Simple Approach to Transitioning to Digital Imaging

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Anyone who has a computer, having the knowledge to create a file folder and to edit a file using a simple text editor, can quickly learn to take advantage of the current state of digital photography.

If you have a digital camera and a computer, you are most likely discovering that digital photography offers you the opportunity to take many more images than you did with your film camera, the capability to edit those images in ways not possible with film, and the freedom to share them in multiple ways with family and friends. Digital photography greatly decreases the added cost of taking the next image and greatly increases the number of ways and times that next image can be used.

Our personal goal is taking "good enough no fuss" digital images, allowing us to have a visual inventory of what has flowered in our garden. Secondarily, we want the images organized well enough on our computer that we can view them on our computer monitor, email individual images, organize them into digital presentations, organize them into web albums, and use individual images on web sites.

Below we describe a step by step approach to creating your own desktop computer based collection of "good enough no fuss" digital images. As you move from one step to another your personal goals for your collection of digital images will cause you to deviate from our approach. There is no best answer, especially given that personal taste, knowledge, and resources vary, but the general issues discussed need to be addressed.

Step 1: Purchasing a Digital Camera

Digital cameras have improved in recent years to the point that an inexpensive digital camera is sufficient for taking images of plants in your garden. In general, any digital point and shoot supporting image stabilization, macro, and super macro mode is sufficient for taking "good enough no fuss" close up images in the garden.

Our personal recommendation—stick with Nikon or Canon for your first digital camera. Go online and read some reviews making certain the camera is recommended to support close-up photography. Go to a box store and try the camera. If the camera does not easily focus on small print, you do not want it. Sally and I use an inexpensive Canon Power Shot A470 for most of our super macro close up images.

Warning: If you are a film camera buff, then a point and shoot camera may simply not be your cup of tea. We take most of our images using a digital Nikon D70 SLR and as they say what matters is the glass. Digital point and shoots are good enough but digital SLRs are better. However, the difference is not great if one is merely interested in taking quick images handheld in the garden.

Step 2: Storing Images

Learn to upload digital images from the camera to your computer. Digital cameras store images on removal media. The digital images on the removable media can be moved to you computer using a card reader or using a USB connection. There is nothing hard about learning to upload digital images to your computer; however it is something you need to learn well, since digital photography relies on being able to transfer digital images from your digital camera to your computer.

Step 3: Taking Images— Learn By Doing

Two major advantages to digital images are: (1) it costs nothing to take images and (2) images are able to be viewed immediately. With any digital camera, learning to see what the camera sees is the key to taking good enough images. You learn to see what the camera sees by taking images and then quickly reviewing them on your computer and going back out and trying again.

Recommendation: Until you have learned your camera, take images in default mode. We store all of our images as jpg files using the highest resolution the camera supports (this is the default mode on most point and shoot digital cameras). When we first got the camera, we used autofocus mode for landscapes and macro or super macro mode for close-ups. In general, we take more than 90 percent of our images in autofocus default mode or in macro or super macro mode. On most digital cameras macro mode is represented by a flower on the dial.

Warning: The willingness to take images handheld and quickly reviewing them on your computer is the key to taking good enough images. This means you have to learn how to take advantage of what the camera does without having to fuss with it, without putting the camera on a tripod, and without waiting for the perfect conditions. This also means you have to be good at uploading images from your camera to the computer.

My approach—once bloom season starts, I take an image of every plant that comes into bloom. I do this by putting the camera in macro mode and walking up to a plant in flower, snapping a picture of the plant label, and taking two or three pictures of the flower—all in less than 30 seconds. I do this when I have the time no matter what the conditions are. After taking the images, I upload the pictures to my computer, review the images, and delete

the images that are not good enough. Then I go back outside and retake images of the plants that did not turn out to be good enough.

Step 4: Organizing Images in File Folders

Every time you upload images from your digital camera to your computer create a new file folder and give that file folder a name reflecting the general contents of the images being uploaded.

My approach—for images taken in the garden the folder names reflect the date and an indication of whether we are taking images of rhododendrons or perennials. These are the two major divisions in our garden and we attempt to base our highest level of image storage to reflect these two categories. For images taken outside our garden, we name the folder to reflect the location where the images were taken.

Step 5: Rename the Image Files in the File Folder

For most people, the next step is to rename the individual image file to reflect the most important thing in the image.

Many of you will never need to go beyond step 5 but each of these above steps must be learned if one is going to enjoy using your digital camera and your digital images.

Step 6: Stop Renaming Your Individual Image Files

Most people love to rename their image files where they are continually adding more and more information to the file name. Our recommendation—never rename the original uploaded image file name. Warning: Most people cannot help themselves and will continue to overuse renaming of files as a basic method for organizing their collection of images. Most of the remaining steps rely on other simple methods we have found to be much more effective as a method for appending information to digital images.

Step 7: Learn to Backup your Images

If you do not backup your images, at some point they will be lost. Computer hardware will fail, so learn to backup your images to DVD, a second hard drive, or to a online storage location. The more important the images, the more important it is to back them up immediately after uploading them from your camera.

Printing Your Images

Our recommendation—learn how to enjoy your digital images without printing them. Printing is expensive and is the least cost effective way of storing, organizing, and using your set of good enough images.

Warning: If you are a person who must have prints of most of your images, then you are most likely someone who simply will not benefit from reading further. I print less than one out of every 1,000 images I take and usually do so only to check to see how good a given printer I purchase is at printing colored images.

Where to Go from Here

Most people think of an image as the visual image that was taken by the camera. In other words, one thinks of the image as the "print" or the "picture." As you organize your collection of images, you find you need to add information to this "picture."

The first thing most people do when moving to digital images is add this extra information to the file name. Renaming files is supported by computers so people use this method to add information to the image by adding the information to the file name.

The second thing most people do is then move up to adding this extra information to the "visual" image. For instance, the visual image has text added to it to reflect a caption and a date. This caption and date is now right on the "print." Adding text to images is supported by most photo editors, so people use this method to add extra information to the visual information.

Our recommendation—Do not rename your image files and do not add text to your visual image. Instead take advantage of the fact that a digital image, when stored in a file on your computer, is composed of two major components:

(1) One part of a digital image is the "pixels" that form the visual image.

(2) The other part is information about those pixels.

Digital cameras record all kinds of information about the visual image. The camera records to the image file all the camera settings, the time of day, problems it detected when taking the image, etc. More importantly, when an image is stored as a jpeg file, you can add to this set of information stored in the image. You can do this with a simple image text editor using the same knowledge you use to add text to a text file.

Our approach: We store our images as jpegs. We add to the information stored inside the image file using a free program called Irfanview. We first add a caption to the caption field that every jpeg has but is empty by default. We add additional information inside the image when we find it to be useful for some use we have for a given image.

Key to the City

Storing information inside an image is the key to being able to use your images for multiple purposes in a cost effective matter. Now every copy of your image contains the information just as every copy contains the visual in-

formation. The image file is the visual image plus the image information.

Having the image information, such as a caption, inside the image file allows one to view the image with or without the caption. This virtual caption can be placed on the bottom of the image when viewing an image on your home computer monitor, on the top of the image when presenting a digital presentation, and showing no caption at all when printing the image for framing.

Step 8: Image Software

Learn to base all of your uses of an image on the original image. As your collection of digital images grows the harder it becomes to keep track of them. Creating multiple copies of your images, except for the purpose of backup, only complicates the entire process of locating and using your images.

If you are a person who wants to perform major editing to your collection of digital images, then an investment in tools such as Adobe Photoshop® or Corel PaintShop Pro® is in order. However, if you merely want to organize, touch up, and share your images, then there are many free tools available for your use. I use the following three free tools for these above functions:

- Irfanview: General image viewer and editor
- Picasa™™: General image organizer and editor
- JPEG Crops: Crops images in batch

Although organizing images can be done using file folders (since digital images are merely image files), a tool such as Picasa™ is specific to organizing digital images. Picasa™ supports virtual organizing of the images as well as physical organization. This allows a single copy of an image to be a member of several collections of images. For instance, a single image of *Rhododendron mucronulatum* 'Cornell Pink' can be in several collections such as species, pink flowers, early bloomers, and good doers.

Although major editing of multiple images is best done with tools specifically built for such editing, most image editing does not require the type of power and capabilities used by professionals. Picasa™ and Irfanview support functions such as red eye removal, cropping, resizing, color and quality modification, captioning, batch conversion and renaming, and limited special effects.

Digital images can be shared in emails, web albums, digital slide shows, screensavers, digital calendars, word documents, web sites, digital movies, collages, and prints. Picasa™ produces movies, slideshows, collages, and web albums with support for emailing and printing. Irfanview produces slideshows and screensavers.

Digital image formats such as JPEGS have the ability to store information about the image in the actual image file. Picasa™ and Irfanview support to various degrees reading and writing EXIF and IPTC image information concerning caption, location, and photographer. Most digital cameras add EXIF information containing the camera settings, date, image orientation, and image resolution to the image. This information can be used to organize and sort your images. Irfanview has excellent support for IPTC and EXIF.

In general, Picasa™ does all the things that Irfanview does; however, Picasa™, although superior at organizing large collections of images, is not always better for viewing, editing, and sharing images.

Unfortunately, no single tool ever does everything you need done to your collection of digital images so the more you do with your images the more tools you find yourself using. When evaluating such tools, I ask myself two questions:

(1) How well does the tool do something I need done better without limiting my ability to do things I can already do well?
(2) How willing is the tool to import and export information to and from other tools I already use?

Warning: Do not use multiple image software tools unless they complement one another. Irfanview, Picasa™, JPEG Crops work well together. However many image tools and editors do not preserve changes made by other image editors.

Step 9: Learn Not to Overedit Your Digital Images

Most people spend too much time and effort editing their images and their image information. Learn to take good enough images and to place the minimal information inside each image to support your desired uses.

Step 10: Learn to Organize Your Images to Support Searching

Placing information about an image in the image file greatly improves the ability to search for your image collection. Ideally one would create a database for your image collection, but the work to do so is simply too great in our experience. In fact, one is lucky if one finds the time to place the images in file folders with meaningful names, and add a caption to each image.

A tool such as Picasa™ is ideal for organizing your collection. Picasa™ supports searching the information in a file name, by date, or information stored inside an image. Adding a caption to an image in Picasa™ causes the caption to be stored in the caption field of the image file if the image file is a JPEG. Picasa™ reads the captions placed in the caption field inside an image even if the caption was placed inside by another image editor such as Irfanview.

Step 11: Our Approach to Reusing Images—Learn to Use the Same Image or Set of Images for Multiple Uses

We upload our images to file folders having a name indicating an important common attribute of the images placed in that folder. We use Picasa™ as our image organizer including adding captions, quick fix to improve image quality, and images searches. The main reason we use Picasa™ is it supports virtual folders.

Virtual folders allow you to organize images without moving or renaming the physical file. A virtual folder can contain images from many different physical folders. The order of the images inside a virtual folder can be changed using drag and drop. The caption of an image can be changed inside the virtual folder and results in this change being applied to the image.

When we build a digital presentation, we search for images placing them in a virtual folder then add captions when necessary, and use drag and drop to produce the desired order. After we have organized a digital presentation we upload the images inside a virtual folder to create a Picasa™ web album.

After we organize a digital presentation, we export a set of folders of information that can be used by Irfanview to create an executable file that can be run stand alone on any Windows based PC. To create an executable file using Irfanview, one needs a text file that includes the file names of the images to be included in the slide show. The order of the file names in the text file determines the order in which the images will appear in the slide show. This text file can also be easily transformed into a handout using Microsoft Word®.

Before we create the final version of a digital presentation, we resize the images using Irfanview and crop images using JPEG Crop. Resizing the images reduces the size of the executable file making it play without delays that can occur with larger file sizes.

Cropping the images to the same screen ratio as the digital projector allows us to use the full image resolution supported by our digital projector. Irfanview supports showing the caption inside the image as a caption on the image. For digital images we place the caption with a green background in the upper left hand corner of the image so it is easy for the audience to read. Irfanview also supports setting a common time limit for each slide. We merely add the same image multiple times if we want to spend more time on a selected slide. We have found 20 seconds to be a suitable time per slide for most digital presentations.

Each image in a Picasa™ Web folder has an individual URL so an image in a Picasa™ Web album can be referenced in our ARS Massachuttes Chapter blog or Web site. Moreover, one can export a file containing information about all the images in a Picasa™ Web album and this file can be used as a basis for creating what we call garden tours on the ARS Massachuttes Chapter Web site. Furthermore, an image in a Picasa™ Web album can be dynamically resized depending on the desired use.

We also place images inside e-mail directly from Picasa™. Images can also be printed directly from Picasa™.

Summary

The 11 steps for creating a collection of digital images can be addressed in many ways. How one addresses these steps depends on your knowledge and your goals for your digital image collection.

We recommend you buy a digital camera and slowly evolve a method for handling your collection of digital images. We have adopted an approach that relies on taking good enough no fuss images containing just enough information inside the image file to support our multiple uses of our image collection.

We have found that three free image software programs—Picasa™, Irfanview, and JPEGCrop—are very useful for managing and using our digital image collection.

John and Sally Perkins *garden on Canobie Lake in Salem, New Hampshire, and are active members of the Azalea Society of America and American Rhododendron Society. John, a software programmer, and Sally, a healthcare researcher, work for the Department of Veterans Affairs in Boston. They enjoy seeing natives in the wild, hybridizing, and learning more about these wonderful deciduous azaleas. Their e-mail address is* sjperk@comcast.net.

Call for Articles

The Azalean needs more good articles about azaleas, their care, and their use in the landscape. Ideas for topics include:

- Articles describing new public gardens or special azalea collections being created in your area.
- Descriptions and photographs of Society members' gardens.
- Current research on azaleas.
- Information about azalea festivals and sales.
- Historic garden restoration stories.
- Articles about noteworthy azalea hybrid groups or new species or cultivar introductions.

Articles should be submitted as Microsoft Word documents. Illustrations are highly encouraged and should be at least 4 x 6 inches at 300 dpi resolution. Submit materials to:

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