

## Draping design module

Let us first briefly understand the concept of 3D modeling of the human body, because the three-dimensional mapping is based on the 3D human body.

### ■ Introduction to 3D modeling of human body

In order to achieve satisfactory results in the operation of three-dimensional maps, it is necessary to first understand the concept of three-dimensional clothing. The human body is a specific three-dimensional, which consists of four sides (front, back, two sides) and the curves of the chest, waist and hips. Viewed from the front, the upper and lower waist is composed of two trapezoidal boxes; viewed from the side, the chest is raised in front and the buttocks are slightly upturned, forming a graceful curve. As far as clothing design is concerned, a clothing with a three-dimensional sense, should be consistent with human characteristics. In order to make clothing conform to the basic lines of human characteristics, it is necessary to have a more comprehensive understanding of human body modeling. A correct understanding of human body shape features will help us deepen our understanding of the three-dimensionality of clothing and clarify the basic requirements of the human body for fashion renderings.

Select Draping design module in the drop-down list box of the

operation module. Most of the commands in the command panel are the same as those of the Fashion design module (Figure 7-1).



Figure 7-1 Draping design module

### §7-1 Padding

In the Draping design module, select  Fill command, and the Color Fill option will appear on the Options panel ( Figure 7-2):

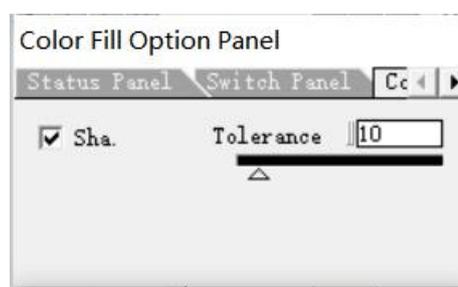


Figure 7-2 Color Fill Options

First set the color capacity, determine the filling area, and select "Shading", then the filling result is the addition of the selected filling object and the shading; if "Shading" is not selected, then the filling result is the selected filling object.

Before filling, select the color filling option first, the filling method is

the same as in the fashion design module.

### §7-2 Draping:

Select the  Draping command , Display the subcommand for draping (Figure 7-3):

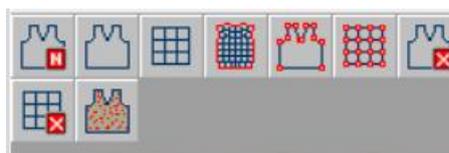


Figure 7-3 draping subcommand icon area

#### ◇ New Draping object:

The process of New Draping object is to create an independent object on the garment piece, which is similar to setting an irregular line segment selection window.

1. Open the image from the file management window. Most of the images that execute Draping come from the existing images in the file management library.
2. Select the New Draping object command to accurately draw the border of the garment piece through a straight line or a curve (the function key F3 realizes the conversion between a straight line and a curve). When drawing the border of a garment piece with a straight line, you can start from any point on the border of the garment piece, click the left button of the mouse, then move the cursor to the other end of the border, click the left button again, and after the line drawing on the boundary is completed, click the Right click to

end. When selecting the curve to draw the boundary (the function key F4 realizes the conversion between the middle-pull and the end-pull of the curve), you can also start at any point on the boundary of the garment, click the left button of the mouse at the boundary, and then move the cursor to the other end of the edge and click the left button. key, and draw the shape of the curve at any position between the two ends to make it the same as the border of the garment piece, click the left button again, after completing the drawing of the curve on the border, click the right mouse button to end.

※Notice:

1. In the process of drawing the boundary of the garment piece, sometimes the boundary of the target garment piece cannot be drawn accurately. You can restore or modify it through the shortcut key "Z" or the undo command. Click the "Z" key or undo the command, the line or curve returns from the current to the previous position, and multiple clicks can restore to the initial position of the New Draping object.
2. In the process of creating objects for clothing pieces, sometimes it is necessary to create objects for collars, sleeves, body and other parts. In order to achieve a better effect on the connection between objects, the characteristics of overlapping objects can be used.

3. Most of the images used for mapping come from existing images, or you can enter your selected photos into the drawing area of Richpeace Textile and Fashion Design System V3.0 through a scanner. If you have a suitable image in your file manager, you can read it directly into the drawing area.

4. When saving the document, only the objects in the selected window will be saved, and the objects outside the selected window will be lost.

◇  Add Draping object:

To create multiple object in the target image, and to act on the same grid, you can select  Add Draping Object command on the basis of the new Draping object to create multiple objects in the target image. The Add Draping Object command can be used to add objects multiple times. The color of the added Draping object is displayed in blue as the current state. It acts in the same state as the new Draping object and is a supplement to the new Draping object.

■ Create Draping object steps (Figure 7-4):



Figure 7-4 New Draping object and Add Draping object

1. Use the new Draping object command to create a new object for the top, and the color of the object edge is displayed in blue (current state).
2. Use the Add Draping Object command to add objects to the sleeves, collars, and skirts in the picture. The color of the object edges is blue (current state) as above.
3. After completing the establishment of the object, it will be transferred to the addition of the grid.

◇  Add grid-1:

In the state of Figure 7-4, select the Add Grid-1 command to start adding grids, the steps are as follows:

1. Move the cursor to the image in the drawing area, click the left button of the mouse in the upper left corner of the created object,

and drag the cursor to appear a rectangle.

2. Drag the mouse along the diagonal direction of the rectangular box. After confirming that the definition object has been selected, click the left button of the mouse to end adding the grid. (requires that the grid must exceed the originally defined object)

3. The defined grid shape is a rectangular grid composed of dots and lines (Figure 7-5).



Figure 7-5 add grid-1

Next, we will introduce the subcommand for adding grid-1 (Figure 7-6).

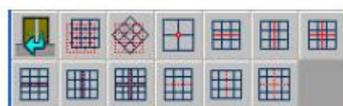


Figure 7-6 Add Grid-1 Subcommand Icon Area

■  go back/return:

Select the  Return command to return to the subcommand icon area of the Draping command.

■  move grid:

Select  Move Grid command to move the grid to any position and direction.

1. Move the cursor to any dot in the grid, click the left button of the mouse, the dot will be displayed in red.
2. Hold down the left mouse button and drag the cursor to the desired position, click the left mouse button to confirm.

■  Rotate grid:

1. Select  Rotate Grid command, and click the left button of the mouse on any screen point in the grid, the screen point will be displayed in red.
2. At the same time, a line with this screen point as the endpoint appears, drag the line to rotate to the desired angle, and click the left mouse button again to confirm.

■  move grid point:

Select  the move grid point command, move the cursor to the screen point in the grid, the screen point is displayed in red, Click the left button of the mouse, move the mesh point to the desired position, and click the left button of the mouse again to confirm. base on needs

Any network point can be adjusted, and the three-dimensional effect of the image can be more obvious by adjusting the network point. Good to reflect the wrinkles, shadows and other effects of clothing.

 insert row :

Select the insert row command, move the cursor to the dot, the dot is displayed in red, click the mouse Left-click to add a line of network cables. The add line command can add multiple lines of network lines.

 insert column:

Select the add column command, move the cursor to the dot, the dot is displayed in red, click the mouse Left-click to add a column of network cables. The Add Column command can be used to add multiple column network lines.

 insert row&column

Select  the insert row&column command, move the cursor to the network point where the network line of the line and column is to be added, and the network point will be displayed.

Displayed in red, click the left button of the mouse to add a row and a column of network cables. The Add Row and Column command can be used to add multiple rows and columns of network lines.

■  move a row

Select  the Move a row command, move the cursor to the dot of the line to be moved, and the dot is displayed as Red, click the left button of the mouse, drag the cursor to the desired position, click the left button of the mouse again to confirm, and complete the movement of the line.

■  move a column

Select  the Move Column command, move the cursor to the screen point of the screen line to be moved, and the screen point is displayed as Red, click the left button of the mouse, drag the cursor to the desired position, click the left button of the mouse again to confirm, and complete the movement of the line.

■  move row&column

Select  the Move row and Columns command, move the cursor to the dots of the lines to be moved, and the dots will be displayed is shown in red, click the left button of the mouse, drag the cursor to the desired position, click the left button of the mouse again to confirm, and complete the movement of the row and column lines.

■  delete row:

Select the delete row command, move the cursor to the row grid line to be deleted, the network point is displayed in red, click the grid point, the row line will be deleted.

■  Delete Column:

Select  the Delete Column command, move the cursor to the column line to be deleted, the dots are displayed in red,

Click on the dot, the column line is deleted。

■  delete rows & columns:

Select  the delete row & column command, move the cursor to the point where the lines of the row and column to be deleted meet, The dots are displayed in red, click on the dots to delete the rows and columns.

■ Use the Add Grid-1 command to add the body's grid (Figure 7-7):



Figure 7-7 Adjusting grid outlines, lines and dots

1. Add a grid on the basis of the established objects: ① On the basis of the outline of the grid, find a network line close to the chest point, and adjust its position by moving the line command so that the network line passes through the left and right chest height

points, then The network cable is the bust line. ② In the same steps, use the move line command to find out the waistline and hipline respectively. ③ Find a longitudinal line close to the anterior midline, and adjust its position by moving the column command so that it passes through the cervical fossa, the mid-chest, the navel, and the mid-abdomen. ④ In the same steps, use the move column command to define the chest height vertical lines at the positions of the two chest height points respectively. The final result makes the grid look like a man stand with structural lines added in the draping.

2. To edit the shape of the grid: ① Point the cursor to the grid point of the grid outline. ② Press the left mouse button, drag the dot to the desired position, and release the mouse button. ③ The final result is to make the outline of the grid as close as possible to the shape of the object of the garment. The closer the grid is to the object of the garment, the more expressive the grid is.

3. Edit the dots inside the grid: ① Point the cursor to the dots where the vertical and horizontal lines intersect in the grid. ② Click the left button of the mouse, drag the dot to the desired position, and release the left button of the mouse. ③ By adjusting the dots inside the grid, make the dots in the grid as close as possible to the direction and wrinkle of the garment piece, so as to better represent the three-dimensional effect of the image. ④

After adjusting the dots, check the structure of the vertical and horizontal lines in the grid, make appropriate adjustments to the unsatisfactory places, and check whether the direction of the vertical and horizontal lines conforms to the human body shape.

◇  Add grid-2:

The subcommands of the Add Grid-2 command are the same as those of the Add Grid-1 command and will not be repeated here.

For the add grid-2 command, the generation of the grid is based on the image object, but the difference from the add grid-1 command is that the created object must be a new object or an added object, not both the new object and the added object. Add objects to add grids.

■ How to use the Add Grid-2 command:

1. Add grid-2 command grid generation is different from add grid-1 command. In the add mesh-1 command, you must pull out a rectangular mesh, define the chest line, waistline, etc. of the body, and then adjust the outline of the mesh to make the shape similar to the object being built, and finally To fine-tune the mesh points; and in the add grid-2 command, you only need to define the four endpoints of the mesh created on the existing objects, and the mesh will be automatically generated without making too many changes. The network can be fine-tuned appropriately.

2. The position of the endpoint is related to the effect of grid generation. Here we focus on how to define the four endpoints of the generated grid. Take the intersection of the four sides of the object as the endpoint, and define the four endpoints at the intersection of the model's shoulder line, side seam line and waist line (red circle in Figure 7-8-1). After completing the definition of the four endpoints, the grid on the model will be automatically generated (Figure 7-8-2), just fine-tune the grid points.

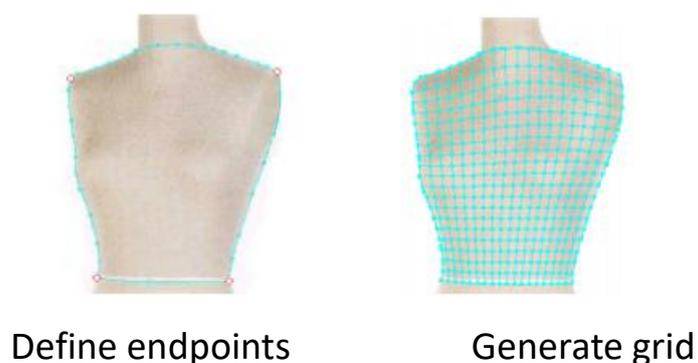
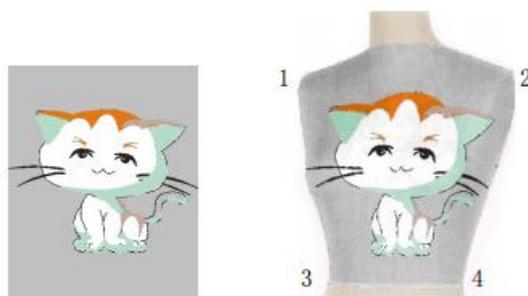


Figure 7-8 Mesh generated using the add grid-2 command

3. As can be seen from the above figure, the grid generated by the add grid-2 command is determined by the endpoints, and the grid outline between the two endpoints affects the direction of the network line. The grid is composed of four endpoints, and the position and order of the endpoints also affect the pattern effect of the map. The four endpoints play a decisive role, that is, the endpoints that affect the pattern effect of the map are the first and the second. two endpoints. The model in the above picture can be used as an example to illustrate the influence of the first two

endpoints on the effect of the texture pattern by means of a legend.

① Set the mesh endpoint on the model of the existing object. The way to set the endpoints is from left to right, from top to bottom, that is to say, the first endpoint of the grid is set to the left of the shoulder line, the second endpoint is set to the right of the shoulder line, and the third endpoint is set to the right of the shoulder line. The first endpoint is set to the left of the waistline, and the last endpoint is set to the right of the waistline. Setting the endpoints in this way produces a mesh that is identical to the mesh set by the Add Grid-1 command, with a textured effect (Figure 7-9):



draping pattern

Left to right, top to bottom

② If the method of setting the endpoints is from right to left, from top to bottom, or from left to right, from bottom to top, or from right to left, from bottom to top, the texture effect will be displayed (Fig. 7-10):



Right to Left, Top to Bottom  
Left to Right, Bottom to Top  
Right to Left, Bottom to Top

Figure 7-10 Draping effect

③ If the method of setting the endpoints is set in the order from top to bottom and from left to right, that is, the first endpoint is on the left side of the shoulder line, the second endpoint is on the left side of the waist line, and the third endpoint is on the left side of the waist line. On the right side of the shoulder line, the last endpoint is on the right side of the waist line, set the end point in this way, the Draping effect is displayed (Figure 7-11):



Top to bottom, left to right

Figure 7-11 Draping effect

④ Similarly, the way to set the endpoints is from top to bottom, from right to left, or from bottom to top, from left to right, etc., will produce different texture effects, which will not be introduced one

by one in the legend.

※Notice:

1. The definition of endpoints is based on the first and second endpoints, while the functions of the third and fourth endpoints are set for grid generation, which does not affect the texture effect.
2. The setting of the endpoints in the Add Grid-2 command determines the direction of the network lines in the grid. Therefore, for objects with obvious grid outlines such as suits, round necks, and "V" necks, you cannot only set For the four endpoints, the mesh should be better generated by adding auxiliary objects, that is to say, by adding objects on the basis of the existing objects, the parts with more obvious bumps will be eased (Figure 7-12).



Add helper object    Create grid on helper object    Delete helper object

Figure 7-12 The method of adding grid-2 to the round neck

Set the grid endpoints on the basis of the auxiliary objects. After the grid is generated, you can delete the additional objects through the delete object command, and finally complete the addition of the round neck grid.

◇ Modify objects: 

Modifying an object is modifying the object that will affect the edge effect of the cubemap (create a new object or add an object) Select the Modify Object command , and place the cursor on the edge of the new or added object. Edge Displayed as edges with small squares (ie edge points). Its subcommand icon area (Figure 7-13):



Figure 7-13 Modify Object Subcommand Icon Area

■  return:

Returns to the subcommand icon area of the texture command.

■  Copy objects:

Select  Copy Object command, drag any edge of the object to be copied to a suitable position, and Click the left mouse button to confirm, and the object copy dialog box will pop up (Figure 7-14)

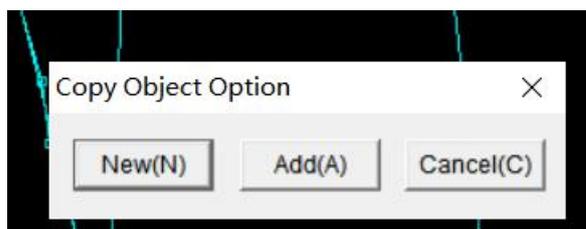


Figure 7-14 Object Copy Dialog

Select whether the copied object is a new object or an added object according to your needs, or select "Discard" to Object copying is not performed

■  move objects:

Click  Move Object command, drag any edge of the object to be moved to a suitable position, click The left mouse button is OK to complete the movement of the object.

■  Rotate objects:

Click  Rotate Object command, place the cursor on any edge point of the object to be rotated, click on the edge Rotate the point to an appropriate angle, click the left mouse button to confirm, and complete the rotation of the object.

■  adjust object points:

Click  Adjust object Point command, move the cursor to the position of the edge point to be adjusted, click the edge point and drag Move to a suitable position, click the left mouse button to confirm, and complete the adjustment of this edge point. Move the cursor again to adjust the edge points and continue as above until you are satisfied with the new object.

 Modified grid:

Select  Modify Grid command, the subcommands of the Modify Grid command and the subcommands in Add Grid-1.

◇  delete object:

Use the delete object command to delete the target object.

1. Select the  Delete Object command.
2. Move the cursor to the edge of the newly created or added object, and click the left mouse button to delete the target object.

◇  Delete grid:

Use the  Delete grid command to see how the target mesh is set.

1. Select the Delete Grid command, all grids will be displayed in the drawing area.
2. Move the cursor to the grid and click the left button of the mouse to delete the grid.

※Note: When creating, modifying or deleting an object (grid), click  undo command or click the shortcut key "Z" to undo the operation of the current object (grid); click  redo command or click the shortcut key "A" "Remove the operation of the current object (grid).

◇  Draping:

After completing the grid setting, use the map command to make a stereo map.

Any bitmap can be selected as a Draping pattern, and it can be scanned into the drawing area of Richpeace Textile and Fashion Design System V3.0; it can also be read from the file management (Figure 7-15).



Figure 7-15 Read Draping pattern

Select  the Draping command to display the Draping Options panel (Figure 7-16):

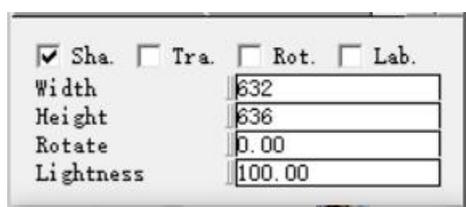


Figure 7-16 Draping Options Panel

1. Select the shading, the mapping is carried out in the shading state of the target image; if the shading option is not selected, the readout pattern is pasted.
2. Select transparent, and the pasted pattern will be transparent.
3. Select Rotation, the selected pattern can be freely rotated with the mouse in the drawing area, and click the left button of the mouse to confirm when the desired position is reached; it can also be set by setting the rotation degree in the text box after the rotation angle (degrees). Achieve the rotation of the pattern.
4. Select the label, the sticker pattern will be attached to the garment like a label, and will not circulate.
5. Display (or set) the width and height of the selected pattern in the

texture options panel, and set the brightness of the selected pattern in the text box after the brightness ratio (%).

After completing the above preparations, you can start to paste the read pattern into the target image.

■ Draping steps:

1. Move the cursor to the target image, and a mark  (selected pattern) will appear.
2. Position the cursor on the target image, click the left mouse button to drop the pattern, and the texture effect will be displayed (Figure 7-17):



Figure 7-17 Draping Effect

■ Effect after processing draping:

After draping, do not select Rotate on the texture options panel, place

the cursor on the target image, and pull out a line segment in the direction to be moved to move the texture pattern along this line segment for a certain distance; select Rotate and place the cursor on the target On the image, pull an angle in the direction to be rotated, and the texture pattern can be rotated along this direction and angle

Draping subcommand icon area ( Figure 7-18):

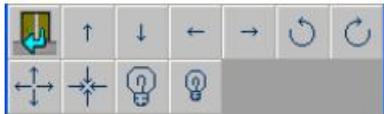


Figure 7-18 Select the Pattern Up command to move the pattern up.

Select  the Pattern Up command to move the pattern up.

Select  the Pattern Down command to move the pattern down.

Select t  the Pattern Left command to move the pattern to the left.

Select  the Pattern Right command to move the pattern to the right.

Select  the Pattern Left command to rotate the pattern to the left.

Select  the Pattern Right command to rotate the pattern to the right.

Select  the Pattern Enlargement command to enlarge the pattern attached to the target.

Select  the pattern reduction command to reduce the pattern.

Select  the Brightness Increase command to increase the brightness of the pattern.

Select  the Brightness Reduction command to reduce the brightness of the pattern.

※Note: The above commands are selected according to the effect after the Draping. If the effect after the Draping is better,

Just  click the Back command to return to the previous level.