

printout

Keystone MacCentral Macintosh Users Group ❖ 717-932-4009 ❖ <http://www.keystonemac.com>


You've Got Widgets on Your Dashboard!

by Eric Adams

For anyone not familiar with the latest version of the Mac operating system (Tiger), the statement "you've got widgets on your dashboard" may sound like mere gibberish. The Dashboard isn't just the place to toss your miscellaneous papers and stuff when you jump in your car; it's now a sort of "secondary desktop" that allows you to work (and play) with your widgets! Bear with me...

Lets start with what a widget is... Don't be ashamed if you don't know. In the past, a widget has been a universal term used to describe something imaginary. Economists have used the term "widget" to refer to an abstract unit of production. Factories produce widgets using capital and labor. But we in the Mac world now have a new definition of a widget. Widgets are mini-applications that let you perform common tasks and provide you with fast access to information. With the Widgets on your Dashboard you can: check the time, watch the weather, track flights, view stock prices, play games, or even locate the best gas prices locally.

With a single click, the Dashboard zooms across your Desktop, giving you fast access to nifty widgets designed for fun as well as function. Tiger includes a suite of widgets to get you started, and you can add more anytime. There are literally hundreds of widgets to choose from. There is a widget for practically any interest or hobby imaginable. Seriously! Everything from a widget that displays compelling underwater photographs from the diverse waters of the Philippine archipelago to a widget that displays a countdown to "The DaVinci Code" movie release. Some widgets are free and some charge a minimal shareware fee. Heck, there's even a widget to keep your widgets up to date.

At January's meeting we'll be exploring everyone's favorite widgets. We'll show you how to download and add more to your Dashboard, as well as how to get rid of the ones you no longer find useful. So if you have a favorite widget that we don't cover, be sure to let us know, and we'll download it at the meeting so we can all check it out. 

Meet us at

Gannett Fleming

Gannett West Building

209 Senate Ave ❖ Camp Hill

Tuesday, January 17, 2006, 6:30 p.m.

Attendance is free and open to all interested persons.

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Keystone MacCentral is a not-for-profit group of Macintosh enthusiasts who generally meet the third Tuesday of every month to exchange information, participate in question-and-answer sessions, view product demonstrations, and obtain resource materials that will help them get the most out of their computer systems. Meetings are free and open to the public. The *Keystone MacCentral Printout* is the official newsletter of Keystone MacCentral and an independent publication not affiliated or otherwise associated with or sponsored or sanctioned by any for-profit organization, including Apple Computer, Inc. Copyright © 2006, Keystone MacCentral, 1020 Pines Road, Etters, PA 17319.

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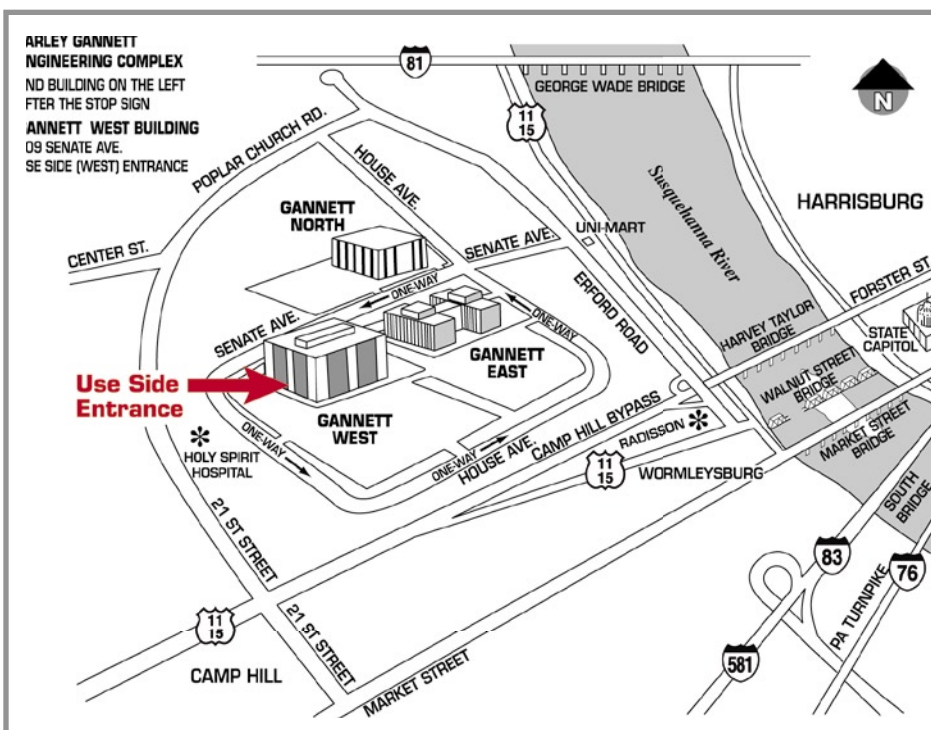
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by Linda J. Cober

President's Corner

January marks not only the start of a new year but also one of the more exciting weeks in the Mac world — MacWorld, San Francisco. By the time you read this, Steve Jobs will have already delivered his keynote address and hopefully will have blown us away with his traditional “just one more thing” conclusion. I always enjoy reading the many rumors about what is to come and just for fun have decided to mention some of them here. Remember, I am writing this column before MacWorld even though you will be reading it afterwards, so the fun will be in seeing how accurate the rumors were.

First, new software seems to be a good possibility. Apple typically changes software to reflect the new year, so I would not be surprised to see iLife 06 as well as iWork 06. A new feature in iLife called iWeb also seems to be a good bet since the name iWeb appeared briefly on Apple's website a couple of days ago but was then quickly pulled. One wonders if the tease was on purpose or if some poor Apple employee (now perhaps former Apple employee) made a big mistake. Anyway, I am betting that iWeb exists and will be formally introduced at MacWorld.

Hardware rumors are predicting that new Mac Minis will have Intel processors along with Front Row 2.0 (upgraded from the fairly unimpressive Front Row 1.0) which will make the Minis into Apple's version of TiVo. Users would be able to record selected TV shows to watch later. Of course, we can do this now using our VCR's, but the quality of the digital recordings is much better than on video tapes.

Rumors also abound regarding laptops. Personally, I am betting that the iBooks will be upgraded

with higher resolution screens and Intel processors even though earlier rumors had the Intel processors not coming to the iBooks until summer. I mean, if Intel can come to the Mac Mini now, why not to iBooks?

Intel PowerBooks are also mentioned, but since the PowerBooks were just updated in October, this seems less likely. The only reason I can see for the move to Intel to occur right now for PowerBooks is so customers who would normally choose PowerBooks don't go with the Intel iBooks instead. Human nature being what it is, nobody likes to be left behind as technology changes. Thus, potential purchasers are likely to buy the updated alternative product or put off their purchases until their chosen product is also updated. This being said, I am placing my bet on the iBooks over the PowerBooks unless both are upgraded at the same time.

Finally, new iPods are also rumored, and I would not be at all surprised to see this occur. Some sites are predicting new Shuffles while others believe that the Shuffle is likely to be discontinued in favor of a new iPod with different features. Personally, I am

betting on the latter as the Shuffles are not as popular with my students as are the other, more expensive but more versatile, iPod models. The kids like to know which song is coming up next, so they prefer the iPods with a screen. The savings in cost do not seem to make much difference to the kids; if they really want something, they find a way to get it. Since the kids and their love for Apple's innovations in the delivery and utilization of music have had a significant impact on the company's bottom line, I expect Steve to meet and quite possibly exceed their expectations.

These are the rumors I found to be the most interesting because they seem to be the most likely. As you read this, keep score and see how well I did in choosing which rumors to bet on!

On another note, we received some late donations to our auction and plan to have a mini-auction in March, weather permitting. Our main item is a LaCie 40 gig portable hard drive with USB 2 and Firewire connections. I plan to bid on it, but don't let that stop you. The highest bidder will walk away with a great new drive!

We have a good meeting planned this month too as Eric Adams explores Dashboard Widgets. Whether you know what Widgets are or not, join us on January 17, and we guarantee that you will leave having learned something new. 🗑️

Now that winter and, at times,
hazardous driving conditions are here,
it may become necessary to cancel a meeting on short notice.
The board of Directors will make a decision and update the

Keystone MacCentral Hotline
717-932-4009

and our Web Site

<http://www.keystonemac.com>

by 1:00 p.m. on the day of the meeting.

Keystone MacCentral Minutes

December 20, 2005

Business Meeting

President Linda Cober thanked members for the snacks they had brought in before asking board members for their reports. Gary announced the planning meeting the board planned to have in January to set a tentative schedule of programs for 2006. Eric mentioned the good attendance at the auction which contributed to another successful event. Linda Smith displayed the vendor page on our site thanking all of our donating vendors. She encouraged our members to take the time to visit the vendor web sites. You might want to check for updates for any software you purchased. Linda also showed us a video she had discovered on the internet. It was a Christmas light show choreographed to music that can be found in the holiday section of the snopes.com web site. You may have also seen part of it as a "Christmas Lite" show on television. Mrs. Benninghove dropped off our mail at the December meeting, including a few items that did not arrive in time for the November auction. Look for a mini-auction, possibly in the spring.

Q&A & Comments

Gary Brandt asked if anyone knew how to increase the length of time Safari would try to connect to a link before displaying an error message stating a connection could not be made. Linda Smith thought it might

be a server-side issue. Eric Adams reported on a Mac network that periodically lost a connection to a file server. Jim Carey said it could possibly be caused by bad memory or a failing hard drive. Eric was also directed to check preferences to see if the connection was set to time out after a specified interval. Harry Killian no longer can display the Netscape home page he had set up. That could indicate that the URL had been changed without notifying him. Harry tried to load the page on the club Mac, but again with no success.

Tom Bank asked if anyone had experience with a Verizon DSL policy whereby Verizon was obligated to install DSL service in a neighborhood if 50 people in the neighborhood signed up with a promise to get the service. He described the trouble he had just in getting a petition to start the process. Linda Cober asked if there was a clock battery in laptop computers in addition to the main computer battery. Opinion was divided but a look at specs listed online did not include mention of such a battery. Linda's friends on the island who use storage batteries to store energy might try plugging the laptop into a converter to retain its settings.

Eric Adams asked for recommendations for a DV camcorder in the \$300 price range. There are some models available. The most important features would be decent optical zoom and digital stabilization. An optional jack for an external microphone might be another consideration. Canon models were recommended. Tom Bank asked about transferring

recorded sound into a Mac. A third generation or later iPod can record sound but not very well. A movie camera would be a better option. Tom was more interested in recording sound for import into a project so a Griffin iMic USB audio interface was recommended. Depending on the recording device and the Mac, he might even get away with using RCA cables.

iContest

Three prizes were announced for the iContest but unfortunately we only had two entries this year. The first entry was made using iDVD and it included video and slide-show chapters. We watched the video of a golf contest held on a Disney Cruise. We also viewed some of the photos taken on the cruise. It was obvious that a lot of effort was involved in the creation of this DVD. The second entry was a movie created in iMovie about a trip to Argentina using video clips and still photos. The Blue Winnebago movie included an effect that just made you want to sing along with its theme song. Members voted to rate the projects and in another close vote, Eric Adams won first place for the Blue Winnebago movie. Christopher Fry took second place for the Disney Cruise DVD. Eric was approached during the social time we had after the iContest to divulge some of his iMovie secrets at a meeting in 2006 so he may have more competition for first place next year. ☺

Reality and Digital Pictures

People often ask me if I think digital photography is as good as film or will ever become as good as film. I reply that for all but a few special purposes, digital is better already. Technically, my digital photographs are at least as good as the best conventional photographs I ever took with 2-1/4" x 3-1/4" (6 cm x 9 cm) film, and pictorially they are better. With my digital camera I can take pictures in the street that used to require a studio.

In this article I shall explain what digital technology can do that conventional photography cannot — how computers can produce more naturalistic pictures, not how they can produce special effects. To do this I'm going to start with perception, pass through art, and enter computers by the back door. Although this is an unusual route, it approximates the way I think when taking a photograph and it provides the only way I know for negotiating the maze of manipulations offered by photo editors. Although I shall mention some specific products (all of them available for the Mac as well as Windows), I shall not describe any in depth. The difficult part of digital photography is figuring out what must be done in the computer and which application can do it. Knowing that, it is rarely difficult to figure out how to make the application do its job.

This article is illustrated with a number of pictures. To see them appropriately, your monitor ought to be in rough calibration. If you have never calibrated your monitor, I suggest that you do it now. It takes about two minutes. Open the Displays preference pane, click the Color tab, click Calibrate to launch the Display Calibrator Assistant, select the Expert Mode checkbox, and then follow the instructions. When you come to the screen asking you to set the gamma, select 2.2.

For one reason that will become clear, I find some version of Photoshop to be necessary. For this reason I shall assume its use as a photo editor, although you need not own it to understand the article. Along the way I shall mention the differences among the last three versions (CS, CS2 and Elements) that matter for my approach.

Eye vs. Camera — To begin with, let's dispel the notion that a camera records what the eye can see. It does not and it cannot because a camera functions nothing like the eye. With a lens of normal focal length, a camera records an image with a diameter of approximately 45 degrees. It records the entire image at once and the image ends up as a print with a range of intensity from black to white of approximately one hundred to one. In contrast, the eye sees an area about 180 degrees across but it sees most of this with acuity that ranges from bad to dreadful. It sees sharply just in the central 1 to 3 degrees. To see a scene clearly, the eye must scan it and the brain must assemble the accumulated information. However, the eye rarely has time to sample more than small portions of a scene with its spot of clear vision so most of what you see has no optical source, it is an inference. Your brain infers information largely by generalizing from what it has encountered before. In doing this the eye and brain have to handle contrasts of light that exceed one million to one.

In short, when you look at a snapshot you took at the beach, the limitations of the camera mean that three-quarters of the scene will have been lopped off, the range of tones will be compressed tenthousandfold, and the information that remains will never be what you saw. Any appearance of realism will be an inference informed

by learning and shaped by convention. It is not realism but verisimilitude.

Photographs may seem realistic but the technology of film prevents escaping photographic conventions, which are actually quite limiting. Less limiting is a paintbrush. A brush can produce every effect a camera can plus a great many more. Before photography, skilful and observant artists spent millennia working out how to represent reality on flat surfaces using this superior tool. Their work forms the most complete guide available on realistic ways to put pictures onto paper.

Most artistic techniques cope with two basic problems, problems that reflect the architecture of the visual tissue of the brain: how to imply something about form and space using (1) areas of brightness and (2) lines. These problems are not discrete and isolated any more than the tissue of the brain is, they are two sides of the same coin, but it will simplify our thinking to make a fuzzy distinction between them.

Contrast — The eye does not see light per se, it sees changes in light — contrast. If two objects do not contrast with one another, to the eye they meld into one. This fact makes controlling the contrast of adjacent details to be paramount in importance. However, the real contrast of any scene can rarely be reproduced. As I said, the range of reflectance from the lightest to the darkest objects in a scene is rarely less than one thousand to one and often exceeds one million to one, yet the range of reflectance of pigment against paper or canvas is approximately one hundred to one. On the other hand, even within a contrasty scene, small areas can have very little contrast indeed.

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Reality and Digital Pictures

From contrasting tones the brain infers three-dimensional objects. It does this through association, by matching patterns it has encountered before: a bright spot is a source of light, brilliant yellow may be fire and hot, areas that are darker tend to be removed from you or from light, bright areas tend to be near you or near light, tiny highlights on a face indicate sweat and heat, etc. To paint realistically, painters use associations like these to create optical illusions. This is easy because the eye scrutinizes only tiny areas at a time, so the brain cannot easily compare colours and tones across broad distances. As long as adjacent tones vary naturally, distant tones can be impossible optically yet still look right. You can see this in Rembrandt's painting of Belshazzar's Feast, linked below. The main source of light on the faces appears to be the writing on the wall, yet it is no brighter than the faces. It is not white but fiery gold, yet it is so far away from his face that nobody notices the optical absurdity. Also, with writing on the wall as the main light, the secondary light reflected off the invisible wall on the left ought logically to be much dimmer than it is.

<<http://www.tidbits.com/resources/809/BelshazzarsFeast.jpg>>

In other parts of the painting Rembrandt increased contrast where he had to maneuver within too limited a range to limit himself to variations in brightness. Look at the woman's red dress to see an example. Not only do the folds look three-dimensional overall, each tiny portion of every fold looks three-dimensional, even if you restrict your eye to small areas, areas where there is little difference in brightness from highlight to shadow. Every tiny part of the dress contrasts with the part adjacent to it. Rembrandt could do this because he did not vary brightness alone, he varied hue and saturation as well — independently. If you open the picture in

Photoshop and set the Info window to HSB, you can move the mouse around and see some of this variation that has survived the miniaturization of the painting. (The real thing, which somebody long ago trimmed to a smaller size and different angle, is 66" by 82" or 167 cm by 209 cm.)

Filmmakers and commercial photographers create realistic photos similarly, by "cheating" lamps that are put on the set as props, lighting the set so that the light seems to be coming from those props. An example is the picture of the blacksmith at the link below. A logical analysis shows that no illumination can have come from the fire, but the eye is not a logical analyser. However, cheating like this takes more time than cheating on your taxes, especially in a still photograph where the illusion does not flit past your eye. That photograph took me a day to plan and a day to execute. (Among other things, I needed to wrap the entire workshop in aluminum foil, to prevent light from coming through chinks in the walls.)

<<http://www.tidbits.com/resources/809/Blacksmith.jpg>>

On the other hand, equivalent results can often be obtained without cheating by using a good digital camera and re-balancing the light digitally. An example is the dyer in the picture linked below. The version on the right shows the scene as film would have caught it; the version on the left shows it as it felt and as I remember it to be. It is probable that before I took the picture, I noticed that the room light was bluer than the firelight — I do tend to notice such things — but my overwhelming perception was overwhelming heat and that heat is what I wanted to portray. To the visual system, so many cues to heat are present that the firelight in his face looks natural although it's logically absurd.

<<http://www.tidbits.com/resources/809/Dyer.jpg>>

The next example shows a more ordinary picture. The image on top shows what the scene looked like: a brightly lit bush in the foreground with a jungle of trees in the hills

behind, gradually diminishing in size and clarity. However, although my brain perceived the bush to be bright, it was actually dark compared to the sky and the jungle was even darker. The scene presented a range of tones that nothing man-made can come close to reproducing. My camera's sensor "mechanically" compressed those tones into the image on the bottom. Slide film would have done the same. To make the picture look more realistic, I brightened the bush in the foreground and painted contrast into the jungle by varying saturation and brightness independently from each other and from hue.

<<http://www.tidbits.com/resources/809/Jungle.jpg>>

To manipulate contrast in this way requires three things:

- Capturing the information that you want to bring out.
- Making that information visible by lightening shadows and/or darkening highlights.
- Adjusting colour not to make it look accurate — that is impossible — but to bring out whatever contrasts are necessary to make it look right

To meet the first requirement, you need a raw, unprocessed image (not a JPEG) from a camera that can record a broad range of contrasts. In today's market this means a single-lens reflex camera. (For more information, see the "Image Quality" section of my article "Picking a Point-and-Shoot Camera: Panasonic DMC-FX7" in TidBITS-783.) When I convert the file to a standard format (I prefer the generic TIFF to Adobe's PSD), I set its levels of tonality to run the full extreme from black to white, with the middle set to look as good as possible.

<<http://db.tidbits.com/getbits.cgi?tbart=08136>>

Lightening shadows and darkening highlights comes next, with Adobe's Shadows/Highlights control. Photoshop defines shadows and highlights as dark or light areas larger than a certain number of pixels across. CS, CS2 and Elements all enable adjusting

the amount of lightening or darkening but CS and CS2 also enable adjusting the size of what Photoshop sees as a shadow or highlight. I find that adjustment to be very important, and I use it for maybe one photo in three.

(Most of what Adobe left out of Photoshop Elements I do not care about - Elements is already more complex than it needs to be - but I found this one adjustment almost reason enough by itself to forgo Elements for the full Photoshop. The other reason is that Elements has limited facilities to handle 16-bit colour. Although 8-bit colour is usually sufficient, pulling apart tonality often requires finer intermediate colours to be present.)

Now look at the Rembrandt picture again, at the detail on Belshazaar's cape. The detail stands out because it is formed by brush-strokes with extremely high contrast from one to the next, extremely high local contrast. I make detail stand out in a photograph the same way by using an incidental feature of PictureCode's Noise Ninja, which is primarily a noise-reduction package (and one of the best). This feature is a slider that enhances local contrast. I often use it by itself without any noise reduction at all.

<<http://www.tidbits.com/resources/809/BelshazzarsFeast.jpg>>

<<http://www.picturecode.com/>>

Now comes the paint. If an artist wants to adjust a colour on his canvas, he may change its hue, or he may daub on spots of complementary colours to reduce its saturation, or he may add some black or white touches to reduce or increase its brightness. With digital photographs I want to do the same. The product that enables me to do this is Asiva Shift+Gain.

<<http://www.asiva.com/>>

Shift+Gain is a Photoshop plug-in that lets you select areas or lines (useful to remove colour fringing) by any combination of hue, saturation, and brightness, and then alter those parameters individually. No other product can do this, except for a

stand-alone package from Asiva that is too slow to use. Indeed, incredible as it may sound, Asiva has a U.S. patent on this approach to manipulating pictures.

Shift+Gain works differently from any other application and took some time to understand. However, although it was confusing at first, it soon came to seem simple. To accomplish in Photoshop most of what I do in Shift+Gain would require far more skill and patience than I can supply.

I find Shift+Gain to be an indispensable tool for digital photography - the only indispensable tool, the only tool for which I do not know of any functional equivalent. Unfortunately, it will not work in any application other than Photoshop, not even applications like GraphicConverter that can run most other Photoshop plug-ins. It is compatible with any recent version of Photoshop, but it does require Photoshop, which is why I am ignoring possible alternatives to Photoshop in this article.

Those three sets of tools can handle nearly all the manipulations of contrast and colour that I have had any need for: (1) the controls in Photoshop CS/CS2 for levels, shadows and highlights, (2) the local-contrast control in Noise Ninja, and (3) Asiva Shift+Gain. Occasionally I also use one of Asiva's other plug-ins, which work similarly but do slightly different things. I have found that Asiva's plug-ins, combined with Photoshop's basic selection tools, obviate the need for masking to achieve ordinary pictorial effects.

Only one of Photoshop's colour adjustments do I find to be particularly useful. Sometimes, after I have adjusted the colours to bring out contrasts, the picture shows an overall tint. Now, no tint exists on its own, a tint is merely an offset from a standard of comparison. In a photograph, the eye's standard is usually a pure white highlight or the paper's margin. If a neutral white or grey looks coloured in comparison, then we see a tint. Removing a tint is usually a simple matter of shading the picture just enough to neutralize that white or grey. Every

other colour changes a bit, but the contrasts among them will remain. It's difficult to remove a tint manually because the brain adapts so readily to changes in colour that a wide range of adjustments seems okay until you print out the picture. Photoshop can remove a tint mechanically; the mechanism is hidden in the Match Color command.

One final consideration about colour comes with dim light. In sunlight we see in colour; in moonlight we see in monochrome; in transitional "mesopic" levels of dim light we see partially in monochrome and partially in colour. When painters want to represent dim light, they portray it mesopically. You can see this with the musician at the back of the Rembrandt and you can see it even better in the Gross Clinic by Thomas Eakins, the picture on the left at the link below. The students in the shadows are nearly monochromatic but the monochrome contains hints of colour, often quasi-random streaks and blotches. (Note that the original painting is 96" by 78" or 243 cm by 198 cm.)

<<http://www.tidbits.com/resources/809/GrossAbattoirFlowers.jpg>>

Film does not portray dim light in this way, nor do most digital sensors, but the Foveon sensor does. (See "Sense & Sensors in Digital Photography" in TidBITS-751 and my followup for a discussion of sensor types.) Film and digital sensors generate low levels of granular noise. When a normal amount of light strikes the film or sensor, the noise is usually hidden within the image, but when little light strikes it, the noise becomes more evident. At some dim exposure to light the image disappears within the noise: that defines the limit of sensitivity. The random dots of this noise can be smoothed over but detail becomes smoothed over with them and at the limit of sensitivity, all detail disappears. However the Foveon image sensor works differently so its granularity looks different. The Foveon shows fewer specks but replaces them with intrusions of incorrect colour. At first this reduces saturation then,

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at the lowest levels of sensitivity, it causes random streaks and blotches.

<<http://db.tidbits.com/getbits.cgi?tbart=07860>>

<<http://db.tidbits.com/getbits.cgi?tbart=07906>>

Reduced saturation and random streaks and blotches of colour are exactly the techniques that artists use to represent dim light, and the Foveon's noise can be used to do the same. I smooth out the granular noise with Noise Ninja - there is rarely so much of this that Noise Ninja loses any detail - then I use Shift+Gain on selected areas to control the discolouration. My goal is sufficient discolouration to add contrast for the eye but not so much as to be noticed. You can see the effect in the Chinese abattoir to the right of the Gross Clinic painting you just loaded.

Do note, though, that desaturation and blotchiness are not the norm in Foveon photos. They are normally hidden in depths of black and become evident only if you bring them out by pushing the sensor to its limits. More normal is the picture of the flower market - the third one on the page. I took both pictures indoors and exposed them at ISO 1600.

Perspective – So far we have been talking about how to represent space using tonality, now let's shift to representing space using lines. This is the problem of perspective.

During the Italian Renaissance, artists worked out a geometry of linear perspective, geometry that appears superficially to fit perceptual norms. In fact, however, it does not. The "laws" of linear perspective need usually to be broken, else the picture will look wrong.

The laws of perspective dictate that parallel receding lines converge. They converge if they are receding

horizontally like railway tracks and they converge if they are receding vertically like skyscrapers seen from the street. But consider vertical perspective. If the angle of view portrayed is only a little bit upward, then your brain may not infer that objects are converging at a distance above you, your brain may infer that the objects are not plumb. Of course, if those objects are walls of buildings, then your brain concludes that they are not falling inwards, for just as you assume that boards are straight, so do you assume that walls are plumb. However, for the same reason - because you assume that walls are plumb - buildings look more natural when all the vertical lines are upright and parallel. You can see an example of this issue in the two images of the temple pictured at the link below. A correction like the top image with film would have required the careful adjustment of a view camera on a tripod but it took me two minutes in Photoshop. (Elements or CS can fix perspective but CS2 makes it easier through a new Lens Correction item in the Filter > Distort sub-menu.)

<<http://www.tidbits.com/resources/809/VerticalLines.jpg>>

The same adjustment is useful for horizontal lines. When horizontal lines converge, buildings can appear to be constructed on a hill and roofs can seem to have unusual inclines. To minimize ambiguity, vertical lines ought to be plumb and horizontal lines ought to be level unless the reason for them not to be is obvious. Clear verticals and horizontals provide a frame of reference that lets oblique lines stand out.

Pictures of buildings obviously benefit from this approach, but often pictures of people do too, although more subtly. You can see an example in these two pictures of children, linked below. The picture on the top is stronger because the children are sitting on a level platform, not a tilted one.

<<http://www.tidbits.com/resources/809/Children.jpg>>

In fact, the laws of linear perspective need to be violated even when

photographing something straight on. If you look straight at a picket fence or a wall of bookshelves, an optically correct perspective would have the lines of the fence or bookshelves converging both to the left and to the right. This would look so silly that nobody would paint them this way. For the same reason, camera lenses are corrected to distort linear perspective so that a rectilinear object casts a rectilinear image.

This presents an interesting problem that can be solved with a brush or computer but not with film. The farther out from the centre an object extends, the farther its lines will be pulled apart and thus the more it will be enlarged, yet objects in the centre will never be enlarged, distorting relative sizes. The wider the lens's angle of view, the greater the distortion. This distortion can be seen with any wide-angle lens and becomes disproportionately more severe the wider the angle of view. When straight lines are not involved - in many landscapes - it often looks more natural when relative sizes are maintained at the expense of convergence. This can be approximated in Photoshop CS2 by adding convex "barrel" distortion, a distortion that reduces the rectilinear correction of the lens.

(Note that only CS2 offers that control. CS2 also makes it significantly easier than CS or Elements to correct converging and tilting lines, once you find the new controls. In CS2, all of the lens corrections are buried under Filters > Distort, although File > Render still shows the subset of corrections that is shared with CS and Elements.)

Of course, adding convex distortion is unacceptable if straight lines are involved. A certain amount of convex distortion may not be noticed in landscapes, but curvature stands out absurdly in pictures containing buildings. An alternative fudge is to squeeze the picture from the sides. To do this I use a \$20 Photoshop plug-in called Squeeze.

<<http://www.theimagingfactory.com/>>

I also ought to mention the portrayal of depth through having only one plane of the picture in focus. This effect can be achieved with a brush, but it rarely is, because it does not mirror what the eye sees or the brain perceives. The eye sees only tiny spots sharply, and it sees tiny spots wherever it looks: from these the brain perceives infinite depth of field. To control attention and suggest different qualities, a painter will vary the softness of edges across a picture, but this variation is much more subtle than a mis-focussed lens.

To vary hardness and softness within a picture, I used to use a view camera that allowed me to tilt and swivel the lens, and I varied the character of the light. A digital camera makes this a lot easier. My digital camera usually provides infinite depth of field with no special measures and I can use digital techniques to control softness like a painter, as I did in the flower market example previously shown. The flowers just behind the smiling girl are soft, but the ferns behind them are sharp, as is every other object in the picture except for the woman moving into it.

This was possible for two reasons, both tied to the camera's image sensor. First, the ISO speed of negative film is based on the least exposure necessary for acceptable snapshots. To extract high quality usually requires doubling the metered exposure. In contrast, to extract the best quality from my digital SLR, I usually halve the exposure. That is two f-stops' difference, which represents a lot of depth of field. On top of that, the sensor in my camera is smaller than 35mm film, which means the same f-stop gives more depth of field. The difference is 1-2/3 stops. Thus, for any given amount of light, I obtain nearly four f-stops' more depth of field than I would get were I shooting 35mm negative film.

When everything is sharp within a photograph, photographic compositions open up. People don't just look at my pictures, they look inside them, combing them for detail - and they find it, because I have controlled the details' contrast. With so much

information to look at, my 8" x 10" (A4) printer seemed too small. Next week you can read a discussion of printers and my search for a larger one.

Finally, to finish up my comparison of the various versions of Photoshop, I ought to mention two new features of CS2 that are useful for preparing enlargements, a "spot healing brush" and "smart sharpening." The former I find to be a modest but significant convenience, but the latter is an important feature. It tightens up a lens's inescapable spreading of points into blurry circles, and it reduces blur

from movement. In my mind, this feature combined with CS2's improved distortion controls makes the upgrade from CS worth the purchase. I detest a Windows-like copy-protection scheme that Adobe have begun to employ - it prohibits the fair use of your purchase if you work in different locations - but I swear at CS2 less often than I did at its predecessors because it permits me to hide from sight the vast number of menus that I never use and to edit or remove keyboard shortcuts. With CS2, no longer do windows fly about the screen and change their colour because one of my fingers inadvertently touched a key. ☹

by Tim Sullivan

Cool Mac Apps, Second Edition by Robin Williams

Generally speaking, Apple's many applications can be up and running very quickly. They are user friendly and easy to use. However, there are two points I'd like to make here.

First, there are enhancements that are definitely worth exploring, enhancements that we are not aware of or enhancements that we have not checked out. (That's an editorial "we", folks. I'm speaking of myself here.) One example, in my case, is iTunes's Smart Playlists. I've just ignored it for some — hopefully — good reason. Or Safari's RSS news feeds.

Second, some applications appear to be overwhelming. I opened Garage Band once, took one look at the window, and closed the program. I haven't been back since even though GarageBand sounds like it might be a lot of fun.

Robin Williams' book speaks to both concerns. It presents step-by-step guides for 17 applications ranging from iPhoto and iMovie to iChat AV and Bonjour. The book covers:

- iLife applications: iPhoto, iTunes, iMovie, iDVD and GarageBand

- iDisk: Internet storage for sharing files, publishing web pages, and backing up important files
- .Mac tools and services: HomePage, WebMail, Backup, iCards, .Mac Slides Publisher, Bookmarks, Address Book
- iSync: Synchronize your calendars and contact information to your PDA or Bluetooth-enabled phone
- iCal: Create multiple calendars, organize your schedule, create To Do lists, set events alarms, and send invitations
- Mail and Address Book: Manage your e-mail and contacts
- iChat AV and Bonjour: Instant messaging, easy local network communication, and video conferencing.
- Safari: Parental Controls, tabbed browsing, RSS news feeds, and Private Browsing.

The book is from Peachpit Press. It is for both beginning and intermediate users. If you are up for a bit of exploring, get this book. I found it to be very enlightening and useful. Maybe next Tuesday I'll try GarageBand again. Check <http://homepage.mac.com/ugab/offers/vendorcodes.htm> for Peachpit Press discounts. ☹

January Software Review



File Juicer 3.9.8
<http://echoone.com/filejuicer/>

Requires: OS 10.3.9
Flash card image recovery requires that Finder can see it.

File Juicer salvages / extracts images and text from files and flash cards. This handy application should be in everybody's emergency kit.

With File Juicer you can:

- Extract images from a Power-Point slide show.
- Extract images from PDF files.
- Recover images and video from erased flash
- Recover text from damaged files
- Extract CAB files from Pocket PC self installing EXE files
- Extract the images and html files in Safari's cache.
- Extract attachments from email archives.
- Convert iPhoto's iPod cache files to TIFF.
- Extract Flash animations saved in .EXE files.
- Convert zip files which have been saved as .EXE files to zip.
- Extract the JPEG pictures from Canon's RAW files.
- Extract System 7 Sounds

Nothing is more frustrating than to have an image file you need, only to have it misbehave or not open at all. Another real scenario is when folks send in files that have no extension and cannot be opened. File Juicer doesn't care what type file you drop onto it, it searches the entire file byte by byte. If it finds a JPEG, JP2, PNG, GIF, PDF, BMP, WMF, EMF, PICT, TIFF, Flash, Zip, HTML, WAV, MP3, AVI, MOV, MPG, WMV, MP4, AU, AIFF or text file inside, it can save it

to your desktop or to another folder you choose.

File Juicer "extract" is not conversion. Examples: a JPEG file stored inside a PDF document is extracted as a JPEG file and WMV video in a Word document is extracted as a WMV file.

File Juicer looks at the binary data, and does not interpret the format of the file it is searching. Therefore you can drop any file onto File Juicer for a search. The descriptions of each format are guidelines on what you can expect to find.

If File Juicer turns up finding nothing inside a file, it is because it is not stored internally in any of the formats listed in the preferences.

Adobe InDesign is an example. It will cut images into chunks and store them internally in its own format. InDesign is not an open file format, so File Juicer can not extract much from it. PDF files made with InDesign are in an open format File Juicer can read.

File Juicer is not strict when it retrieves files and it will accept some errors in the file to try to recover even damaged files. Therefore you may end with files which can not open properly in Preview or QuickTime Player. This can be because of a coincidence that File Juicer has found something which looks like one of the standard formats. This happens when searching through millions of bytes of data. It can also happen because software developers save files in "almost" standard formats. Sometimes File Juicer will extract such variations, and sometimes not.

For images it is simple to check which files are good on the fact that they get icons in Finder.

File Juicers text extraction is raw and unformatted - just the way text is stored inside other files. No style and formatting is retrieved. Most files have some text inside, even if it is just a note on what kind of file it is.

Other Software

Free Software Collection for OS X

Software for Starving Students (SSS) is a software development project that provides a free collection of open source and freeware software for users of OS X (and Windows XP, if you're so inclined). The software is intended to be a complete collection of useful applications and utilities for students or others who want great free programs in an easy-to-use installer.

The programs in the OS X collection, which is available as a .dmg file through Bit Torrent <http://mirror.softwarefor.org/get_software.html> or a direct link download, include an audio editor, a backup program, a virus scanner, a web browser, an office suite, graphics utilities, games, and more. A complete list of software follows:

Active Timer,
Adium,
Audacity,
Azureus,
Blender,
BZFlag,
Carbon Copy Cloner,
Cashbox,
Celestia,
ClamXav,
Crack Attack!,
Cyberduck,
Desktop Manager,
Enigma,

Fink,
 Firefox,
 Freemind,
 Genius,
 GLtron,
 Graphviz,
 ImageBurner,
 iShred,
 md5App,
 NVU,
 OpenOffice.org,
 Orator,
 Pastor,
 POV-Ray,
 SimpleWget,
 Smultron,
 Stellarium,
 Tux Paint,
 Tux Racer,
 Tweak Freak,
 TypeTrainer4Mac,
 VideoLAN Client,
 VoodooPad Lite,
 Witch

Apple Updates

Aperture 1.0.1 Update 12/23/05

System Requirements
 – Mac OS X 10.4.3 or later

Among the key areas addressed are:

- White balance adjustment accuracy and performance
- Image export quality
- Book and print ordering reliability
- Auto-stacking performance
- Custom paper size handling

Soundtrack Pro Updates 12/20/05

System Requirements
 – Mac OS X 10.3.9 or later
 – Soundtrack Pro 1.0
 – QuickTime 7.0.3 or later
 – Pro Application Support 3.1

The latest updates to all Soundtrack Pro applications: Soundtrack Pro and Compressor 2. Soundtrack Pro waveform editor includes innovative action layering and intelligent repair and restoration functions that let you accurately manipulate audio while retaining total creative flexibility. And, with support for video formats up to HD resolutions, full multitrack editing and mixing, over 50 professional effects plug-ins, and thousands of included Apple Loops, precise audio control has never been so intuitive.

Final Cut Pro 5 Updates 12/19/05

System Requirements
 – Mac OS X 10.3.9 or later
 – Final Cut Pro 5.0
 – QuickTime 7.0 or later

The latest updates to all Final Cut Pro 5 applications: Final Cut Pro 5, Cinema Tools 3, LiveType 2, Compressor 2. Provides improved reliability.

Recent Upgrades Worth Checking

Spamfire 2.1.1

<http://www.matterform.com/>
 Requires OS X. Spamfire automatically reduces spam by removing unwanted e-mail.

iClock 2.5.3r3

<http://www.scriptsoftware.com/>
 Requires OS X 10.3 or later. Replacement for Apple's menu clock

Synk 5.1.4

<http://www.decimus.net/synk/>
 Requires OS X 10.3.9 or later. Synchronize and backup files.


Audio Hijack Pro 2.6.2

<http://www.rogueamoeba.com/audihijackpro/>
 Requires OS X 10.3 or greater. Use Audio Hijack to record any Real/Windows Media/iTunes/Internet stream and listen at your leisure. Snag game sounds or sound bytes off DVD movies.

PopChar X 2.3

<http://www.macity.com/products/popcharx/index.html>
 Requires OS X. PopChar X makes typing of special characters easy without having to remember keyboard combinations. It installs a menu that shows all characters available in the current font. Any character can be inserted in the current document by simply selecting it from the menu.

Little Snitch 1.2.1

<http://www.obdev.at/products/>
 Requires OS X 10.2 or greater. When an application tries to establish a network connection, Little Snitch intercepts the attempt and brings up an alert panel, telling you all the connection details including the name of the application which initiated the connection 

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Keystone MacCentral meetings are held at 6:30 p.m. on the 3rd Tuesday of the month at Gannett Fleming, 209 Senate Avenue, Camp Hill.

Rumors and Reality

Around Apple

- Apple pioneered the use of FireWire for high-bandwidth peripherals like external hard drives and digital video cameras. Now, Apple seems to be getting ready to abandon the technology. Apple has already dropped FireWire from the latest iPods. It will be interesting to see if the upcoming Intel-based iBooks lack FireWire and whether PowerBooks will have only a single FireWire 800 port for digital video enthusiasts and professionals as is speculated on the Net.

In the past, Intel has supported USB with only a nod at Firewire.

Users should be aware of which technology is being used by new peripherals. It has proven to be a bit of a challenge to hang a SCSI scanner on the G4s and G5s.

- One of Apple's very recent patent applications relates to Dashboard. The patent suggest that Widgets will be able to run on a "handheld computer, mobile device, consumer electronic device or the like." (I'm not sure if the iPods is considered a mobile device, a consumer electronic device or the like, but I'm sure it fits in there somewhere.)

There is speculation that a wireless iPod is in our future. With a wireless iPod connected to the network, XML based web services would provide live updated information on the fly. Widgets would be a natural fit.

The patent applications also states that "Authentication and payment may be prerequisites for such operations in some embodiments." Such action is certainly in line with Apple's philosophy of keeping downloads legal. And it would encourage development and distribution of really neat widgets.

Dell is offering factory refurbished CRT and flat panel monitors. If you

are in the market for a monitor, these are worth checking out:

<<http://outlet.us.dell.com/ARBOnlineSales/topics/global.aspx/arb/online/en/InventorySearch?c=us&cs=22&l=en&s=dfh&lob=MON>>

Through a brief but inopportune post on Apple's website, we have a glimpse of Things To Come: iLife '06

The Apple page provided an inactive link to discussions on "iWeb", listed as a product along side iPhoto, iMovie, iDVD, GarageBand and iTunes. Also noted: Video can be imported into Garageband, suggesting support for Video Podcasts.

Internet Explorer for Mac OS X is no longer a supported product, officially, on December 31st 2005. It will no longer be available for download as of January 31st, 2006. Microsoft has not updated the product in several years and has allowed it to lapse on various Web standards.

Virus watch: PC users know the pain of viruses. There have been two approaches to controlling them:

Signature-based anti-virus technology identifies the binary string unique to each virus and updates its database. Anti-virus programs using this system require constant updating.

Heuristic-based technology identifies viruses based on the suspicious behavior. It does not differentiate between legitimate and suspicious acts and raises false alarms.

Sanrasoft Software Ltd., a Indian firm, has introduced a third anti-virus technology based on the intention of malicious codes. It protects PCs from not only known viruses but also from unknown malicious codes including viruses, Trojan horses, worms, spyware, keyloggers and hackers.

The technology takes a snapshot of PCs in complete detail in its malware-free state and continuously monitors system and file change. The software contains algorithms that scan the hard disk every 3 minutes and can be programmed to scan as often as every minute. It not only removes the potential threat but also restores the system to its original malware-free state.

At the Consumer Electronics Show, Google Inc. announced the planned opening of the Google Video Store, the first open video marketplace. It will enable consumers to buy and rent a wide range of video content from a major television network, a professional sports league, cable programmers, independent producers and film makers.

Available soon, people who visit the Google Video homepage at <http://video.google.com> will be able to browse listings of video by category from the store or search Google's entire collection of videos by simply entering keywords into the search box.

Launched early last year, Google Video is the first open video marketplace where any video producer, large or small, can upload their content and distribute it for free or at a price. Video prices are set by the content provider with no minimum or maximum dollar-limit. Owners also have the choice to offer their content with or without copy protection – enabling them greater control over its distribution.

Additionally, content from Google Video can be viewed with a new player that can be downloaded for free from any playback page. It offers all the traditional playback options (play, pause, stop...) as well as a "thumbnail" navigation feature that enables users to browse through an entire video, or frames at a time, with a simple click of their mouse.

iPod users will also be able to download and watch any non-copy-protected content from Google Video, and even get it specially optimized for playback on their devices. 