



## Kerkythea 2007

# How to use Mask Render by Shane L. Fletcher - "Fletch"

A "Mask Render," also known as an "Alpha Mask," is a black and white or greyscale image used to hide or obscure portions of an image without actually losing any information. In Kerkythea an alpha mask is loaded into the 'Clipping' portion of a material to make part of a material image transparent or semi-transparent.

Other common uses:

- place a background image
- place an object partially hidden 'inside' your 2D image

## PART 1: CREATING THE MASK

To create a mask render of an object, select the object in Kerkythea, and render it using Mask Render.

1. **Select an object** or objects
  - you can select an object by clicking on it in the view
  - you can select an object by clicking on it in the object list on the left pane
  - add to your selection by holding the CTRL key
  - CTRL-clicking an object a second time will drop it from the selection set
  - Select All objects in your scene quickly by clicking the top-most item in the object pane on the left, hold down SHIFT key and click on the bottom-most object.

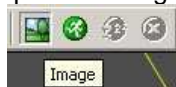
2. Click the 'Start Render' button



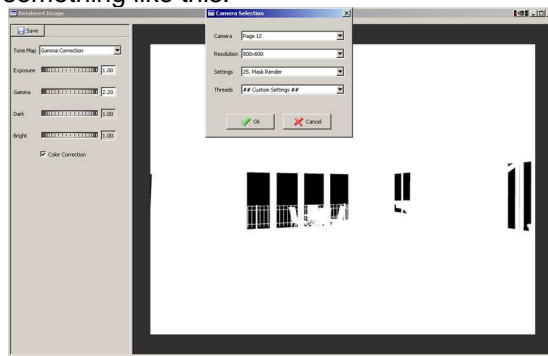
3. **Resolution:** must be the exact size of the color rendering you are going to mask

4. **Settings:** '25. Mask Render'

5. Open the image window



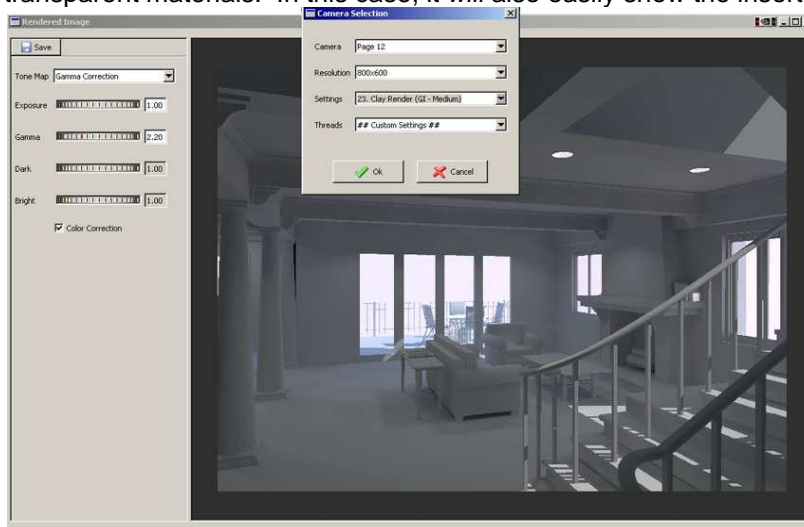
6. Any object you have selected will render as solid white. Your rendering could look something like this:



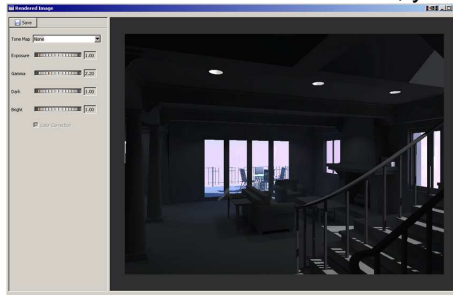
7. Click "Save" and save it... this one was called "Living Room Alpha"



8. If you haven't done so, render the full final image at the exact same resolution you used for your alpha, being sure to **turn on Gamma Correction setting it to 1 and 2.2** if it is not already done for you automatically.
9. This one was completed using the 'Clay Render GI-Medium' feature. This feature is used to test lighting conditions while ignoring your materials with the exception of emitters and transparent materials. In this case, it will also easily show the inserted color background.



10. If Gamma Correction is turned off, your scene may look dark, like this:



11. Save the image, in this case the image was called 'Clay Render\_Gamma2.2'

**“My Mask Render Turned Out Completely White”:**

When rendering an alpha mask for interiors backgrounds, you will want to select everything **except** your exterior glass... (or you will get a mask that is just a white screen).

**Important Issue SketchUp Users May Run Into:**

“I selected all the objects in my scene. Then I deselected my glass by CTRL-clicking it in the view, but the mask still rendered white”

**Solution:** In SketchUp the reverse(blue) side of your glass may have been painted with a different glass material. In this case, go to your SU file and see if this is true, and which material it is. Then find and deselect that material by CTRL-clicking it in the object selection pane on the left before running the mask render.

**Lots of Materials in Your Model and They Are All Mixed Up?:**

If all your materials are not in alphabetical order in the object list, click on “Models” in the object list. When the word is highlighted, right-click and choose “Sort”.



## PART 2: MASKING THE IMAGE

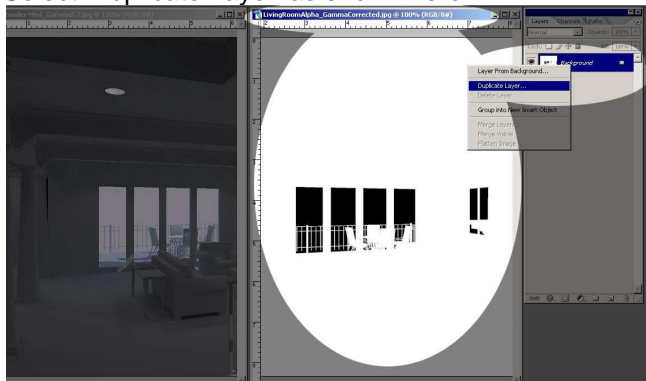
### Photo Editor Time!

For the purpose of this demonstration Photoshop CS2 is being used, but this is only one of many programs available to do this. [The Gimp](#) is a freeware open-source program that is also capable of this.

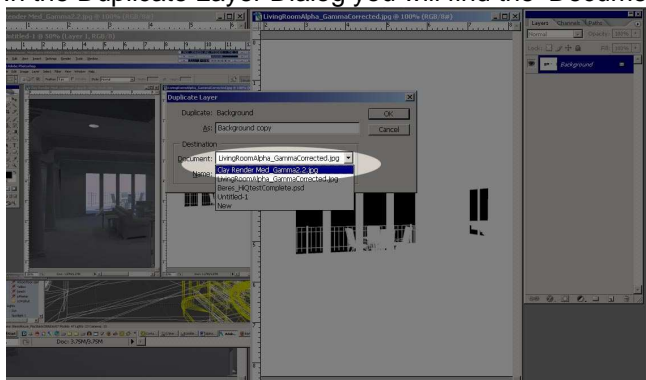
**Warning – THIS IS EASY to do, complicated to explain, and takes a little practice.**

Masks are possibly the most powerful and under-utilized feature in Photoshop. This will appear complex to a beginner user of either Kerkythea or Photoshop, but after following these steps 3 or 4 times, masking will become second nature and can easily be accomplished in under 60 seconds – including rendering the mask. (It sure beats trying to cut out the image manually in Photoshop using the magic wand or magnetic lasso or some third-party masking software!)

1. Open the rendered image.
2. Open the alpha mask.
3. Open the background image you want to “mask in”. (in this case ‘Lake Image’)
4. It may help to arrange your windows by cascade or tiling them so you can see them all easily.
5. Be sure to have the layer dialog open
6. We are now going to ‘Send’ the Alpha Mask layer over to the Rendered Image document. Or in other words, we are going to copy the Alpha Mask on top of the Rendered Image.
7. Go to the Alpha Mask image and right-click the layer in the Layer Dialog box.
8. Select ‘Duplicate Layer’ as shown here:



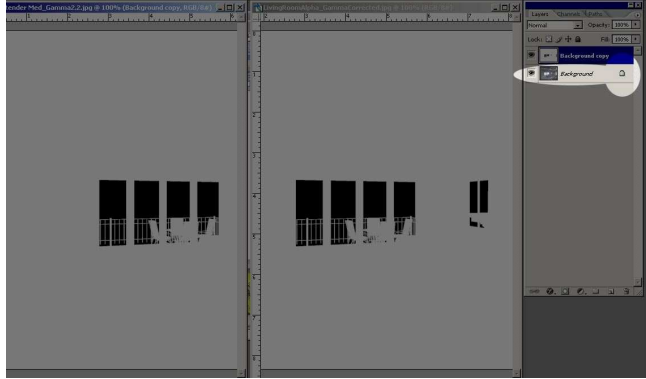
9. In the Duplicate Layer Dialog you will find the ‘Document’ pull-down



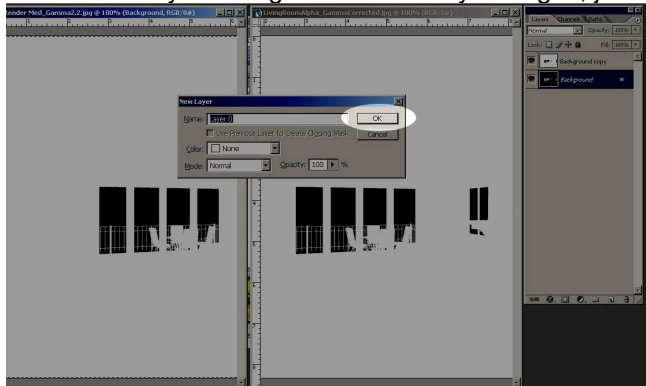
10. Select the image to which you want to duplicate your mask layer, in this case it’s the ‘Clay Render Med’ image.



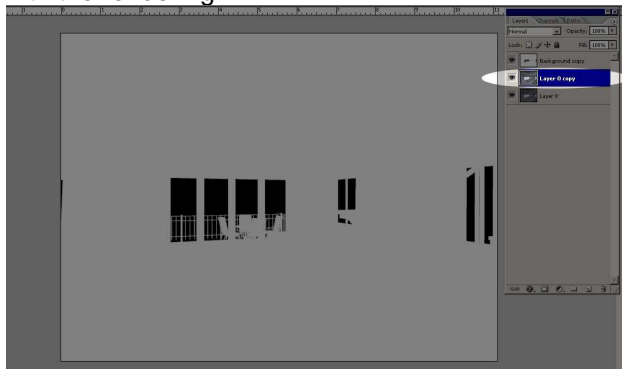
11. This method of duplicating the layer insures that it is placed exactly aligned with the image below. If you drag-n-drop the layer into the other image, it's possible that they will not align perfectly. For masking, perfect alignment is critical.
12. Now make your rendered image – Clay Render Med' the Active Image by clicking on it's window.
13. It will now be hidden with the alpha mask. Click on 'Background Layer' in the dialog box to make it active.
14. Double-click the Lock Symbol on the Background Layer



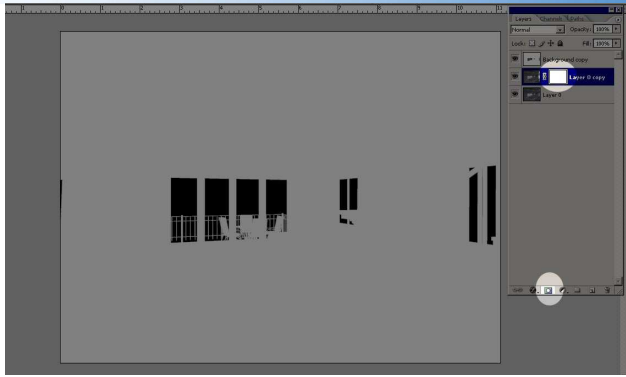
15. In the New Layer dialog don't make any changes, just click 'OK'.



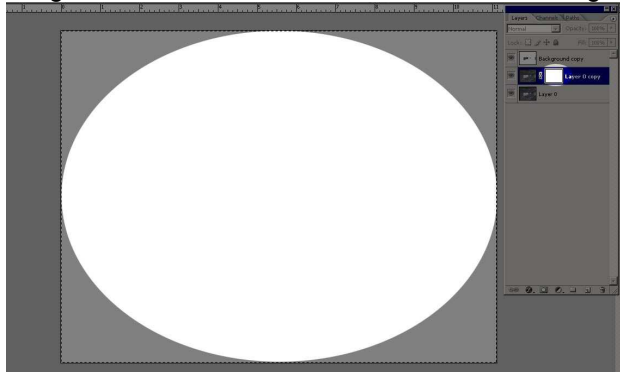
16. With the new layer '0' still active (highlighted in blue), push CTRL-J to duplicate the layer with the rendering.



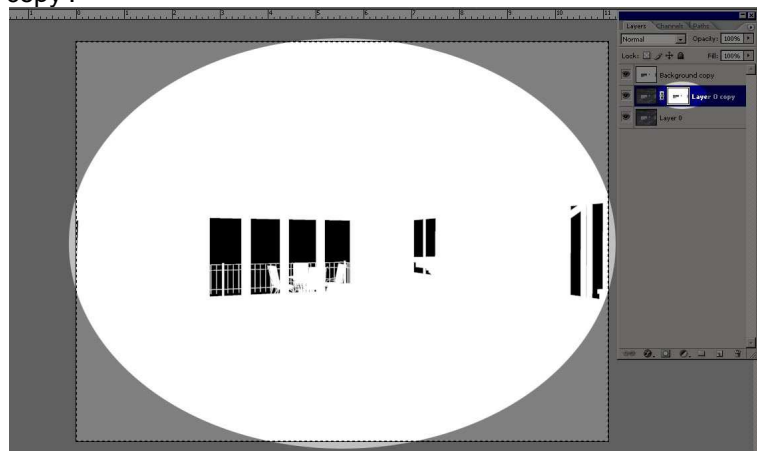
17. With the new layer 'Layer 0 copy' active (click on it to make sure it's highlighted in blue), click on the 'Quick Mask' button in the bottom of the Layer Dialog.



18. Now, making the layer 'Background Copy' with the rendered alpha mask on it active, hit CTRL-A to select all on the layer. Then CTRL-C to copy it to your computer's clipboard.
19. Now **Alt-click the new Layer Mask Thumbnail** you created on 'Layer 0 copy'. Your image will turn white. You are now looking at the alpha mask for that layer.



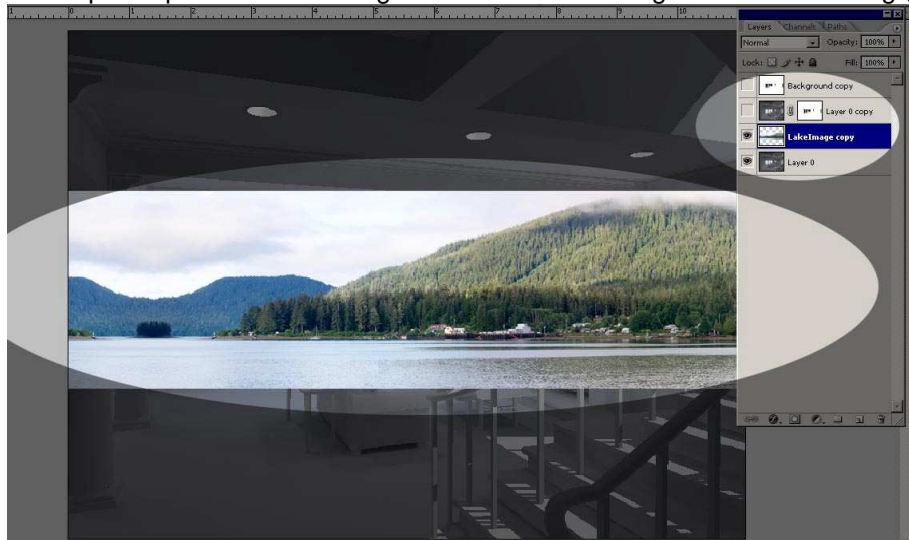
20. CTRL-V paste your alpha mask from your clipboard into the layer mask for 'Layer 0 copy'.



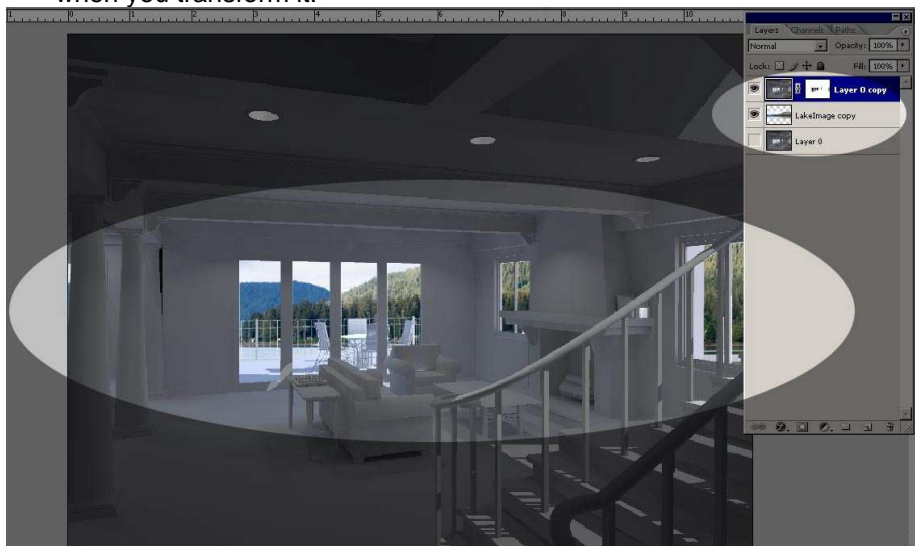
21. Click the **thumbnail of the rendering in the layer dialog to exit** alpha mask editing and get your image to show up again.
22. Duplicate your background image into the document as described in steps 6-11.
23. In the Layer Dialog box drag your new background image down to be under the layer with the alpha mask. If you turn off the layers above the new background image (in this example 'Lake Image') it may look something like this. Having the copy of the original



render behind it helps in scaling/placing the image over all the 'openings'. But mostly, this step is important when using mask to insert an image into the rendering (see Part 3)



24. Now you can turn off the original render and turn on the layer with the mask (Layer 0 copy). You can adjust the Lake Image by making sure that it's the active layer, and using the arrow tool to move it around. You can transform the image here to scale it or rotate it as needed as well. Photoshop CS2 also has the ability to give an image 'perspective' when you transform it.



25. If you need to fine tune your alpha mask you can make it active by ALT-clicking the mask thumbnail or just make sure it's highlighted by clicking on it, and you can then paint with the paintbrush or other editing tools... black is a 'hole' in the mask (think 'black hole in space'), so you will see 100% through black. If you paint on a mask in 50% grey, it will expose 50% screened version of the image on the layers below. White is opaque, so it will not reveal anything behind the current layer.

26. Now, if the design changes, all you have to do is re-render, duplicate into the photoshop document and copy the alpha mask into the new design's layer alpha mask. No sweat.



27. Your final may look something like this...



### Halo around masked objects

If there is a 'Halo' around your masked image, it comes from the anti-aliasing of the mask from black-to-white not working perfectly with the image you are inserting. This is immediately apparent against dark backgrounds.

### What You Can Do:

- Heightening the contrast quickly fixes this problem in many cases. Select the alpha mask on the layer in the layer dialog to make it active. Using the levels to reduce the mask to purely black and white may also clear up the problem. Choose the middle 'grey' slider triangle and slide it left or right and you will see the halo change or even disappear.
- There's also the Image>Adjustments>Threshold>drag slider... everything to left of slider becomes black, everything to right becomes white. Slide the slider to the right or left until the halo diminishes or goes away.
- Try to move the image to minimize the halo effect,
- Alter the mask manually to reduce the anti-alias noise.(Alt-click the mask icon and paint in black or white on that layer)
- You can try running the alpha WITHOUT gamma correction, and saving that, as the mask may improve slightly. Larger renderings and larger quality alpha masks may have fewer problems with halo noise.

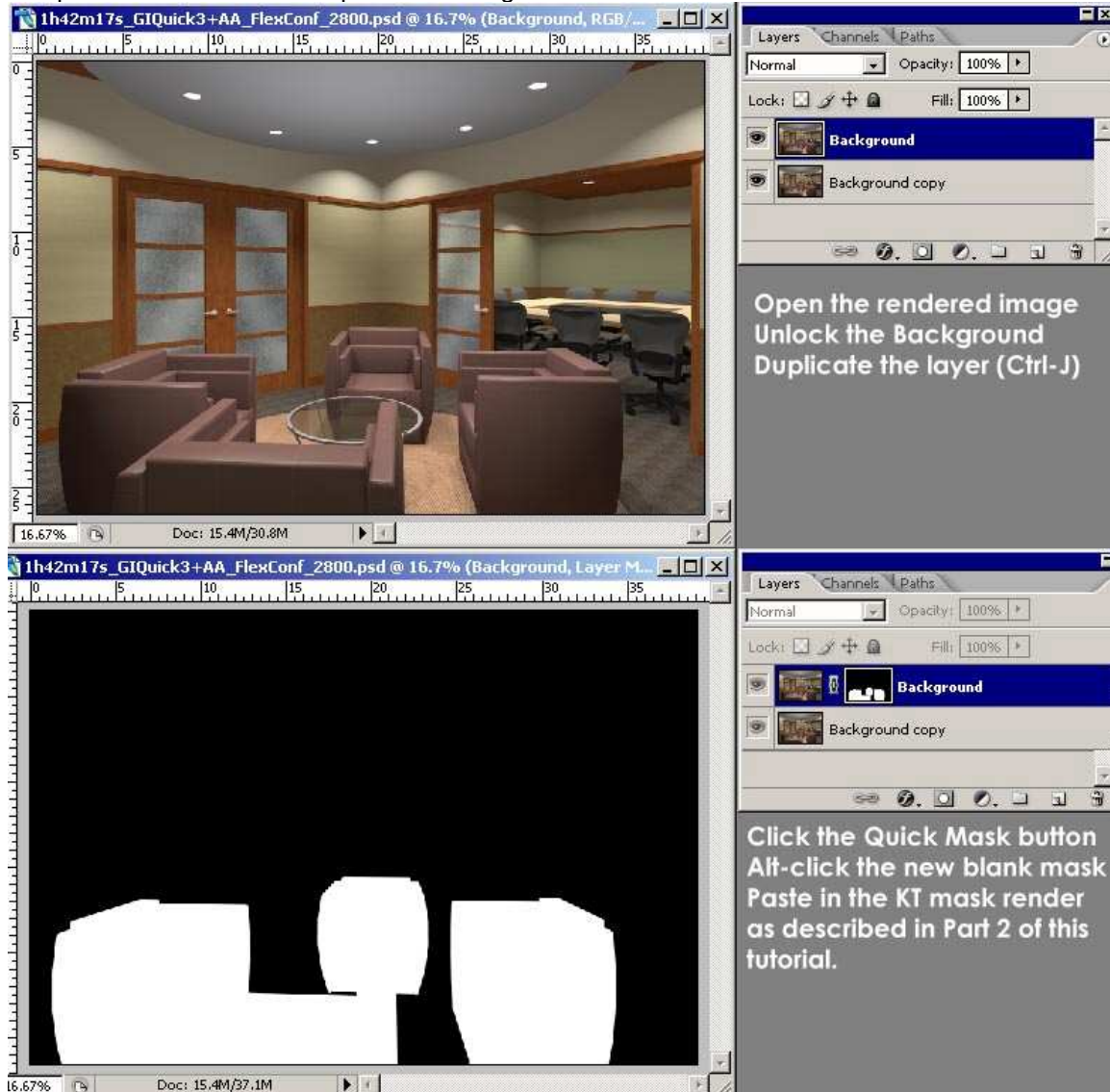




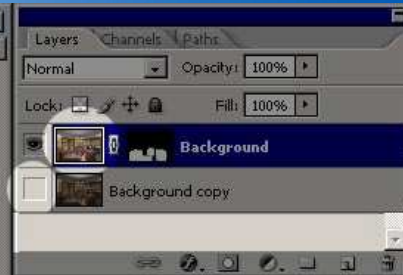
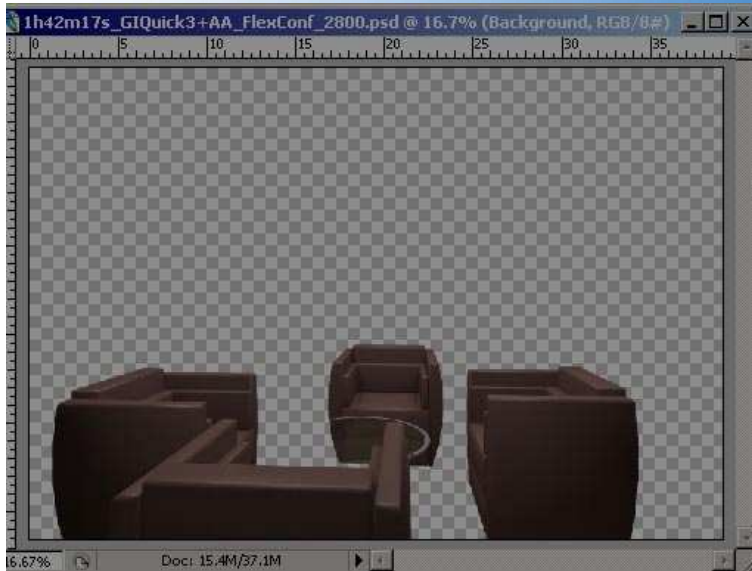
## Part 3: Using Masks to Insert Objects

### Placing an object partially hidden by another object (a person behind a chair)

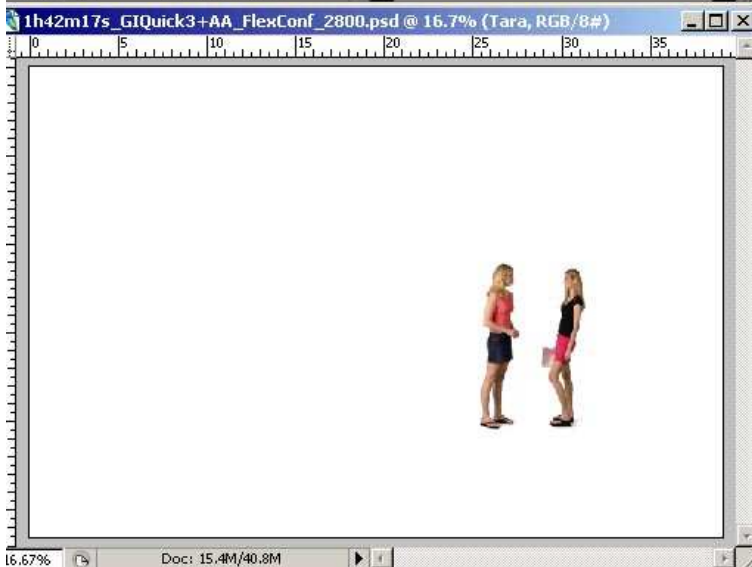
When rendering an alpha mask to hide something in the scene, be sure to select every object that will mask the object you will insert. (In this case, we are putting people in behind some chairs, so just the chairs will do.) This tutorial uses RPCs (Real People Content from ArchVision). There is a plug-in for Photoshop, which inserts any RPC you've purchased automatically masking it for you seamlessly with your image. For the purpose of this tutorial, it was presumed that your entourage is like many pieces of entourage available, which comes with a white background and a separate black and white alpha mask image.







Turning off the background, and clicking on the thumbnail of the layer with the mask you should see just a masked object



Start a new layer and position your entourage image.



Click the Quick Mask button  
Alt-click the new blank mask  
Paste in the alpha mask  
provided with your entourage  
or that you have created.



Right-click the mask and  
select 'Apply to Layer'

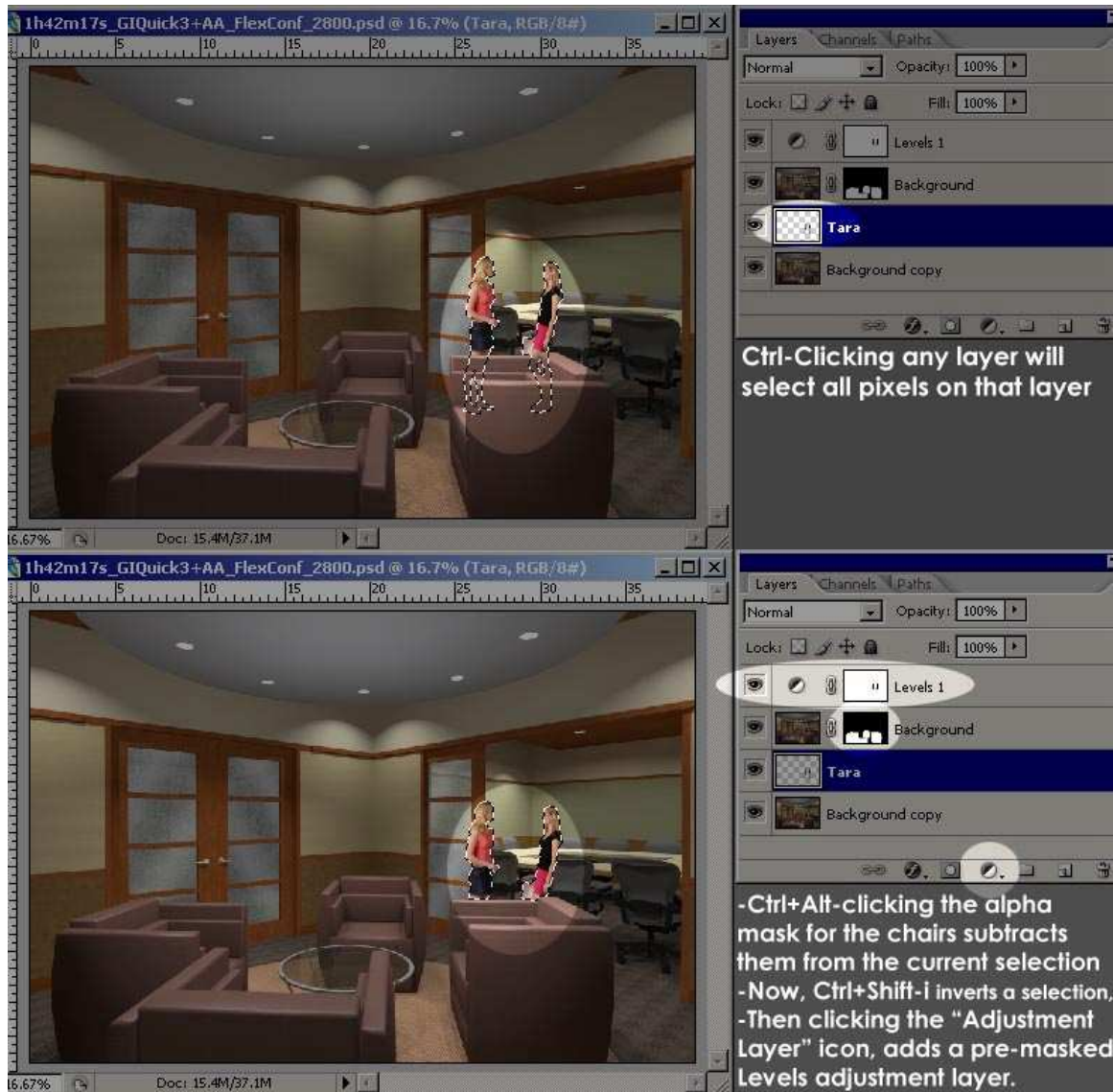


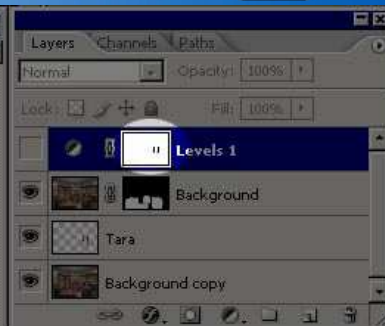
Move the entourage layer  
down in the layer order  
between the masked object  
and your original background  
layer.

Now your people are 'behind'  
your chairs.



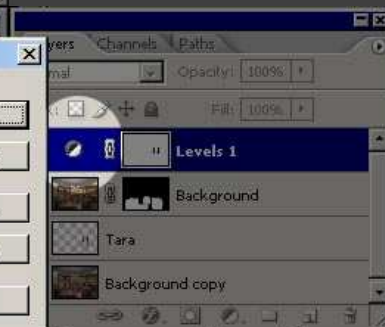
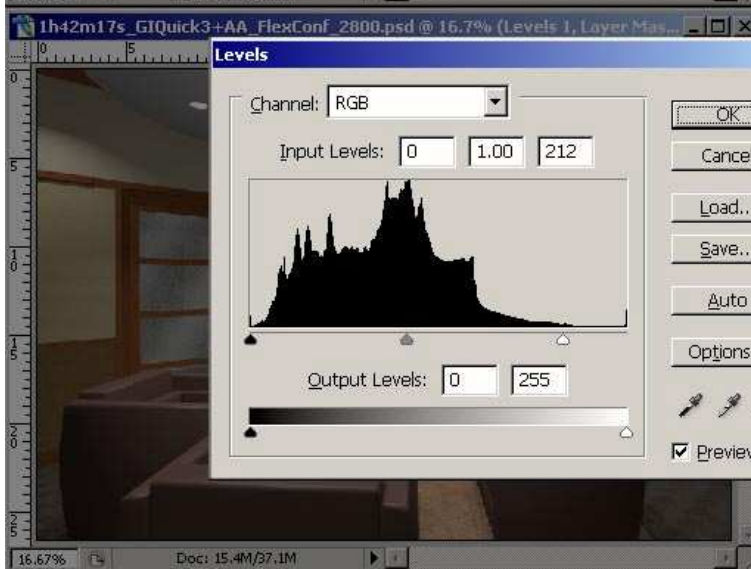
Now we will adjust the levels of only the image, and EXCLUDE the people from the adjustment using a Masked Adjustment Layer.





An adjustment layer with a mask will now only apply adjustments to the masked portion of the image.

In this case, it was used to lighten up the room to match the girls. But it could have been used to darken the girls to match the room.



You may need to use this technique for adjusting a portion of your image. Adjustment layers can be double-clicked to be adjusted again later this keeps your original image unchanged. Save-as to a .jpg format if you want a 'flattened' version of your image. Or choose Layer>Flatten



Levels can obviously be applied to a single layer as well, but the adjustment layer will effect all layers below it in the layer stack, and therefore using an adjustment layer which is masked can be a powerful tool.