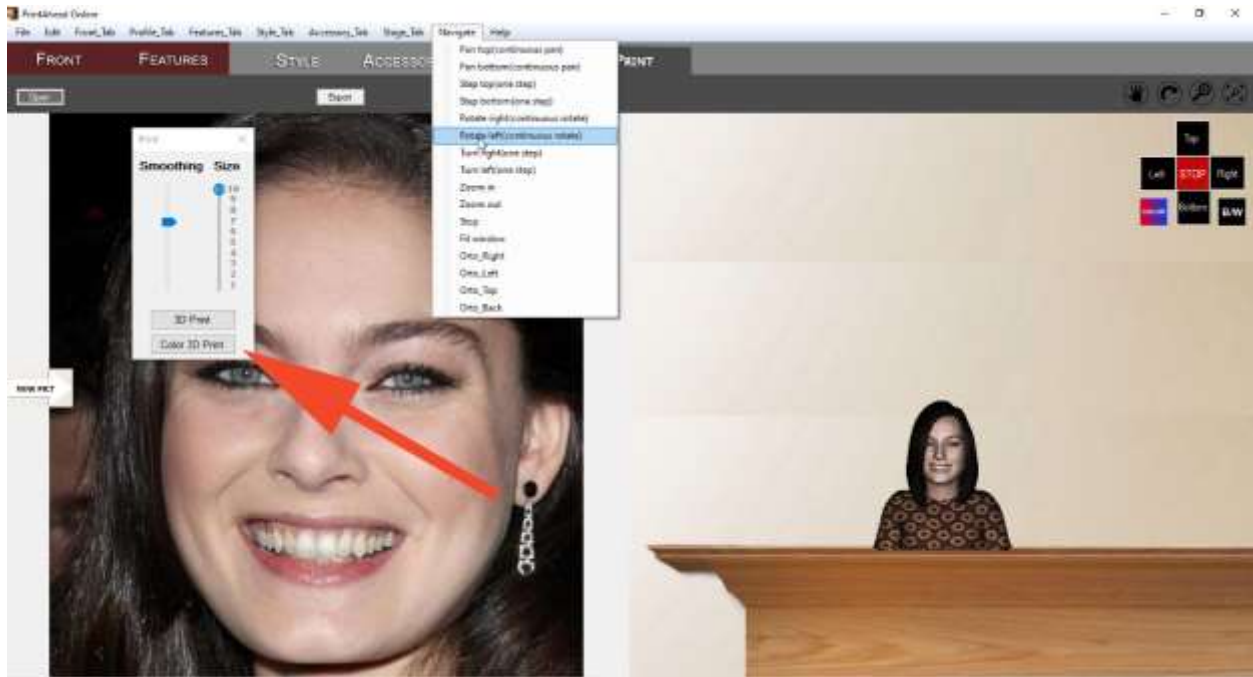


**Step 6.** „Color” Tab. With the help of this tab you can add pattern or color to your items. Starting with the shirt, highlight it and choose a pattern. Next select (highlight) the hair and choose a texture. You can change the color of the item using the „pick Solid Color” button.

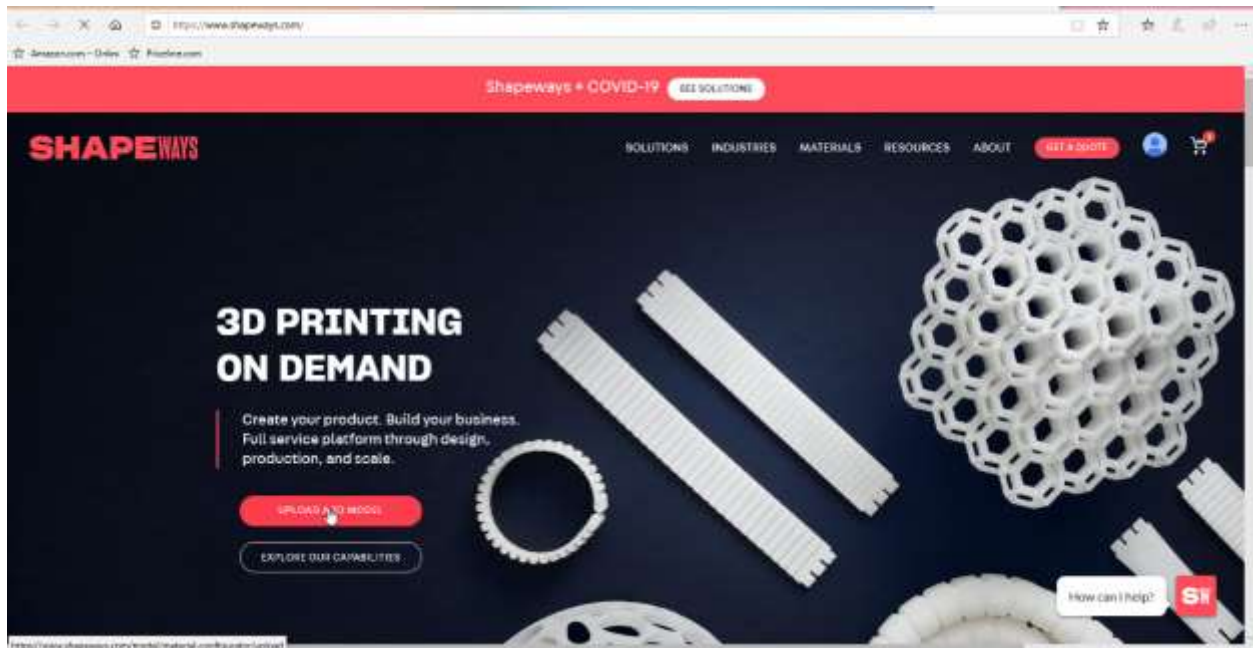


**Step 7.** The final step in PrintAhead is to review your statue. There is a mantelpiece background provided to see the statue how it will look in your home. Use the Navigation menu/Rotate commands to see the statue rotate on the mantelpiece.

It is a good idea to set the „Size” slider to 5 or 6, as the printer may reject larger sizes. Once you are satisfied with the statue, click on the „Color 3D Print” button to save you files in a folder that you name specifically.

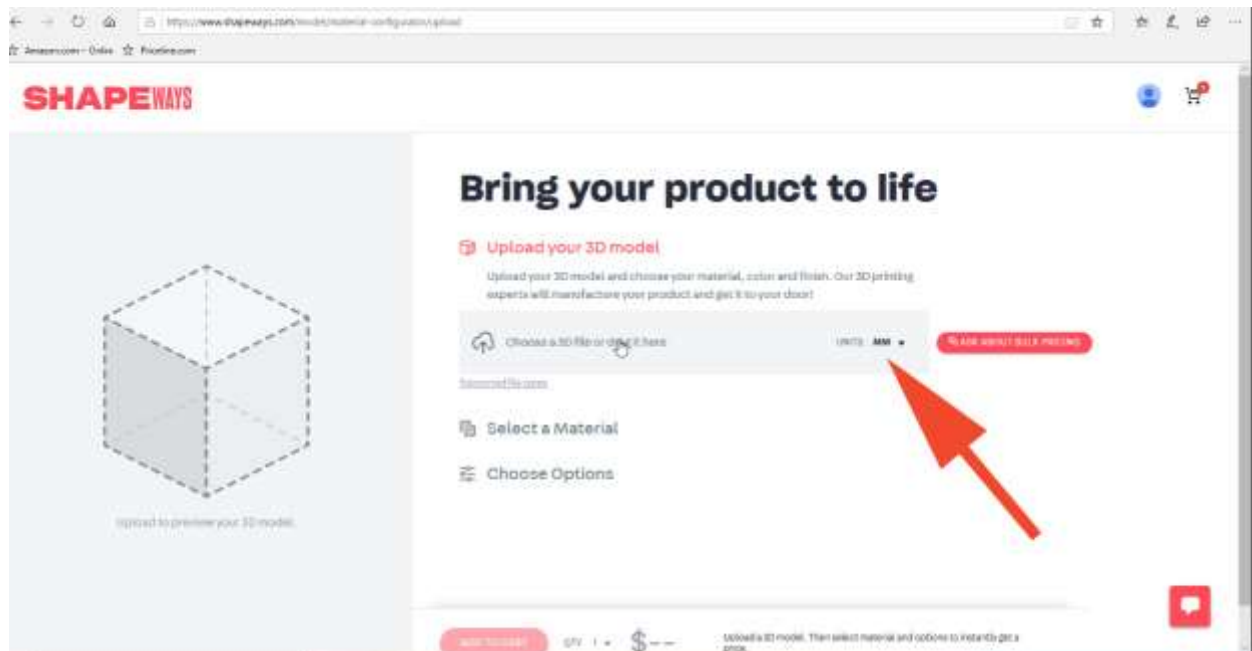


When you Export, PrintAhead will automatically open Shapeways web site. Read more about the printing process in the next chapter.

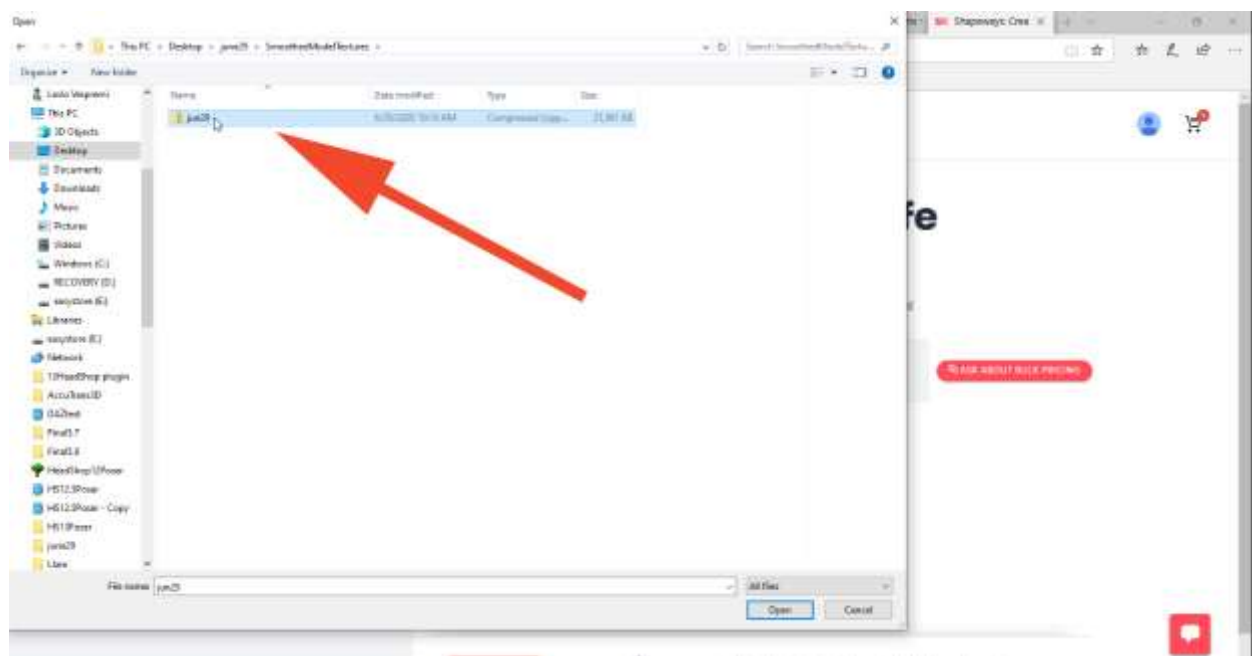


## Chapter 2: Printing

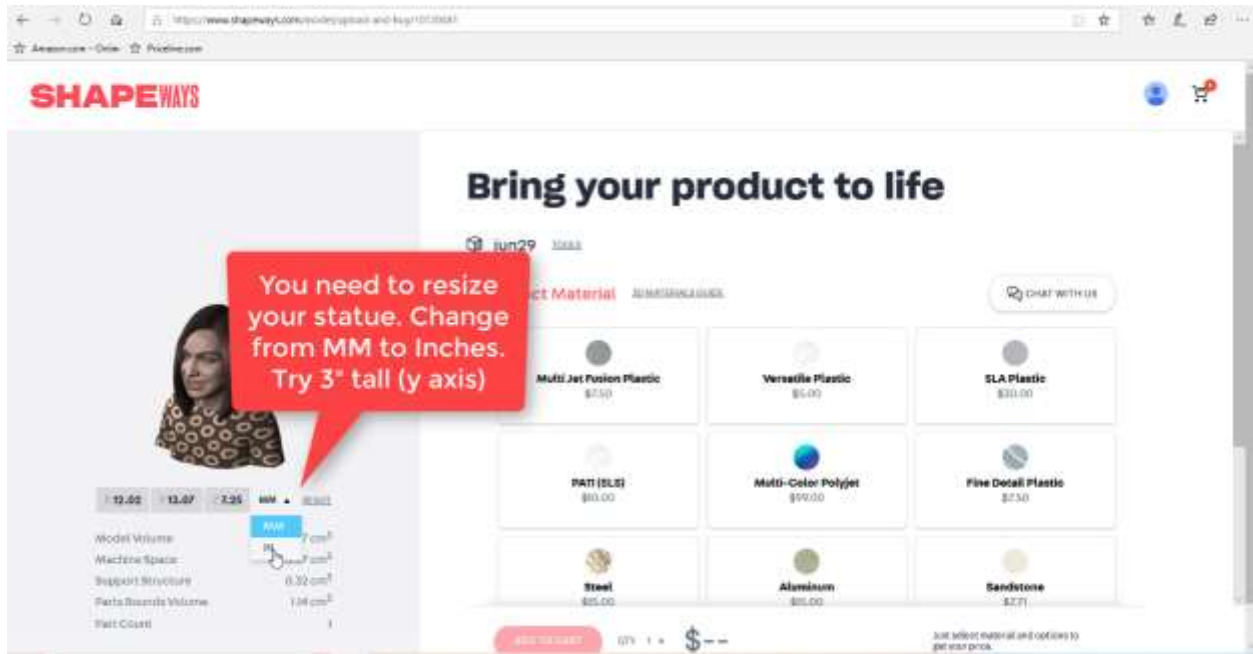
**Step 1.** In Shapeways, click on the „Upload a 3D Model” button. This will open the upload page.



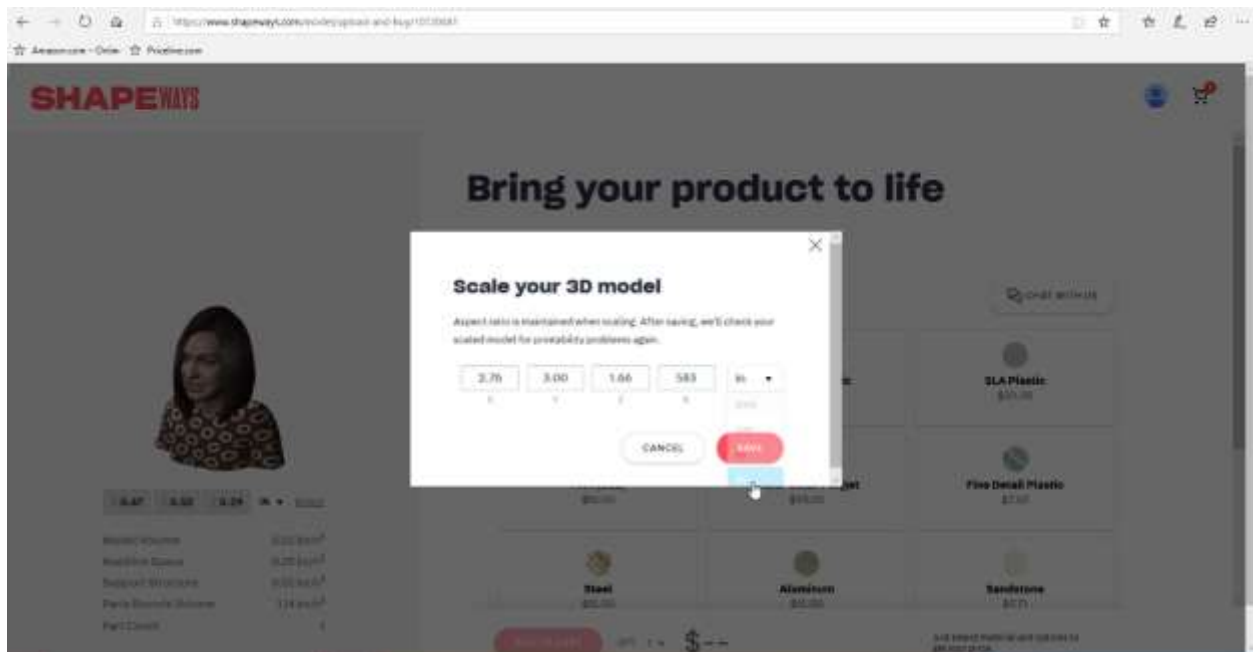
Browse for your saved „zip” file. It will be inside your saved folder, inside another folder called „SmoothedModelTextures”. Select the zip file.



**Step 2.** It may take several minutes for Shapeways to process the statue. Once you see the statue appear, you need to change the default scale of millimeters (mm) to inches.



We suggest you start with a statue 3 inches tall (in the „y” direction).



**Step 3.** Once you changed the size (may take another few minutes), you need to select the material the statue will be printed with (don't select gold!). Select „sandstone” and Full Color Sandstone. Your printing price will be displayed at the bottom. Add to your shopping cart and you are ready to order!

https://www.shapeways.com/...  
Addons - On - Provisions

# Bring your product to life

jun29 2023

Sandstone OSMILL [CHAT WITH US](#)

**Choose Options**

**COLOR**

Plain +\$0

**Full Color**

**MATERIALS / FINISHES**

**Glossy** +\$0.92

A glossy finish that provides UV & moisture resistance and bolder colors.

**Natural**

The natural finish has a slightly textured rough surface and a matte coloring.

**ADD TO CART** QTY 1 **\$48.19**

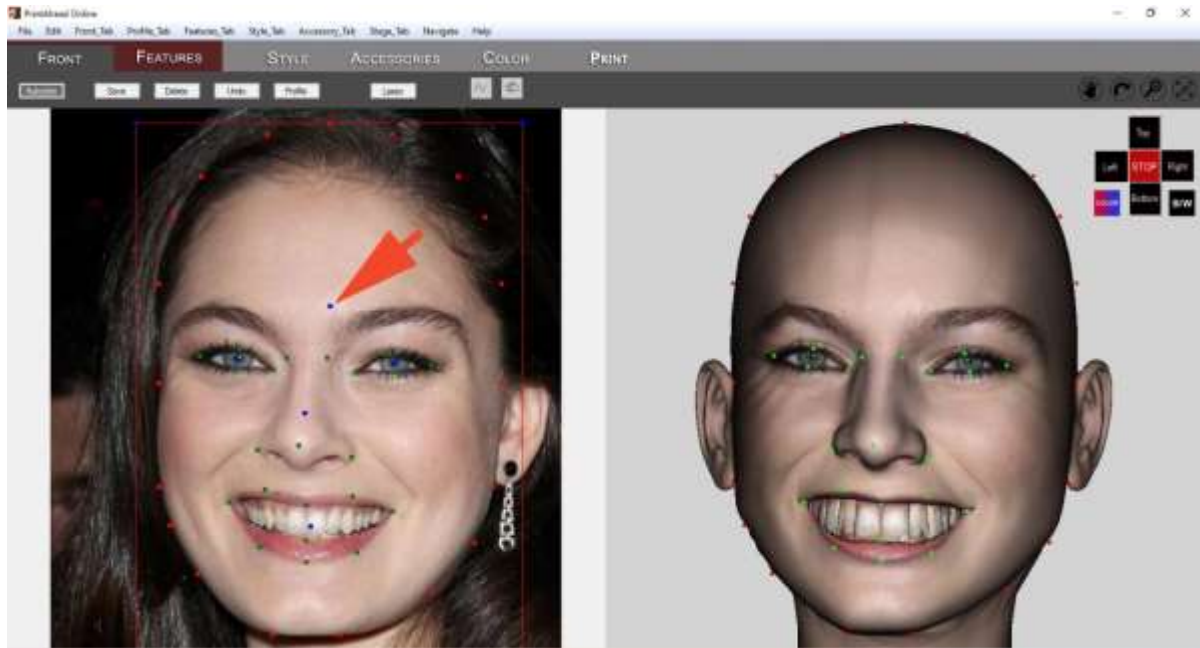


# Chapter 3: Advanced Operations

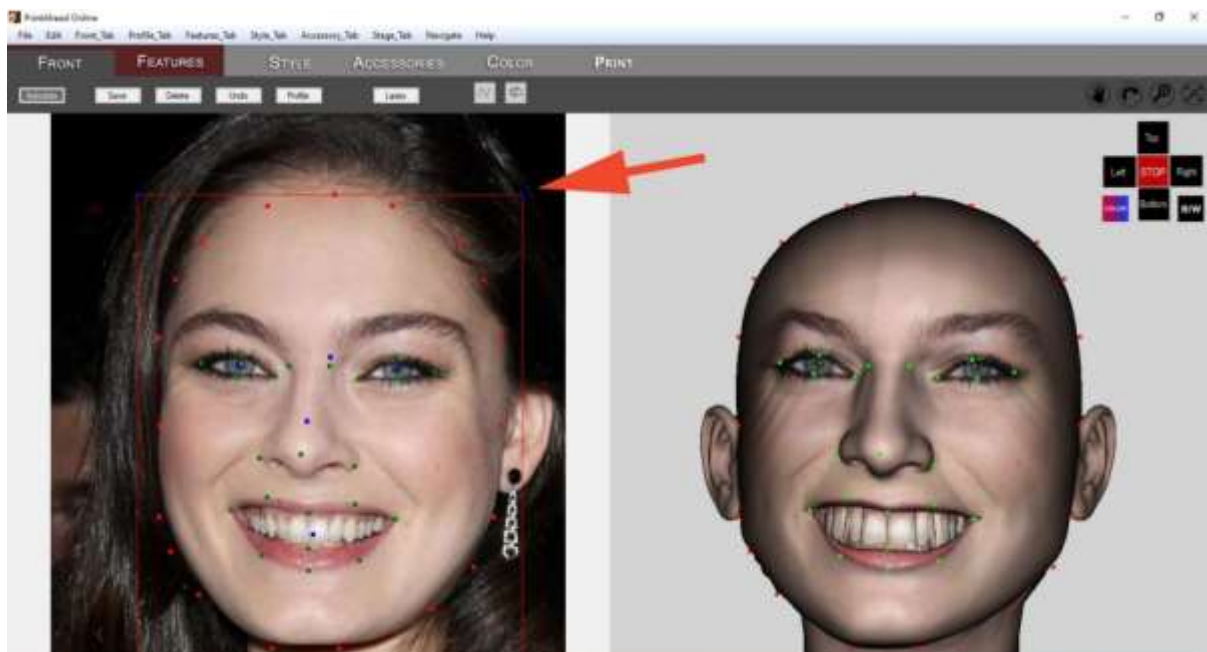
## Autodots

Autodots lets you make overall changes to head shape or smaller changes to chin, nose, eyes, etc. Autodots are for advanced users and chances are you do not need to use them at all.

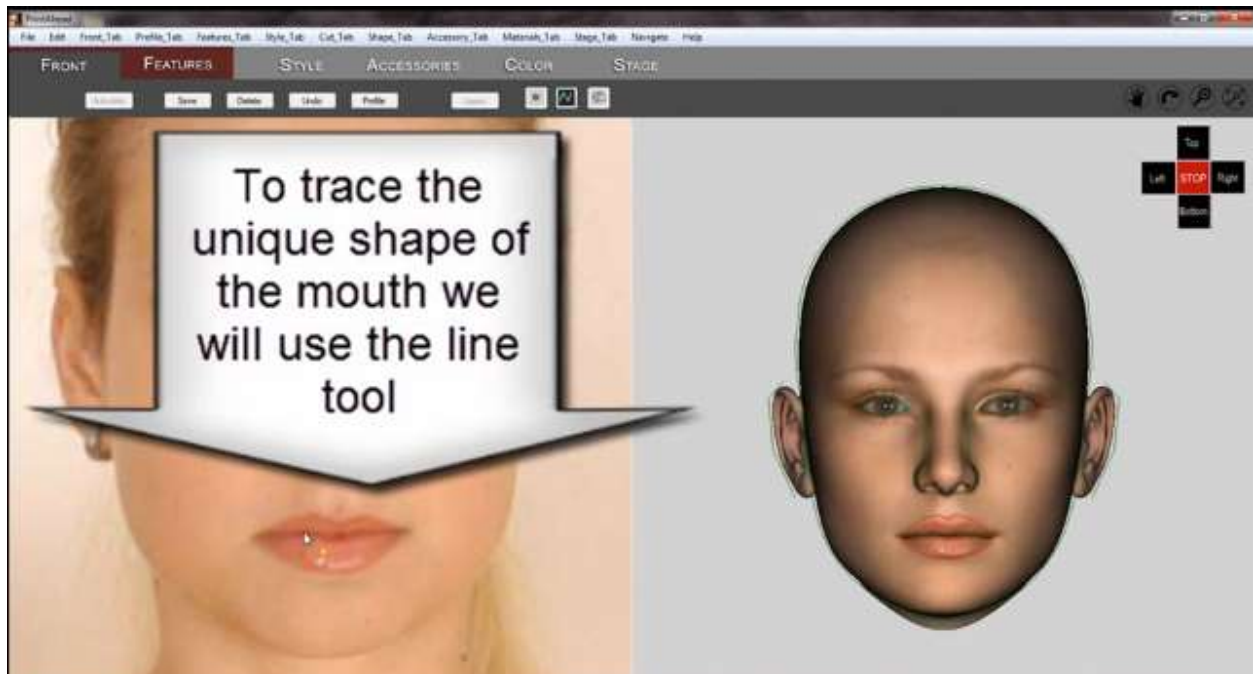
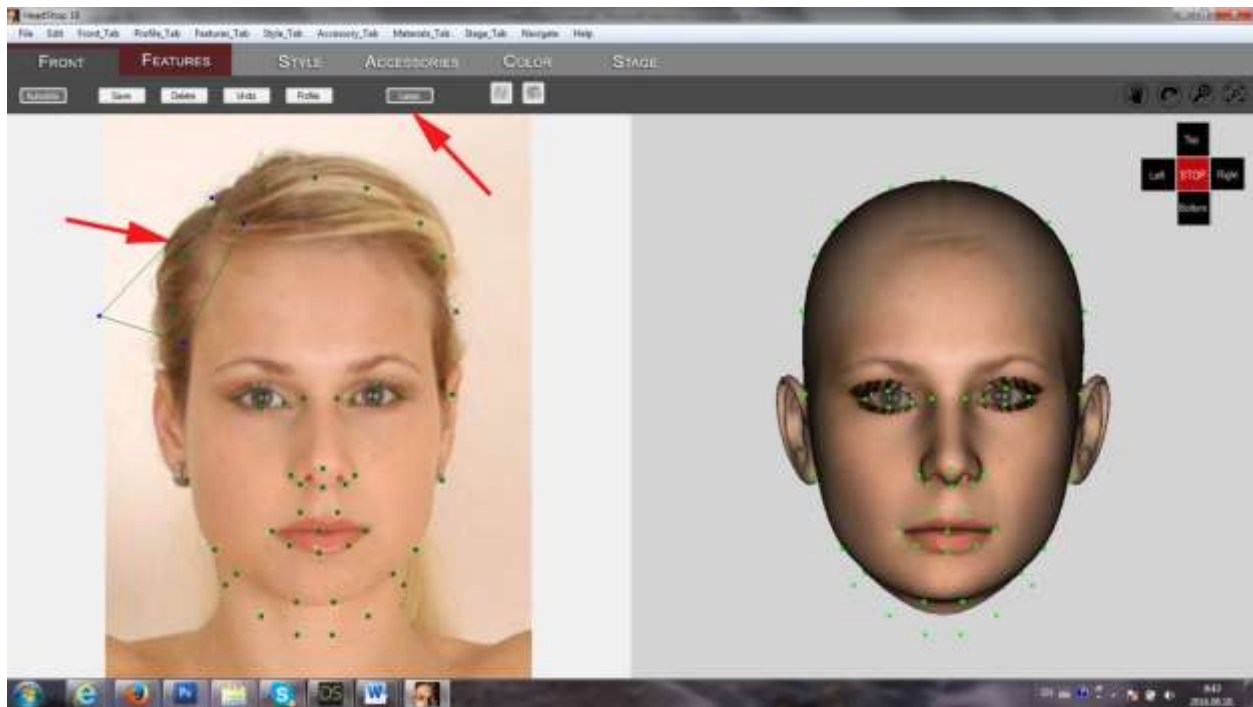
**HeadShape changes:** Select the Group (blue) dot for the mouth. You will see all mouth dots highlight in red. You can now move the whole group to the right position. Observe how this will change the way the 3D head on the right look. Repeat it for the eyes and nose to adjust their position.



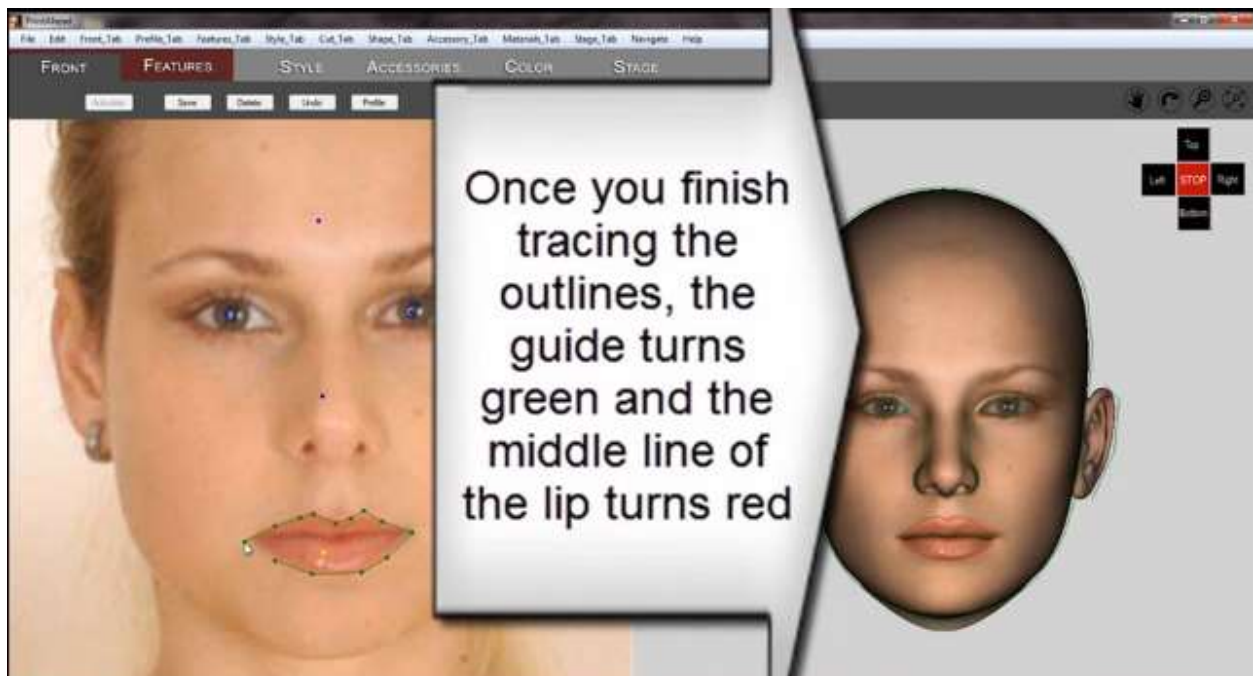
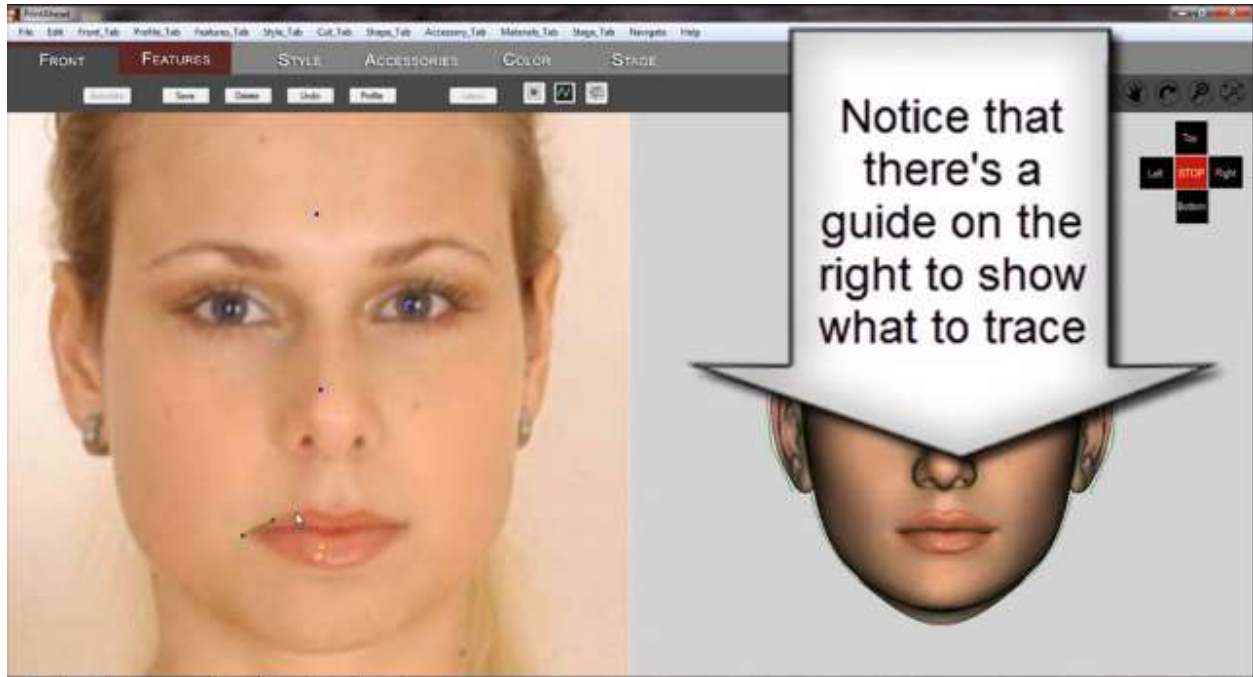
When you touch the Headshape Group dot (middle of forehead), you see a box around the head. Dragging on the corners of the box lets you adjust and resize the box and change the headshape. (Notice that it is important that the blue dot remains centered in the forehead, otherwise you get lopsided heads). You can always use the „Undo” button 😊



**Smaller changes:** You can also select more than one dot using the lasso tool. Here we clicked on the Lasso tool and draw a box around three dots on the left forehead. Now we can move the three dots slightly to the right together.

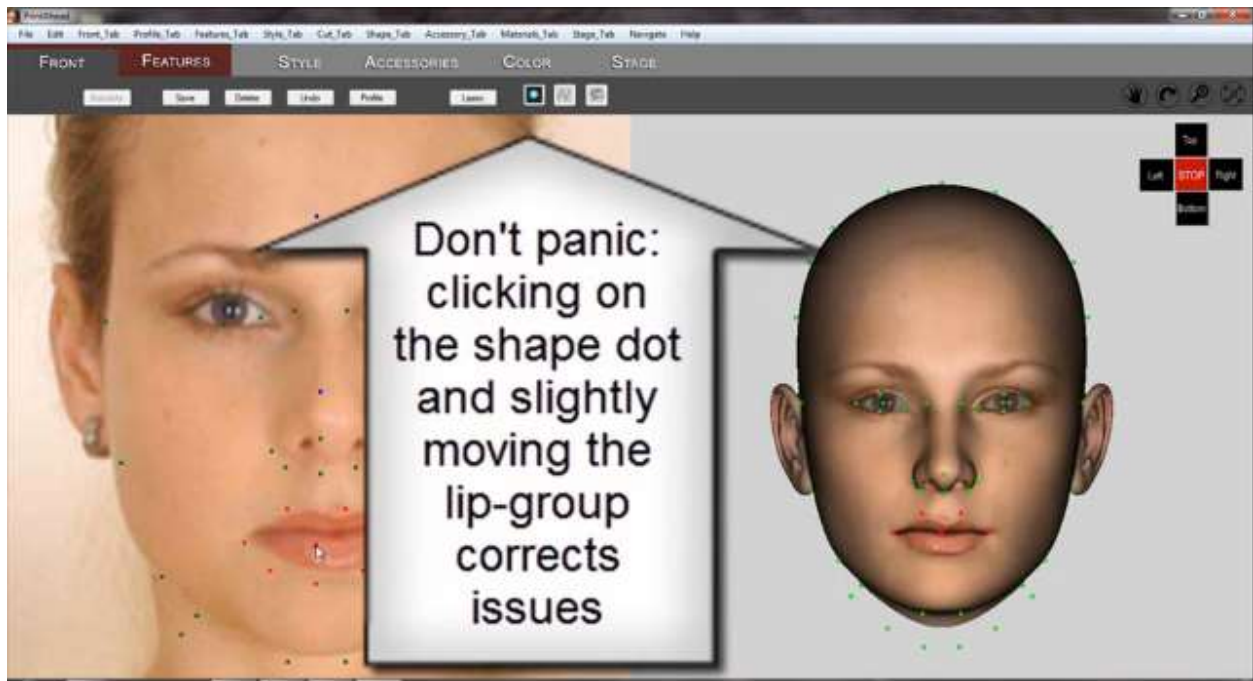


Click on the line tool and then click on the red dots in the middle of the mouth. This will let you trace the outline of the mouth shape, starting from the right corner and going clockwise all the way around. On the right you see a guide showing what to trace (in red).



When you reached back to your starting point, you will see that the guide's outline turn green and the middle line turns red. This is the signal for you to click on the starting point (left corner) and trace the middle of the lips. NOTE: it is a good idea to zoom in so that you get a better chance of tracing.



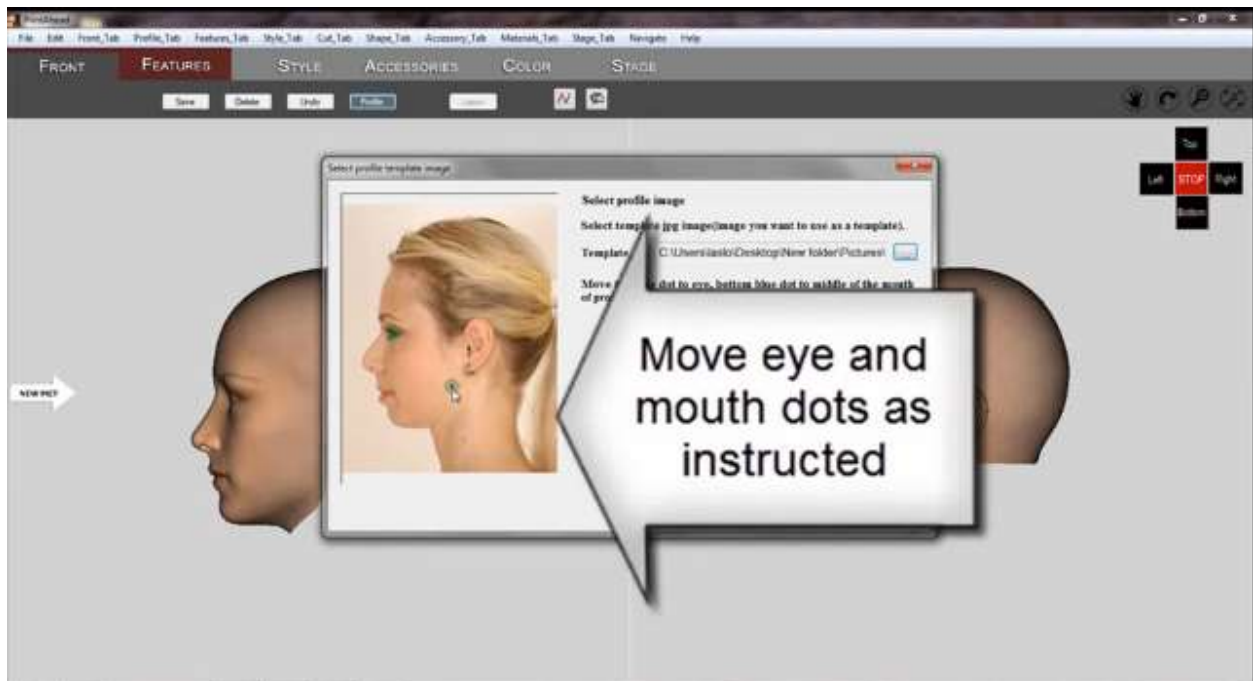


Once you are done, click Enter and unclick the line tool. The mouth will appear very narrow! Do not panic. Simply click on the shape dot, and selecting the blue dot for the mouth slightly move it. This will reset the mouth for the desired shape.

## Profile

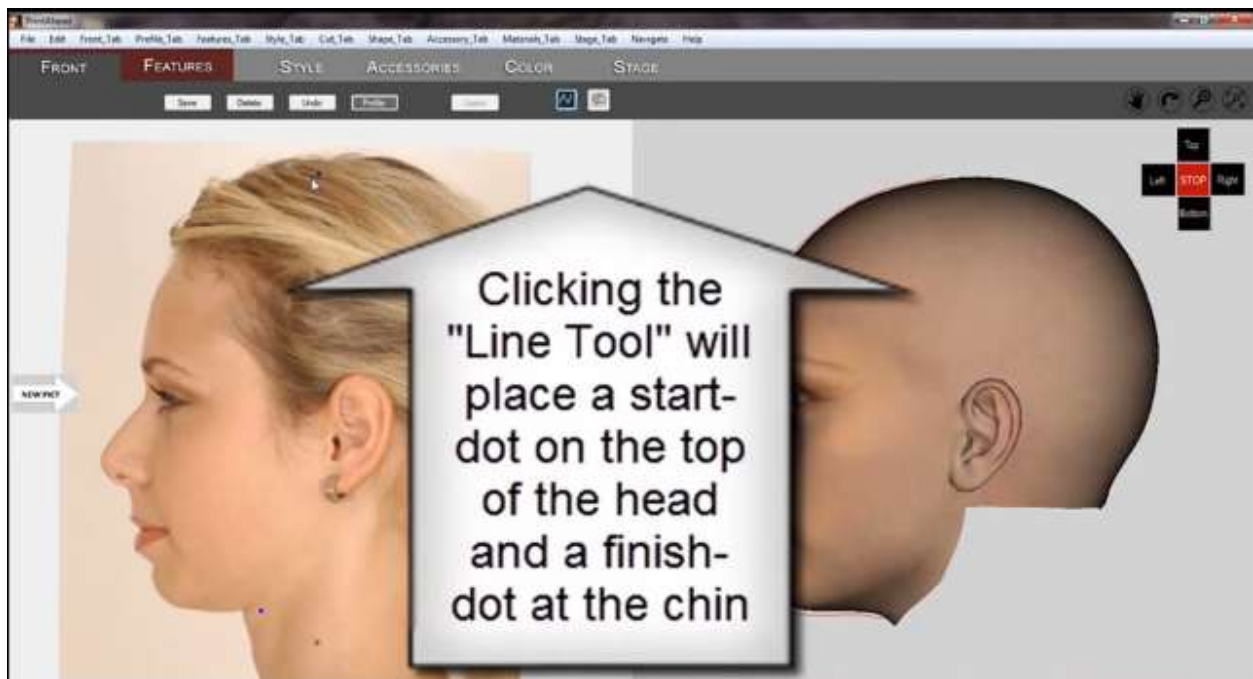


By clicking on the Profile tool in the Front Tab and then the New Pict arrow on the left you can browse for a profile picture to trace from.



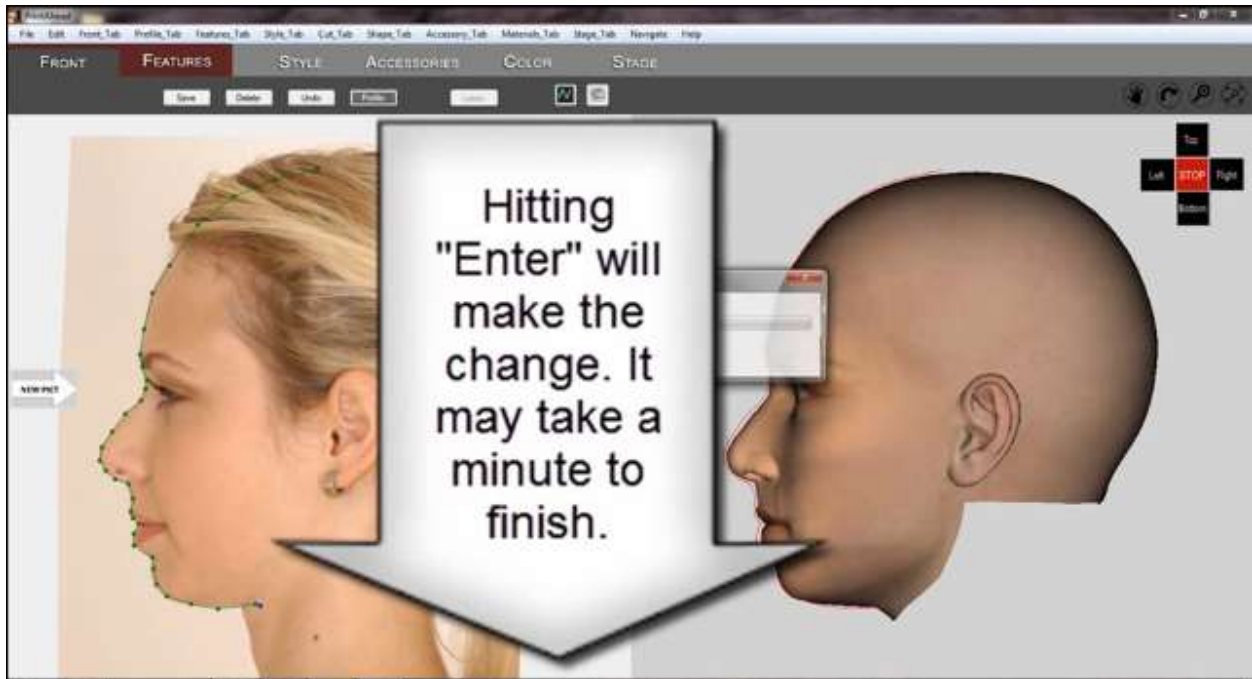
In the next dialog you need to manually move the eye-dot and the mouth dot to get the right angle and size for the profile picture.

When clicking on the line tool it will place your starting dot (top-of-head) and your ending dot (under the chin). Your task is to trace the profile between these two dots, starting on top.



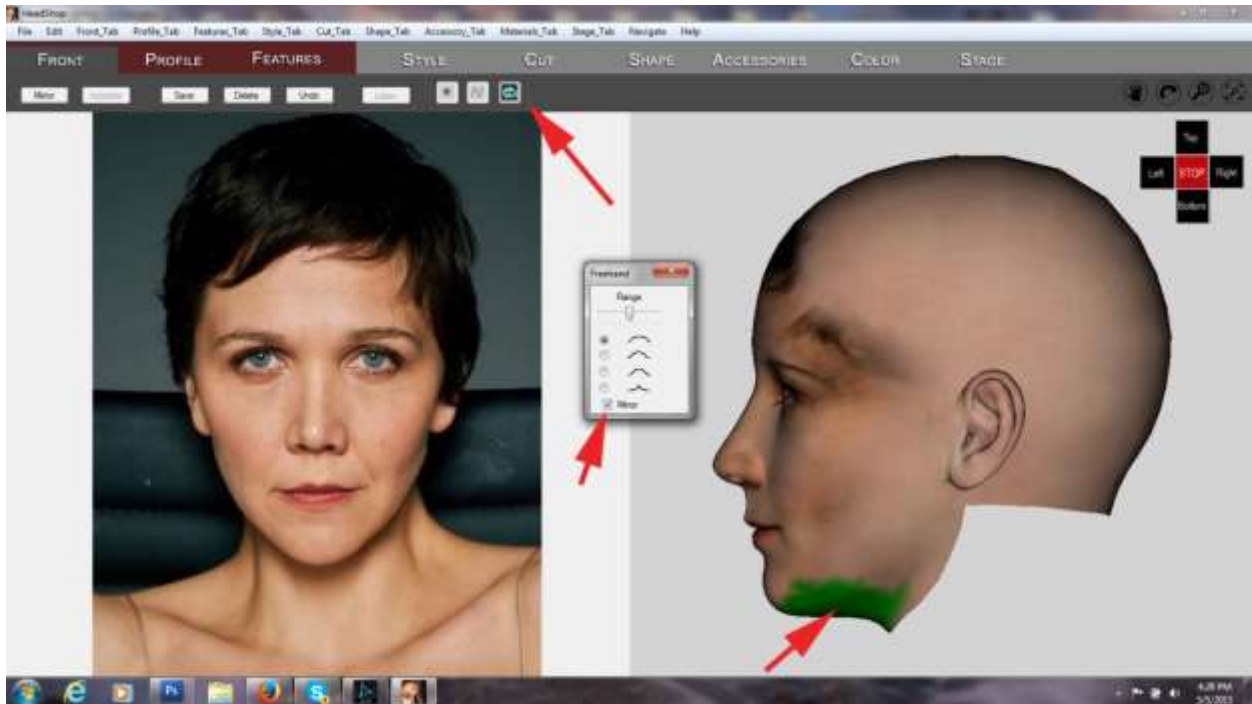
Once you finished, hit Enter. There will be a one-minute refining before you can unclick the Profile button. On the last tab, the Stage Tab you will have tools to smoothen the results.



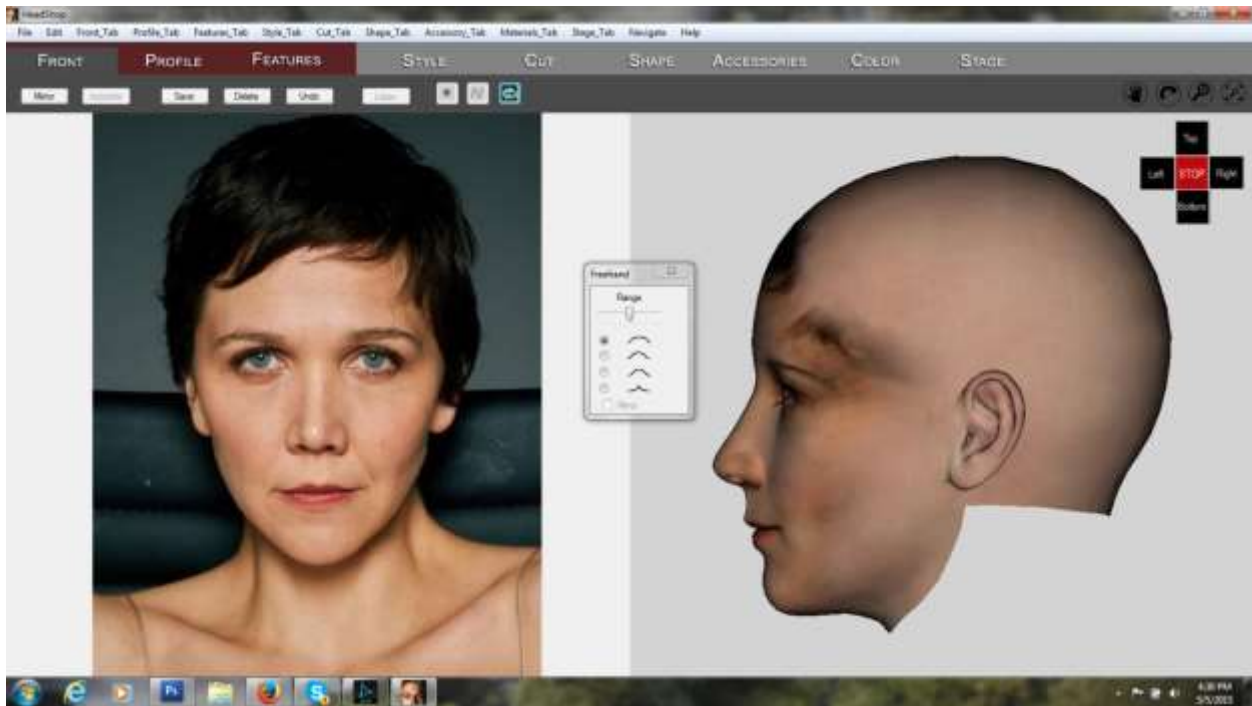


## Freehand

This tool lets you select areas and move them with the cursor. For instance, if you want to change the chin shape, you may select the area with the Freehand tool.

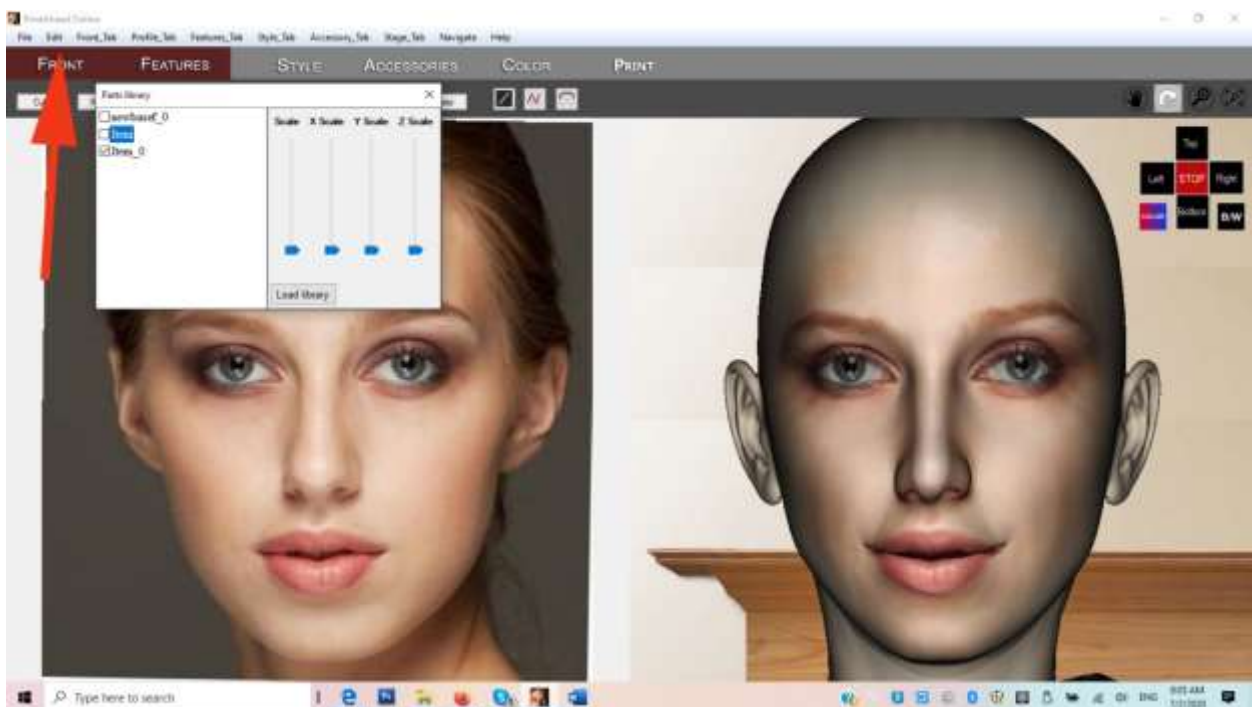


Notice that the slider allows you to expand or shrink the selected area. Don't forget to check the mirror button to make your changes symmetrical.



Hiding and resizing objects

Open Edit/Parts Library dialog to hide or resize objects in all three dimensions.

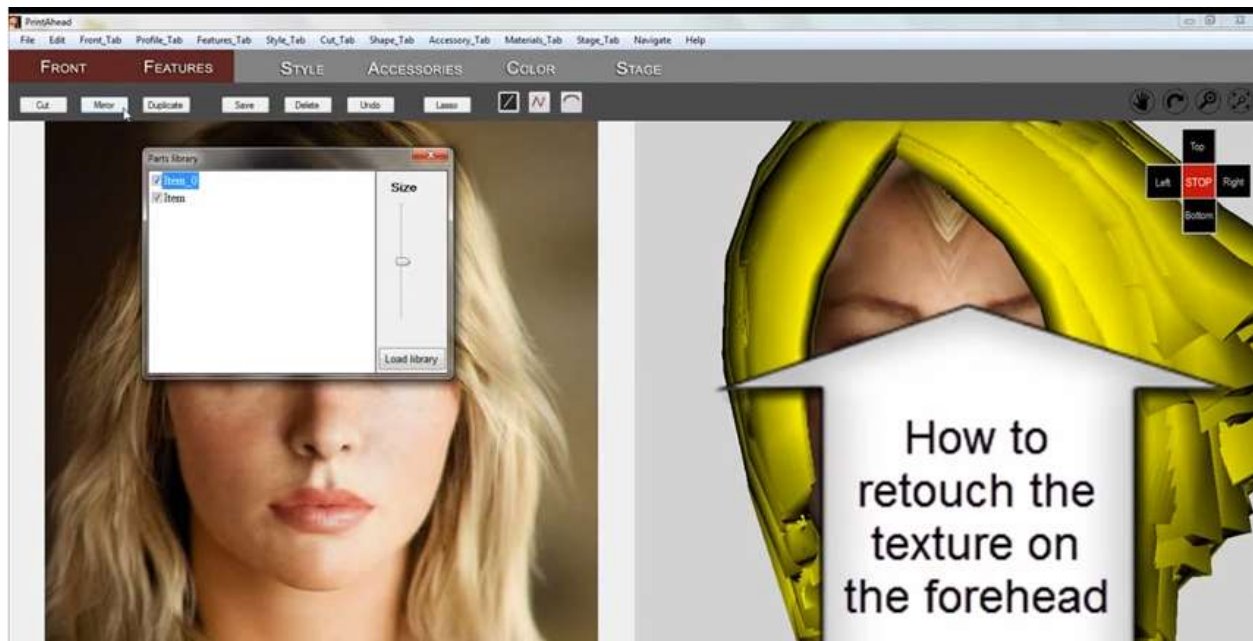


## Retouch textures

Use the Color Tab to match overall skin color. For example; if the side of the face or the neck is not color matched to the front of the face, pick up the desired color with the color picker and click on the „Use as Background” button to apply to the overall skin.

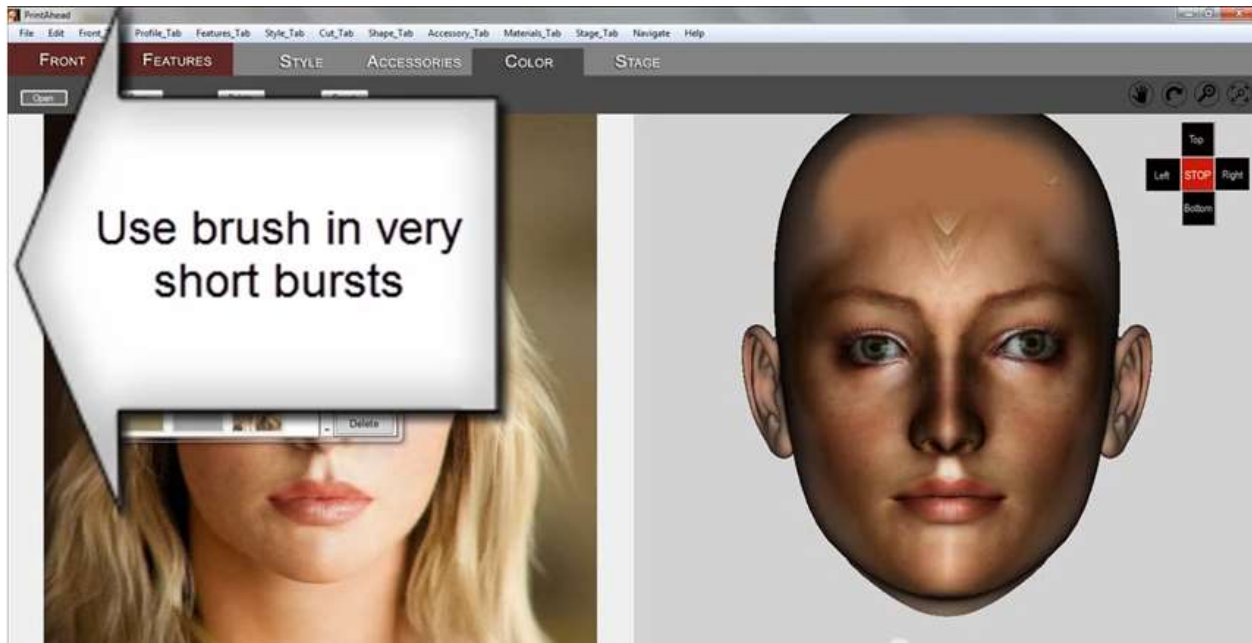


## Retouch small areas

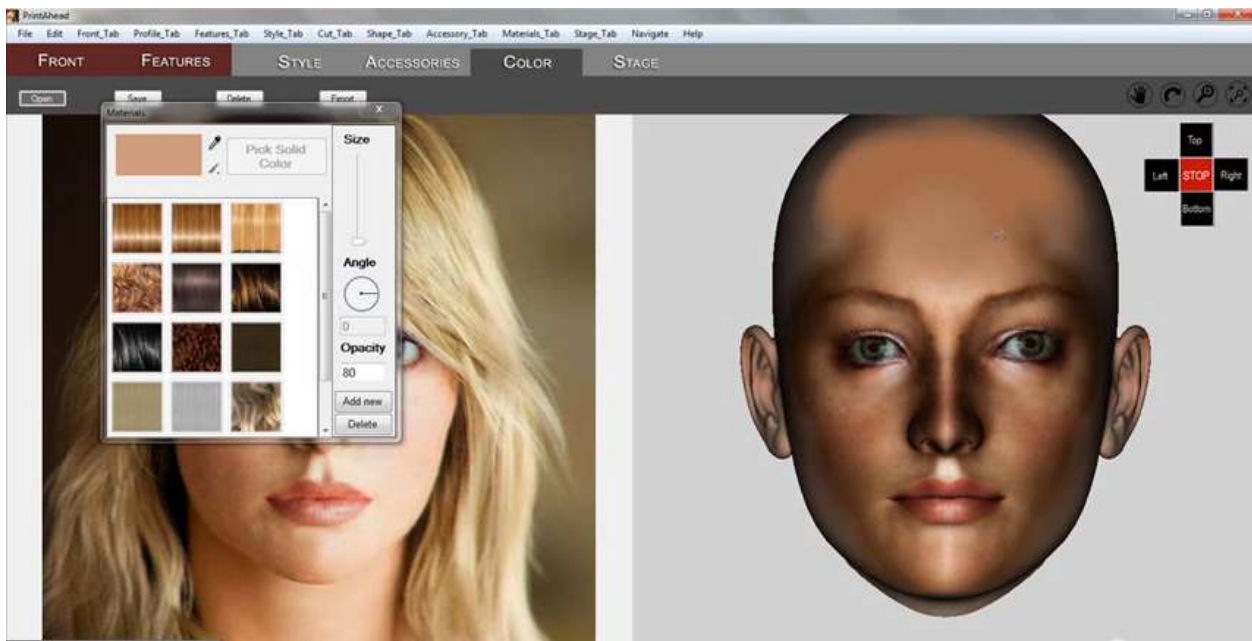


You can also use the Color Tab to retouch away unwanted artifacts, such as the texture left over. Here the best strategy is to hide the hair and the neck before painting. Go to Edit/Parts Library and unclick the visibility for both Hair and Neck.





With the Color Picker pick a skin color to paint with. Select a soft brush of 200 or 300 size, and set the transparency to 70 or 80. Use short burst to retouch area.



Don't forget to turn the visibility of hair and neck back on via the Edit/Parts Library.

# Chapter 4: TroubleShooting

## Overall

Creating a full-color 3D statue is very compute intensive both when using your computer and when it is being checked and built at Shapeways servers. Different users may have different CPUs with variable memory and speed which will influence what is possible and what may fail. Similarly, Shapeways servers are at certain times of the day may be overwhelmed by uploads and will take many-many minutes to build a model.

Therefore anything that would reduce the complexity of the models and steps increases the chances that everything goes as planned. In the following we make suggestions on how to achieve this.

Still, it is entirely possible that some models will fail. The best advice is to try again, maybe using different hair or shirt models, reduce the number of items on the statue, etc.

## Photos

The quality of the photo and the size of the photo will have a large bearing on the outcome. Quality in this context means well lit photos with no deep shadows, no turned heads, no eyeglasses.

Size ensures that the resolution of the photo is sufficient and sharp, without being super large. In general, best results are achieved with photos between 1,000 and 2,000 pixel size. Larger photos may choke your computer or the Shapeways server.

## Things to avoid

PrintAhead comes with many tools, some built for advanced users. In 95% of the time you get good results with using the minimum of steps (see „how-to” video at

[https://youtu.be/QbkF\\_4t7Ck](https://youtu.be/QbkF_4t7Ck))

**AutoDots** are very powerful when there is a need to alter the shape of the head, but need skills to use them. A simpler way to smoothen the head is to go to the Print tab and use the smoothen slider (see video or QuickStart).

Using the „Age” and „Weight” sliders in the „**Features**” tab can distort the shapes and if possible avoided.

**Styles** tab offers many hair styles with various complexities. Choosing a simpler style saves time and reduces failure rate. Since this largely dependent on the type of machine you use, a trial and error method will be the best to see what works for you.

This also holds true for the **Accessories** library. Choosing only one accessory instead of three is advisable.

In the **Color** tab try to avoid the „Size” slider to alter pattern sizes. This is very compute intensive and may lead to failure.

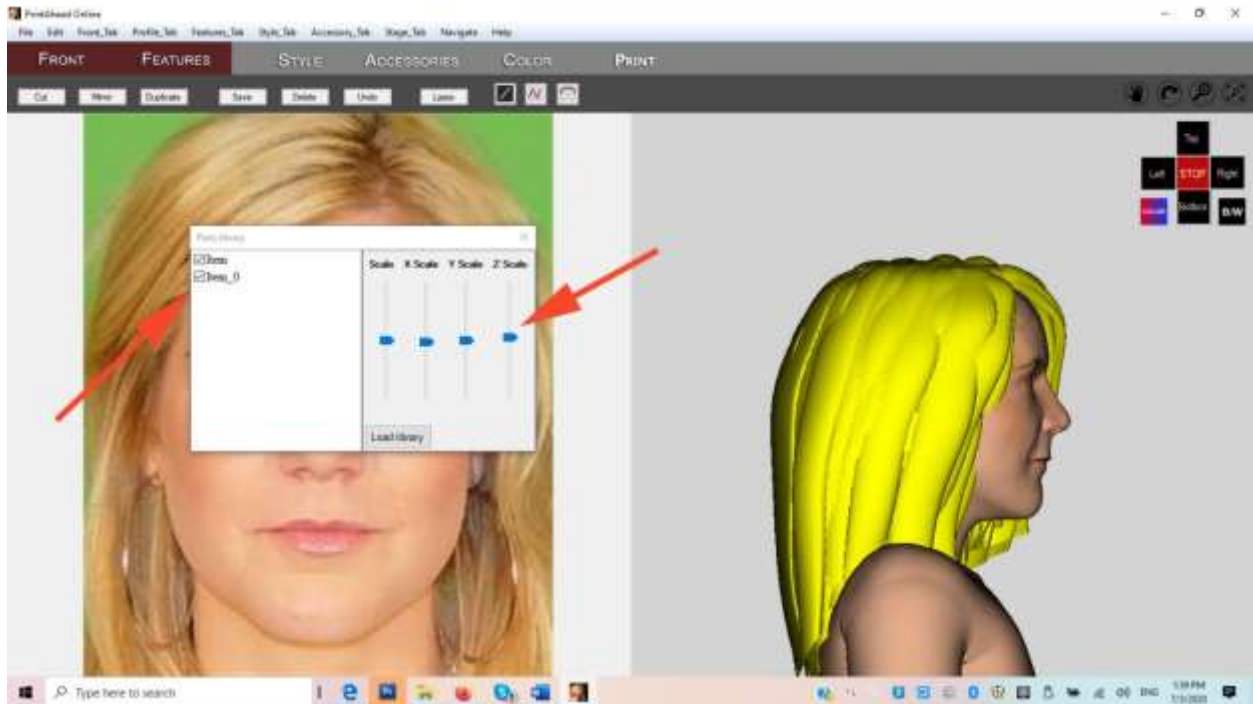
In the **Print** tab there is a slider to show output relative to a mantelpiece. However, this size also translates into output sizes. Best to use 5 for size setting – you will always resize the final piece in Shapeways.



## Parts Library

Under the „Edit” menu you find „Parts Library”. This is very handy as you can show/hide items on the scene using the checkboxes on the left.

The slides let you change the overall dimensions of an item in all three dimensions.



## Timing

**Be ready for long processing times.** For example, after you press „Color 3D Print” in the Print tab and selected your output folder, it may take many minutes until your output zip files is ready. Do not close your PrintAhead app until the dialog „Your PrintAhead file was successfully created” appears.

(To make sure you can also open the output folder to see if the zip files is there).

## Tech Support

**Email is for Tech Support at [info@abalonellc.com](mailto:info@abalonellc.com).** Please read manual and watch „how-to” video before writing. We can provide Skype/screen share trouble shooting – have Skype installed.