

# **PortraitPro Body User Manual**

Version 3.1

Anthropics Technology Ltd

[www.portraitprobody.com](http://www.portraitprobody.com)

© 2018 Anthropics Technology Ltd.



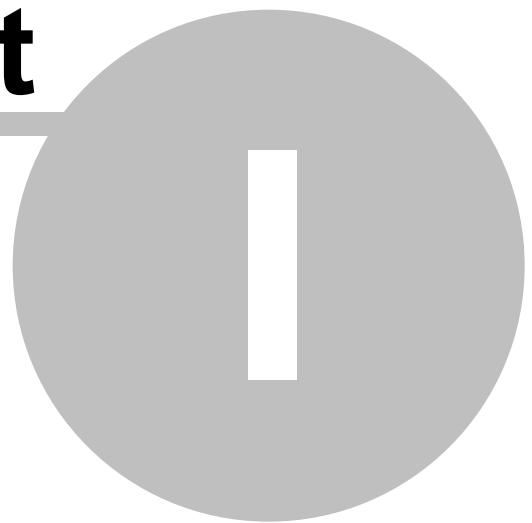


# Table of Contents

<b>Part I Getting Started</b>	<b>6</b>
1 Quick Start Guide.....	7
2 Top Tips For Best Results.....	9
3 PortraitPro Body Editions.....	10
<b>Part II Step By Step Guide</b>	<b>14</b>
1 Open an Image.....	14
2 Open an Image in Lite Mode.....	15
3 Plug-in Mode.....	16
4 Markup the image.....	17
Select the face .....	17
Choose gender .....	18
Adjusting the Markup .....	18
Finishing markup .....	20
Correcting markup .....	20
Common markup mistakes .....	23
5 Editing the image.....	24
Shape sliders .....	25
Shape tools .....	28
Skin .....	31
Face .....	34
Warp fixer .....	35
Picture .....	37
6 Group Shots.....	37
<b>Part III Reference</b>	<b>40</b>
1 Homepage.....	40
2 Menu Commands.....	42
File Menu .....	42
Edit Menu .....	43
View Menu .....	43
Help Menu .....	44
3 Marking Up the Body.....	44
Select Face reference .....	44
Adjusting the markup reference .....	46
4 Editing the Image.....	48
Navigator .....	50
Shape sliders .....	51
Shape tools .....	55
Skin tools .....	57
Face tools .....	60
Picture tools .....	63

5	Plug-in Installation Guide.....	65
6	Third Party Credits.....	65
7	Supported File Types.....	70
8	Keyboard Shortcuts.....	72
	<b>Index</b>	<b>73</b>

**Part**



# 1 Getting Started

## Introduction

---

PortraitPro Body is the easiest and fastest way to re-touch full body portraits, allowing you to achieve professional results in minutes.

PortraitPro Body works in a completely different way to ordinary airbrushing and warping software - it has been trained with thousands of examples of human body shape and appearance.

Due to the innate knowledge of human beauty that is built into PortraitPro Body, the highest quality full body portrait touch-up can be achieved by anyone in just a few minutes.

PortraitPro Body is available in two editions: Standard and Studio. All editions are covered by this manual.

PortraitPro Body is available for Windows and Mac computers. This manual is for the Windows version of PortraitPro Body.

## Getting Started

---

Take a look at the [Quick Start Guide](#)<sup>[7]</sup> to see a quick overview of how to use PortraitPro Body.

The [Step By Step Guide](#)<sup>[14]</sup> provides more detailed information about each step.

If you need further help, please visit <http://www.portraitprobody.com/support/> where you can see the latest FAQ and access our support ticket system. The support ticket system lets you send a question to our support staff.

## 1.1 Quick Start Guide

PortraitPro Body will guide you through the process of enhancing your portrait. You can use this quick start guide to familiarize yourself with the stages.

When you open PortraitPro Body, you will see the main home page. Here you will find videos and tutorials that allow you to learn about and try different functions of the software. We recommend that you work through some of these components in the suggested order. However, if you want to start working on your own image straight away then you should proceed as described below.

### Select the image to enhance

Click on the **New Image** button, or select *Open...* from the *File* menu, or press CTRL + O. This brings up the *File Open* dialog where you can select the image you want to load.

PortraitPro Body will load your image and show it in the main working area.

### Select the body you want to enhance

Click on the middle of the face of the person you want to enhance. Occasionally the software will fail to identify the face and will prompt you to check again.

### Select the gender of the person

At the prompt, select either male or female.

### Automatic selection

The software will now automatically detect the shape and position of the body.

If you are happy with the automatic selection, click the **Accept Markup** button. Sometimes you may wish to correct or refine the markup. In this case, click the **Modify Markup** button.

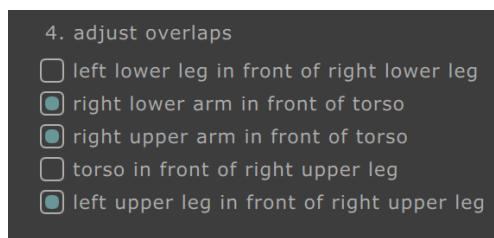
### Modify the markup

The software will now guide you through the selection for each limb. To adjust the selection, simply use your left mouse button to click on a point and drag it to the right position. If you make a mistake, you can undo the change by pressing CTRL + Z. Examples of the ideal joint positions are illustrated in the help panel on the right-hand side.

To move on to the next limb, press the SPACE BAR or click the RIGHT ARROW. To go back to the previous limb press ESC or click the LEFT ARROW.

### Identify overlaps

The software will automatically detect when one limb is in front of another. To change this selection, use the radio buttons on the left-hand side of the screen. The overlaps will be represented on screen for you to check.



Once you're done, click the **Accept Markup** button below this menu.

### Shape sliders section

---

The image is now ready to edit with the [shape sliders](#)<sup>[51]</sup> section. You can change the shape of the body by moving the sliders on the left-hand side. By opening the sections for torso, arms, legs or skeleton, you can modify specific parts of the body. Collectively, these sliders allow a very fast method for getting the shape of the body roughly correct. You can see the image before and after the changes by pressing ENTER or by clicking the tab above the main image.

### Shape tools section

---

Select the shape tools tab on the right-hand side. These tools allow you to make finer changes to the shape of the body. The (default) [edit body](#)<sup>[55]</sup> tool allows you to directly use the mouse to drag the body contours to new positions. You can also drag the joint positions to change the pose of the body. Other tools in this section include:

- o the [drag tool](#)<sup>[55]</sup> which allows you to drag any region of the image to warp it.
- o the [repair tool](#)<sup>[55]</sup> which fixes any problems or tears in the image introduced by the other tools.

### Other editing sections

---

Other parts of the software (selectable by clicking in the control column) can be used to modify other parts of the image:

- o the [skin section](#)<sup>[57]</sup> allows you to smooth the skin on the body and also to improve the texture of the belly area.
- o the [face section](#)<sup>[60]</sup> allows you to airbrush and reshape the face to improve the appearance. ([PortraitPro](#) is a standalone product that is specialized to this task and has many more options.)
- o the [picture section](#)<sup>[63]</sup> allows you to change global aspects of the whole image such as contrast and color balance.
- o the [warp fixer](#)<sup>[35]</sup> allows you to fix lines and other areas that have become distorted due to the body warping.

### Save project and image

---

When you are happy with the changes you have made, you can save the edited image by selecting *Export Final Image* from the *File* menu or by clicking the appropriate icon from the toolbar at the top of the control column. You can save the entire project (with file extension .prb) by selecting *Save Project* from the *File* menu or by selecting the appropriate icon from the toolbar. This will allow you to return to this image and make further changes at another time.

### Other people in the photo

---

If there is more than one person in the photo that you wish to edit, export your image and close the session. Open the newly saved image and select the next person to enhance.

## 1.2 Top Tips For Best Results

If you just read one page in this manual, make it this one to get the best results out of PortraitPro Body.

### [Make sure the skeleton joints and curves are accurately placed](#)

You will get the best results if the outlines are accurately placed. Take a close look at the examples in the help window on the right-hand side of the workspace. You can return to the markup stage to improve the markup at any time (although you will lose all changes to the body). Take particular care to ensure that the outlines around the outside of the body follow the edge of the body.

### [Don't move the sliders too far](#)

Often, you can greatly improve a picture with fairly subtle changes. Adjust the sliders just far enough to get the results you want. If you go too far, the result can look unnatural or fake.

### [Don't use the sliders to make small shape changes](#)

You can avoid the need to move the sliders too far by using the shape tools to make finer-scale changes to one particular part of the body.

### [Fixing problems](#)

You can fix regions that are torn or unrealistically warped using the [repair tool](#)<sup>[55]</sup> in the shape tools section.

### [Make sure the skin area is right](#)

In the [skin section](#)<sup>[57]</sup>, PortraitPro Body automatically estimates which areas in your picture are skin. However, you can sometimes improve the results by adjusting the skin area selected.

Use the skin select and deselect tools to paint over any skin areas that are wrong.

### [Fixing distorted backgrounds](#)

If the background is noticeably distorted after warping the image, you can fix it with the [repair and revert tools](#)<sup>[55]</sup> or the [warp fixer](#)<sup>[35]</sup>.

## 1.3 PortraitPro Body Editions

PortraitPro Body comes in two editions: Standard and Studio. The Standard edition is intended for more casual users or amateur photographers. The Studio edition is intended for enthusiast or professional users.

This manual covers all editions. Features that are only available in some editions are indicated like this: Studio Edition Only

The following table shows the main features of PortraitPro Body and which editions they are in.

Standard	Studio	
✗	✓	Available as a smart filter in Photoshop
✗	✓	Available as a Lightroom External Editor
✗	✓	Read camera RAW format
✗	✓	Read Adobe DNG format
✗	✓	Read & write TIFFs and PNGs containing 16 bits per color
✗	✓	Support for JPEG, PNG and TIFF embedded color profiles
✗	✓	Supports conversion between different color spaces
✓	✓	Body shape editing
✓	✓	General warping tools
✓	✓	Skin smoothing
✓	✓	Stomach replacement
✓	✓	Eye enhancing
✓	✓	Face sculpting

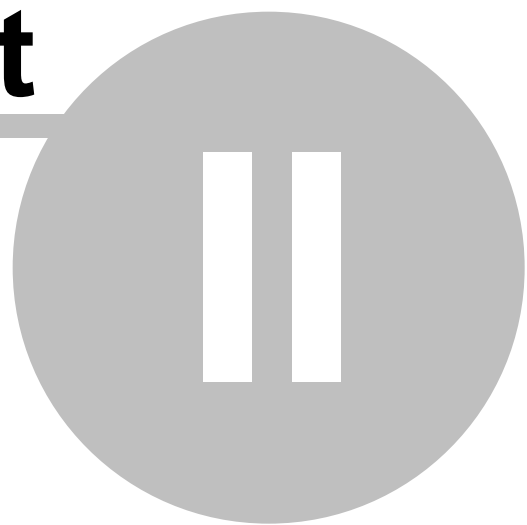


✓	✓	Face smoothing
✓	✓	Warp fixer
✓	✓	Picture control tools
✓	✓	Read and write JPEG, PNG and TIFF format images
✓	✓	Lite mode
✓	✓	Free online support



# Part

---



## 2 Step By Step Guide

This section of the manual describes the various stages that you may need to go through when you use PortraitPro Body.

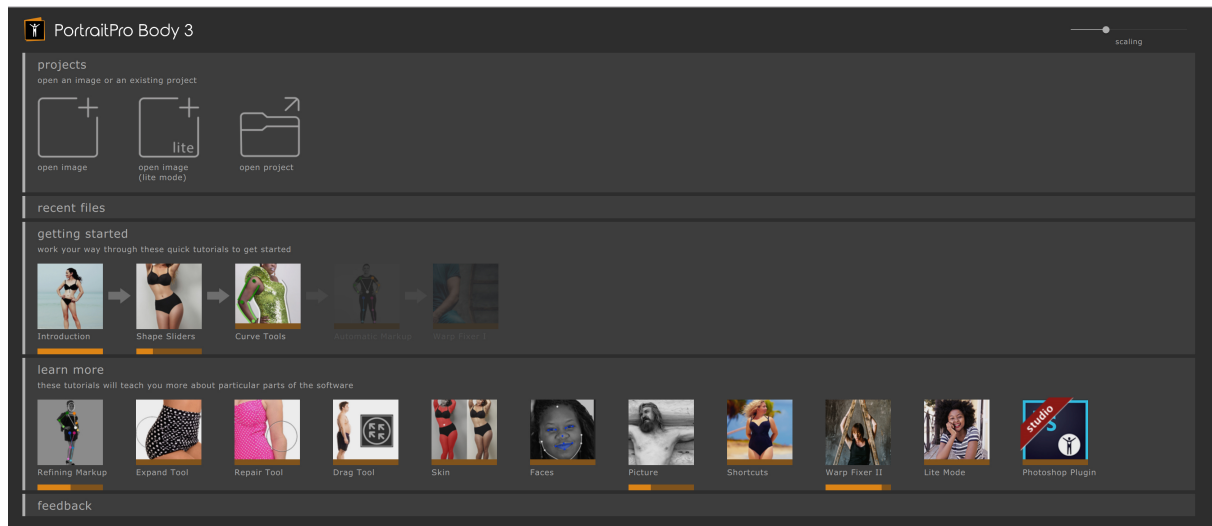
There are two parts of the program:

- o in the [markup stages](#)<sup>[44]</sup>, the image is annotated by the user with the joint positions and curve positions.
- o in the [enhancing stages](#)<sup>[48]</sup>, the image is manipulated to create the desired effects.

### 2.1 Open an Image

#### [The PortraitPro Body Home Screen](#)

When you run PortraitPro Body, it begins with the home page:



#### [Open an image](#)

To open an image to enhance:

- o Select the *Open* command in the [File](#)<sup>[42]</sup> [menu](#)<sup>[42]</sup>.
- o Alternatively, click the button marked **open image**.

This will bring up the Open Image or Project window.

Browse to the file you want to enhance and press the **Open** button.

[Image types that PortraitPro Body can open.](#)<sup>[70]</sup>

#### [Lite mode](#)

To open an image in lite mode click the button **open image (lite mode)**.

Note that you cannot open images in lite mode from the *File* menu.

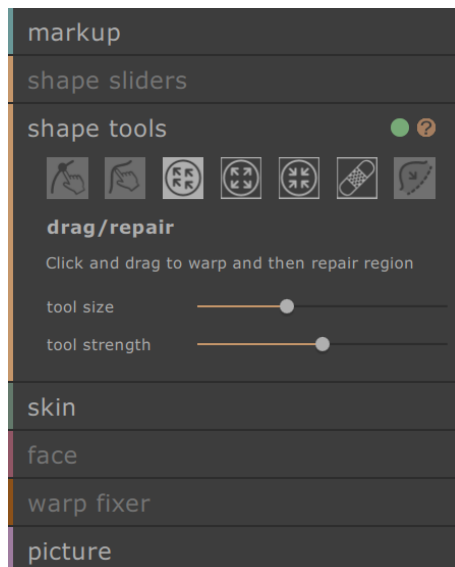
### [Open a project](#)

If you have previously saved your work as a project or session file (.prb), you can open it and resume editing from the same point. To open a project click the button **open project**.

## 2.2 Open an Image in Lite Mode

Lite mode allows you to make quick adjustments to your image without needing to mark it up. To open an image in lite mode, select **open image (lite mode)** from the homepage and choose an image.

You will see the following in the control column:



You can still use the following:

- Some of the shape tools.
- Most of the skin section features (skin is still automatically detected).
- All of the picture section sliders.

Various sections and tools are unavailable since there is no information about the body in the image. If you decide you want to markup your image later, you can click on the **markup** section. Note that this will clear any changes you have made.

## 2.3 Plug-in Mode

### Using the PortraitPro Body Plug-in

#### Studio Edition Only

The Studio edition of PortraitPro Body can enter a "plug-in mode". This is intended for use when PortraitPro Body has been launched by another application (such as Photoshop) to enhance an image that is being managed by the other application. PortraitPro Body then behaves like a plug-in to the other application.

After the plug-in has been successfully installed as outlined in the [Plug-in Installation Guide](#)<sup>[65]</sup>, you will be able to use PortraitPro Body as a plug-in in any of the supported photo editing applications.

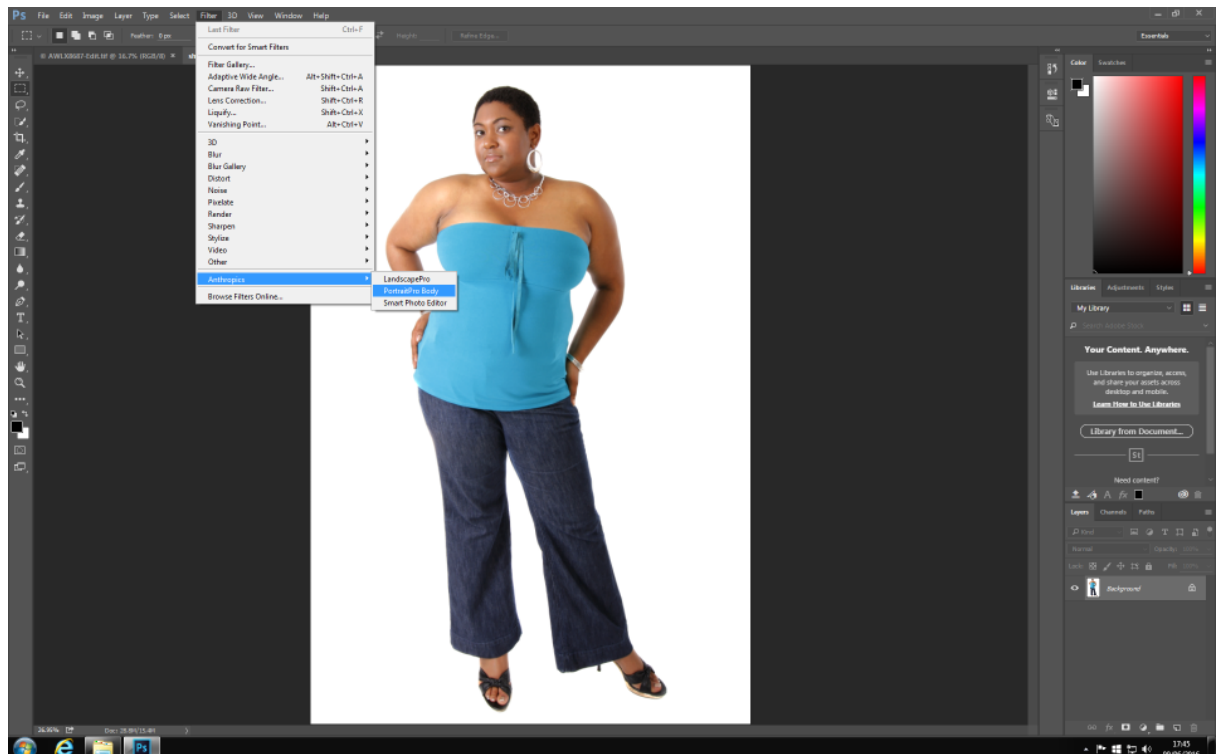
When PortraitPro Body is run as a plug-in from another application, the image or layer in the other application will automatically be loaded into PortraitPro Body where you can enhance the bodies in the usual way. Once you are happy with your results, select *Save and Return* from the *File* menu or click the **close** button on the toolbar. This will close PortraitPro Body and return the enhanced image to the original application.

When PortraitPro Body is in plug-in mode, the only command in the *File* menu is return from Plug-in and several of the toolbar controls are also not selectable.

#### Using PortraitPro Body from Photoshop

When the plug-in has been installed, PortraitPro Body will appear as a filter in Photoshop. In the Photoshop *Filter* menu, you will find a sub-menu called *Anthropics*, and in that you will find *PortraitPro Body*.

The PortraitPro Body filter works like other Photoshop filters in that it is applied to the current selection (or the whole area if there is no selection) on the current layer. When you select the filter, the image being filtered will automatically be opened in PortraitPro Body.



*Plug-in Location: Filter > Anthropics > PortraitProBody*

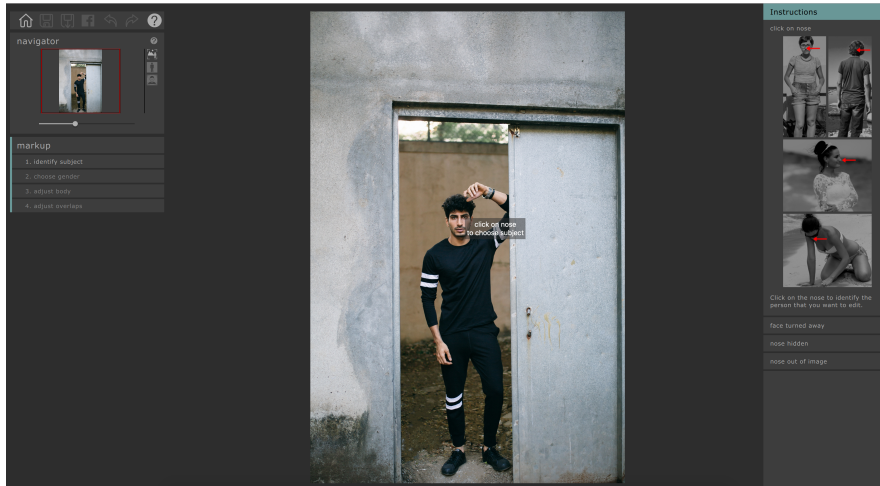
## 2.4 Markup the image

Before the image can be edited, we must first tell the software which person in the image we wish to work on, their gender and the positions of the joints and body curves.

### 2.4.1 Select the face

After opening the image, the markup process starts.

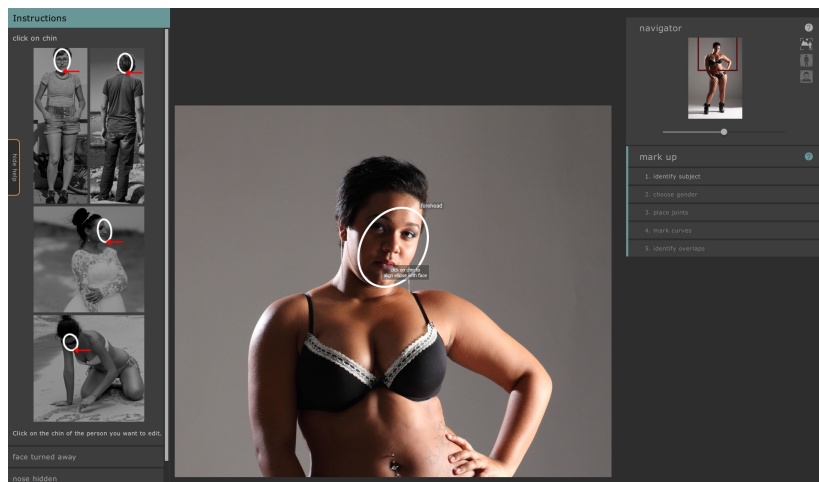
Throughout the markup process, a panel on the right-hand side of the window gives instructions and provides guidance for unusual cases. A panel on the left-hand side of the window shows your progress.



To identify the person that you want to edit, move the mouse over the center of their face (the tip of the nose works well) and click the image. If the face is identified successfully by the software you will now be asked to identify the gender.



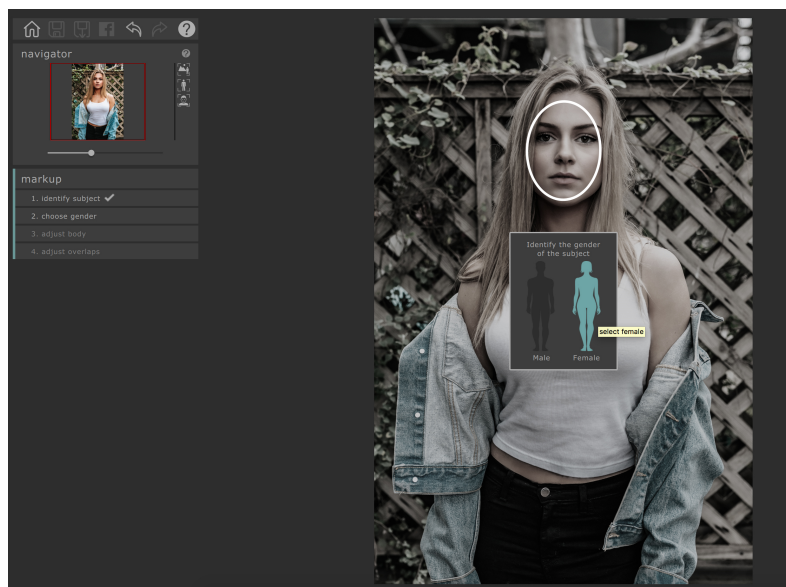
Occasionally, the software will fail to identify the face based on your click. This often happens when the face is close to profile or is partially obscured by hair or another object. When this happens, the software will prompt you to check if you selected the right subject.



Alternatively, the face may not have been detected because you clicked on the wrong image position in the first stage. If this is the case, you can undo your change by selecting *Undo* from the *Edit* menu or using the shortcut CTRL + Z.

### 2.4.2 Choose gender

The next step is to identify the person as being male or female. This is done via a simple dialog box which is superimposed on the image.



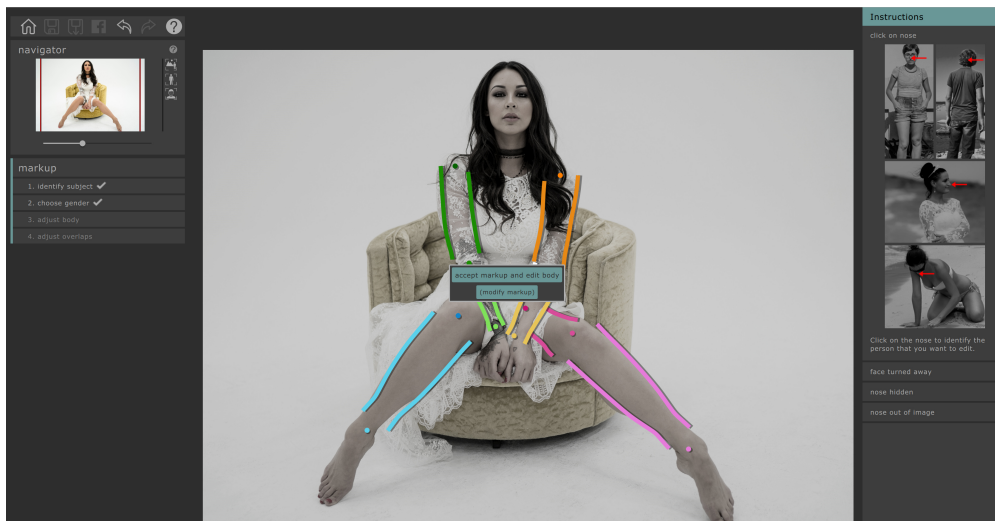
To select the gender, click on the picture of the male or female body.

If you make a mistake, you can return to this part of the program by clicking on **choose gender** in the markup menu on the left-hand side panel.

### 2.4.3 Adjusting the Markup

Once the gender has been selected, the software will automatically detect the position of the limbs and body in the image. The markup is represented by different colored outlines for each limb.



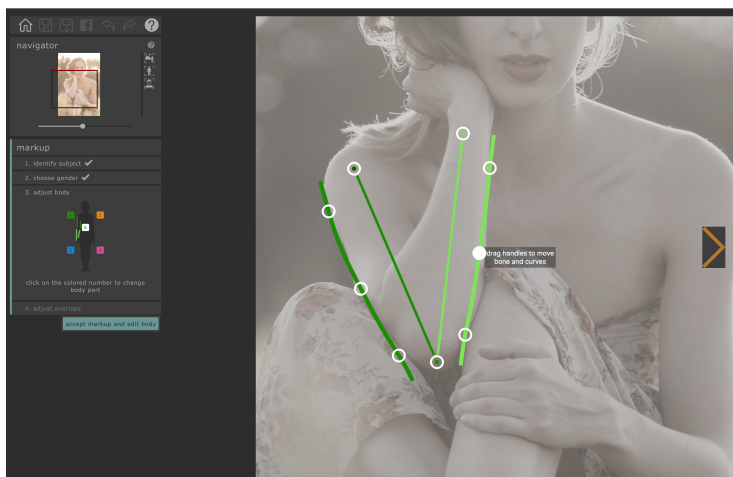


In most cases the software will locate the position of the body accurately and you can simply click **accept markup and edit body** to progress to the editing stage. For more complex poses you may need to make some adjustments. In this case, click **(modify markup)** to be taken to the markup stage.

The software will now guide you through the selection for each limb. To adjust the selection, simply use your left mouse button to click on a point and drag it to the correct position. If you make a mistake, you can undo the change by pressing **CTRL + Z**. Examples of the ideal joint positions are illustrated in the help panel on the right-hand side.

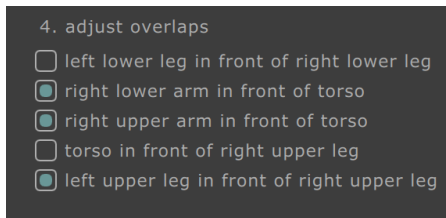
To move on to the next body part, press the **SPACE BAR** or click the **RIGHT ARROW**. To go back to the previous limb, press **ESC** or click the **LEFT ARROW**. You can also skip to a specific limb by clicking its colored number in the adjust body panel on the left-hand side.

Once you have finished making adjustments to the markup, you can move on to identify any areas where limbs overlap by clicking **adjust overlaps** or simply accept the markup and progress to the editing stage.



### Identify overlaps

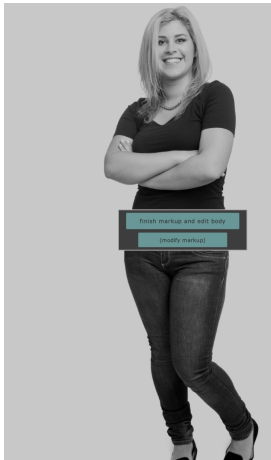
The software will automatically detect when one limb is in front of another. To change this selection, use the radio buttons on the left hand side of the screen. The overlaps will be represented on screen for you to check.



Once you've finished making your adjustments, click **accept markup and edit body** to begin editing the image.

## 2.4.4 Finishing markup

When the markup is complete, a dialog box will appear asking if you wish to move to edit mode or to continue marking up the image.



Under normal circumstances, simply move on to the edit mode. However, if you *know* that you have made a mistake in the markup stages, clicking the other button gives you the opportunity to correct any mistakes.

## 2.4.5 Correcting markup

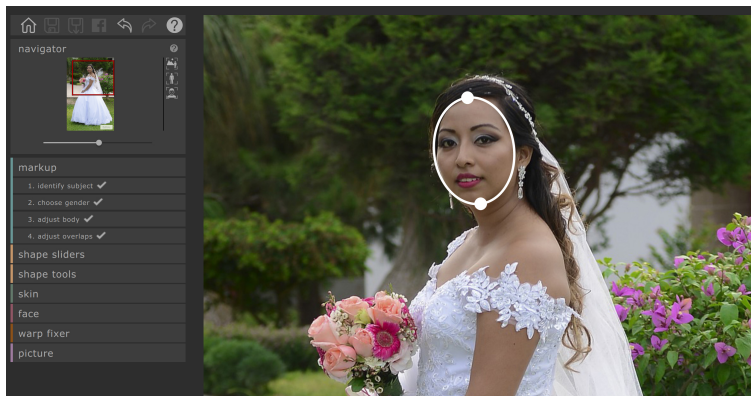
It is possible at any point to go back to markup stage although with practice this is rarely necessary.

- From editing modes, click the **markup** section in the control column (all edits to the image will be lost). Then click on the relevant section (select face, choose gender, etc).
- From markup mode, click directly on the section (identify subject, choose gender, etc) in the control column.

Markup mode works slightly differently when we return to it. Rather than marking the image with a series of sequential clicks, it is possible to change any aspect of the markup at any time. The following sections describe each stage in turn.

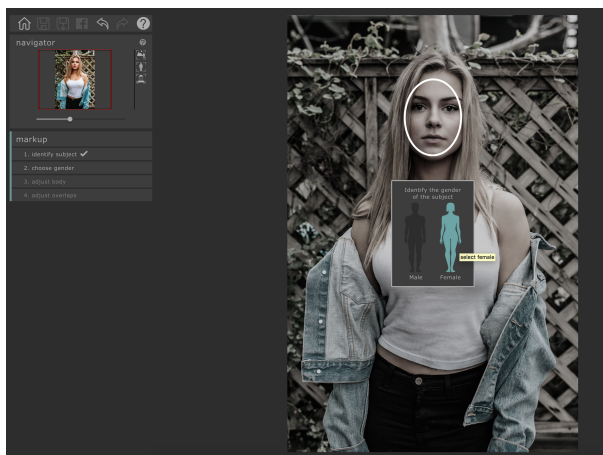
### [Identify the subject](#)

You can adjust the face points by clicking and dragging the two controls on the face oval. The face oval should roughly surround the face in the image.



### Choose gender

To select the gender, click on the picture of the male or female body in the pop-up window.

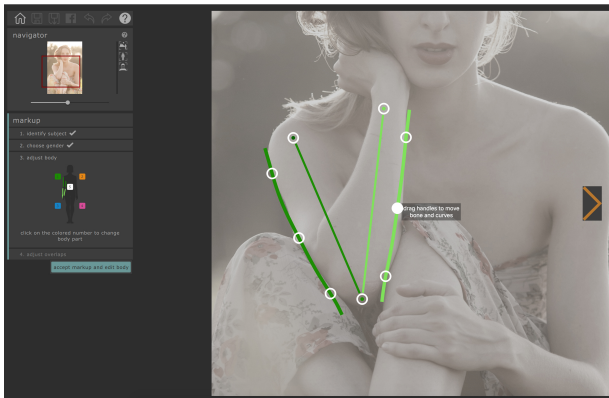


If you make a mistake, you can return to this part of the program by clicking on **choose gender** on the left-hand side panel.

### Adjust body

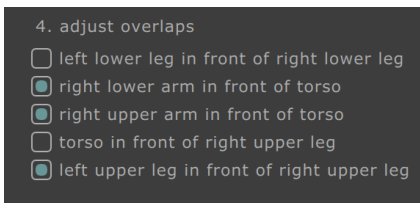
When we return to the body markup stage, we still deal with the curves one body part at a time, but now we can adjust any of the points on the curves by clicking on them and dragging.

To move between body parts, press the SPACEBAR or click the right arrow to move to the next part or BACKSPACE or the left arrow to move back. You can also identify the desired body part on the curve widget on the left-hand side.



### Identify overlaps

To change the interpretation, click on the list on the left-hand panel to toggle between which body part is in front.



### Moving to edit mode

When you have finished making all the changes you want, click the button in the left-hand panel corresponding to the edit mode (e.g shape sliders or skin) that you wish to move to.

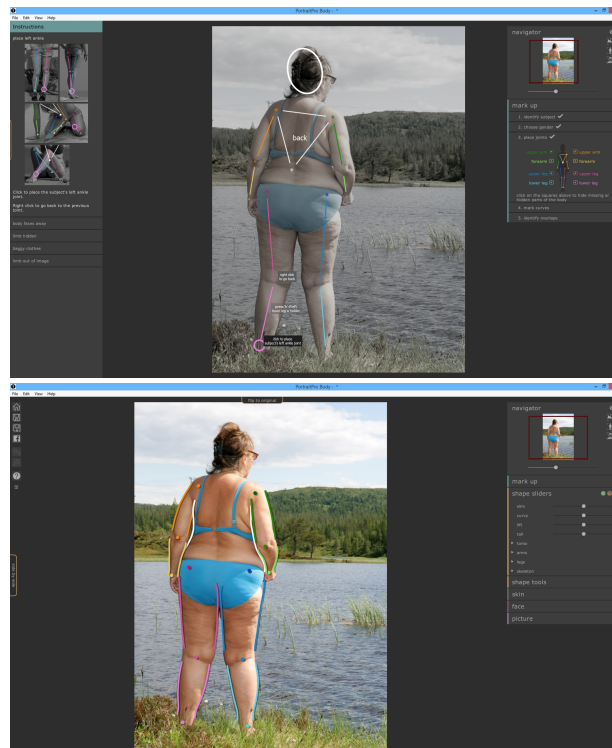
The software will then re-do its analysis and you can begin editing again.

## 2.4.6 Common markup mistakes

In general, placing the curves with great precision is not necessary. As long as the skeleton points and curves are in roughly the correct place, the editing functions will work satisfactorily.

There are however, two common pitfalls:

- When the subject faces away from the camera, make sure to mark the right arm points on the right-hand side of the image (as opposed to the left-hand side as is normal). The software will know that the person faces away from the camera and identify the center as 'back' rather than 'chest'.
- Be careful to identify the overlaps correctly -- if you make a mistake here, it means that some useful curves will not be visible in the editing stages and other erroneous curves will appear.

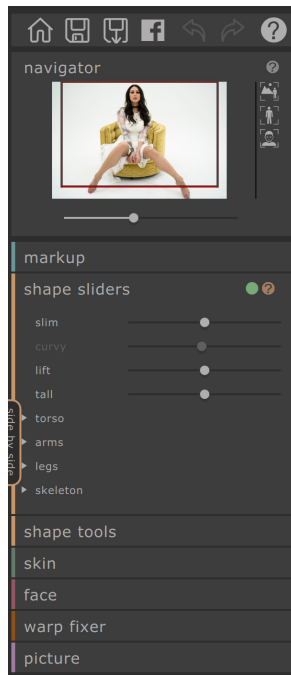


## 2.5 Editing the image

Once we have marked up the image, it is now ready to manipulate. After a short processing interval, the software will move to editing mode and a number of different sections appear in the control column. These sections comprise:

- [Shape sliders](#) <sup>25</sup>
- [Shape tools](#) <sup>28</sup>
- [Skin](#) <sup>31</sup>
- [Face](#) <sup>34</sup>
- [Warp fixer](#) <sup>35</sup>
- [Picture](#) <sup>63</sup>

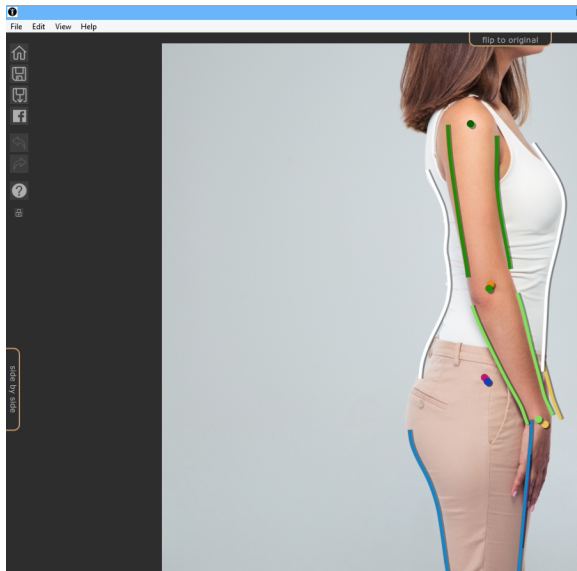
After finishing the markup stages, the shape sliders section will be open. To move to one of these sections, simply click on its name. Clicking on the **markup** section will return you to the markup stage and undo any work you have done.



Each of these sections has a number of controls and two buttons that are visible in the title bar when it is open. The first button allows you to turn the effects of this section off (shape sliders and shape tools are connected in this regard). To reset the effects of a section, press this button (it will change from green to red) and then start again. The second button activates the help system which explains the controls in the panel.

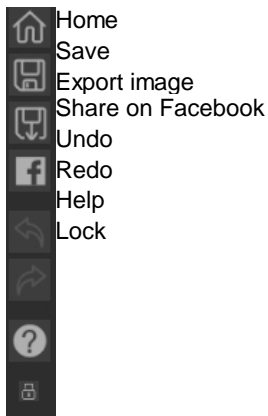


In addition, the main editing page contains several other controls. There is a tab above the main image that allows you to flip between the original and edited image (it will do nothing until you make some changes). Pressing the ENTER key achieves the same result. There is a second tab at the extreme left of the screen that allows you to see the original image next to the edited image (clicking on it twice removes the original image again).



Finally, there is a toolbar which contains buttons for:

- Home / Close -- close the current project and return to home screen
- Save Project -- save the current project
- Export Image -- save the edited image
- Share -- post a before / after picture to Facebook
- Undo -- undo the last change
- Redo -- redo the last undone change
- Help -- opens a context sensitive help that guides you around the screen
- Lock -- locks the toolbar so that it is always visible or unlocks it so that it only appears when the mouse is close



### 2.5.1 Shape sliders

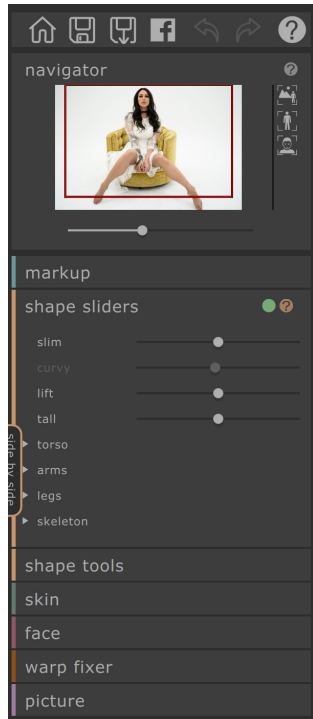
In the shape slider mode, it is possible to make large manipulations to the shape of the body by simply moving the sliders in the control column.

The sliders are separated into several different sections.

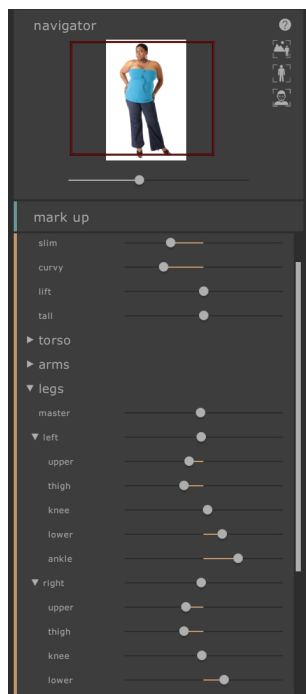
There are four sliders at the top of the section make large scale changes to the entire shape:

- Slim -- makes the entire subject thinner
- Curvy (women only) -- narrows the waist and expands the chest and hips

- Built (men only) -- slims the stomach and broadens the shoulders
- Lift -- raises the bottom / chest areas
- Tall -- extends the legs and the torso length and stretches the neck




Below these sliders, there are four sections dealing respectively with the torso, legs, arms and skeleton. Each section can be opened to reveal more sliders by clicking on the title or triangle, and subsections can be opened in the same way to edit progressively finer parts of the body.





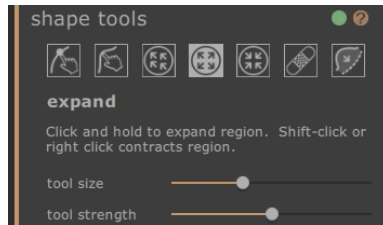
The sections comprise

- Torso -- allows editing of the hips, waist, chest etc.
- Arms -- allows editing of the upper and forearms, elbows, wrists etc.
- Legs -- allows editing of the upper legs, thighs, knees, lower legs and ankles
- Skeleton -- allows movement of the joints to achieve various effects, including lengthening the legs, tilting the hips and extending the neck

For further information, consult the [shape sliders reference](#)  <sup>51</sup>.

## 2.5.2 Shape tools

The shape tools section provides a number of tools for editing the shape of the person in the image by directly manipulating the image. In general, these tools make finer scale changes to the image than is possible with the shape sliders.



### Edit body tool

When this tool is selected and the mouse is moved over the image, the curves on the edge of the body will be highlighted. You can use this tool to pick up the curves and move them. The program knows about the statistics of human body shape and so it tries to find a solution that is compatible with the current mouse position as well as being sensible. So, for example, if you move the left-hand side of the torso in then the right-hand side of the torso will also move in. Once a point has been moved, it is fixed unless another point is placed nearby.



When the move curves tool is selected, it is also possible to move the skeleton joints, which are represented as colored dots at the joint positions. To move the joints, simply drag them to a new position.

### Edit body local tool

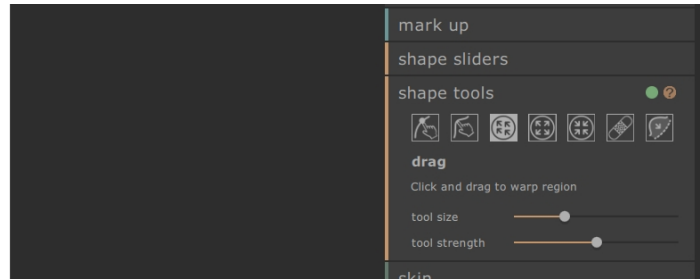
The local curve tool allows you to make fine scale local changes to the curve. To move a curve, simply click on it and move the mouse to drag it to a new position. Only curve positions very close to the mouse will be affected. When this tool is selected, a slider will appear that controls the size of the region over which the local change is affected.



### Drag tool

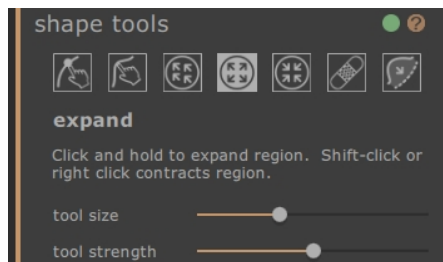
The drag tool can be used anywhere in the image -- it is used to locally change the shape of the image by clicking and dragging the mouse. A circle surrounding the cursor allows you to visualize the area which will be dragged. When this tool is selected, sliders appear in the control column that control both the area over which the change is

made (tool size) and the strength of the change (tool strength).



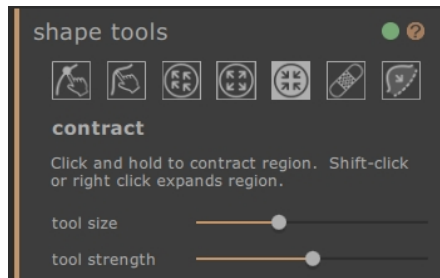
### Expand tool

The **expand** tool can also be used anywhere in the image and causes a local expansion within the circular cursor region when the mouse is held down. When this tool is selected, sliders appear in the control column that control both the size of the brush and the strength of the effect.



### Contract tool

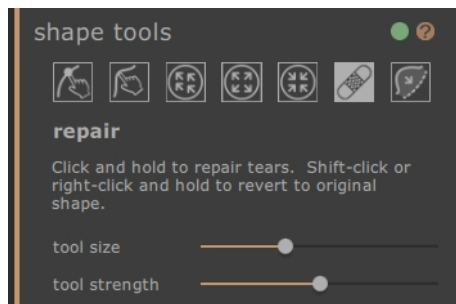
The **contract** tool can also be used anywhere in the image and causes a local shrinking within the circular cursor region when the mouse is held down. When this tool is selected, sliders appear in the control column that control both the size of the cursor and the strength of the effect.



### Repair tool

The **repair** tool fixes problems with the shape of the image by making the shape changes locally smooth within the circular window. Occasionally, movement of the sliders or use of the other shape tools will cause tears, discontinuities, or unrealistic shape changes. Applying the **repair** tool by holding the mouse down over the desired area, will gradually fix these problems. When this tool is selected, sliders appear on the control column that adjusts both the size of the cursor and the strength of the effect.

If the SHIFT button is held down, the **repair** tool switches to the **revert** tool. This has the effect of locally restoring the shape of the image to its original state. As well as meaning that the shape changes are locally smooth, it also returns objects to their original position.



### Fix bulges and pinches tool

The **fix bulges and pinches** tool is a very specific tool for sorting out problems in the shape that are at a finer scale than the curve tools can deal with. Typically, it would be used to reduce bulges at the hips or creases due to fat or a tight bikini strap. To operate the tool, move the cursor over one of the existing curves. The region under consideration is blown up and the shape is visualized before and after the change. Pressing and holding the mouse button causes the shape change to be made. Essentially, the local shape of the contour in the image is estimated and warped towards the smoother (but usually more desirable) curves that were drawn in the markup change.



Image before tool



Image with tool



Image after tool

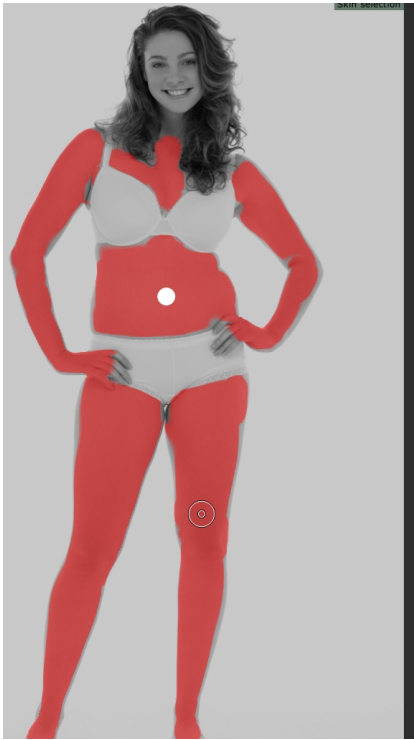
For more information, consult the [shape tools reference](#) <sup>55</sup>.

### 2.5.3 Skin

The skin section allows you to manipulate the skin texture and tighten the stomach region. This only applies to the body. To manipulate skin on the face, use the face section.

#### [markup canvas](#)

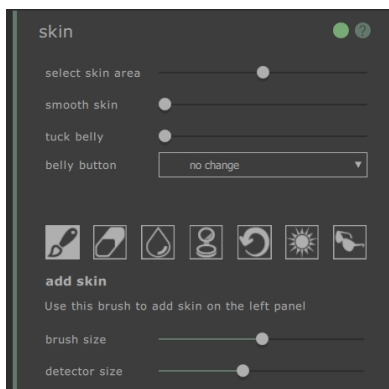
When the skin section opens, a second copy of the image appears on the left of the image that we are editing. This is in grayscale, but with a red mask superimposed to indicate the current estimated skin region. This will determine which parts of the image are changed by this section.



The automatically selected skin region is usually approximately correct. However, if it is not correct, the topmost slider (**select skin area**) increases or decreases the amount of skin selected. To further refine the skin region, use the mark skin or remove skin tools to directly add or subtract from the skin area in the left panel.

The remaining controls in the skin section are used to manipulate the texture of the skin. The **smooth skin** tool smooths the selected skin area to provide an airbrushing effect. The tuck belly slider tones the stomach region to reduce fat and increase definition. The belly button drop down menu allows you to replace the belly button with a different choice. If the new belly button is not in the correct position, you can change it by dragging the white control point on the left panel.

The tool bar at the bottom, contains tools to select the skin, remove skin, smooth, remove blemishes, restore, lighten and darken. We define the effects of each below:



---

#### [add skin tool](#)

When this tool is selected, and the mouse is moved over the left image, a cursor consisting of two concentric circles appears. When you paint on the canvas, skin is selected by finding any areas in the larger circle that match the colors in the smaller circle. A preview of the area that will be selected is updated directly. When this tool is selected two sliders appear underneath, that control the size of the concentric circles.

---

#### [remove skin tool](#)

This tool has the opposite effect of the add skin tool -- instead of adding to the selected skin region, it decreases the selected skin region. As with the **add skin** tool, two sliders appear under the tool which control the concentric circles in the cursor.

---

#### [smooth tool](#)

The **smooth skin** tool allows you to locally smooth an area in the image. It is applied by clicking and dragging directly on the right-hand image. The size of the area over which the effect is applied and the strength of the effect are controlled by two sliders which appear when this tool is selected. The tool will work even on regions which have not been selected as skin, and the region you smooth will be added to the skin mask.

---

#### [remove blemishes tool](#)

The **remove blemishes** tool is used to remove spots, moles, tattoos and other local features on the skin. It makes an estimation from the edge of the circular cursor. The size of the region and the strength of effect can be adjusted using sliders that appears under the tool when it is selected.

---

#### [restore tool](#)

The **restore** tool reverts the skin in the circular cursor back to the original state. The size of the affected region and the strength of effect can be adjusted using sliders that appear under the tool when it is selected.

---

#### [brighten skin tool](#)

The **lighten** tool locally brightens the image when the user clicks on the right-hand canvas. This could be used to decrease shadows which might make a region look flatter. The size of the affected region and the strength of effect can be adjusted using sliders that appear under the tool when it is selected.

---

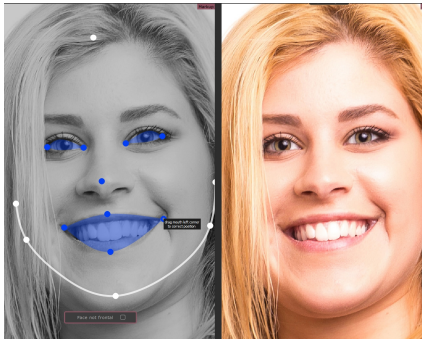
#### [darken skin tool](#)

The **darken** tool locally decreases the intensity of the image when the user clicks on the right-hand canvas. This could be use to increase shadows which might make a region look less flat. The size of the affected region and the strength of effect can be adjusted using sliders that appear under the tool when it is selected.

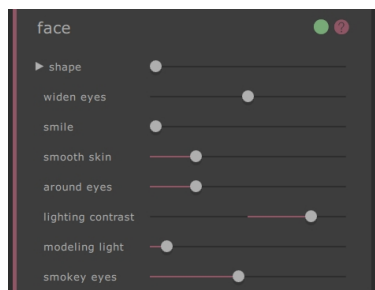
For more information, consult the [skin section reference](#) <sup>57</sup>.

## 2.5.4 Face

The face section is used to make changes to the subject's face. When you click on this section, the view will zoom into the face region and a second canvas opens on the left-hand side. This new canvas shows the estimated markup of the facial feature points. If the points are in the wrong place, the controls in this section will not work properly. To change the markup, simply click and drag the points to the correct position.



Please note that the face section is intended only for frontal faces. To indicate that the face is not frontal, click the **Face not frontal** button that is superimposed over the left (markup) canvas to disable this section.



The face section consists entirely of sliders which are manipulated in the right-hand panel and make changes to the main canvas. They broadly fall into three categories:

- Shape sliders -- these allow you to change the overall shape of the face and also to manipulate its components (e.g eye size).
- Smoothing sliders -- these allow you to smooth the skin in the facial region.
- Lighting sliders -- these allow you to relight the face so that the picture is more flattering.

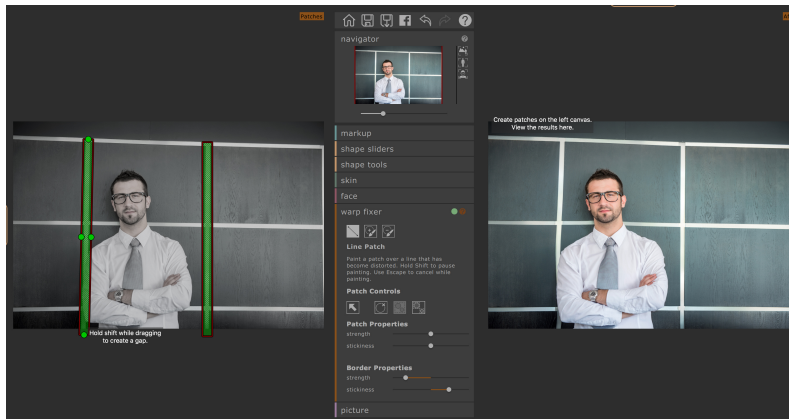
Note that the companion product [PortraitPro](#) is specialized to making face changes and contains many more controls for changing the shape and appearance of facial portrait photos.

For more information, consult the [face section reference](#) <sup>57</sup>.



## 2.5.5 Warp fixer

The **warp fixer** is used to correct areas of the background that have become distorted due to body reshaping. When you click on this section, the view will zoom out to show the whole image and a second canvas will open on the left-hand side. This new canvas is your working window for selecting warped areas to be fixed.



Warped areas are defined using **patches**. These are then straightened and preserved by the software. There are three tools for defining patches:

### Line Patch

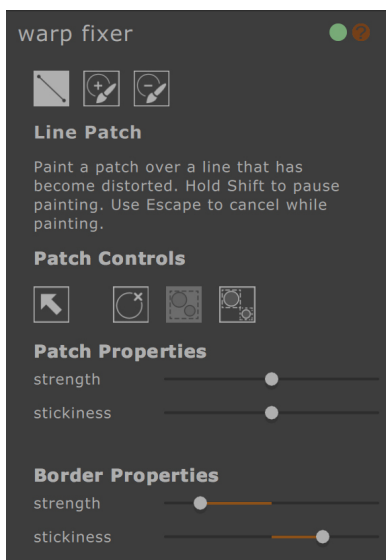
Click and hold to create a patch that follows a straight line that has become warped. Examples of this might be wall edges or horizon lines. Hold SHIFT while dragging to create a break in the patch, release SHIFT to resume drawing the patch. Use ESCAPE (ESC) to cancel while selecting.

### Brush Patch

Use this tool to paint over a small area that has become warped. Hold SHIFT while painting to create a break in the patch. Release SHIFT to resume drawing the patch. Use ESC to cancel while selecting.

### Patch Eraser

Use this brush to remove areas from a patch. Use ESC to cancel while selecting.



The Patch Controls let you adjust the effects of the **warp fixer**.

### Select Patches

Click on a patch to select it. Click and drag over several patches to select them all. Selected patches will be contained within a yellow box.

#### Delete Patches

Deletes all selected patches.

#### Group Patches

Groups all selected patches so that they will behave and move in the same way when warp fixing is applied.

#### Ungroup Patches

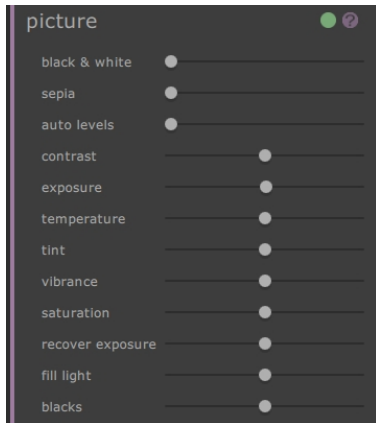
Ungroups selected patches so that they can behave and move in different ways.

#### Patch Properties and Border Properties

These sliders adjust the strength and effects of the warp fixing on your subject and the rest of the image. Adjusting them will change how much of an effect you see on your final image.

## 2.5.6 Picture

The Picture section tackles overall changes to the contrast, brightness and color palette of the whole image, similar to those found in more conventional image editing tools. All of the effects are achieved by moving the sliders in the control column directly.



The sliders consist of:

- o black and white -- converts the image to black and white
- o sepia -- converts the image to sepia
- o auto levels -- an intelligent transformation that tries to generally improve the image
- o contrast -- increases or decreases the contrast of the image while leaving the average brightness and color unchanged
- o exposure -- adjusts the overall brightness of the image
- o temperature -- adjusts the color of the whole image to remove any temperature (red-blue) color cast
- o tint -- adjusts the color of the whole image to remove any tints (green-purple) color cast
- o vibrance -- makes the colors in the picture more intense
- o saturation -- similar to vibrance, but has less effect on colors that are less intense
- o recover exposure -- recovers over-exposed areas
- o fill light -- fills in shadows
- o blacks -- darkens black regions in the image

For more detail, see [Picture tools](#) <sup>63</sup>.

## 2.6 Group Shots

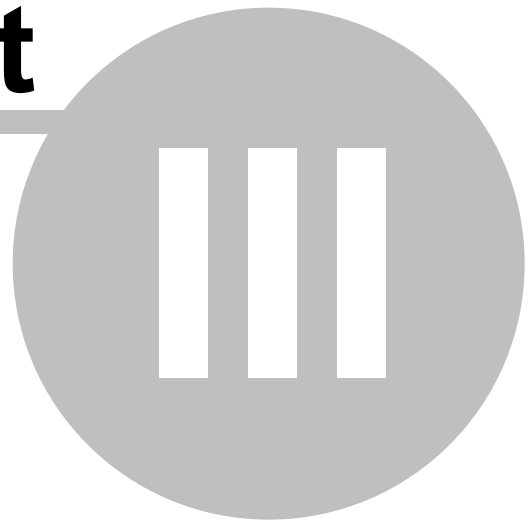
### [Working with group shots](#)

If there is more than one person in your image, you will need to save the image and re-open it to start working on another body in the image.



# Part

---



## 3 Reference

This section provides information about the different menu commands and controls in PortraitPro Body.

The [Homepage Reference](#)<sup>[40]</sup> page describes the application home page.

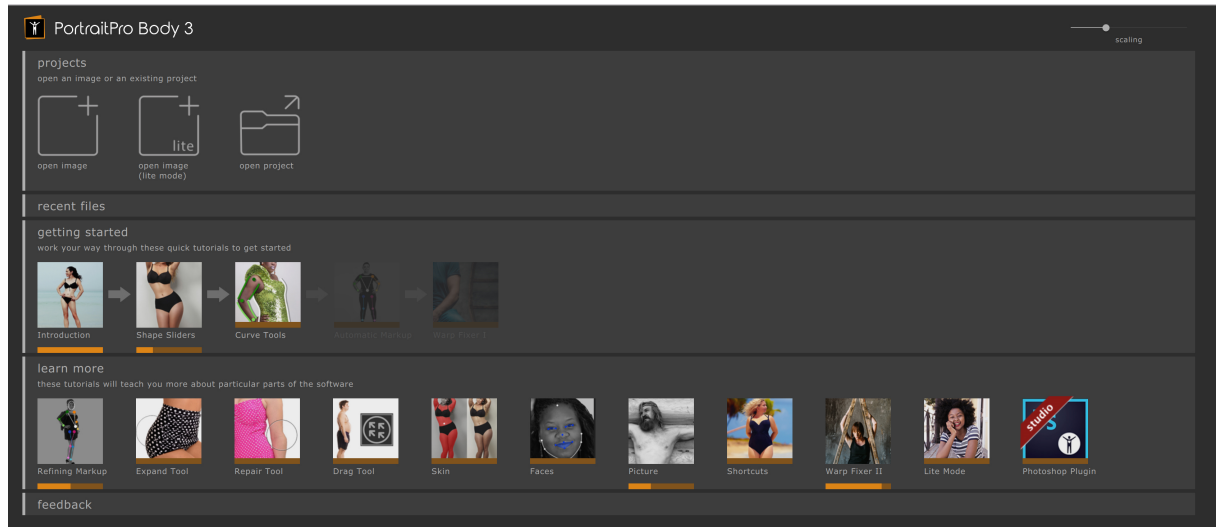
The [Menu Commands](#)<sup>[42]</sup> page describes each menu command.

The [Marking Up the Body](#)<sup>[44]</sup> page describes each of the controls available when you [markup an image](#)<sup>[17]</sup>.

The [Enhancing the Body](#)<sup>[48]</sup> page describes the controls that are available when you enhance an image.

### 3.1 Homepage

When you load the program or close a project, the home page will be shown.



From the homepage, you can:

- Edit a new image
- Load an existing project
- Re-load a recently-used project
- Open a tutorial concerning a particular aspect of the software

#### Projects

To load a new image, click the **new image** button. To load an existing project, click the **open project** button. You can open a window that do either job by pressing the space bar while on the home page. Alternatively (and from any point in this software), you can press CTRL+O or use *Open* from the *File* menu.

All of these actions bring up open file dialogs. In this window, you can choose the project or image that you wish to open.

#### Recent files

Below the **open file** button are icons representing the eight most recently used projects. In each case a thumbnail of the body that was manipulated and the file name are provided. Click on the appropriate icon to resume working on this project. This section will only appear after you have saved your first project file.

---

### [Getting started](#)

The Getting Started section contains the overview video (which is run the first time that you load the software) and four other tutorials, each of which consists of a short video and a project to work on. The user is encouraged to work their way through these tutorials when they first open the software.

---

### [Learn more](#)

The Learn More section contains a number of further tutorials that help explain other parts of the software. This section opens up after the getting started tutorials have been run.

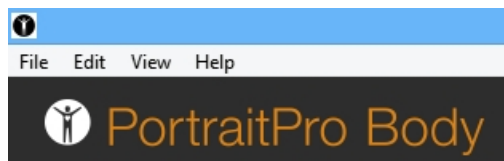
---





### [Scaling slider](#)

The slider in the top right-hand of the homepage allows the user to rescale all of the elements of the user interface. Move this slide to make everything smaller or larger so that it suits the screen that you are working on.

## 3.2 Menu Commands




These are the commands available on the menu bar in PortraitPro Body.



<a href="#">File Menu</a>  42	Commands to open and save files, print, or change settings
<a href="#">Edit Menu</a>  43	Undo & Redo
<a href="#">View Menu</a>  43	Commands to control the visibility and appearance of various elements of the user interface
<a href="#">Help Menu</a>  44	Commands to launch help, check for updates, get support, or view about box

### 3.2.1 File Menu

The *File* menu contains the following commands:

Open...	<p>Opens either an image or a project file (see <a href="#">Supported File Types</a>  70).</p> <p>If a file is already open with unsaved changes, you will be prompted to save or discard the changes before the new file is opened.</p>
Save Project	<p>Saves the project in the native ('.prb') format. If the project has not previously been saved, the File Save panel will be shown prompting you for a filename.</p> <p>This command is only available at the <a href="#">enhancing the body stage</a>  48.</p>
Save Project As...	<p>Saves the current file. This is similar to the Save command, except that a File Save panel is always shown to let you select where to save the file.</p> <p>This command is only available at the <a href="#">enhancing the body stage</a>  48.</p>
Export Image...	<p>Saves the current file. The first time this command is used after opening a file, the following rules apply:</p> <p>If you opened a JPEG file, the enhanced image will be saved as a JPEG.</p> <p>If you opened a PNG file, the enhanced image will be saved as a PNG.</p> <p>If you opened a TIFF file or any RAW file type (<u>Studio edition only</u>), the enhanced image will be saved as a TIFF.</p> <p>All other file types can be saved as JPEG, TIFF or PNG, and can be selected from the file types.</p>



	<p>From then on, this command will save the same type of file as previously saved.</p> <p>This command is only available at the <a href="#">enhancing the body stage</a><sup>[48]</sup>.</p>
Share	<p>Connects to Facebook and posts a before / after photo with a comment.</p> <p>This command is only available at the <a href="#">enhancing the body stage</a><sup>[48]</sup>.</p>
Close / Homepage	<p>Closes the current session. If there are any unsaved changes, you will be prompted to save or discard these.</p> <p>The Close command returns you to the <a href="#">Homepage</a><sup>[40]</sup>.</p>
Print...	Brings up the Print dialog that lets you print out the enhanced image.
Exit	Closes the application. If there are any unsaved changes, you will be prompted to save or discard these.

### Plug-in Mode

If the application is in [plug-in mode](#)<sup>[16]</sup>, then the only command in the *File* menu is *Return From Plug-in*, which returns the enhanced image to the calling application and closes PortraitPro Body.

## 3.2.2 Edit Menu

The *Edit* menu contains the following commands:

Undo	<p>Provides undo for changes to slider values and changes made with the brush tools.</p> <p>This means it is safe to experiment with different saved settings, or try moving any sliders, since you can always go back to the result you had earlier if you don't like the changes.</p> <p>This command is only available at the enhance image stage.</p>
Redo	Lets you redo an operation that has been undone with the <i>Undo</i> command.

## 3.2.3 View Menu



The *View* menu contains the following commands:

Before and After	Toggles the workspace between a single canvas (after) or two canvases side by side (before and after).
Markup Help	Toggles whether the Instructions panel is shown to the right of the markup screen.
Scale	Change the size of the fonts and interface elements to make the elements larger or smaller.
Animate	Starts an animation showing how the image has changed (click on the canvas to stop).
Homepage tips	Turns the "Did You Know?" section on the homepage on or off.
Rendering	Choose whether image rendering is handled by your GPU or CPU. This can assist with

	certain rendering issues on lower end/higher end machines.
--	--

### 3.2.4 Help Menu

The *Help* menu contains the following commands:

Contents	Launches the online help, showing the Table of Contents.
Quick Start Guide	Launches the online help showing the <a href="#">Quick Start Guide</a>  .
Keyboard Shortcuts	Launches the online help showing the <a href="#">Keyboard Shortcuts</a>  .
Check For Updates...	Launches the default web browser to show whether you have the latest version of PortraitPro Body.  If updates are available, links will be provided for you to download them.
Support...	Launches the default web browser to show the PortraitPro Body support pages.  You can use this to find answers to common questions, or to contact the PortraitPro Body support team.
About	Brings up the About Box, which shows the version of PortraitPro Body that you have.

## 3.3 Marking Up the Body

After loading in a new image, there are a series of markup stages that must be carried out by the user before the image can be edited.

These are:

- Identifying the person that we wish to edit
- Identifying the gender of the person that we have chosen
- Checking and confirming the markup

#### Markup Help

Throughout the markup stages, an Instructions window is available to provide guidance. By default this is visible and is on the right-hand side of the main canvas. You can hide and reveal this window by choosing Markup Help from the View menu.

The help typically consists of several pages. The first set of pages describe how to mark the placement of the nose. The other pages deal with adjusting the curves. To view these other pages, click on the relevant tab on the help window. During the markup tutorials, this help will be specific to the image that you are marking up.

### 3.3.1 Select Face reference

To identify the person that you want to edit, move the mouse over the center of the tip of their nose. If the face is identified successfully by the software you will now be asked to identify the gender.



Occasionally, the software will fail to identify the face based on your click. This sometimes happens when the face is close to profile or is partially obscured by hair or another object. When this happens, the software will prompt you to check that you have selected the right location. The face may not have been detected because you clicked on the wrong image position in the first stage. If this is the case, simply click the Cancel button when prompted. If the selection is correct, click Yes. The software will then attempt to locate the body again but you may need to make more detailed adjustments to the markup.

Special cases:

Face turned away	If the face is turned away, then make your best guess as to where the nose would be.
Nose hidden	If the nose is hidden by another object then guess where it would be.
Nose out of image	If the nose is out of the image then click where you guess it would be. You can pan the image using CTRL + mouse drag or via the navigator in the top right corner.

### 3.3.2 Adjusting the markup reference

Once the software has selected the outline of the body, you may wish to make some adjustments.

#### [Adjusting the curves](#)

---

This proceeds in the fixed order:

Right arm curves

Left arm curves

Right leg curves

Left leg curves

Torso curves

To adjust the curve, use the LEFT mouse button to click and drag one of the white circle points to the appropriate position. The goal is to have the skeleton points in the center of the limbs and the curves points running along the outlines. When you drag a curve point, you may see a white rectangle appear, the point must be kept within the constraints of this area.

To move on to the next curve area, click the right arrow displayed on the screen or press the SPACEBAR. To go back to the previous curve area, click the left arrow displayed on the screen or press BACKSPACE.

You can also navigate between areas by clicking the colored numbers on the left-hand control panel.

#### [Female Torsos](#)

---

For the female torso, the curves should be marked around the breasts.



Special cases

Limb obscured	If the limb is hidden by another part of the body or object, then guess where the curves would be if they were not obscured.
Baggy clothes	If the limb is obscured by baggy clothing, then make your best guess as to where the body curves would be.

Adjust overlaps

The software will automatically detect when one limb is in front of another. To change this selection, use the radio buttons on the control column. Where overlaps have been automatically detected, these will already be turned on. If they are incorrect, simply click the box to turn it off again. The overlaps will be represented on screen to help you visualize the overlap.

4. adjust overlaps

☐

left lower leg in front of right lower leg

☒

right lower arm in front of torso

☒

right upper arm in front of torso

☐

torso in front of right upper leg

☒

left upper leg in front of right upper leg

Once you've finished making your adjustments, click **accept markup and edit body** to begin editing the image.

## 3.4 Editing the Image

This section describes the main controls available when you are editing an image.



### Canvases

**After Photo** - By default only the edited image will be shown, to the right of the control panel.

**Before Photo** - Shows the original image. For some tools (such as the **warp fixer**) this will also be your working window for making selections.

To pan either canvas, hold CMD and drag the canvas with the mouse. To zoom in and out, use the + and - keys. Alternatively you can use the [navigator panel](#).<sup>[50]</sup>

### Viewing the enhanced image

The tab to the left of the images controls the layout of the working view.

- Click on the **Side by Side** tab to return to the side by side layout.
- Click on the **Hide Original** tab to have only the enhanced image shown.

### Flipping between the enhanced and original image

Whichever layout you have, you can press the ENTER key at any time to switch from the enhanced image view to show the original image. The original image is only shown while you hold down the ENTER key.

This lets you flip between the enhanced and original image which is a great way to see the changes.

Alternatively, you can click and hold the mouse button down on the tab above the images that says **Hold For Original**. If you SHIFT - Click this tab, the system will smoothly animate between the original and enhanced images.

---

## Toolbar

The toolbar contains buttons for:

- Home / Close -- close the current project and return to home screen
- Save Project -- save the current project
- Export Image -- save the edited image
- Share -- Post a before / after picture to Facebook
- Undo -- Undo the last change
- Redo -- Redo the last undone change
- Help -- Opens a context sensitive help that guides you around the screen

---

## Navigator

The navigator in the top-left corner helps you move around the canvas. It provides controls for zooming to fit the image, zooming into the body, and zooming to the face of the current subject as well as controls for panning and zooming. More details can be found in the [navigator reference](#) <sup>[50]</sup>.

---

## Markup

Clicking on the markup header returns to the markup section so that you can edit the body markup if you made a mistake. Note that all of your edits to the image will be lost if you choose this option.

---

## Edit Sections

These are grouped into the following sections:

shape sliders -- make large scale changes to the shape of the body by dragging sliders.

shape tools -- make finer scale changes to the body shape using brushes and tools.

skin -- make changes to the skin texture and appearance.

face -- make changes to the shape and appearance of the face.

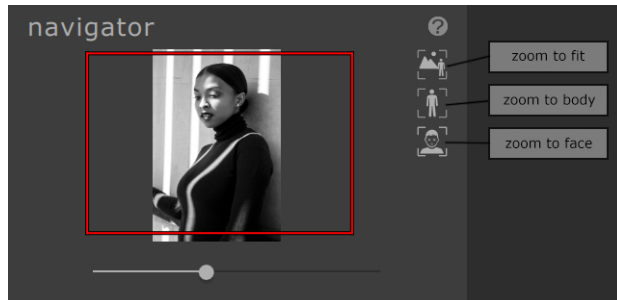
warp fixer -- correct areas of the background that have been distorted by the body shaping.

picture -- make global changes to aspects of the image such as brightness and contrast.

### 3.4.1 Navigator

The navigator is in the top left corner of the markup and editing screens.

It lets you see what part of the whole image is visible in the working view. It also provides controls to let you zoom in and out, or pan the current view.



The Navigator contains the following controls:

Header bar	Lets you collapse the navigator to create extra space. Click again to expand the Zoom control.
Help button	The help button triggers the context sensitive help system which helps explain the controls in this section.
Zoom Slider	Lets you zoom in (slide to the right) or out (slide to the left).
"zoom to fit" Button	Zooms the view so that the whole image is visible.
"zoom to body" Button	Zooms the view so that the view is centered on the current body.
"zoom to face" Button	Zooms the view to the face.

The rectangle in the Zoom Control can be dragged to pan the view.



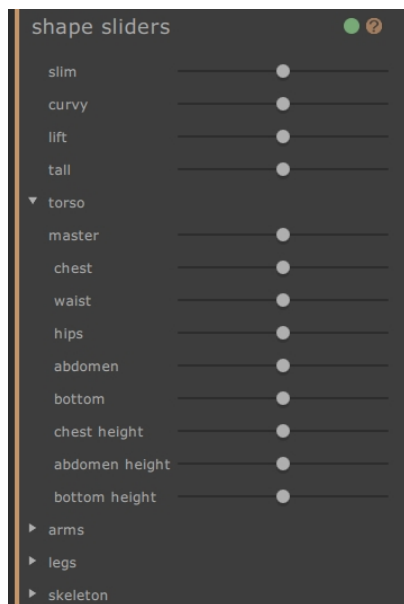
### Keyboard Shortcuts

+	Zoom in
-	Zoom out
1	Zoom so that whole image is visible
2	Zoom so that body is visible
3	Zoom so that the face is visible

You can also pan the image by holding down CTRL and dragging the canvas with the mouse.

### 3.4.2 Shape sliders

The shape sliders allow you to make large changes to the shape of the subject.



The shape sliders section contains the following controls:

Header bar	Lets you collapse the shape slider section. Click again to expand the shape sliders control.
On/Off button	Lets you turn the shape changes on or off. To reset the shape changes, use this button to turn them off and then make new changes by moving the sliders. This button also turns on or off the shape tools section.
Help button	The help button triggers the help system which helps explain the controls in this

	section.
Sliders	<p>Each slider allows you to change the shape in a different way.</p> <p>To move the slider, click on the handle and drag to the left or right.</p> <p>To reset the slider, double click on it.</p> <p>If a slider will have no effect then it will be grayed out and showed as inactive.</p> <p>The parts of the image affected by the slider can be previewed by clicking on its name.</p>
Expand sliders button	Opens up a new section or subsection of sliders.
Collapse sliders button	Collapse a section or subsection of sliders.

#### Master Sliders

slim	Makes the body slimmer overall.
curvy (women only)	Makes the waist smaller and the hips and chest larger.
built (men only)	Widens the shoulders and narrows the waist.
lift	Lifts the chest, abdomen and bottom.
tall	Lengthens the limbs and torso.

#### Torso Sliders

master	Changes the size of the entire torso.
chest	Changes the size of the chest.
waist	Changes the size of the waist.
hips	Changes the width of the hips.
abdomen	Changes the size of the abdomen (same as waist slider if frontal view).
bottom	Changes the size of the bottom (same as hips if frontal view).
chest height	Lifts the chest vertically.
abdomen height	Lifts the abdomen vertically.
bottom height	Lifts the bottom vertically.

### Arm Sliders

master	Changes the size of both arms.
left	Changes the size of the left arm.
left upper	Changes the size of the upper left arm.
left lift	Lifts the region bellow the upper left arm.
left lower	Changes the size of the lower left arm.
left wrist	Changes the size of the left wrist.
right	Changes the size of the right arm.
right upper	Changes the size of the upper right arm.
right lift	Lifts the region below the upper right arm.
right lower	Changes the size of the lower right arm.
right wrist	Changes the size of the right wrist.

### Leg Sliders

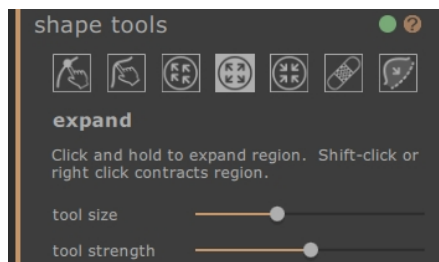
master	Changes the size of both legs.
left	Changes the size of the left leg.
left upper	Changes the size of the left upper leg.
left thigh	Changes the size of the upper part of the left upper leg.
left knee	Changes the size of the left knee.
left lower	Changes the size of the left lower leg.
left ankle	Changes the size of the left ankle.
right	Changes the size of the right leg.
right upper	Changes the size of the right upper leg.
right thigh	Changes the size of the upper part of the right upper leg.
right knee	Changes the size of the right knee.
right lower	Changes the size of the right lower leg.
right ankle	Changes the size of the right ankle.

**Skeleton Sliders**

neck length	Moves the head parallel to the torso.
face position	Moves the head perpendicular to the torso.
shoulder width	Widens the shoulders.
left elbow	Moves the left elbow towards or away from the body (sometimes useful when slimming the torso to avoid a tear in the image).
right elbow	Moves the right elbow towards or away from the body (sometimes useful when slimming the torso to avoid a tear in the image).
hips angle	Changes the angle of the hips.
torso length	Changes the length of the torso.
hip height	Moves the hips up or down, and hence changes the ratio of the torso length to leg length.
leg length	Increases the length of the legs.

### 3.4.3 Shape tools

The shape tools section provides a number of tools for editing the shape of the person in the image by directly manipulating the image. In general these tools make finer scale changes to the image than is possible with the shape sliders.



The shape tools section contains the following controls:

Header bar	Allows you to collapse the shape tools section. Click again to expand the shape tools section.
On/Off button	Allows you to turn the shape changes on or off.  To reset the shape changes, use this button to turn them off and then make new changes by using the tools.  This also turns on or off the shape slider section.
Help button	The help button triggers the context sensitive help system which helps explain the controls in this section.
Tools	Each tool makes different types of changes to the body.  Click on the slider icon to select it.  Press the TAB button repeatedly to cycle through the tools.
Current tool	The current tool is highlighted and the name is shown below the tool icons.  A brief description of the tool is also shown.
Tool sliders	For some tools, sliders will appear under the tool icons that control the size and strength of the tool.  To reset the sliders, double click on them.

#### Keyboard Shortcuts

[	Decrease tool size (where applicable)
]	Increase tool size (where applicable)

<b>9</b>	Decrease tool strength (where applicable)
<b>0</b>	Increase tool strength (where applicable)
<b>TAB</b>	Moves to next tool
<b>SHIFT</b>	When held switches to alternate tool -- edit body to edit body local and vice-versa, expand to contract and vice-versa, repeat to revert.

#### [edit body tool](#)

When this tool is selected, and the mouse is moved over the image, the curves on the edge of the body and will be highlighted. You can use this tool to pick up the curves and move them. The program knows about the statistics of human body shape and so tries to find a solution that is compatible with the current mouse position but also sensible. So, for example, if you move the left-hand side of the torso in then the right-hand side of the torso will also move in. Once a point has been moved, it is fixed unless another point is placed nearby.

When the move curves tool is selected, it is also possible to move the skeleton joints, which are represented as colored dots at the joint positions. To move the joints simply drag them to a new position.

#### [edit body local tool](#)

The local curve tool allows you to make fine scale local changes to the curve. To move a curve, simply click on it and move the mouse to drag it to a new position. Only curve positions very close to the mouse will be affected. When this tool is selected, a slider will appear that controls the size of the region over which the local change is affected.

#### [drag tool](#)

The drag tool can be used anywhere in the image -- it is used to locally deform the shape of the image by clicking and dragging the mouse. A circle surrounding the cursor allows you to visualize the area which will be dragged. When this tool is selected, sliders appear on the right-hand panel that control both the area over which the change is made and the strength of the change.

#### [expand tool](#)

The expand tool can also be used anywhere in the image and causes a local expansion or dilation within the circular cursor region when the mouse is held down. When this tool is selected, sliders appear on the right-hand panel that control both the size of the cursor and the strength of the effect.

#### [contract tool](#)

The contract tool can also be used anywhere in the image and causes a local contraction or shrinking within the circular cursor region when the mouse is held down. When this tool is selected, sliders appear on the right-hand panel that control both the size of the cursor and the strength of the effect.

#### [repair / revert tools](#)

The repair tool fixes problems with the shape of the image by making the shape changes locally smooth within the circular window. Occasionally, movement of the sliders, or use of the other shape tools will cause tears, discontinuities, or unrealistic shape changes. Applying the repair tool by holding the mouse down over the desired area, will gradually fix these problems. When this tool is selected, sliders appear on the right-hand panel that control both the size of the cursor and the strength of the effect.

If the SHIFT button is held down, the repair tool switches to the revert tool. This has the effect of locally restoring the shape of the image to its original state. As well as meaning that the shape changes are locally smooth, it also returns objects to their original position.

[fix bulges / pinches tool](#)

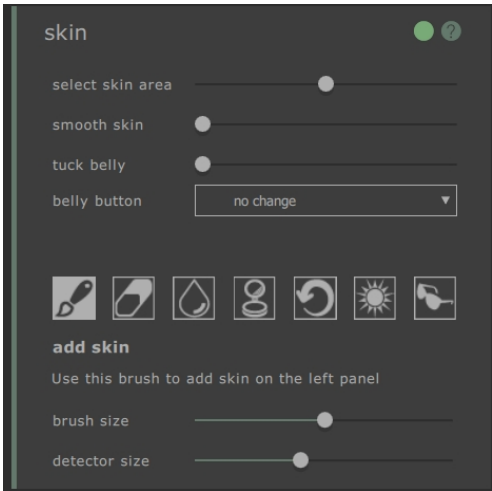
The fix bulges / pinches tool is a very specific tool for sorting out problems in the shape that are at a finer scale than the curve tools can deal with. Typically, it would be used to reduce bulges at the hips, or creases due to fat or a tight bikini strap. To operate the tool, move the cursor over one of the existing curves. The region under consideration is blown up and the shape is visualized before and after the change. Pressing and holding the mouse button causes the shape change to be made. Essentially, the local shape of the contour in the image is estimated and warped towards the smoother (but usually more desirable) curves that were drawn in the markup change.

3.4.4 Skin tools

The skin tools section provides a number of tools for editing the skin of the person in the image and tighten the stomach region by either moving sliders, or by directly manipulating the image. This only applies to the body -- to manipulate skin on the face, use the face section.

The skin section allows you to manipulate the skin texture and tighten the stomach region. This only applies to the body -- to manipulate skin on the face, use the face section.

[Markup canvas](#)



The skin section contains the following controls:

header bar	Click to select the skin section. Lets you collapse the skin section. Click again to expand the skin section.
on/off button	Lets you turn the skin changes on or off. To reset the skin changes, use this button to turn them off and then make new changes by using the controls. This also turns on or off the skin slider section.
help button	The help button triggers the context sensitive help system which helps explain the controls in this section.
select skin area	Moving this slider increases or decreases the amount of skin selected on the markup

	canvas.
smooth skin	This slider smooths the region of skin selected on the markup canvas.
tummy tuck	This slider replaces the stomach region with a more toned version.
belly button	The belly button drop down menu allows the replacement of the current belly button with various different options. The position of the new belly button can be manipulated by a control on the markup canvas.

### Skin Tools

Below the skin sliders are a set of tools for selecting and editing the skin.

tools	Each tool makes different types of changes to the skin. Click on the slider icon to select it. Press the TAB button repeatedly to cycle through the tools.
current tool	The current tool is highlighted and the name is shown below the tool icons. A brief description of the tool is also shown.
tool sliders	For some tools, sliders will appear under the tool icons that control the size and strength of the tool. To reset the sliders, double click on them.

The tools are as follows:

add skin	When this tool is selected, and the mouse is moved over the left image, a cursor consisting of two concentric circles appears. When you paint on the canvas, skin is selected by finding any areas in the larger circle that match the colors in the smaller circle. A preview of the area that will be selected is updated directly. When this tool is selected two sliders appear underneath, that control the size of the concentric circles. Holding SHIFT while this tool is selected switches to the remove skin tool.
remove skin	This tool has the opposite effect of the add skin tool -- instead of adding to the selected skin region, it decreases the selected skin region. As with the add skin tool, two sliders appear under the tool which control the concentric circles in the cursor. Holding SHIFT while this tool is selected switches to the add skin tool.
smooth skin	The smooth skin tool allows you to locally smooth an area in the image. It is applied by clicking and dragging directly on the right-hand image. The size of the area over which the effect is applied and the strength of the effect are controlled by two sliders which appear when this tool is selected. The tool will work even on regions which have not been selected as skin, and the region you smooth will be added to the skin mask.
remove blemishes	The remove blemishes tool is used to remove spots, moles, tattoos and other local features on the skin. It makes an estimation from the edge of the circular cursor. The size of the region and the strength of effect can be adjusted using sliders that appears under the tool when it is selected.
restore	The restore tool reverts the skin in the circular cursor back to the original state. The size of the affected region and the strength of effect can be adjusted using sliders that appear under the tool when it is selected.



brighten skin	The lighten tool locally brightens the image when the user clicks on the right-hand canvas. This could be used to decrease shadows which might make a region look flatter. The size of the affected region and the strength of effect can be adjusted using sliders that appear under the tool when it is selected.
darken skin	The darken tool locally darkens the image when the user clicks on the right-hand canvas. The size of the affected region and the strength of effect can be adjusted using sliders that appear under the tool when it is selected.

### [Keyboard Shortcuts](#)

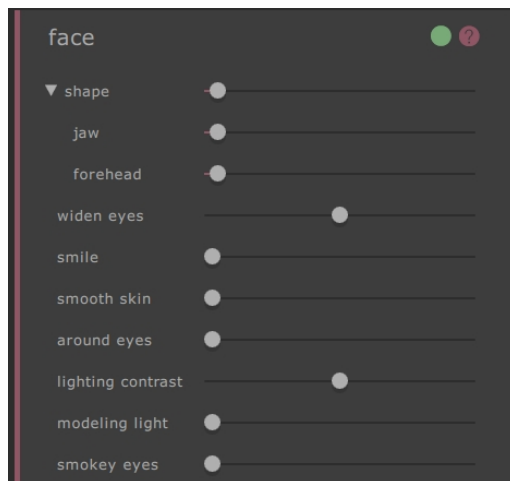
---

[	Decrease tool size (where applicable)
]	Increase tool size (where applicable)
9	Decrease tool strength (where applicable)
0	Increase tool strength (where applicable)
TAB	Moves to next tool
SHIFT	When held switches to alternate tool -- edit skin to remove skin and vice-versa, brighten to darken and vice-versa

### 3.4.5 Face tools

The face section is used to make changes to the subject's face. When you click on this section, the view will zoom into the face region and a second markup canvas opens on the left-hand side. Dragging the points will adjust the face selection.

#### Markup canvas



The skin section contains the following controls:

Header bar	Click the face section. Lets you collapse the face section. Click again to expand the face section.
On/Off button	Lets you turn the face changes on or off. To reset the face changes, use this button to turn them off and then make new changes using the controls to begin again.
Help button	The help button triggers the context sensitive help system which helps explain the controls in this section.

Sliders	Each slider allows you to change the face in a different way. To move the slider, click on the handle and drag to the left or right. To reset the slider, double click on it.
Expand sliders button	Opens up a new section or subsection of sliders.
Collapse sliders button	Collapse a section or subsection of sliders.

### Controls

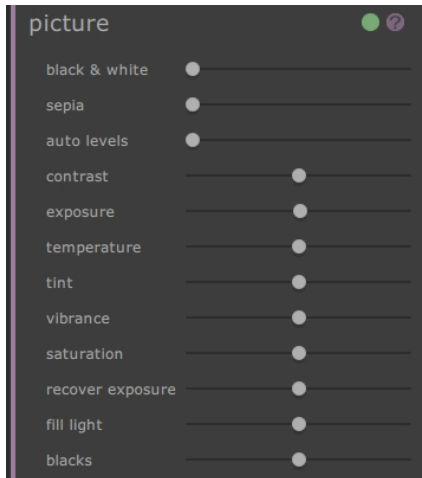
---

shape	This slider makes overall changes to the shape of the face. Expanding the slider will display the jaw and forehead sliders.
jaw	This slider makes changes to the jaw shape.
forehead	This slider makes changes to the forehead shape.
widen eyes	The widen eyes slider increases the size of the eyes.
smile	The smile slider makes small changes at the corners of the mouth to increase the degree to which the person is smiling.
smooth skin	The smooth skin slider smooths the skin over the entire face.
around eyes	This slider smooths the skin around the eyes of the subject to remove bags and wrinkles.
lighting contrast	Increases or reduces the amount of contrast in the face lighting.
modeling light	Relights the image in a way that emphasises the contours the face.
smokey eyes	Darkens the area around the eyelids to add definition.

Note that the companion product [PortraitPro](#) is specialized to making face changes and contains many more controls for changing the shape and appearance of facial portrait photos.

### 3.4.6 Picture tools

These controls affect the whole image and allow you to adjust the overall look of the picture, controlling things like the contrast and color temperature.



The picture section contains the following controls:

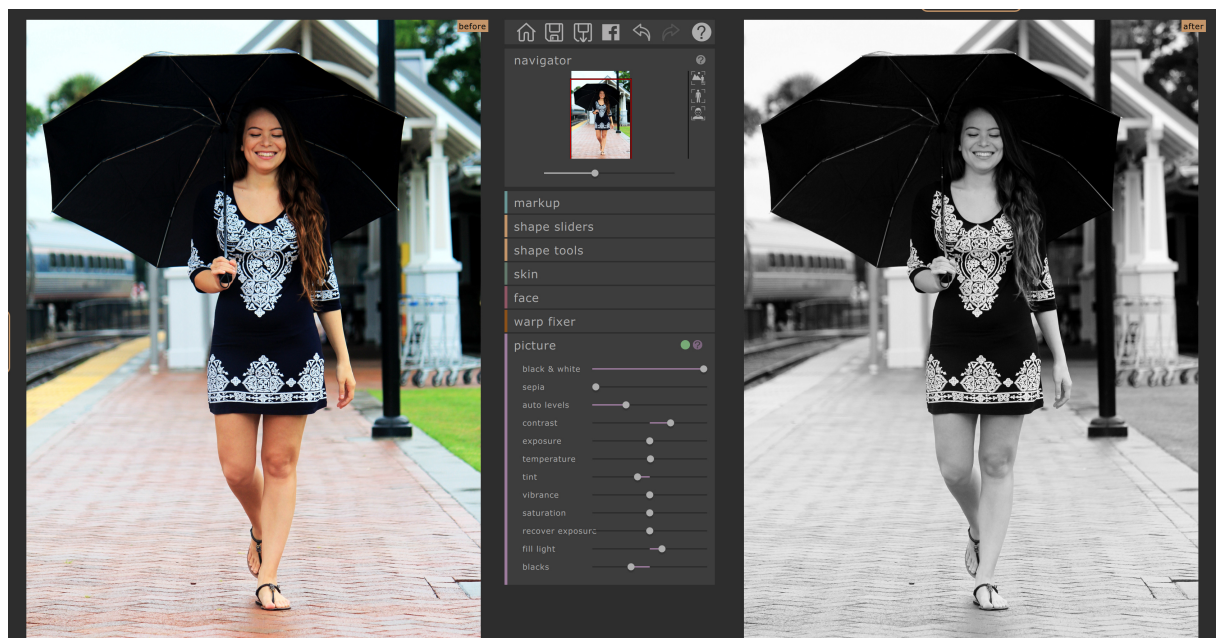
Header bar	Click the picture section. Lets you collapse the picture section. Click again to expand the picture section.
On/Off button	Lets you turn the picture changes on or off. To reset the picture changes, use this button to turn them off and then make new changes using the controls to begin again.
Help button	The help button triggers the context sensitive help system which helps explain the controls in this section.
Sliders	Each slider allows you to change the picture in a different way. To move the slider, click on the handle and drag to the left or right. To reset the slider, double click on it.

#### Sliders

<b>black and white</b>	Desaturates the image. At 100, the image will be black and white.
<b>sepia</b>	Takes the picture from color to sepia and anywhere in between.
<b>auto levels</b>	Automatically sets the levels so that the darkest thing in the picture is black and the brightest thing is white.
<b>contrast</b>	Increases or decreases the contrast of the whole image in such a way so as to bring out the detail but leave the average brightness and color of the image unchanged.
<b>exposure</b>	Adjusts the overall exposure (brightness) of the whole image.
<b>temperature</b>	Adjusts the color temperature of the whole image. Move right to increase the amount of red

	or left to increase the amount of blue.
<b>tint</b>	Adjusts the color tint of the whole image. Move right to increase the amount of green or left to increase the amount of magenta.
<b>vibrance</b>	Adjusts the overall vibrance of the whole image. Increasing the vibrance will make the colors in the picture more intense. Decreasing the vibrance will make the colors less intense (more gray).
<b>saturation</b>	Adjusts the overall color saturation (color intensity) of the whole image. Vibrance and Saturation are similar effects, the difference is that vibrance has less effect than saturation on colors that are less intense. Neither slider affects areas that are black, white or gray.
<b>recover exposure</b>	If part of a picture is very overexposed, it will recover some of the detail in the overexposed areas.
<b>fill light</b>	Brightens areas of shadow.
<b>blacks</b>	Adjusts the black point of your image, or how dark the darkest areas appear.

### Example



## 3.5 Plug-in Installation Guide

Studio Edition Only

### [Installing the PortraitPro Body Photoshop Plug-in](#)

In the Studio editions of PortraitPro Body, you have the option to use PortraitPro Body as a [plug-in](#)<sup>16</sup> from Photoshop and other compatible photo editing suites.

This option is available to install on the Installation Complete screen of the Studio editions.

To begin the plug-in installation, click **Finish** on the Installation Complete screen with the **Launch Photoshop Plug-in Installer** check-box checked.

The installer will be signed by Anthropics Technology Ltd. Select **Continue** to progress to the installer.

The language select screen will appear. Select your language and click **OK** to continue.

The Welcome Screen will appear, click **Next >** to move onto the next screen.

The **Select Install Location** screen lets you select the programs you want the plug-in to be installed into. The installer will automatically detect installed software that is compatible with the plug-in and display it. Check the detected software boxes to install the plug-in for that program. You can also manually select the installation path by checking the **Choose Install Path Manually** box, which will allow you to install the plug-in to a specific folder. Once you have selected the options you require, click **Next >** to progress to the next screen.

If you selected **Choose Install Path Manually** in the **Select Install Location** screen, you will be taken to the **Plug-in Destination Folder** screen. You will be able to select the folder of any supported program that the plug-in has not automatically detected. Click **Browse** and select the plug-in folder of the program that you would like the PortraitPro plug-in installed to. Then click **Next >**.

On this screen you are prompted to select the version of the plug-in you want to be installed. The version should match the program you are installing the plug-in into. For 32-bit applications, select the 32-bit plug-in and the 64-bit plug-in for 64-bit applications. When you have made your selection, click **Next >**.

Clicking **Install** on this screen will install the PortraitPro Body plug-in into the chosen programs.

If you install Photoshop after PortraitPro Body and wish to add the Plug-in, you can run the Photoshop Plug-in Installer for PortraitPro Body, which will be either directly available from the Start Menu, or can be found by choosing Windows Q and searching for it. Alternatively, you can manually run the executable which is usually found at C:\Program Files\PortraitProBody\PhotoshopPluginInstaller.exe.

### [Re-installing plug-ins](#)

If you did not install the plug-ins when PortraitPro Body was installed, perhaps because you did not have the other application already installed at that time, you can install the plug-in later.

To do this, run the installer for PortraitPro Body again.

### [Troubleshooting](#)

If the PortraitPro Body plug-in does not appear in Photoshop (or other compatible application), it may not have installed correctly. This can be caused by the plug-in being installed into the wrong folder.

To fix this, you need to find the correct folder for the plug-in to be installed into. Usually, the plug-in install location is "C:\Program Files\<APPLICATION-NAME>\Plug-ins" for example, "**C:\Program Files\Adobe Photoshop CS5\Plug-ins**".

## 3.6 Third Party Credits

PortraitPro Body uses a number of third-party libraries, which are acknowledged here. We offer our thanks to the authors for providing these valuable resources.

#### [dcraw](#)

RAW image reading is provided by [dcraw](#).

Copyright 1997-2012 by Dave Coffin, dcoffin a cybercom o net

#### [tiff](#)

TIFF image reading and writing is provided by [libtiff](#).

Copyright (c) 1988-1997 Sam Leffler

Copyright (c) 1991-1997 Silicon Graphics, Inc.

Permission to use, copy, modify, distribute, and sell this software and its documentation for any purpose is hereby granted without fee, provided that (i) the above copyright notices and this permission notice appear in all copies of the software and related documentation, and (ii) the names of Sam Leffler and Silicon Graphics may not be used in any advertising or publicity relating to the software without the specific, prior written permission of Sam Leffler and Silicon Graphics.

THE SOFTWARE IS PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, EXPRESS, IMPLIED OR OTHERWISE, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL SAM LEFFLER OR SILICON GRAPHICS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY KIND, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER OR NOT ADVISED OF THE POSSIBILITY OF DAMAGE, AND ON ANY THEORY OF LIABILITY, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

#### [jpeglib](#)

JPEG image reading and writing is provided by [jpeglib](#).

This software is based in part on the work of the Independent JPEG Group.

This software is copyright (C) 1991-2011, Thomas G. Lane, Guido Vollbeding.

#### [pnglib](#)

PNG image reading and writing is provided by [pnglib](#).

#### [zlib](#)

Zlib compression support is provided by [zlib](#).

(C) 1995-2012 Jean-loup Gailly and Mark Adler

#### [Adobe DNG SDK](#)

DNG reading is provided by the Adobe DNG SDK.

Lossless JPEG code adapted from:

Copyright (C) 1991, 1992, Thomas G. Lane.

Part of the Independent JPEG Group's software.

Copyright (c) 1993 Brian C. Smith,  
The Regents of the University of California  
All rights reserved.

Copyright (c) 1994 Kongji Huang and Brian C. Smith.  
Cornell University  
All rights reserved.

Permission to use, copy, modify, and distribute this software and its



documentation for any purpose, without fee, and without written agreement is hereby granted, provided that the above copyright notice and the following two paragraphs appear in all copies of this software.

IN NO EVENT SHALL CORNELL UNIVERSITY BE LIABLE TO ANY PARTY FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS SOFTWARE AND ITS DOCUMENTATION, EVEN IF CORNELL UNIVERSITY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

CORNELL UNIVERSITY SPECIFICALLY DISCLAIMS ANY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE SOFTWARE PROVIDED HEREUNDER IS ON AN "AS IS" BASIS, AND CORNELL UNIVERSITY HAS NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

Copyright © 2006 Adobe Systems Incorporated. All rights reserved.

Adobe is a registered trademark or trademark of Adobe Systems Incorporated in the United States and/or other countries. Windows is either a registered trademark or a trademark of Microsoft Corporation in The United States and/or other countries. Mac is a trademark of Apple Computer, Inc., registered in the United States and other countries. All trademarks noted herein are the property of their respective owners.

---

#### Adobe XMP SDK

The Adobe XMP SDK is used by the Adobe DNG SDK

Copyright 2009 Adobe Systems Incorporated and others. All rights reserved. The original version of this source code may be found at <http://adobe.com>.

---

#### Lcms library

ICC color profile handling is provided by [lcms](#).

Little CMS

Copyright (c) 1998-2007 Marti Maria Saguer

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

---

#### OpenCV

Automatic feature finding makes use of the [OpenCV](#) library.

License Agreement

For Open Source Computer Vision Library

Copyright (C) 2000-2008, Intel Corporation, all rights reserved.

Copyright (C) 2008-2011, Willow Garage Inc., all rights reserved.

Third party copyrights are property of their respective owners.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

- \* The name of the copyright holders may not be used to endorse or promote products derived from this software without specific prior written permission.

This software is provided by the copyright holders and contributors "as is" and any express or implied warranties, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose are disclaimed. In no event shall the Intel Corporation or contributors be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) however caused and on any theory of liability, whether in contract, strict liability, or tort (including negligence or otherwise) arising in any way out of the use of this software, even if advised of the possibility of such damage.

#### Machine Learning Framework

---

A machine learning framework is provided by Darwin.

DARWIN: A FRAMEWORK FOR MACHINE LEARNING RESEARCH AND DEVELOPMENT

Copyright (c) 2007-2012, Stephen Gould

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

- \* Neither the name of the software's copyright holders nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

#### Boost

---

General classes are provided by [boost](#).

Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and

transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

### Delaunay Triangulation

A Delaunay triangulation function is provided by Ken Clarkson, AT&T.

Ken Clarkson wrote this. Copyright (c) 1995 by AT&T.

Permission to use, copy, modify, and distribute this software for any purpose without fee is hereby granted, provided that this entire notice is included in all copies of any software which is or includes a copy or modification of this software and in all copies of the supporting documentation for such software.

THIS SOFTWARE IS BEING PROVIDED "AS IS", WITHOUT ANY EXPRESS OR IMPLIED WARRANTY.

IN PARTICULAR, NEITHER THE AUTHORS NOR AT&T MAKE ANY REPRESENTATION OR WARRANTY OF ANY KIND CONCERNING THE MERCHANTABILITY OF THIS SOFTWARE OR ITS FITNESS FOR ANY PARTICULAR PURPOSE.

## 3.7 Supported File Types

PortraitPro Body can read and write the following types of files:

Type	Extension	Description
JPEG	.jpg; .jpeg	Image file type that uses lossy compression
TIFF	.tif; .tiff	Image file type that is uncompressed or uses loss-less compression Note: TIFF files containing images that have 16 bits per color sample (48 bits per pixel) are only supported in the Studio edition.
PNG	.png	Image file that uses loss-less compression
PRB	.prb	Proprietary file type used by PortraitPro Body to store a session

### Studio Edition

In addition, PortraitPro Body Studio supports reading the following camera RAW files:

Manufacturer	Type
Adobe	.dng
ARRI	.ari
Canon	.crw; .cr2
Epson	.erf
Fuji	.raf
Imacon	.fff
Kodak	.tif; .kdc; .dcr
Mamiya	.mef; .mos
Minolta	.mrw
Nikon	.nef
Olympus	.orf
Panasonic	.raw; .rw2
Pentax	.ptx; .pef
Phase One	.tif; .iiq
Red	.r3d

QuickTake	.qtk
Sigma	.x3f
Sony	.arw; .srf; .sr2

## 3.8 Keyboard Shortcuts

PortraitPro Body provides the following keyboard shortcuts at the various stages of the application.

### Menu Commands

CTRL+O	<b>File &gt; Open</b> command
CTRL+S	<b>File &gt; Save Project</b> command
CTRL+W	<b>File &gt; Close</b> command
CTRL+I	<b>File &gt; Export image</b> command
CTRL+Z	<b>Edit &gt; Undo</b> command
CTRL+Y	<b>Edit &gt; Redo</b> command
CTRL+A	<b>Edit &gt; Animate</b> command

### Start Screen

CTRL+O	Brings up File Open dialog to let you select the file to open
--------	---

### All modes

+	Zoom in
-	Zoom out
CTRL	Temporarily move to panning mode
1	Zoom to image
2	Zoom to body
3	Zoom to face

### Editing modes

RETURN	Flip to original when held
ENTER	Flip to original when held
TAB	Move to next brush
[	Make brush smaller
]	Make brush larger
9	Decrease brush strength
0	Increase brush strength
SHIFT	Temporarily switch to alternate tool

# Index

## - A -

Arms 7, 20, 23, 46, 51

## - B -

Belly Button 18  
Brush 35

## - C -

Curvy Slider 25, 51

## - D -

Drag tool 7, 28, 55

## - E -

Editions 10

## - F -

Face 17, 34, 60  
Female Torso 46  
File Menu 42  
File Types 70

## - G -

Gender 18  
Group Shots 37

## - H -

Homepage 40, 42

## - J -

JPEG 42, 70

## - K -

Keyboard Shortcuts 28, 44, 55, 72

## - L -

Legs 7, 25, 51  
Lift Slider 25, 51  
Lighting 34, 60  
Lines 35  
Lite Mode 15

## - M -

Markup 17, 18, 20, 46  
Menu Commands 40, 42, 72

## - O -

Open Image 14, 15  
Overlaps 7, 20

## - P -

Patches 35  
Photoshop 10, 16, 65  
Picture 34, 60  
    Black and White 37  
    Sepia 63  
Plug-in 16, 65  
PNG 10, 42, 65, 70

## - Q -

Quick Start Guide 7

## - R -

RAW 10, 28, 42, 55, 70

## - S -

Save 7, 24, 40, 42, 43  
Shape Tools 7, 9, 25, 48, 51

Shape Tools 7, 9, 25, 48, 51  
  Bulges and Pinches 28, 55  
  Contract region 28, 55  
  Edit body local Tool 28, 55  
  Edit body Tool 28, 55  
  Expand Tool 28  
Skeleton 7, 9, 18, 44  
Skin 7, 9, 31, 57, 60  
Sliders 25, 28, 51, 55  
Slim Slider 25, 51  
Start 7  
Support 6, 10, 42

## - T -

Tall Slider 25, 51  
TIFF 10, 42, 65, 70  
Torso 7, 44  
Tummy Tuck 31

## - V -

View Menu 42, 43

## - W -

Warp Fixer 35