



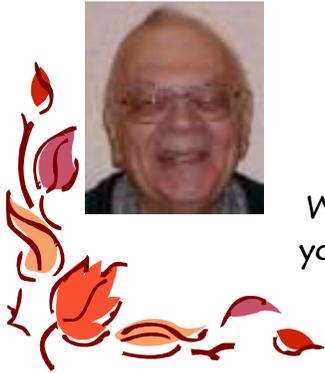
# WAUCtalk

Wisconsin All-computer Users Club  
<http://www.wauc.info>

**General Meeting, 7 p.m.  
 Thursday, April 4, 2013**

Volume 30, Number 4  
 March 2013

From now on, look for your issue of WAUCtalk to appear about two weeks before the next General Meeting, between the 16th and 23rd of the month.



Mac SIG Demonstration  
 April 4, 2013  
 at the General Meeting

What kinds of fun and usefulness you can have with your MacBook, mostly fun



## March-April at a Glance

### March

- 21 Q&A SIG, 7:00 PM  
Speedway Station, 60th & Layton
- 27 Investment Tracking SIG, 7:00 PM  
McDonald's, 5040 S. 76th St.

10 Mac SIG, 7:00 PM  
Villas at the Station, 8935 S. Wood Creek Dr., Oak Creek

11 Windows 7 SIG, 7:00 PM  
Speedway Station, 60th & Layton

11 Deadline for submitting articles for WAUCtalk, please send to: [ricejulia@hotmail.com](mailto:ricejulia@hotmail.com)  
 Subject: WAUCtalk

### April

- 4 WAUC General Meeting, 7:00 PM  
Jackson Park Lutheran Church  
4535 W. Oklahoma Ave.  
Topic—Mac SIG
- 4 Exec. Bd. Meeting, 6:15 PM  
Jackson Park Lutheran Church
- 10 WAUC Lunch, 1 PM, Old Country Buffet, 4902 S. 74th  
RSVP: [rgdurand@yahoo.com](mailto:rgdurand@yahoo.com)

18 Q&A SIG, 7:00 PM  
Speedway Station, 60th & Layton

24 Investment Tracking SIG, 7:00 PM  
McDonald's, 5040 S. 76th St.

25 Tablet SIG being considered

Future Presentations:  
 • May—TBA

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**From the WAUC ByLaws  
Article 2 – Purposes**

The purpose of WAUC shall be to provide an educational forum for people interested in learning about small computer systems. In fulfilling this purpose, WAUC shall provide educational programs for members and the public, establish and maintain a library of software, provide publications as the club shall find useful, and engage in other educational, social and charitable activities as the membership may from time to time determine. However, neither WAUC nor any group or agency acting on its behalf or under its auspices shall engage in any form of political lobbying or in activities prohibited by law.

# President's Message—After February Snow, Learning Goes On



Hello again, WAUC Members.

After being snowed out for our February General Meeting, WAUC is picking itself up again. Our SIGs for February happened as scheduled, and we just had a very successful General Meeting for March. Starting in April, we're going to start a new SIG for tablets, e-readers, and other, shall we say, non-traditional types of computer devices. And we are looking into

getting a presentation by the Milwaukee Public Library on downloading e-books and audio books.

Also at the March meeting, our own Marcia Zientek gave the presentation on digital photography and we started our one-on-one computer service, where members can bring their equipment to the General Meeting and have it looked at. So things are moving along.

If you don't mind, I want to look back at my own experience with computers and share with you how it was impacted by WAUC. To the newcomer, computers can be very intimidating. There is just so much to learn and one hardly knows where to start, or even what to ask. As happened to a lot of people in the nineties, I found myself assigned a computer at work, and I needed all the help I could get.

Once I joined WAUC, I started going to the meetings and the SIGs hoping for simple, easy answers, that would clarify everything. It didn't really happen that way. There was a lot of confusion, even more than I expected. Learning anything required learning a lot of other new things first, things I had never anticipated. But I kept coming to the meetings and SIGs.

The more I went, the more familiar the faces and voices of other WAUC members became, people like me who also needed help, or who had been there and knew what I was experiencing. And as I kept coming to WAUC, the terms, the commands, and the procedures on the screen, became more familiar.

What I found, was simply that continued exposure to personal computers, like to a lot of things in life, gives one a level of comfort that makes learning possible. It's hard to explain, because there aren't really any specific items of knowledge that can be pointed to. In fact, I found that consciously studying hard to master something can turn out to be very discouraging, and to begin with at least can do more harm than good.

So as you attend WAUC presentations and SIGs, please don't feel you have to master everything and remember everything you see and hear. Just relax and let it happen. As long as you keep coming, you will learn computers. It may not feel like it at the time, but knowledge is finding a home inside of you, and someday it will be there when you need it. There are always new developments in computers and software, so embrace the process. WAUC has been and will continue to be the best resource for this type of learning process. And that's the message for this month's WAUCtalk.

*Richard Durand  
WAUC President*

## WAUC

WAUCtalk is a monthly publication of the Wisconsin All-computer Users Club. WAUC is a computer club dedicated to promoting and instructing the use of computers to WAUC members. Membership in WAUC is \$25 per year (\$12.50 if applying after June 1). WAUCtalk is emailed to all WAUC members.

Free advertising is available to WAUC members. We are not responsible for omissions or errors.

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# General Meeting Minutes—SIGs Summarized



The meeting was called to order by president, Richard Durand on March 7 at 7:00 P.M. [On time!]

No new members or guests were present.

Tony Brooks, a former member, had been invited and was present to help members with computer problems. It was announced that there were several cards for members who were ill or had need of the club's good wishes on their behalf that were at the front table to be signed by all.

The President read the treasurer's report in the absence of the Treasurer, Bill Gierach, who is out of town at a Robot Team Tournament. The ending balance of the club treasury is \$2,888.72. It was noted that if members have not renewed their dues their publications will be suspended.

Also, members who have not renewed are not eligible to renew their Sam's Club membership through WAUC. Any member who is interested in joining or renewing Sam's Club was advised to contact Bruce Kosbab.

APCUG has many articles available for member clubs to use and publish. Our Editor, Julia, will put a few titles in each issue of WAUCtalk. If you are particularly interested in any of them let Julia know so it can be published.

Member Dick Reinhard had contacted the Board and volunteered to fill the still vacant position of WAUC Board Meeting Secretary, but he was not currently present. Nomination of Dick Reinhard as Board Meeting Secretary was made by Tom Herman and seconded by Marcia Zientek. He was elected.

Julia Rice gave the MAC SIG report. "The Mac SIG will present a dazzling, mind blowing demo for the April Meeting. At the January meeting, Peter Lee demonstrated a music keyboard that can

be attached to his iPod. It is short, but can be played in more octaves than are visible. A suggestion was made that Julia go to Genius Bar to find out how to transfer over her Hotmail to Mail on the MacBook. See Apple Support Communities to find out how to import folders. Dale Voit upgraded some of his programs. Peter told us the difference between magister and pedagogue: The magister tells and the pedagogue answers questions: we learn only what we are curious about. Google is the quintessential pedagogue. Also discussed were energy saving on laptops."

"At the February Mac SIG, Julia's problem was solved: how to re-size from full screen when you hit the wrong key. Make the screen small and drag to the menu bar – drag it to size. Peter wanted to erase the hard drive "A" from his old MacBook. He wanted to know if he needs another utility drive B to erase drive A. Beth Lyman received various solutions to her problem of running a watermark saying "draft" on documents received in emails. Mac U topics studied were: Magic Mouse, Trackpad Using 1, 2, 3, 4 fingers, Print and Scan and Sound. We discussed types of sound files in iTunes and on iPods, etc. Also, iCloud was touched on briefly. Julia asked how much space was taken by photos. The sizes of drives and what percentage was used for photos, apps, etc. was studied. Peter talked about James Shapiro, an early officer of the club. It turned out he is Julia's brother-in-law."

Ginny Splinter gave the report for the Windows 7 SIG. "In January and February a new handout was distributed on Highlights of Windows 7 Differences. We went over the differences and then proceeded to complete the Windows 7 Tutorial covering Chapter 5 on Exploring Print Features and Chapter 6 on Working with Applications and the Internet. Then we started our NEW Windows 7 Advanced Tutorial. First a tutorial syllabus handout was distributed, and then we covered Chapter 1 on Advanced Navigation. This month we will continue with Chapter 2 on Protecting Windows Against Threats."

Terry Harvey gave the report for the Q & A SIG. "Terry Harvey hosted the Q and A SIG due to Bill Gierach's attendance at a robotic convention. We had a nice turnout of members and answered a number of questions. Some of the topics that come to mind are jucheck.exe, print screen, paint, and copy and paste."

Richard Durand gave the report for the Investment SIG. "Four WAUC members attended the February WAUC Investment SIG on February 27th, at its new location, McDonald's, 5040 S. 76th St., Greenfield, WI. The Internet signal at our previous location, Panera Bread, was frustratingly slow, and the signal at McDonald's, while sometimes slow, was still noticeably better. We watched a short online investment video, checked our virtual account, looked up some stocks, and discussed the markets. The WAUC Investment SIG will meet again at McDonald's at 6:30 pm on Wednesday, March 27th."

Since we are not using the room at Speedway on Wednesdays for the Investment SIG, the idea was presented to start a new E-reader and Tablet SIG in its place. The idea went over, but it was decided to have the new SIG on Thursday as some people could not make it on Wednesday. Also, it was agreed to have it someplace else where all can receive a WiFi signal. Since the last Thursday in March is Maundy Thursday, the new SIG will start in April at the Wendy's restaurant located at 7707 W. Layton in Greenfield.

Announcements were made of local events of interest to computer users. There will be a hamfest, with computer equipment for sale, at Jefferson on March 17<sup>th</sup>. And on March 22<sup>nd</sup> and 23<sup>rd</sup>, there will be a robotic tournament downtown at the US Cellular Arena. Our Treasurer, Bill Gierach, will be present as the mentor to one of the local teams, and admission is free.

A program on E-Readers and the Milwaukee Public Library system is being investigated for a future meeting. The WAUC business meeting was fol-

*(Continued on page 4)*

# Board Meeting—Dick Reinhard Offers Services

The Meeting was called to order at 6:15 p.m, on March 7, 2013.

Julia Rice demonstrated how to use the coffee machine in the church kitchen.

Richard said he had received an email from Dick Reinhard volunteering to be Board Meeting Secretary. Dick was invited to the Board Meeting but was not present. The Board agreed to present

Dick for election to the position at the General Meeting.

In April the MAC SIG will give the program.

It was agreed that from now on Board members will pay the regular price of \$5.00 for the CD of the month. Life Members will still get them for the discounted price of \$1.00.

Members can write articles for WAUC-talk, the newsletter, and send them to the editor, Julia Rice. The deadline for articles will be given in the WAUCtalk calendar, usually three weeks + 2 days before the next scheduled meeting. Brief SIG reports will be sent to the General Meeting Secretary to be included in the minutes.

We will continue with door prizes until the supply is exhausted.

# Tablets—a Review with Random Musings

Frank Ramsey, newsletter editor, Akron Canton PC Users Group, Ohio  
[www.acpcug.org](http://www.acpcug.org)  
Aframsey (at) yahoo.com

Those of you that know me understand I have fallen in love with tablets. They are sweet in my mind.

This doesn't mean that all tablets are created equal.

I thought it was time for some random musings on what I've found in the tablet markets.

My tablet journey has consisted of 16 tablets with something like 10 different models.

I've owned: Apple iPad 1, Apple iPad 2 (2 of these), Apple iPad 3, (all 9.7"), Samsung Galaxy Tablet 8.9 (4 different ones, all 8.9") a Sony S Tablet (9.7"), a Asus TF101 (10.1"), an Acer A500 (10.1"), a Toshiba AT305 (10.1"), a Acer W500 (10.1"), and a Google Nexus 7 (7").

I've also spent significant time with Lenovo's ThinkPad Tablet (10.1") .

Of the tablets I've experienced, four have run Apple iOS, 10 have run Android of various versions (2.2, 3.1, 3.2, 4.x, 4.1 and 4.2) and one runs Windows 7/8.

I currently have 4 tablets, two iPad's, the Nexus 7 and the Acer W500.

### Observations

My first suggestion is don't buy a cheap tablet. You'll be sorry. You'd be better to wait till you can afford the \$200 price of a Google Nexus 7 than spend \$100 on a low end tablet.

Why you ask? The low end tablets are under powered and have very limited storage. And they typically use resistive touch screens. Without getting into the dynamics, resistive touch screens are not as sensitive or responsive as the capacitive touch screens used on higher end tablets.

With the Google Nexus 7 selling for \$200, buying something less expensive to save a few bucks will only bring on frustration.

That brings another observation. Buy a

general purpose tablet, not a reader.

Amazon and Barnes and Noble both sell very good tablets in the Amazon Fire and Nook Tablet. However, all these are intended to lock you into their store. You buy your books and applications only from them. Unless you root the device. We'll talk about rooting a little later.

Give the Google Nexus 7 is available for 200 bucks, pass on the Amazon and Nooks and go for it as a fantastic general purpose tablet.

### Customizability

By this I mean your ability to change how the tablet looks and works. This should be more than just changing your wallpaper.

iOS limits the customizability to what Apple feels you should do. Change the wallpaper and organization of the applications is about all you can do. Even when jailbroke, you cannot perform a lot more extensibility on iOS.

Android allows a lot more customizability. You can change the wallpaper in-

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lowed by door prizes, the raffle drawing, Marcia Zientek's presentation on digital photography, and one-on-one computer service.

Respectfully Submitted,

*Marillyn Evaska*  
*General Meeting Secretary*

**Choose Your Articles.** Let us know what you want at [ricejulia@hotmail.com](mailto:ricejulia@hotmail.com)

Connecting Things to Your Computer, Backup and Restore, Windows 8, Websites to Broaden Your Computer Horizons for Seniors, Windows 7 Live, Avoiding Web Ads and Cookies, Windows Q&A, Help Me Learn Windows 8.

**WAUC extends its deepest sympathy to Tom Livermore and his family on the death of his wife Barbe.**

April raffle choices: 4G flash drive, 4G SD memory card, PC tool repair kit, adjustable printer stand, WAUC sweat-shirt in choice of color and style.

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cluding live wallpapers that change while you view.

Android also allows you to change the default keyboard and other input methods and select alternate launchers. What's a launcher? Basically a launcher is the method you interface with the tablet. Think of this as the look and feel of the screens.

Overall, Android allows more extensibility than iOS.

### Applications

Applications written for tablets typically use higher resolutions. Applications written for phones use lower resolutions. I know duh! Right!

### Screen Size

I like to hold the tablet in one hand in a vertical position and use my other hand to navigate on the tablet.

Given this, I find the traditional sized tablets of either 9.7" or 10.1" too big, bulky and heavy to hold comfortably in one hand for very long.

My favorite tablets are the smaller sized ones. 7" is a good size for personal viewing of videos. It can be a little too small when viewing web sites. The 8.9" form factor is about perfect in my opinion; videos are great and web sites show clarity.

### Storage

The presence or lack of expandable storage probably isn't too big a deal for me. Tablets typically come with some built-in memory ranging from 2 GB and up to 64gb or more.

The more storage, the more stuff you can store on the tablet. Another duh right?!

I don't use my tablet to listen to music. Waste of good hardware in my opinion. I carry either an iPod or Sansa device to listen to music. That's what they were made to do and they do it very well. Music typically takes lots of storage; removing it saves a lot of space on the tablet..

I find 16gb a decent amount of internal storage. That's enough to store 10 or so movies for viewing on long flights.

Books and applications typically don't take a lot of storage, 16gb is a decent amount. Sure, you'll not be much of a pack rat with 16gb,

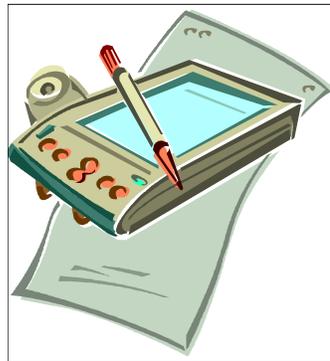
Larger amounts of storage allow you to get sloppy.

Expandable storage can be used to back the device up which we all should do, right?

### Device memory

Here you have to watch. It's pretty easy to find the amount of storage. Much more difficult to find the amount of memory in the device. My experience is if the device has 512kb or less, stay clear. It's going to run out of memory and slow down.

iPads and most higher end tablets have at least 768k memory. Some have 1 to 2



GB. The more memory, the more applications. On a duh role aren't I!

### CPU

Again, here you may have to search to find the specs on the tablet.

The best tablet experience also has fast multicore CPUs. Didn't know tablets come with multiple cores on their CPU's heh? Well it's true.

Quad core tablets are all the rage. The Nexus 7 uses a quad core CPU and it's fast and responsive.

Dual core tablets are normally responsive, but there may be times you experience a lag because either you don't have enough memory or enough CPU to do the task you're asking for.

My suggestion is get at least a dual core CPU running at least 1.0 GHz.

### Battery Life

iPads have better battery life. Before you get ready to argue with me, this is my column with my observations so I can write what I feel. So there!

However, this is backed up by a number of independent studies.

Why you ask? iOS is a single tasking operating system. The application that runs is in the "fore ground". Other applications simply pause. This saves battery life.

Android allows applications to run in the "background". You may find the features performed by the background applications useful, but they do affect your battery life.

### Screen Resolution

The more expensive tablets come with better screens. Currently iPad 3/4 and the Nexus 10 have the highest pixel count screen.

Can you see the difference? Absolutely. This truly is a time where more is better!

What price do you pay for the increased screen resolution? You will pay a price in battery life as the more pixels to be changed, the more power that it takes.

You may not see much difference when watching movies, although you can see the difference on the iPad 1 and iPad 2 with their lower resolution screens pretty easily.

Select a table that has at least 800x600 resolution. If you can afford it, go for 1280x800 (720p) resolution.

### Cameras

Tablets have built in cameras, sometimes multiple ones, front and back.

They can be useful if you're Skypeing with someone. You will probably not use the cameras for much, although the higher resolution ones (5 mpixels and up) take great pictures.

An Android tablet running Ice Cream Sandwich (Android 4.0) typically has a panoramic view allowing you to have a scene that pans a wider area, much like a

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wide angle lens. It's a unique feature that you might find useful. There are multiple applications available to edit the photos on the tablet.

### Application Stores

Applications written for tablets typically take advantage of a tablet's higher resolution screen.

The Apple Store has more applications than Google Play and more that take advantage of a tablet's higher resolution screen.

Having said this, you will find both stores have selections in almost whatever type application you desire. Lots of games, utilities, weather updates, etc.

Without jailbreaking, iOS applications can only be downloaded from the Apple Store.

Android tablets can download from the Google Play store, the Amazon store and other locations. You don't need to root the device to enable installation from other than the Google Play store however.

### Rooting/Jailbreaking

Both refer to the same thing, but on different platforms. You root an android tablet and jailbreak an iPad.

So what is rooting/jailbreaking? Basically it's removing the limitations the hardware vendor placed on you.

Jailbreaking an iPad means you can install applications from places other than the Apple Store.

Once jailbroke, an iPad can install applications from non-Apple Store locations. Additionally you can customize the iPad interface somewhat. Not as much as Android allows, but you can add things like a mouse driver.

Rooting an Android device allows more control over the hardware. Typical things you can do include over or under clocking the CPU (running the CPU faster or slower than rated). Note: you don't really need to under clock as the Android OS does a pretty good job of slowing the CPU down when it's not required. Another thing rooting does is allow for total

backups. I know, you mean you cannot backup everything about an Android tablet without rooting? Sad but true. While email accounts typically are synced with your Gmail account, application settings are not.

Do you need to jailbreak or root the tablet to enjoy it? Absolutely NOT! I use to jailbreak/root a device soon after acquiring it. Now I'm not finding the need to jailbreak/root it. Just enjoy the tablet is my current view

### Expandability

By this I mean accessories, cases, hardware add-ons, etc.

iOS takes the cake here hands down. There are simply more add-ons available that use the Apple Dock connector. Radios, speakers, video games, even piano keyboards.

Apple has complicated this with the iPad 4. The Apple Dock connector was changed from the 30 pin one that has been standard. This immediately obsoleted many of the hardware accessories out there. Yes, there is an adapter from the old to new Apple Dock.

Android tablets have suffered and continue to suffer special connectors which limit the reusability of devices. Even power connectors can be unique to a tablet.

Android allows Bluetooth connectivity for keyboards and mice while iOS only supports Bluetooth keyboards. Both support Bluetooth headphones.

As previously discussed, iPad does not support additional memory, while many Android tablets allow you to use a SD or microSD card for additional storage. I do encourage protecting the tablet with a case and possibly a screen protector.

There are a lot of different cases available. I prefer those that allow you to have the tablet vertically and horizontally. They're called 360 rotatable.

I also like cases that allow the tablet to be detached and protected. Not a lot of these are available in the 9.7" or 10.1" tablets. The 7" tablets have a number of better options.

Screen protectors are available for almost any tablet. Some will say if the tablet has Gorilla glass (a type of glass that resists scratches) you don't need a screen protector. Personally I prefer a screen protector on every tablet as the screen protector can improve readability in bright light situations.

### Manageability/Backups

How do you manage the tablets?

iPad makes it easy. iTunes is the universal answer. You transfer music, movies, and applications within iTunes. You back up the device using iTunes. You restore to a new device using, yes, iTunes.

Android doesn't have an iTunes. Most of the manageability is drag and drop. Want to copy an application to the device. Drag the install file from your laptop to the device. Need to copy a movie. Same thing, drag and drop. Music? Ditto!

Backup of an Android tablet requires an application. Yes, you can "mount" the tablet's internal storage on your laptop and copy the files from the tablet to the laptop.

Without rooting the Android tablet, backups do not include application settings. Want to preserve your high score or customized settings on your favorite game? The only way is to root the tablet and run a program like My Backup Pro or Titanium Backup Pro

Whew! Are you as tired as I am?

You've probably noticed a lack of Windows tablets? Ok, the Acer W500 is a Windows tablet and it's currently running both Windows 8 and Android Ice Cream sandwich.

I simply cannot afford a Windows Surface tablet. They do look very interesting. The main claim to fame seems to be the ability to run Microsoft Office. Hummmm, is this enough to sell a \$500 device? Stay tuned!

We've been through a lot and hopefully you have a better idea about tablets and some pointers on what to look for when shopping for a tablet.

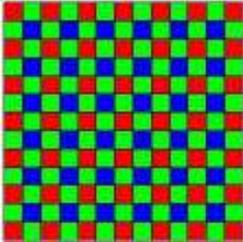
What other things might **you** find?

# Digital Photography—Behind Photos Is Technology

By Dick Maybach, member, Brookdale Computer Users' Group, NJ  
December 2012 issue, *BUG Bytes*  
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As you probably know, a digital camera is far more complex than its small size indicates. Indeed, some models have multiple processors to handle the demands of image processing, especially when making movies and photo sequences.

If you were to look at most digital camera sensors under a microscope, you would see something like the figure below, although with many more colored squares (typically well over a million), one for each pixel.



This is an array of filters, called a *Bayer filter array*, after the Kodak engineer who invented it. The array covers the sensor, with the result that about half the pixels are sensitive only to light in the green portion of the spectrum, a quarter are sensitive to red, and a quarter to blue. Typically, the camera records the output of each pixel as a 12-bit word. The camera's processor converts this data so that each pixel is presented as three 8-bit bytes, one each of red, green, and blue, using data from several adjacent pixels. Most often, it then compresses the information into a JPEG image to save space on your memory card. This compression technique is lossy; that is, the result won't be quite as sharp as the original, but for pictures viewed on a computer screen or as reasonably-sized prints you won't see the loss.

If you just upload your photos to your PC or make prints, you are missing much of the fun of photography, and your pictures won't be nearly as good as they could be. If you use a real camera (as opposed to one in a cell phone), it most likely came with a CD that has digital darkroom software. With this you can

correct many imperfections, such as

- cropping to improve the composition or to remove stray heads, arms, signs and such at the edges,
- straightening to eliminate a tilt,
- making the image brighter, and correcting the color or making the colors more vibrant.

Even if your camera is a cell phone, you can use a free program, such as *Picasa*, available from <http://picasa.google.com/>, to do the same. Windows 7 doesn't include a photo editor, but you can download *MS Photo Gallery and Movie Maker* from <http://windows.microsoft.com/en-US/windows-live/photo-gallery-get-started>. (This photo editor is part of Windows Essentials, which includes instant messaging, mail, blog composing, and Internet family safety programs, but you can download only what you need.) Both programs also help you organize your photo collection and create Web albums. They are easy to use, provide a good way to get started, and many people will decide they need go no further.

The above programs provide only basic retouching. You can do much more with software than ranges from inexpensive (*Adobe Photoshop Elements*, *Corel Paintshop Pro*) to free (*GIMP*). However, all these involve a significant learning curve, and you will need to study a good book to avoid endless frustration. You can no more learn effective digital photo retouching by trial-and-error than you can learn effective writing by typing randomly and looking at the resulting spell-check and grammar-check messages.

We have been discussing photo retouching, where you work with (usually) JPEG files.

There is another process, *developing*, which transforms the raw data from the camera's sensor to a JPEG file. This conversion loses information and results in lower dynamic range and lower resolution. Typically, the raw data captures two stops of additional brightness range than exists in the JPEG file. More expensive cameras can store raw images on memory cards, in addition to or in place

of JPEG ones. If you properly develop a raw image, the increased dynamic range can significantly improve back-lit images and ones with strong shadows. Many photo-editing programs let you work with raw images to recover portions of pictures that would otherwise produce pure blacks or pure whites if blindly converted to JPEG. Working with raw data also lets you accurately correct color casts due to incorrect white balance and do a better job of reducing noise.

The development process that occurs in many cameras corrects for the camera's imperfections, such as distortion, aberration, and vignetting. You must be careful to include the same corrections if you develop outside the camera. Most likely, these corrections are made in the software that came with your camera, but you will have to enable it correctly if you use third-party software. My approach is to develop the pictures with my camera manufacturer's software, save the results in a format that is not compressed, retouch with *GIMP*, and save as a JPEG file.

The developing situation is a bit muddled, as many cameras process the data before storing it in a raw file, typically to correct for optical imperfections. (Perhaps we should call the result a "rare" rather than a "raw" file.) Unfortunately, they haven't shared with the public the extent to which they do this.

An advantage of using the camera manufacturer's software to process raw files is that it often allows you to add special effects after you take the picture. You can concentrate on taking pictures and decide later if you want to use for example, enhanced colors, compensate the exposure, or make a black-and-white image.

Because the subject is so complex, I haven't tried to make this a how-to-do-it article. Rather, I hope to encourage you to try digital photo editing. Getting started is easy, and the results are rewarding, even with the most basic programs. You can go as far as your interest takes you.

# WAUC Membership Application

Date \_\_\_\_\_

Name \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_

Address \_\_\_\_\_ e-mail \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

How did you hear about WAUC? \_\_\_\_\_

What do you like to use your computer for? \_\_\_\_\_

What talents do you have that you would like to share? \_\_\_\_\_

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