

Beyond SketchUp:

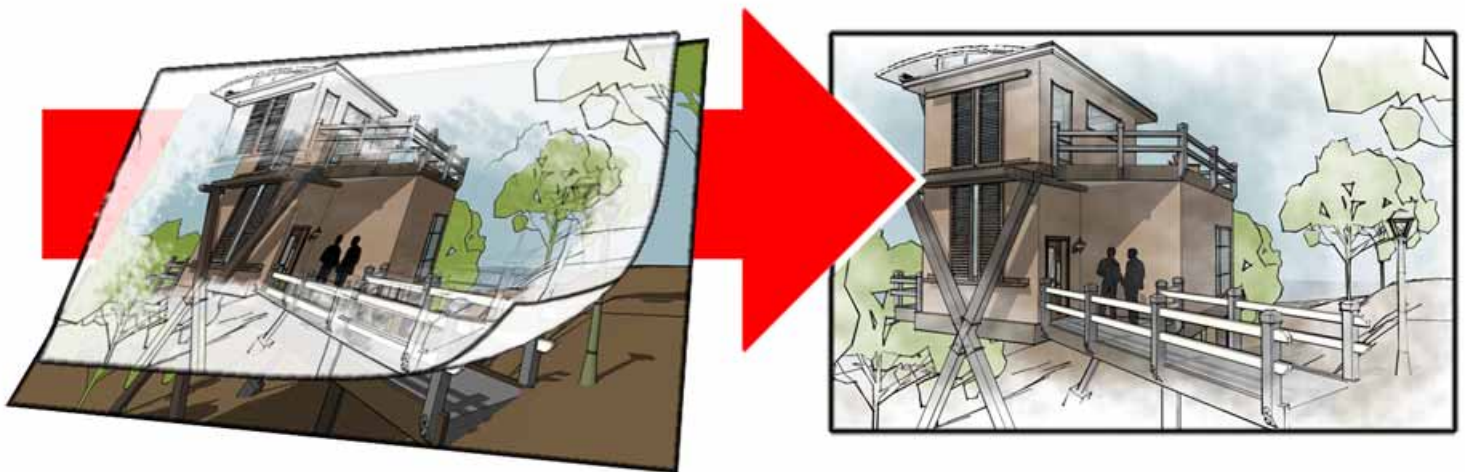
Rendering with SketchUp and Photoshop

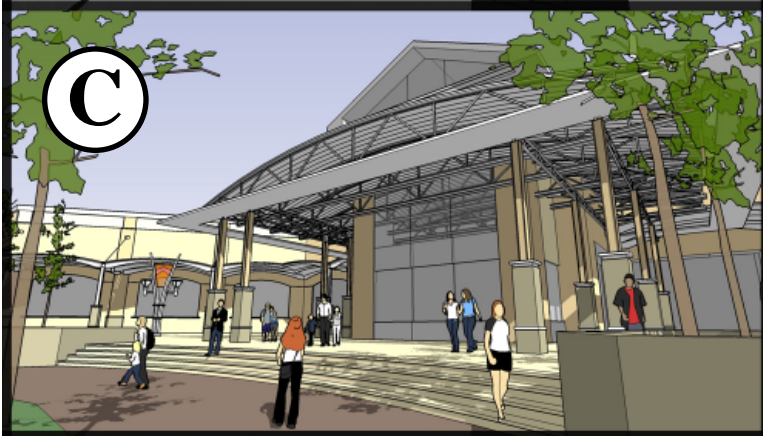
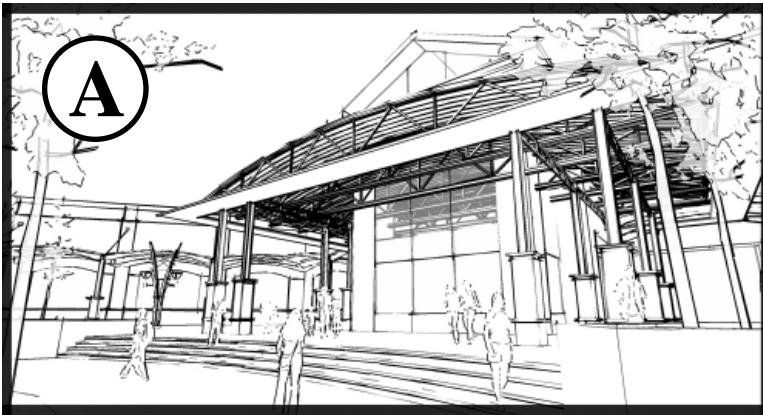
SketchUp already excels at non-photorealistic output, but to push your images even further, let's look at using Photoshop to create some interesting effects. Before going to Photoshop however, we can use SketchUp's various display modes to output some different styles that can be combined to achieve fast and effective results when we do go to Photoshop.

Keep in mind that the tools we are using are available in many image editing programs, so use the principals here and experiment in whatever software you prefer to use. Also, there are many other ways to achieve similar results in Photoshop, so experiment with different tools and methods to find what works best for you.

This document is meant to be an overview, so it won't cover all the details in depth, but rather try to cover the general ideas, and show the most important steps.

Part 1: Painterly Effects





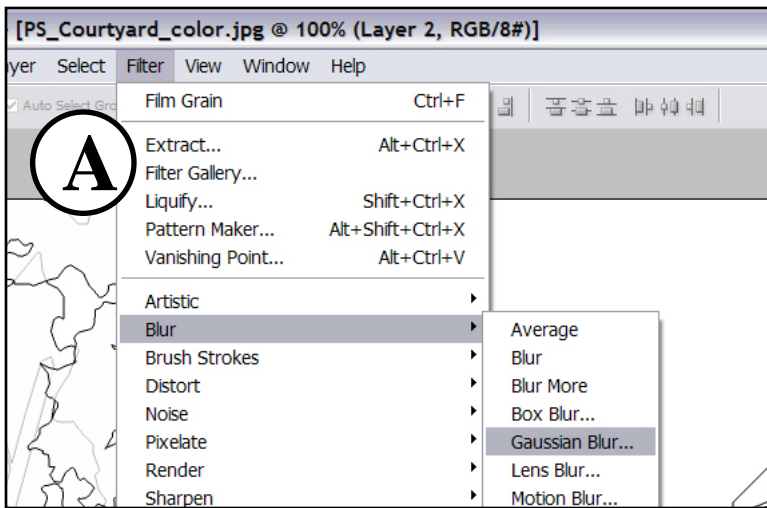
The first example will be to create a soft effect of fading the edges of the image. This is a really quick and easy effect, making it great for repeating on multiple images.

Export 3 images from SketchUp, all from the same view, and at the same resolution. This is easy as SketchUp remembers your previous output settings. Make the images:

A - A hidden line with edge styles as you like them.

B - A hidden line with heavy shadows, and no profile or other edge styles.

C - A colored image with light shadows.



Now in Photoshop, pull the shadows and hidden line images into the colored image, and line them up with each other. Each image should be it's own layer, the hidden line on top, shadows in the middle, color as the bottom or background layer.

First we want to adjust the shadows layer so it has no line work, but heavy black shadows only. This will let us have control of how dark the shadows are in the scene.

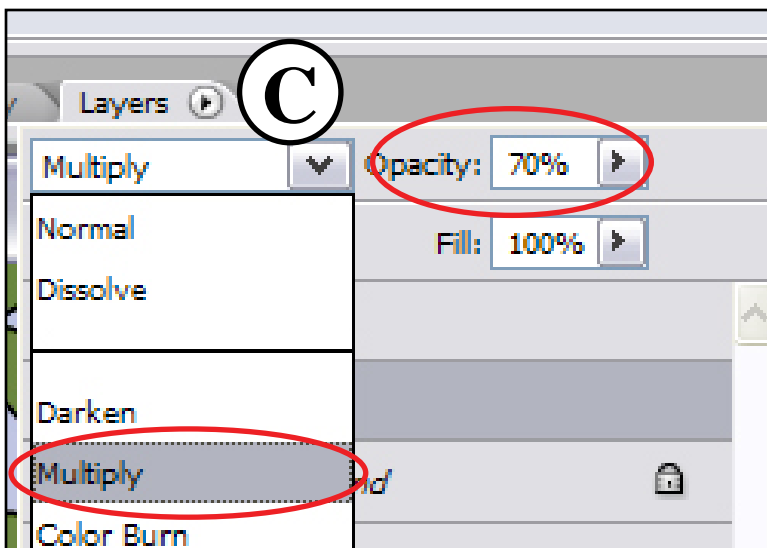
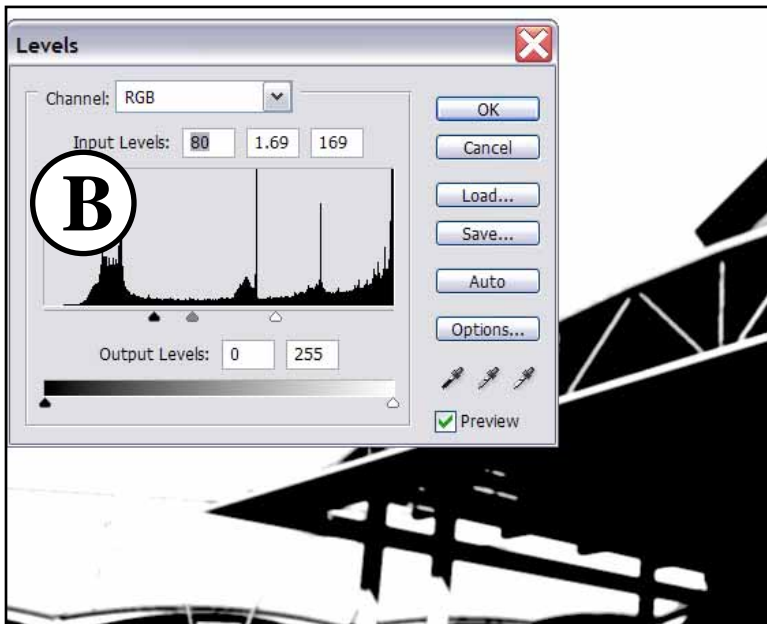
1 - Hide the hidden line layer to see the shadows layer properly.

2 - Choose the shadows layer, and apply a Gaussian Blur to it with a radius of 2-3 pixels. (A)

3 - Now adjust the levels to push out the grey line work, and heavy up the shadows. (B)

4 - You can stop here for hard-edge shadows, or add another Gaussian Blur to soften the shadows to your liking.

5 - Change the shadows layer to a 'Multiply' blending mode, so only the shadows show. Adjust the opacity of the layer to control how heavy the shadows appear. (C)

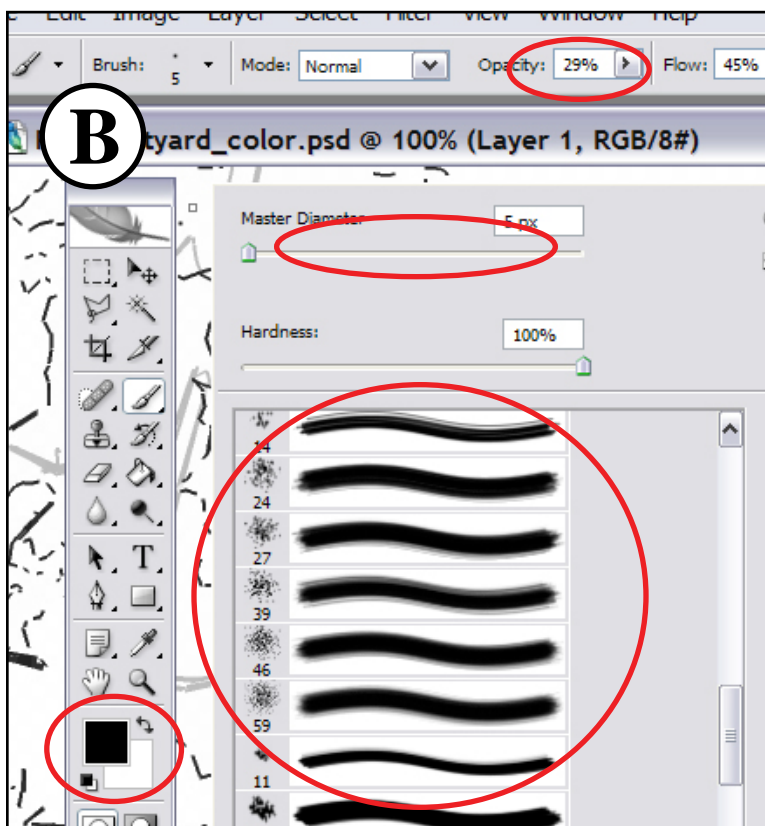


Time for the magic where we start adding some painterly effects. Remember that there are different ways to do this. The most simple would be just two layers, a color layer, and line work layer, and just erase out parts of the line work layer so you can reveal the colored layer as you like. The method we are using gives you more control over the process, which is also why we have the shadow layer, for added control in the scene.



Un-hide, and choose the hidden line layer, and apply a layer mask to it. (A) This lets us paint on this masking layer, which controls how much of the hidden line layer shows through.

Pick the paint brush tool, and right or context click on your image to open the brushes dialog. Scroll through the brushes and pick a natural looking brush. Change the brush opacity down to 20-30%, and push the brush diameter up so you can paint large portions of the scene. (B) It helps to change the brush size as you paint for good variation in the effects.



Now paint. Painting black onto the layer mask has the effect of erasing the layer. By turning down the opacity of the brush, you can paint over the image in several passes, bringing more of the color out as you go. Change your painting color to white, and you can re-heal the hidden line layer. (C)

(Hint: You have a foreground and background color, so make one black, and one white, then use the keyboard shortcut 'x' to easily switch between the colors when painting.)

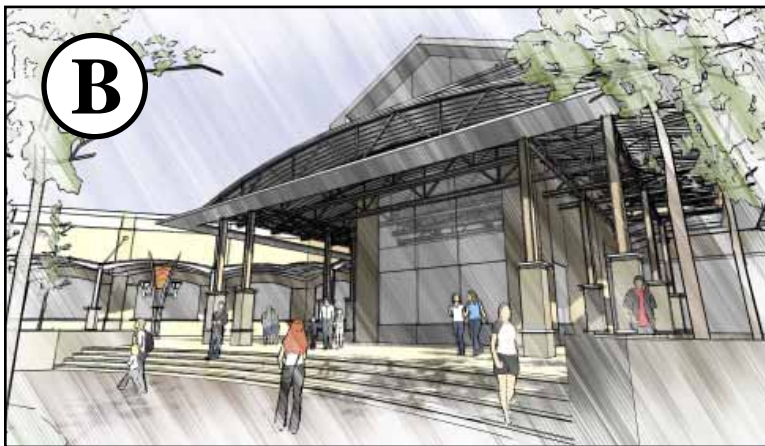


Experiment with different brushes, and vary the settings to get different results. Change your shadows layer for added depth in the scene. Take the settings you like, and use them on multiple images to produce results that are similar, and will unify your presentation graphics.



Here are some different results by varying the brushes, or combining different types of brushes into the same scene.

(A) This is a soft natural brush only.



(B) This is a long thin brush that is angled. You have a lot of control over each brush, and can even create your own brushes.



(C) This is a combination of a the angled thin brush, with a soft natural brush. Keep using different brushes, and paint until you achieve just the look you want.

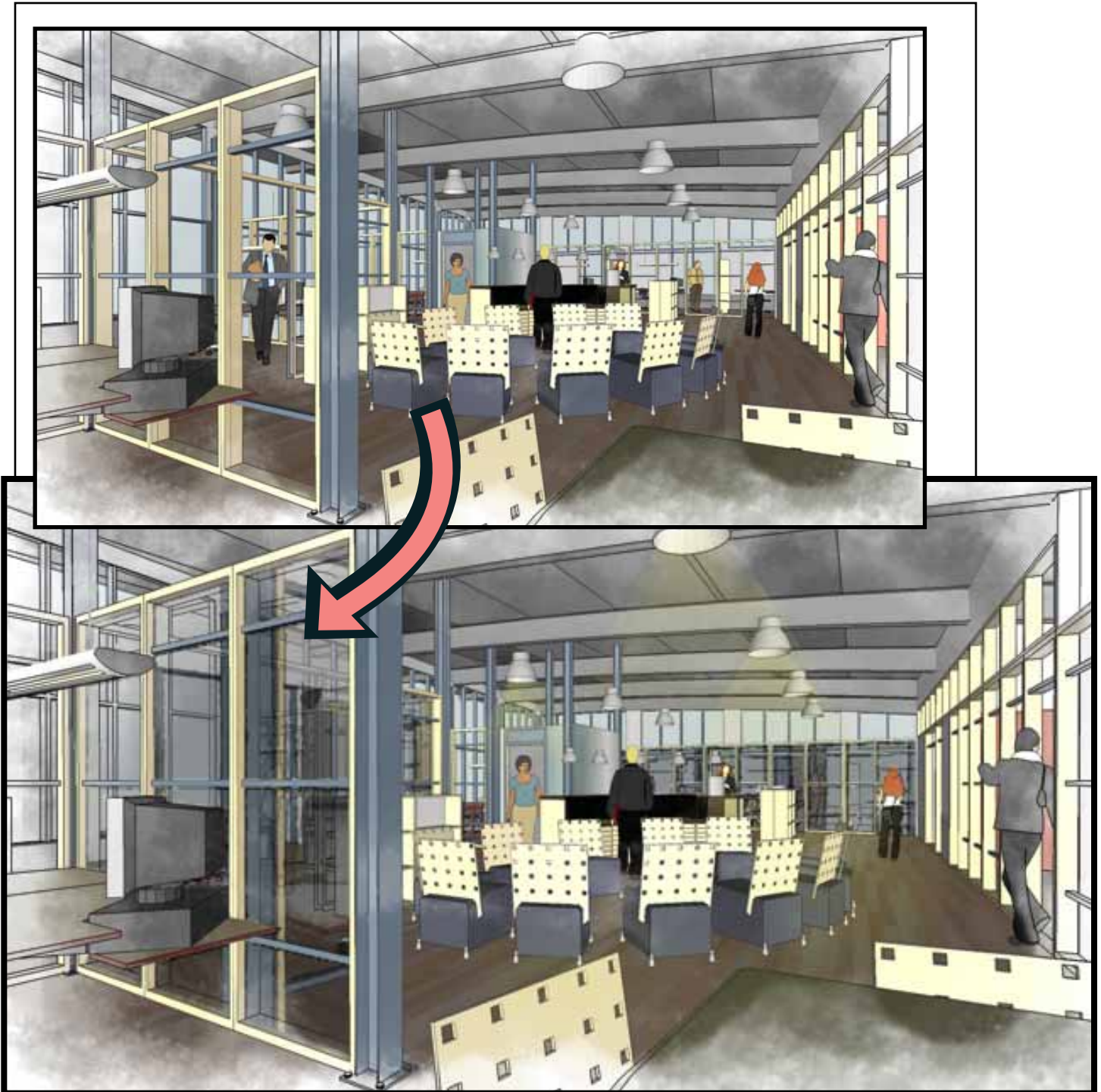


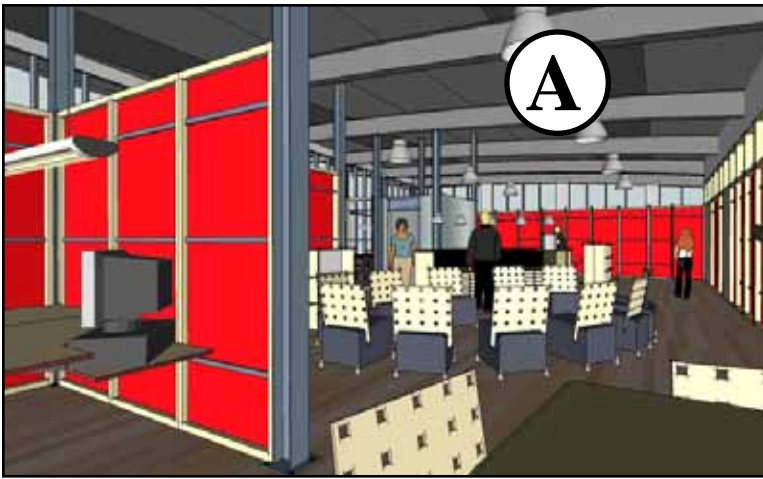
(D) This image shows the results of an adjustment layer added to the scene. I used a 'Hue/Saturation' adjustment layer to colorize the image this bluish tint. This is to encourage you to explore the many other tools available to you.

As you explore, remember there are many other ways to combine the tools of SketchUp with Photoshop so you can get amazing results!

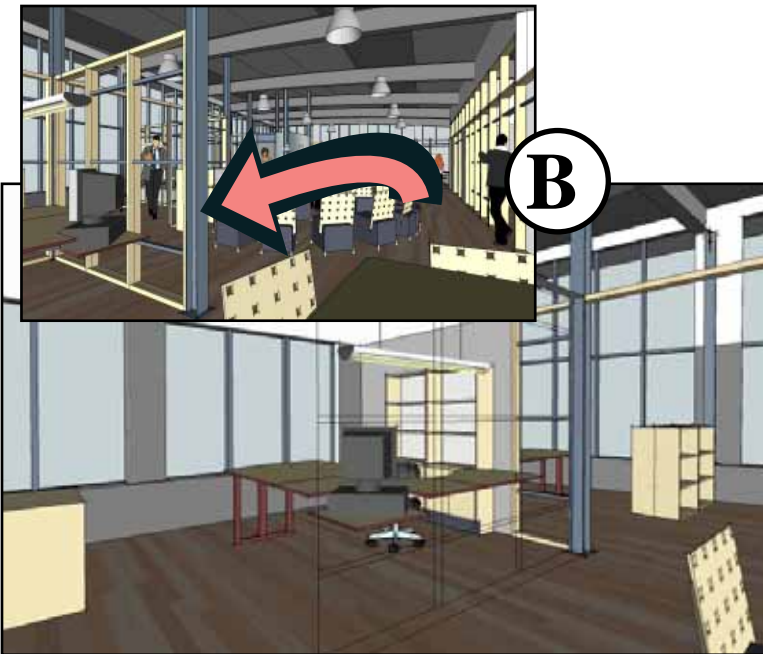
Reflections...

Reflections don't have to be photorealistic to be effective. Using only a few images from SketchUp, we are going to create some window reflections for an interior scene. Although a subtle effect, it really helps spice up the image.





Photoshop has the ability to make selections based on color. The key then is to create an image from SketchUp with some obvious color choices. Knowing that we want to work with the glass reflections, make the glass material a vibrant color that isn't found elsewhere in the scene. Here I've used a bright red for the window glass I want to use in Photoshop. (A)

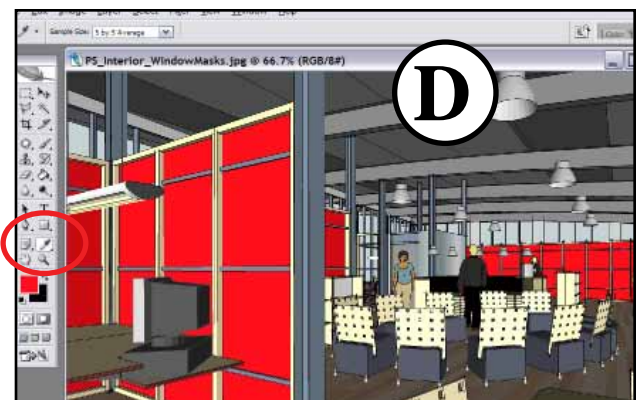


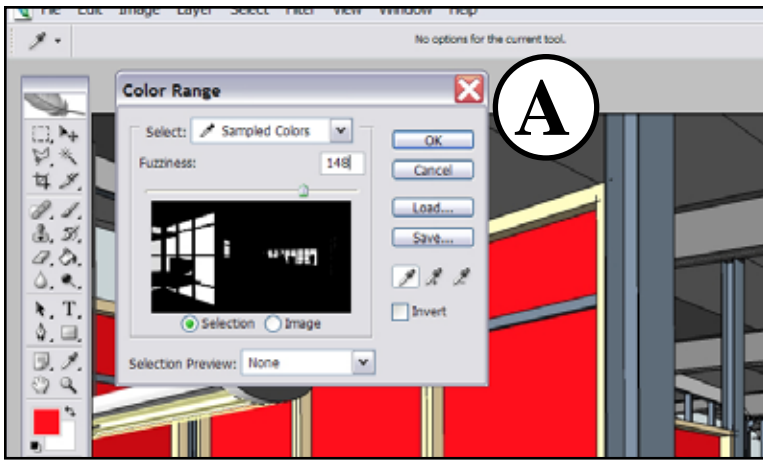
We also need an image to use as the reflection. Taking a different view from the right vantage point will help fake a semi-accurate reflection. (B)

As for any other images we need, we can follow the same methods that were explored in the last example. For now a colored image and hidden line image will work well. (C)

So now on to Photoshop, where you should merge the images into a file and line them up. There should be 4 layers, and put the image with the red windows on top so we can work with it first.

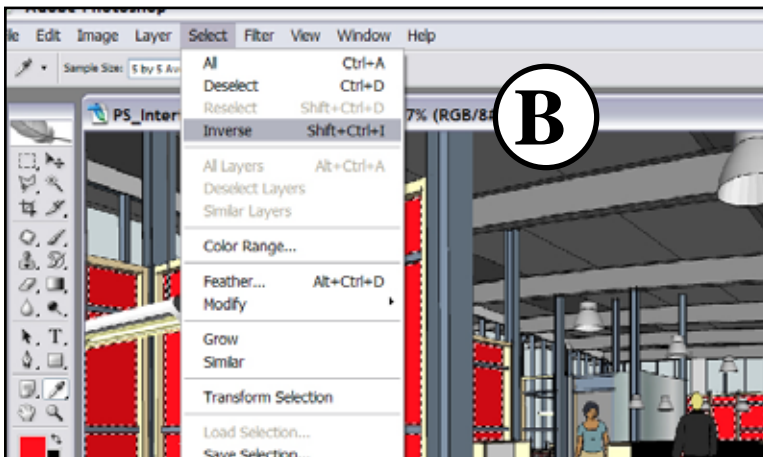
Use the eye-dropper tool to sample the red color. (D)





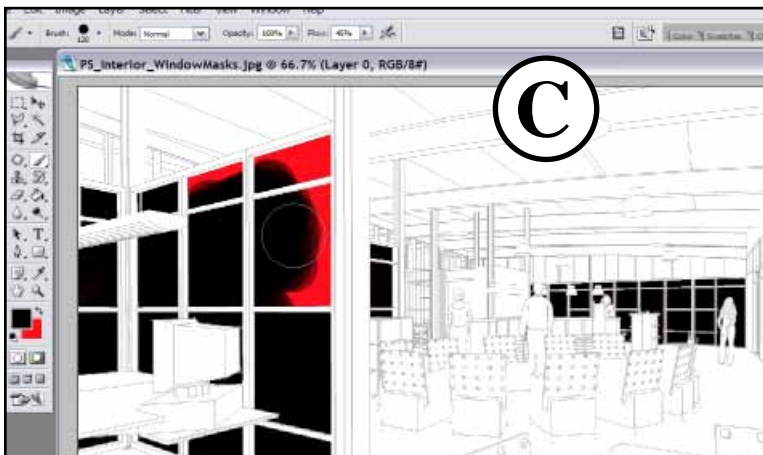
After picking the red color, go to the 'Select' menu, and from the menu choose: 'Color Range'.

(A) This menu lets you widen the color range, pull the Fuzziness slider bar back and forth to see this. Somewhere in the middle will probably work just fine for starters.



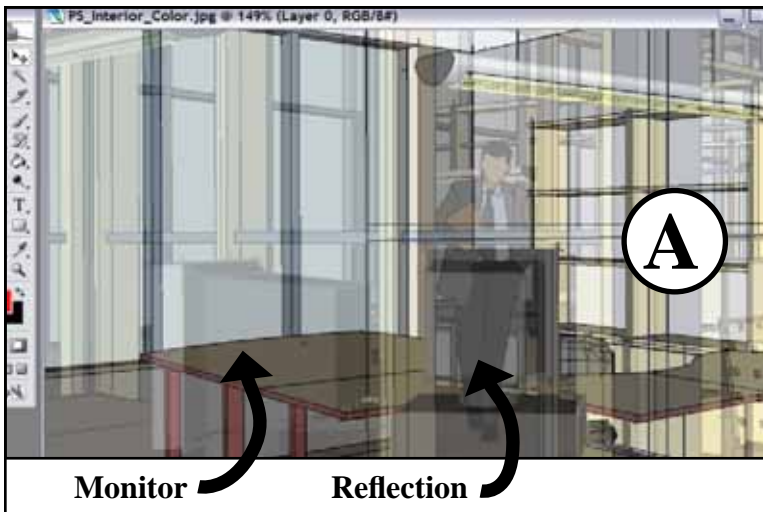
Choose 'Ok', and we now have a selection of the windows. Go again to the 'Select' menu, and now choose 'Save Selection'. Name your selection and hit ok.

The windows selection is now saved, and we can bring up that selection at any time. Go again to the 'Select' menu, choose 'Inverse' to pick everything but the windows. (B) Hit 'Delete' on your keyboard to get rid of the rest of the scene. Go back to the Select menu, and Invert your selection again, and now paint or fill the windows with black. (C)



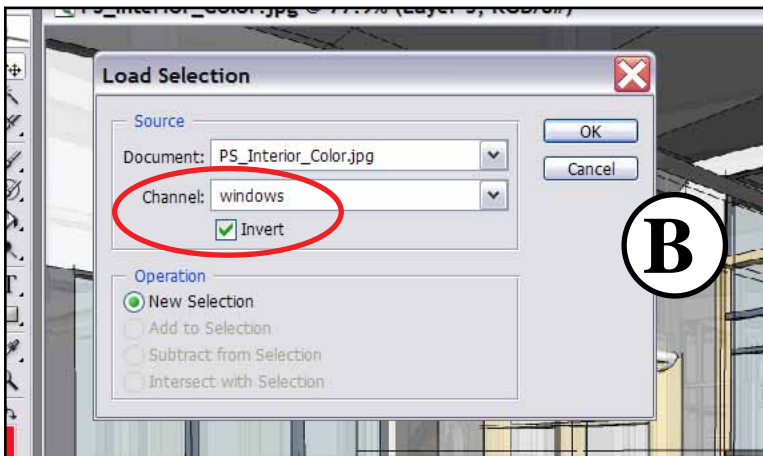
The reason for the black windows has to do with reflections in general. By having a layer of black where the reflections will be, you can adjust the opacity of this layer, to make the reflections a bit darker than the surrounding scene. This adds to the effect, as reflections often are darker and it also gives us one more element of control.

Under the Select menu, choose 'Deselect' to remove for now the windows selection.



In your layers pick the layer with the reflection image. Hide or change the opacity of other layers as needed to move this reflection image around so it will show up in your glass as a proper reflection. I used the monitor as a reference for this example. (A)

Make sure the reflection image layer is picked, go to the Select menu and choose 'Load Selection'. From the menu, choose your named selection from the Channel bar, and check the 'Invert' box. (B)

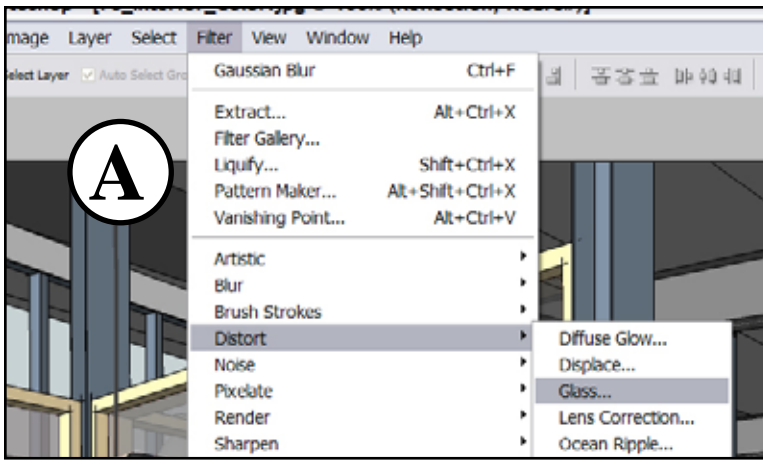


Hit 'Delete' on your keyboard to delete all the reflection layer except the area in the windows. That is why we chose to invert the selection. We have the windows saved as a selection, we simply selected everything but the windows by loading an inverted selection.

Arrange your layers such that the color layer is on the bottom, with the reflection and windows layer above that. The hidden line layer should be on top if you want to use the soft edges effect that was explored in the 1st example. I've named my layers so you can see this order. (C)



Hide the 'Hidden line' layer, and adjust the opacity of the 'window' and 'reflection' layers to get the look that you want.



For a final touch to the reflection, I added a small amount of glass distortion to it. (A) Play with the settings to your liking. I also add a small amount of blur to the reflection, but this gets into personal preferences.

Note: This example shows only 1 reflection image, but based on your image and the orientation of your glass you may want multiple reflection images for different glass surfaces. As with all of these examples, use more layers or different settings in SketchUp to export images that will make your Photoshop work that much better!

This final image shows some lighting effects that we will explore in the next example. (B)



Lighting...

Now that we've tackled a daytime and interior image, let's try creating an evening shot, with some lighting effects. You can really get creative with this, so use your imagination to push your images. We will go over the basics only.



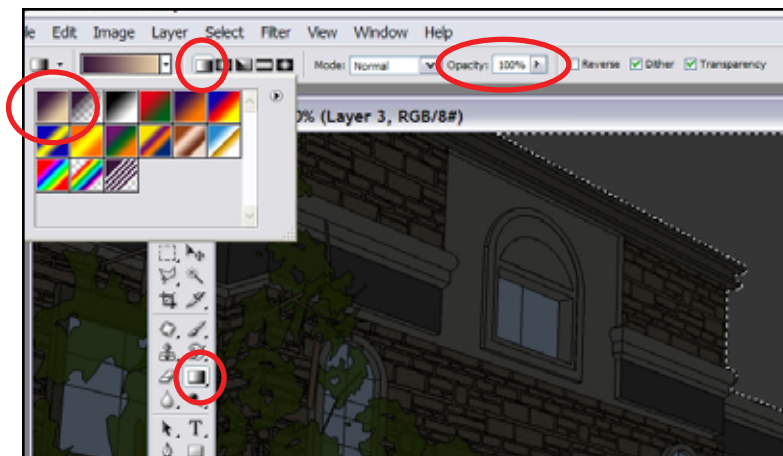


Think about a night scene and what makes it dynamic. Light. A dramatic background sky, light spilling from windows and light fixtures, silhouettes backlit or defined by the light spilling across their forms, etc. This is what we want to plan for, and so exporting some different images from SketchUp will help to achieve these various light conditions.

Start by turning shadows on in SketchUp and pushing the time of day slider all the way to the end, which will give you a dark scene. (A) Change the background color for a vivid sky. (B) Edit the window material to create a easy window selections. (C)

If you use layers in SketchUp, that is also a good way to get selections. Turn on 'Color by Layer' in SketchUp, and you can get very quick different colored options. (D) Here shows only the trees on a separate layer, but all of the people, windows, trees, etc could be on their own layers so you'd have one quick image to separate them.

Sketchy edges will round this off, (E) and finally, I placed some people inside the building, then hid everything but those people. Exporting from the same view makes it really easy to drop these people exactly in the scene where we need them. You could incorporate them into the regular views and still get good results, but having them on their own layer gives us more control in the scene.

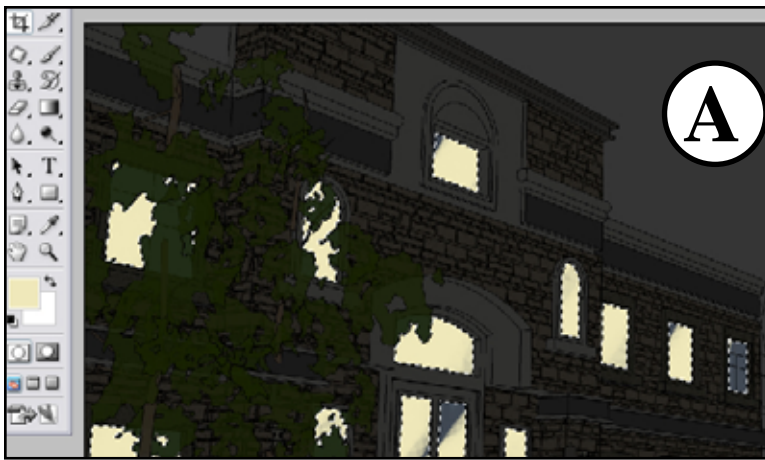


Assemble your images together in Photoshop, and begin by creating some saved selection sets. Refer to Page 7-8 on creating and saving selections. Save a selection for the sky and windows for now using the images from SketchUp (A), but remember to experiment on your own. Having a selection of the trees, planter walls or people could all be useful. After using the images to create the saved selections, delete those layers to help keep your layers uncluttered.

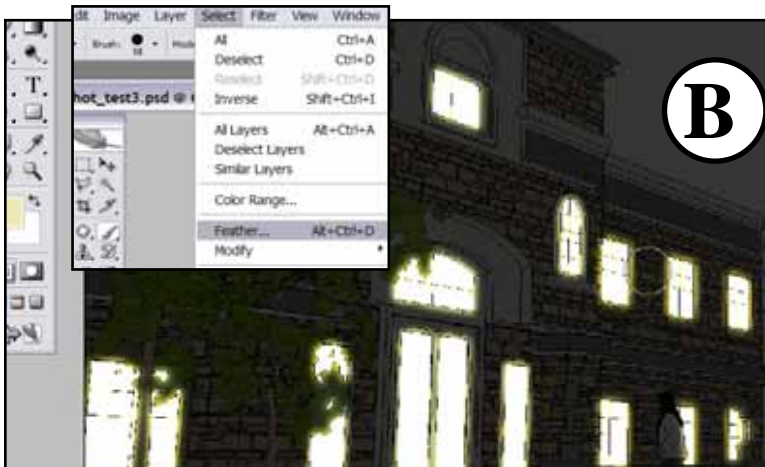
Select the dark background layer (B) and load your sky selection. Now use a gradient to fill in the sky. I chose a dark purple fading to a salmon pink, but play with your colors to get really vibrant backgrounds! These are the gradient settings I used. (C) These are the results. (D)

Hint: To keep your selection active but not see the glittering outline, hit Ctrl+H (Cmd+H on a Mac) to hide the selection. Remember it is hidden so it doesn't get in the way later when you move past that selection.

Deselect your sky selection now.

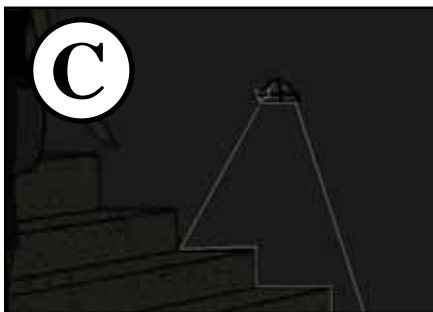


Create a new layer and name it “Light”. With this new layer active, load your selection for the windows, choose a light yellow or peachy color, and paint in the light for the windows. It will help if you hide layers you don’t need, so you can see the light on the dark background image. (A)



Go to the Select menu and feather your selection. This will soften the selection edges. Play with the amount, but something around 5 should work. Now paint your windows again, and you’ll see a soft glow added to the windows. (B) Play with the blending mode of the light layer. Change it to ‘Color Dodge’, or ‘Pin Light’, and what looks best to you.

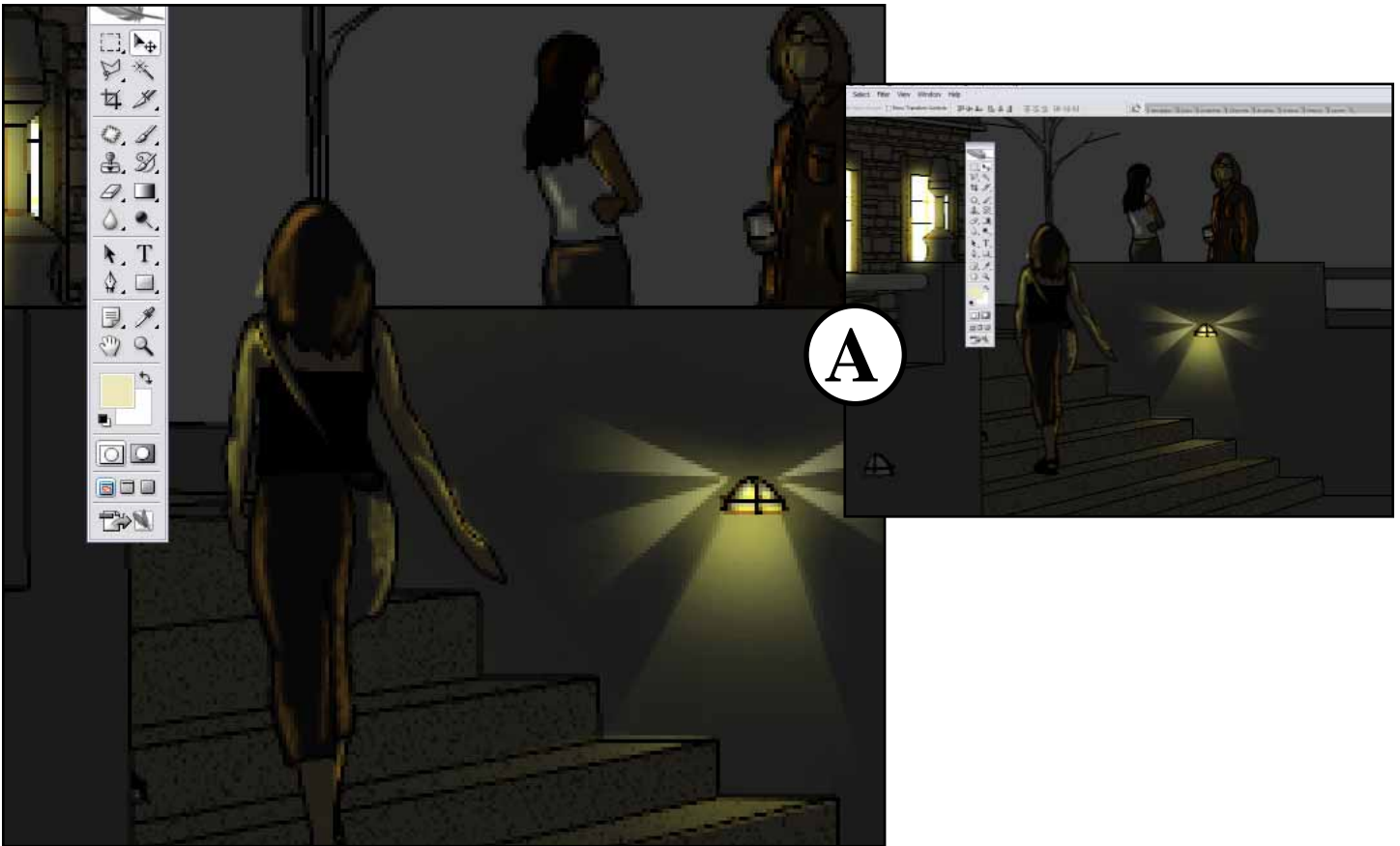
Things are starting to look interesting, but the most fun is up next. Now you go into the scene and paint light as needed. Here is one example:



Zoom into a light scone, and use the Polygonal Lasso Tool to make a selection of how the light might spill out of the fixture. (C) Now paint light by applying a gradient flowing from the fixture. I used a ‘Foreground to Transparent’ gradient with a light foreground color. (D) Have fun with the way the light spills out, soften the selection, highlight the light fixture, play with the gradient and see what happens.



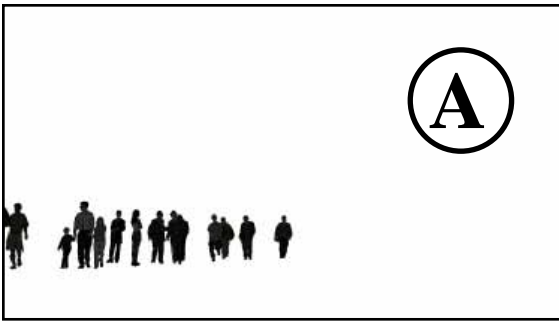
Also remember to paint in some gradients onto surfaces that the light would effect. (E)



Now paint light into all different elements of your scene. Keep in mind that it usually doesn't have to be exact, especially when you are zoomed in. Just add touches of light on people, trees or other elements and it will really sing when zoomed back out. (A)



After painting light in, some of your edges may get lost, so use the Sketchy edges (B) to bring them back. Set the blending mode to 'Multiply', and adjust opacity as you like.



Time to add life to the interior of the building. Select the people layer (A) and set the blending mode to 'Multiply'. Now load the windows selection, but choose 'Invert' to select everything but the windows. Delete the selection, and now the people are only showing in the windows! Perfect, adjust the opacity to fade them back, and we have a lively party going on inside!



Now that you have the tools, add light, entourage, and embellish your scene as you see fit. I added a few background trees and lights, and washed the image with some filters to create more of a painted feel. Run with your imagination and see what happens!

