

Adobe shows off new 'undo photo blur' feature

13 October 2011, by Bob Yirka

(PhysOrg.com) -- Despite all the advances in digital photography, most people are still plagued by the problem of blurry photos, a problem compounded by the use of cameras embedded in cell phones due to their small size. Problems of blurring generally can be divided into two types. The first is problems with focusing, which can usually be avoided if the camera operator will simply wait for the automatic focusing feature of their camera to do its job. The second type is much more difficult to solve as it involves camera movement while the image is being shot. It's this second problem that Adobe has been working on as part of its Photoshop imaging software package. And based on a video shot by someone identified only as peterelst who posted it on Youtube, a recent demo of a new feature, or "sneak" as Adobe calls it, seems to indicate that they have made significant progress.

The technology behind the new feature (that may or may not actually wind up in Photoshop according to company reps) involves an algorithm based on the idea of blind deconvolution, which is where an iterative process is used to facilitate a point spread function. The idea is to calculate the speed at which the camera was moving when the picture was snapped so as to undo its effects. Or in other words, it attempts to reconstruct what the camera lens would have seen but for the movement. This is in stark contrast to current deblurring functions in Photoshop and other image editing software which analyze an image looking for lines that form edges and bolsters them to make them appear sharper. The results with the new technique, at least in the demo, appear to be quite dramatic.

With the new feature, the photo is first loaded onto the computer and into the Photoshop type app, then some predefined parameters are loaded that more clearly define what sort of image is to be looked at. The image is then analyzed and a grayscale thumbnail (blur kernel) is displayed

which shows how the image was blurred. Next a restore feature is activated and the blurred image is replaced with the newly sharpened image.

Despite this bit of theatrics by Adobe and lots of gushing by mainstream media seemingly intent on describing the new technology as the end of blurry photos, things are not quite as rosy as all that. This is because if the new feature is indeed added to Photoshop, it will still be out of most people's grasp due to the high price of the product. Very few are likely to shell out hundreds of dollars to just to clear up a few images taken haphazardly on their cell phones or even their cameras. What really needs to happen is for this technology to be implemented in cameras so operators will never know they blurred their image by jiggling their [camera](#) in the first place.

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