

# Random Thoughts

from William Blinn Communications

May  
2010

TECHNOLOGY • MARKETING • COMMUNICATIONS

## Photo Magic: Easier than You Thought

Some of the things we take for granted these days would have been all but impossible just a few years ago and this year we'll be able to take even more magic for granted. Adobe has just released its Creative Suite 5, which includes new versions of Photoshop, Camera Raw, and Bridge. Before the end of the year, Adobe will also release version 3 of its amazing Lightroom application, which is now available as a public beta.

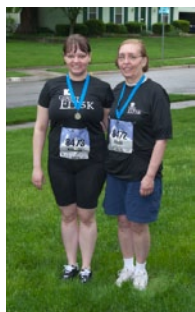
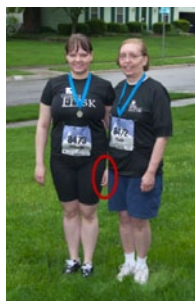
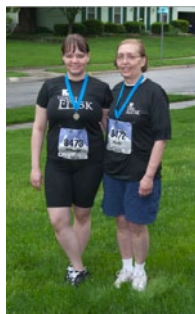
On May 1, my wife, Phyllis, and younger daughter, Kaydee, participated a local television station's *Commit to Be Fit* 5K walk and run. I took their pictures after the event, several with Phyllis, Kaydee, and one of Kaydee's friends and several with just Phyllis and Kaydee.

What I didn't notice was that in the pictures of Phyllis and Kaydee, Kaydee was standing with her legs in an odd position. As recently as a few years ago, there would have been no way to remedy this. Today it's easy.

I started with the image of Phyllis and Kaydee as the base (1) and another image in which Kaydee was standing normally (2). Then, by using a layer mask, I replaced Kaydee's legs with grass (3). The next step involved copying a section of the other image and placing it in another layer of the image I was working on (4), but notice the extra hand! This is a common Photoshop error. To eliminate that problem, I copied another small section of the other image and placed it on my work copy (5).

This isn't intended as a tutorial on how to use Photoshop, so I haven't provided a lot of detail regarding the technique. Making basic changes such as these are easy, but these tools are not always used honestly.

As with most other tools, photo manipulation can be used for good or bad, honestly or dishonestly. When someone combines two photographs to give the appearance that two people were together at an event, the tool is being used dishonestly. In a situation such as the one I've just described, the tool was being used for good and honest



purposes. The changes I made did not in any way alter the meaning of the photograph.

### Finding Fake Photos

The camera never lies. That was once what people thought. Perhaps some still do, but it was never entirely true. It's easier to lie with a photograph now than it used to be, but it was always possible to choose the right lens and the proper vantage point to distort reality.

In the USSR, the leadership lined up at Lenin's Tomb on May Day every year and photographs were taken. If someone fell out of favor and was executed, he was removed from the photos. Secret police head Lavrentiy Beria standing by Comrade Stalin in one photo, gone in the next. In those days, lying with a camera required careful work with a sharp knife and knowing how to use an airbrush. Today, there's Photoshop.

University of Albany computer science professor Siwei Lyu has received a National Science Foundation grant for a project to develop tools that might help detect fake photos. Lyu's 5-year, \$500,000 award will apply "natural image statistics" to the forensic analysis of digital images. Professor Lyu says this will aid forensic practitioners in criminal investigations and contribute to national security and public safety.

Lyu's project could expose image forgeries that have become increasingly prevalent. This is important work because doctored images challenge the status of photographs as definitive records of events, especially when images are presented as documentary or legal evidence.

Lyu will work with investigators at the New York State Police Department Forensic Investigation Unit to apply some of the techniques to practical criminal investigations.

I'm delighted to see this project begin. It's easy, and becoming easier, for anyone who has access to an application such as Photoshop to make realistic images that have no basis in reality.

## Content-Aware Fill

So with concerns about the potential for improper use of these tools understood, let's return to seeing what new magic tricks Adobe has created this year. Although the CS5 version of Photoshop contains a lot of new capabilities, probably the most significant breakthrough for photographers is the Content-Aware Fill tool and the related Content-Aware Healing Brush.

When I photographed a barn in eastern Ohio's Amish area, I positioned myself the best I could to limit clutter, but there was no way for me to remove a utility pole unless I walked onto the farmer's property. I don't trespass and, as a result, the image suffered.



By using the two new tools, along with a bit of judicious cloning and masking, I was able to remove most of the clutter and create a much more pleasing image.



These new tools make improving your photographs easier than it has ever been. No darkroom is needed. No chemicals. Little cost.

Yes, I mean "little cost". It's true that the applications are expensive, but the overall cost is still far less than when every experiment required the purchase of chemicals and photographic paper, not to mention an investment in a darkroom, an enlarger, and a lot of other gear.

The most significant challenge now might be finding a way to tell altered photographs from unaltered photographs—or at least to teach people the importance of questioning the legitimacy of photographs. **β**

## The Spam Cram

Some anti-spam organizations say that 97% of Internet e-mail is spam! Really? The answer is both yes and no. Certainly there's a lot of spam, but even if you're one of the people who receive a lot of spam, spam is probably not 97% of what you receive. So it's a lie? Well, no.

A lot of spam is never delivered. Spammers send messages to addresses that no longer exist and to addresses that never existed. Some programs simply send messages to all common names at every known domain, although I think this has largely gone out of favor.

You gain some protection by creating a long e-mail address, but longer addresses are harder for people to remember.

I have one address that has never received a single spam. I use it only for banking communications, so only banks and financial institutions have it. They're pretty good about keeping e-mail addresses private. And it's an address that's not something anyone would guess. For one thing, the address is about 30 characters long and the characters (upper case, lower case, numbers, and symbols) were chosen at random.

That's a special address for a special purpose. For most of my day-to-day communications I use an address that's easy to guess and it receives a lot of spam. But still not 97%. It's all those messages to undeliverable addresses that push the overall percentages up. Those addresses never receive any legitimate messages, only spam. So that's where the huge number comes from.

But spam still costs a lot. It must be transported and stored. And this is 6 years after Bill Gates famously pronounced the end of spam by 2006. It could have happened. Maybe someday everyone who needs to cooperate to kill spam will cooperate. But I'm not holding my breath.

In the meantime, the creeps have been developing a new technique called "scareware". You receive a message that says your computer is infected and you must download something or visit a website to fix the problem. If you follow the instructions, you're rewarded by having an application that you don't want.

The application may be spyware that steals your information. Or it might cause programs to stop running and hold your computer hostage until you pay a ransom. No matter how legitimate a message appears to be, it's important to check it out before you do anything suggested.

If everyone ignored spam, the spammers wouldn't make money from it and the flood would stop. But I'm not holding my breath on that, either. **β**