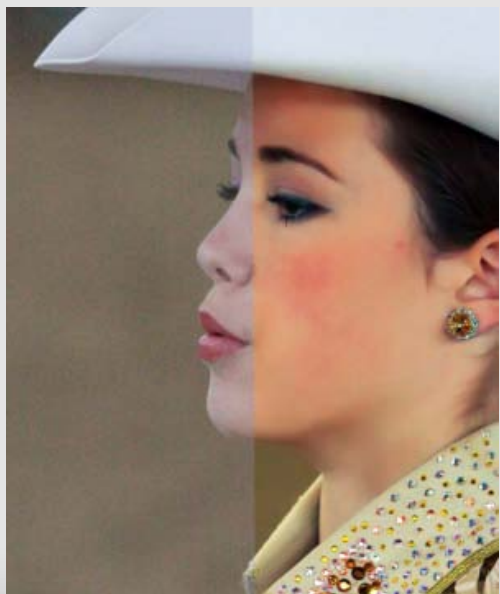


Coaching: Session 3

Submitted by mitch on Wed, 06/17/2009 - 14:45.



(c) 2009, Kelly Chamberlain

Welcome to another coaching session. This is where you get to look over my shoulder as I retouch a photo submitted by a member of the TLR community.

In this case, I solicited the photograph from Kelly Chamberlain, who describes himself as a retired computer geek and full-time non-commercial photographer. He posted the original here in a forum on DPReview and asked readers to apply Topaz Denoise 3. I liked the photo for demonstrating noise reduction and after a little detective work on the Web, I reached Kelly (who goes by the moniker Redcrown) and he graciously allowed me to use the photo.

The photo below is a crop from an ISO 6400 Canon 5D Mk II photo. 1/800 sec. at f/4.5 with a Canon 70-200mm "L" lens.

There's definitely evident noise. Both luminosity and color noise. Remember, this

was ISO 6400! The DIGIC processor in the Canon 5D MkII did an excellent job. Most noise reduction tools could do an excellent job with this photograph.



A word before I get started. I'm not using Topaz Denoise 3 for this walk-through. I'll have a comprehensive review of Topaz Denoise 3 soon. I've had requests from users of Nik and

Imagenomic products to do a demonstration using their suites of products. This one will rely on the commercial plug-ins from Imagenomic. I'll have another with a focus on Nik plug-ins soon.

The comment will surely come, "Can't I use Photoshop alone to achieve the same effects?"

Almost certainly not. At a minimum, you would need an effective plug-in for noise reduction. I offer a free action set for noise reduction and it works as well as any action can for noise reduction. But, actions simply can't perform the complex analysis and pixel adjustments needed to reduce noise without sacrificing lots of photographic detail.

"Well, how about the effects from Portraiture and Real Grain?"

Maybe, with a lot of effort. Again, I have a free action set and a tutorial on giving photos a faux film effect. A lot more is going on than simply smoothing surfaces, warming the photo, boosting saturation, and applying faux film grain. It's the details that matter for a realistic effect. So, it's where the smoothing gets applied, where the details get enhanced, etc. that's critical.

For example, Portraiture does not apply warming generally to the photograph. That you can do easily enough in Photoshop. Just use something like the Color Balance command. Portraiture lets you warm just the skin tones.

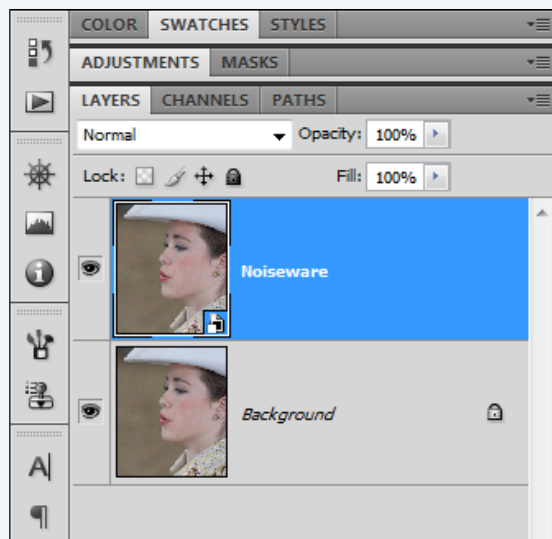
What's a skintone? That will vary. A lot. Portraiture can decide that automatically or you can refine the mask by using the color samplers familiar to Photoshop users on Color Range, Hue/Saturation, etc.

Can you come close in Photoshop? Yes. It's possible to make a selection with something like Color Range and warm the skintones. That will take a lot more time than using Portraiture, however, and that's the primary point of commercial plug-ins. They're intended as productivity enhancements. A commercial photographer who retouches many portraits will find a tool like Portraiture to be a tremendous time-saver. One that's well worth the price of admission. A home enthusiast who only retouches an occasional portrait and rarer still does really critical work on one, will likely opt to do as much as possible in Photoshop.

OK, enough of the introductory comments. Let's get on to learning a bit about using noise reduction software to enhance a noisy photograph.

Noise Reduction

I started by making a duplicate layer and converting it into a Smart Filters layer. I do this whenever possible. It gives me the flexibility to go back and alter settings later. With noise reduction, this is critical. There will be instances when you think your settings are optimal and the photograph later falls apart during editing and so you go back and tweak the noise reduction you applied.



You'll notice as we go along that I use lots of layers. I work non-destructively whenever I can. So that means lots of layers. The downside to lots of layers and especially Smart Filter layers is a larger file. In this case, the file will grow by about seven-fold by the time we're finished.

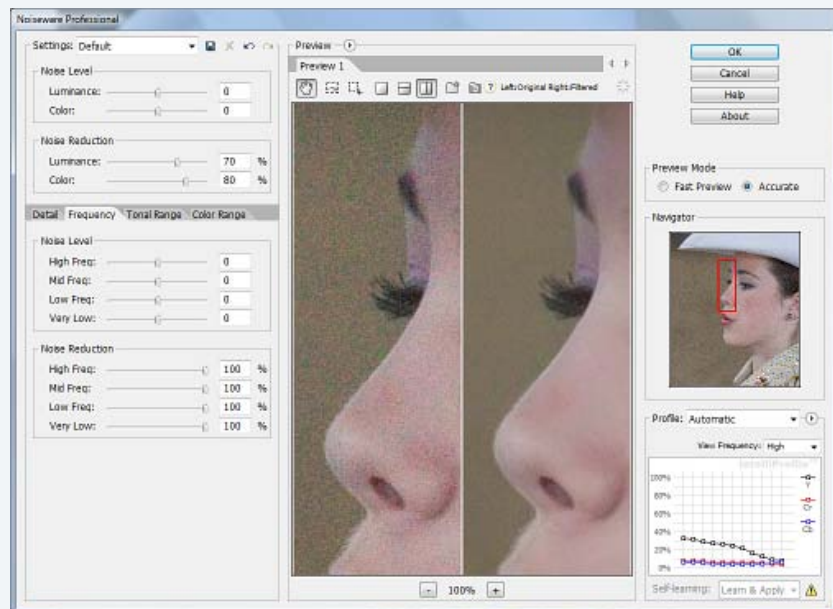
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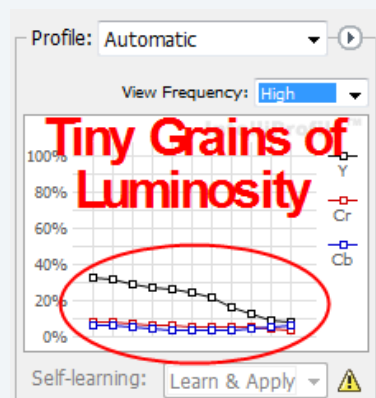
Once I have a Smart Filter layer ready, I fire up Noiseware. It's among the best commercial plug-ins for noise reduction.

(Before anyone rushes to the assumption that I'm shilling for Imagenomic, I have no business ties to Imagenomic whatsoever. My comments here and elsewhere on The Light's Right are candid. Feel free to read my comprehensive review of Noiseware.)

Since this is not my camera, I let Noiseware handle the profiling and started with the Default preset.



I realize the preview here is a bit too small. I'll zoom in on it and point out what I'm looking for when I first examine a noisy photo in a tool like Noiseware. Let's start with the available diagnostics.



The diagnostic tools vary among noise reduction tools. I love the Component Viewer in Neat Image. I love the way that Nik Dfine and Noise Ninja let me preview noise as grayscale representations. Noiseware doesn't provide those options. It does provide a graphic display of the noise profile. In this case, it told me there was a moderate amount of high frequency luminosity noise and not much color noise. You can click on the dropdown box to see the graph for noise at lower frequencies.

This was not exactly accurate. A glance at the photograph reveals that there's quite a bit of color noise. When I loaded this photo into Neat Image and used the Component Viewer, it was evident that there was a moderate amount of high frequency luminosity noise and a fair amount of medium and low frequency color noise.

If you're new to noise reduction, frequency refers to the size of the noise artifacts. High frequency noise looks like tiny grains or specks. As the frequency gets lower, the noise looks clumpy and splotchy. Especially color noise. At low frequencies it tends to look smeary.

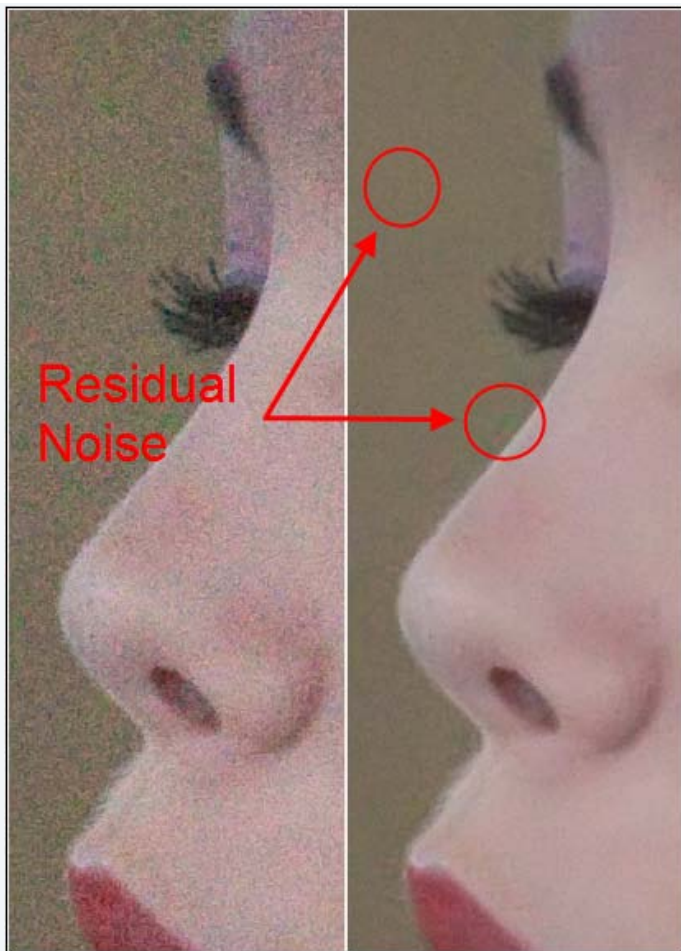
Next step was to look at the preview window. I opted for a vertical split, so I could see the detail in the original and the filtered version.



You can see an example of clumpiness in original. The diagnostic told me there as a little medium frequency noise. That's what we're seeing here.

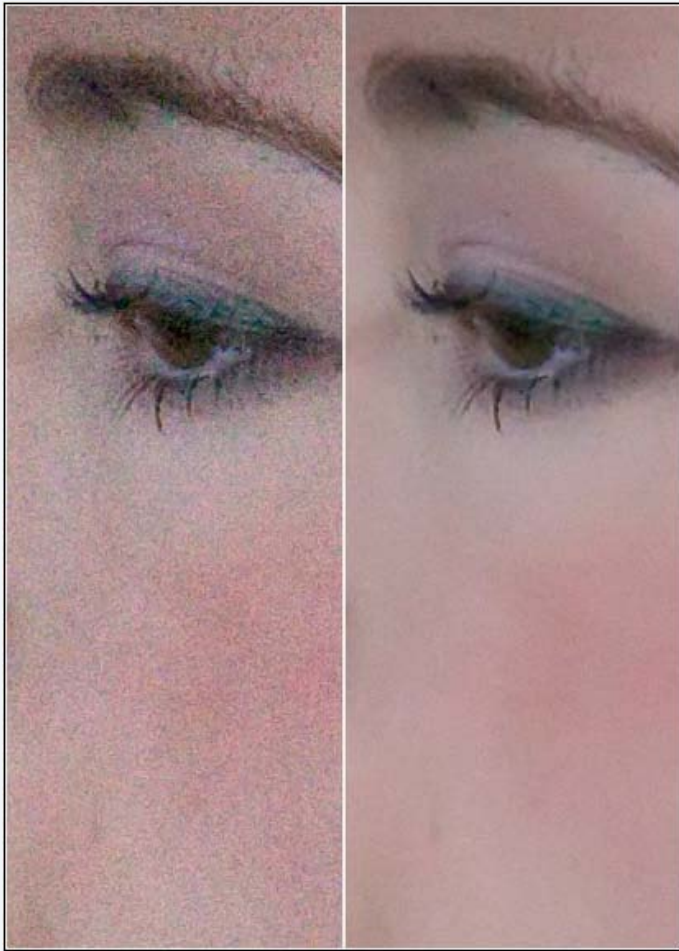
Now, I could have just let Noiseware fly on autopilot. I would have likely gotten a good result. But, photographer-to-photographer, I'm too obsessive-compulsive to settle for good. It's the fine art photographer in me. So, I take a few moments (and that's all that's required, with practice) and I adjust the settings in Noiseware.

Before I tweaked the settings in Noiseware, I took a moment to judge the result of the Default preset. I figured it would get me close and I could refine the settings from there.



First, realize, this preview is at 100%. That's too much magnification to expect a completely noise free result. Not unless we want to obliterate fine detail and give the woman a waxy appearance. I have a blog commentary on this very point you can read.

I have circled some areas that caused me concern. For example, along the edge of the nose, there was some chromatic noise that I'd like to attenuate. The trick here will be to reduce it enough and not sacrifice too much detail. An option to keep in mind, when chasing your tail over a few small areas is a later retouch with something like the Photoshop Healing Brush tool.



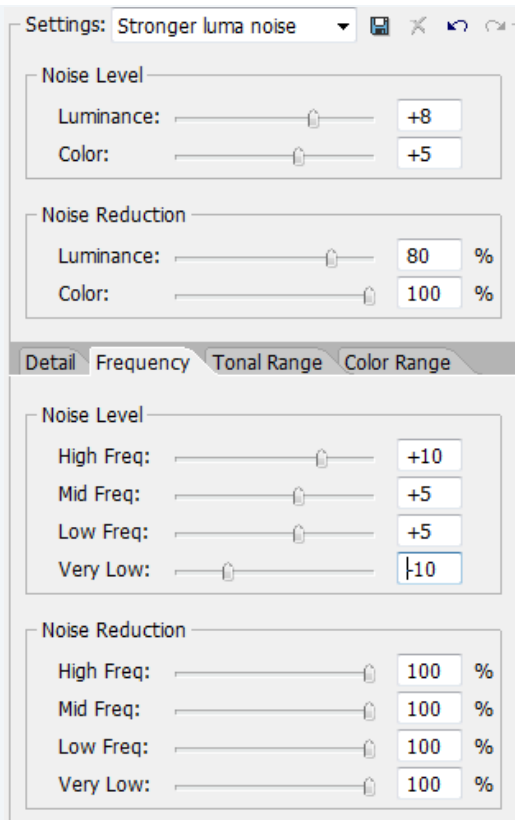
As well as looking at residual noise, I also pay attention to what's happening to the fine details. I examined the eyes, the eyebrows, and the eyelashes to see how well detail was holding up. Like many noise reduction tools, Noiseware has settings to help protect/restore fine detail. It's better not to sacrifice detail, and the best way to do that is to be judicious in the noise reduction settings we apply,



I tried a stronger preset next. That's the way I work. I try to find a preset that gets me close. Then I refine the settings from there. Why flounder around, yanking sliders about? In this case, I tried the preset for stronger luminosity noise. This seemed closer, but to be sure, I dropped the zoom so it was close to intended print size.

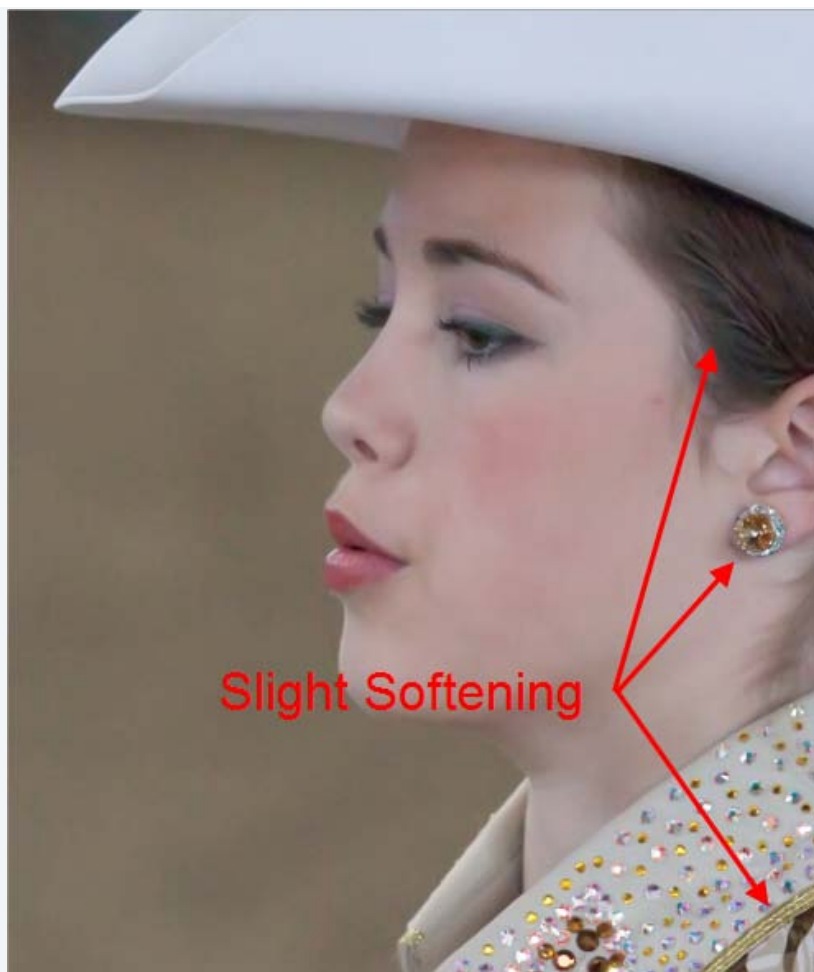


Definitely an improvement! From here, I adjusted the settings in Noiseaware. Since very low frequency color noise was not as much of an issue as low frequency and medium frequency color noise, I "hinted" Noiseaware to pay less attention to very low frequency noise, which meant it would apply less noise reduction to it. Since lower frequency noise can be especially difficult to reduce, allowing Noiseaware to give it full throttle where it's unnecessary, just meant I'd be sacrificing photographic detail. I watched the preview carefully as I made these adjustments.



I also stepped up the Noise Level setting and Noise Reduction settings for color noise. I was out to get those residual clumps of chroma noise. The graph of the noise profile be danged! I was going to trust me eyes.

Once I had my candidate settings, I had to take a critical look at the filtered version of the photograph, looking at both residual noise and fine detail.

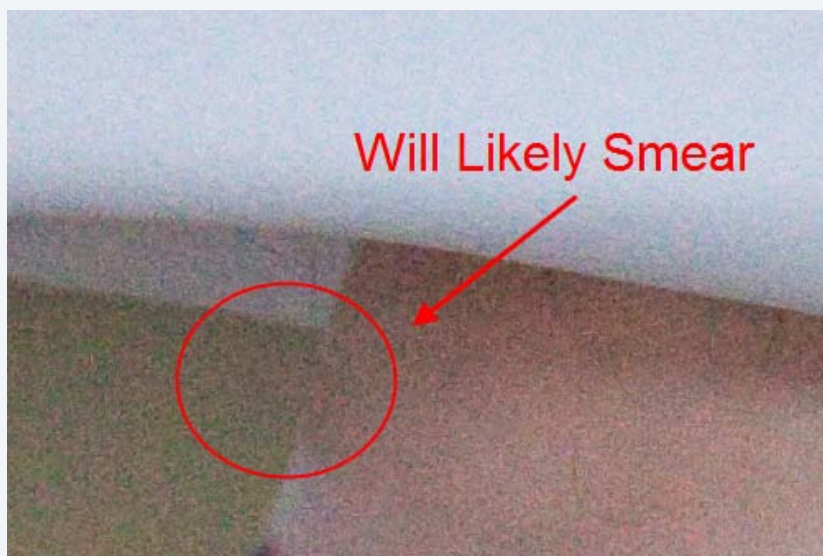


I was relatively pleased with the result when I reviewed it at print size. There was some slight softening. That's going to happen with noise reduction. I allowed Noiseware to apply some sharpening. My preference is generally to apply sharpening separately, but in this case I allowed Noiseware to apply a bit of initial sharpening. I treated this as a substitute for capture sharpening.

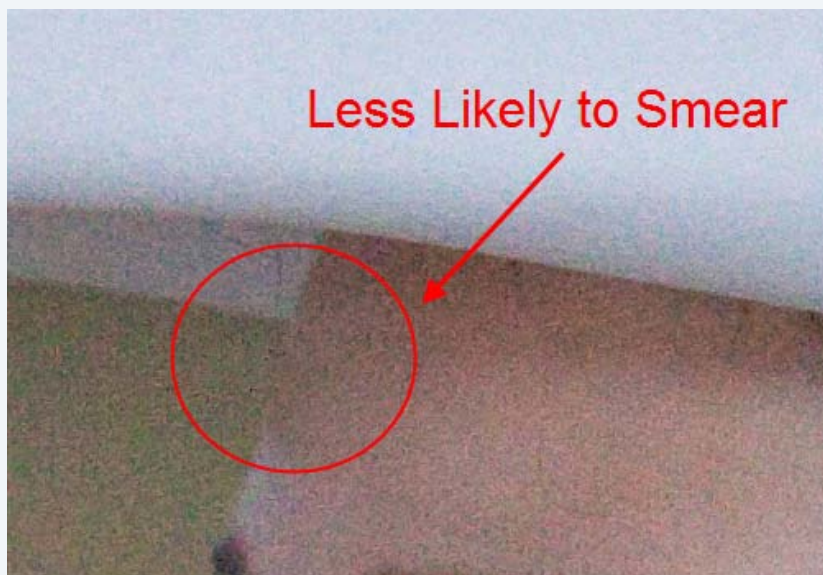
What I missed in my review was some slight smearing up along the forehead. I moved along to Portraiture and then noticed a color smear that disappointed me. So, after slapping myself on the back of the head, I had to decide how to handle it.



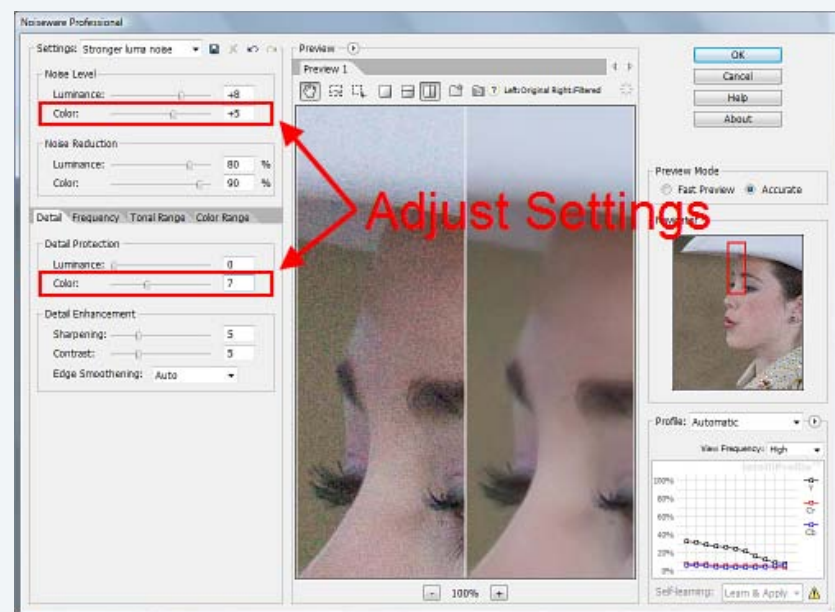
This can happen with noise reduction software. There was little contrast between the woman's forehead and the background. Removing the noise left an unsightly smear. I tackled the problem by building up contrast along the edge. That sent me back to the original for a quick look to confirm and retouch.



I made a quick stroke along the edge of the forehead with the Healing Brush tool. One stroke. That was it!



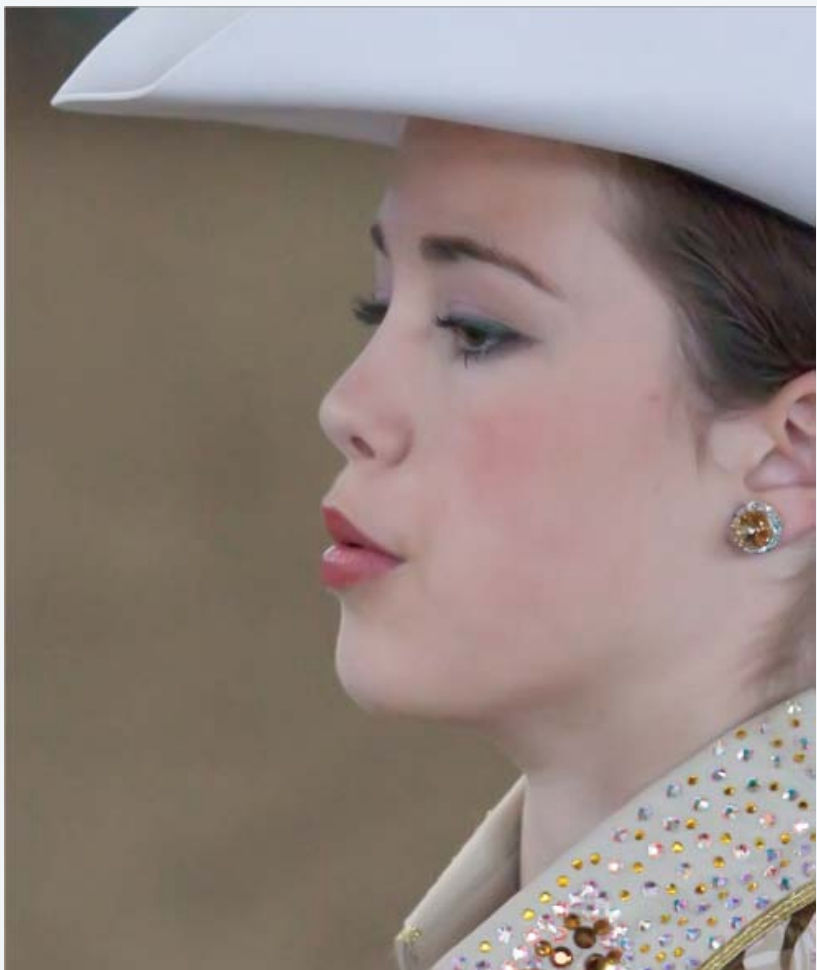
Going full throttle after chromatic noise might still leave a bit of a smear, so I opted to pull back on the chroma settings.



I made one final stroke with the Healing Brush tool after applying Noiseware. The edge along the forehead was a little darker than I preferred, so I let the Healing Brush tool apply a little warmer skintone to the area.

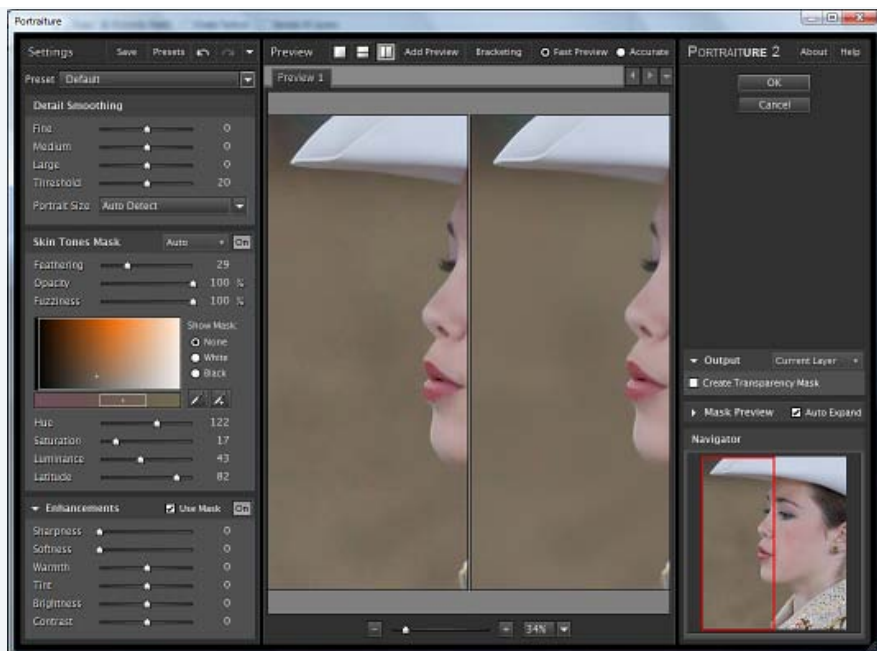


The result after the noise reduction and associated gyrations is much more pleasing than the original. Already, it's a very nice photograph. Exposure was "dead bang on" because I haven't touched that at this point. Here's the result after the retouch and readjusting Noiseware:

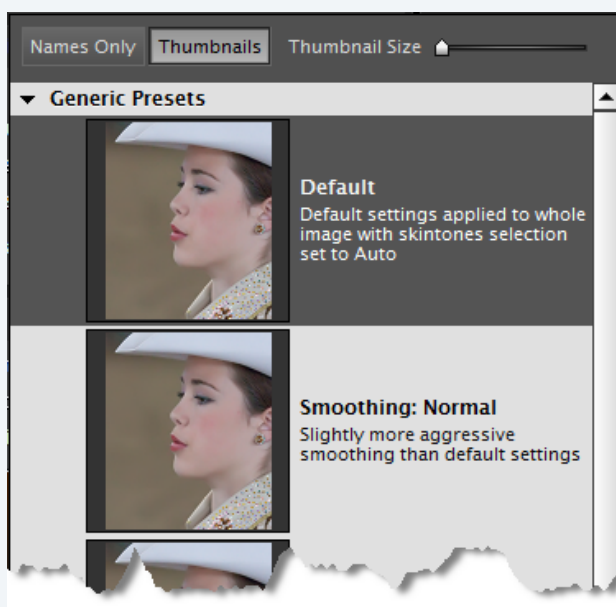


Improving the Skin

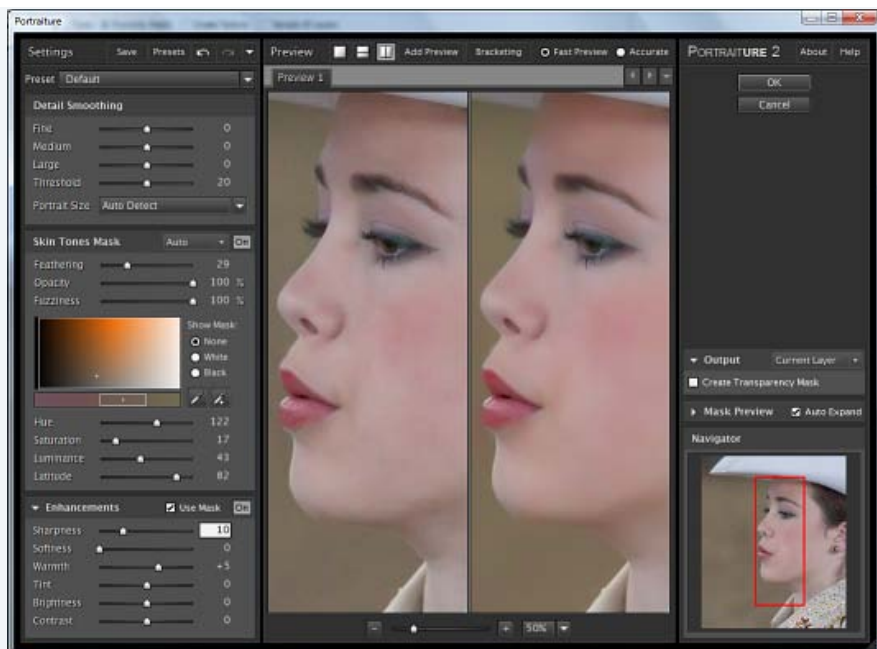
The next step was Portraiture. Again, I used a Smart Filter layer for added flexibility.



Portraiture is a separate commercial plug-in from Imagenomic. It's a sophisticated tool for natural-looking skin retouching. As you can see from this view of the user interface, Portraiture intelligently reduces skin blemishes and gives skin a glamour-like smoothness without destroying skin texture and important details for features like lips, eyebrows, and eyelashes.



You can flail away at the settings or you can select a preset. I chose the Default preset for this photograph. Then I added a little more sharpness and some warmth to the skintones.

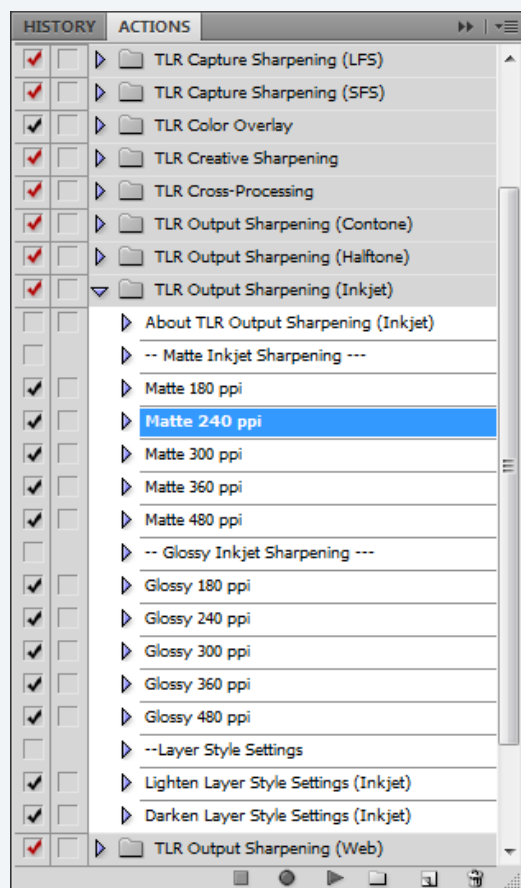


I like how Portraiture warmed the skin tones. I left some residual noise in the original. I counted on Portraiture's skin smoothing to help reduce the noise further. The background was very close to skintones in color, which gave me a good chance that Portraiture would apply some smoothing to them. (I could have used the eyedroppers to ensure the mask included the background here.)



Sharpening

Sharpening came next. I was satisfied with color and tone. Besides, that would make this long coaching session even longer. I used the TLR Inkjet Output Sharpener with settings for 240 ppi on matte paper.



I boosted the layer opacity for the light contour to 100% and for the dark contour to 85%. This intensified the sharpening effect slightly. I didn't want to apply it to the entire photograph. That would invite noise to reemerge. Besides, it helps to apply sharpening selectively in a portrait. That draws the eye. In this case, I applied it to the jeweled outfit down by the collar, the hair, the eyes, and the lips. I added a Hide All layer mask (*i.e.*, a mask filled with black) to the output sharpening layer set. Then I used a soft, white brush at 25% opacity to add sharpening where I wanted it.

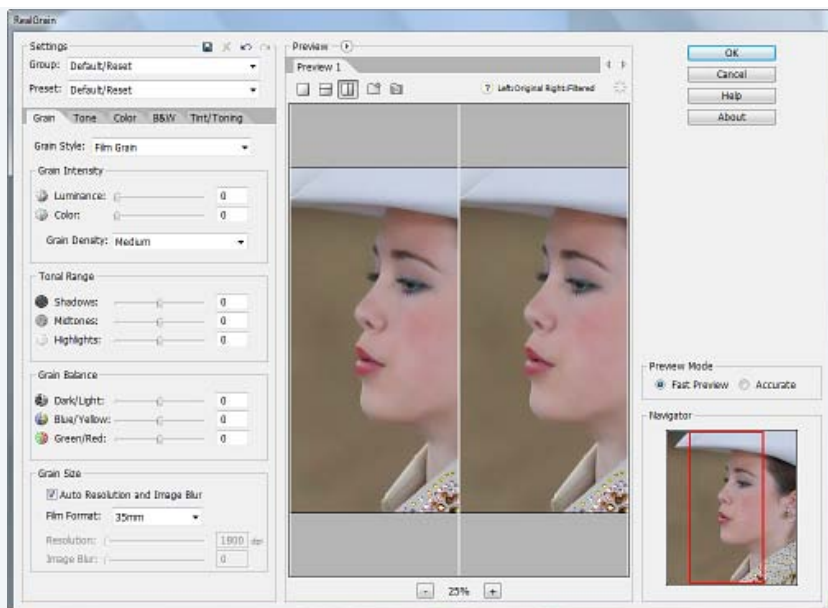


Simulating Film

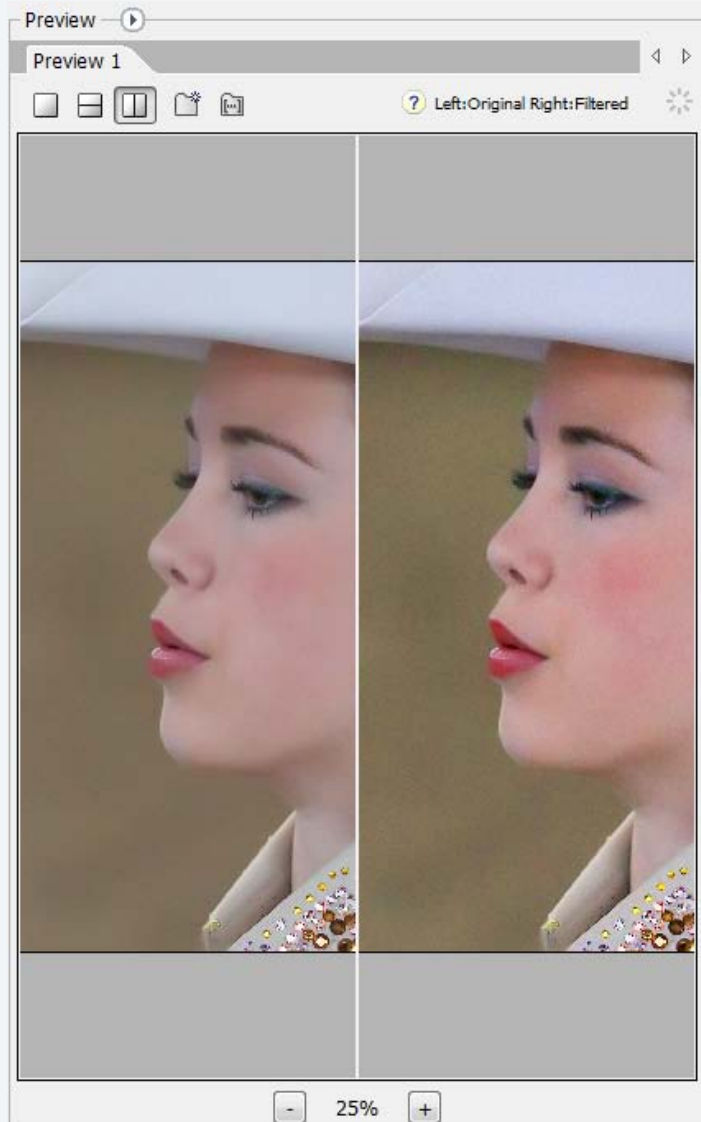
Some photographers might like a little more sharpness along the contour of the face. I decided on a slightly soft glamour effect. Adding sharpness to separate the woman more from the background would be an easy retouch.

The final step was to apply a film grain effect. Optional. The photo already looked very nice.

Some will no doubt wonder about further editing after sharpening. Film grain effects are an exception to my mantra about output sharpening after all edits are done and the photo is cropped and resized. If I sharpen after applying Real grain, the sharpening will intensify the film grain. I'd rather avoid that.



Real Grain does more than just add faux film grain. It's a great tool for B&W conversion, toning, etc. There are presets for simulating different film effects. As a long-time Fuji Velvia slide film photographer, I gravitated towards the Fuji Velvia 50 preset. And, shazaam!



There's a saturation boost, especially in the reds. Expected with a preset labeled Fuji Velvia. And there's a very light film grain effect, too. The faux film grain would certainly hide any residual noise

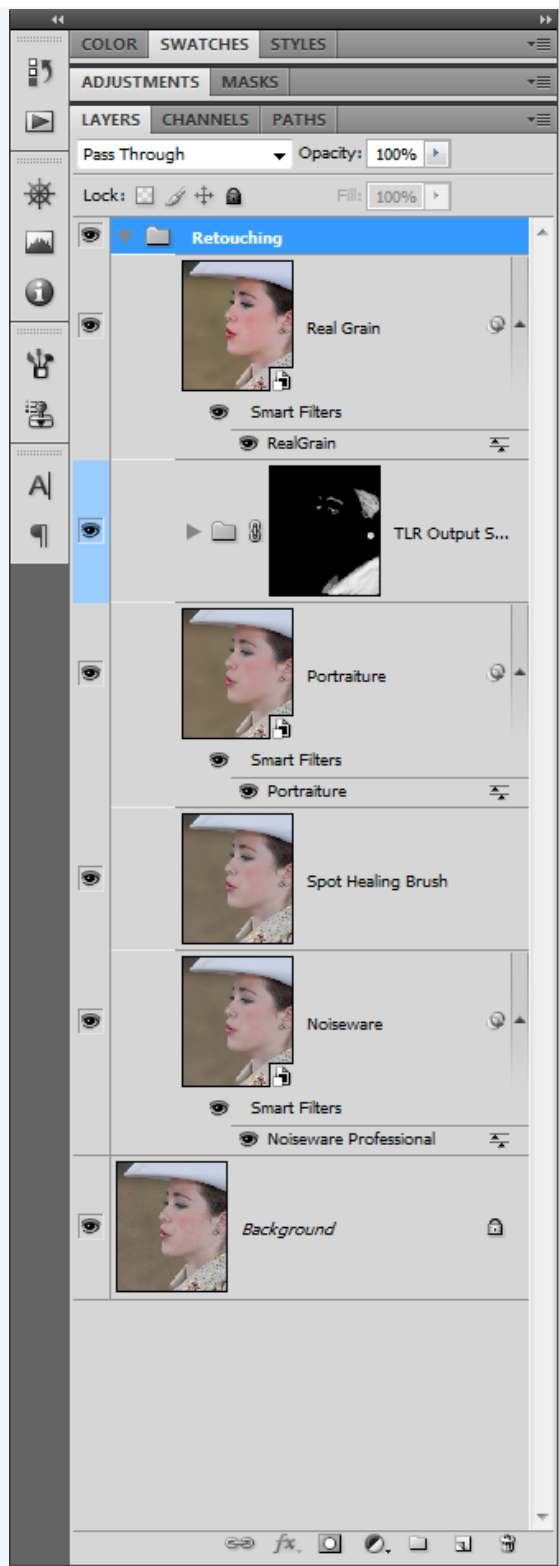
in a very realistic way.



Wrapping It Up

Kelly said this shot was a throw-away. Some throw-away! It's a keeper with some noise reduction and a little retouching.

I made all the layers active and added them to a layer set. That makes it easy to toggle off and on to see the before and after effect for all this work. You can also see the layer mask adjustment I made for sharpening in the screenshot of the Layers palette.



If you're new to Photoshop, all these steps are probably overwhelming. With experience, you can accomplish this entire retouch in about ten minutes. A busy event photographer can ill-afford ten minutes for each and every photograph. But, this throw-away shot was certainly worth a few minutes attention.

You can download a .PDF for this coaching session by clicking here . . .

Author Bio

Glenn Mitchell is an avid digital photographer, technical writer, and university administrator. He is an author with a long list of publications in trade magazines, peer-reviewed academic journals, and co-authored books. He is creative force behind The Light's Right. His photography can be seen at his gallery site: www.thelightsrightstudio.com.

128 reads

