

# BRISTOL VILLAGE COMPUTER CLUB

**October, 2010**

If you are reading this on your computer display, remember that **Acrobat Reader** has a **zoom** feature for enlarging text and graphics.

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**Next Computer Club (BVCC) Meeting,**  
**October 11, 2010, 7:10 PM**  
**Publishing for Personal Pleasure**  
**Plus PIZZA**

Beginning with **free Pizza at 7:10** (a thank you from the Foundation), the program will begin at 7:30 with Bristol Village resident **BETSY HALL** discussing and demonstrating her experiences with self-publishing. She also will exhibit examples of her efforts and other villagers will share their experiences.

Time permitting, we will take general questions from club members.

The simple approach draws on standard spreadsheet software (such as Microsoft's Excel or the spreadsheet function in Open Office) and addresses the request by physicians, hospitals, and other health providers for a list of drugs and supplements that a patient may be taking. A spreadsheet simplifies the recording and maintenance (especially keeping it up to reflect changes). Illustration 1 is an example. A table in a word processing program would accomplish much the same effect but a spreadsheet seems particularly well-designed for this combination of numbers (dosage size and frequency) and words.

**Notes from Kent**

**Computer Help for Medical Information – Pt. I**

At the Club's January 2010 meeting, the Chief Information Officer of Adena Health Systems gave us an overview of advances being made in medical information systems from the provider's perspective. While we have much to look forward to, there are things that we can do to assure that our medical providers' have the information that they need. This article highlights three different approaches: one simple and pragmatic, one detailed and commercial, and the third from two major software companies, Google and Microsoft. For sake of space and time, discussion of the third will be postponed to the November newsletter.

1	Your Name	CurrentDate	Detailed Contents	Quantity	Measure	No. per day	Total per day	Meas	Comment
2									
3	<b>Prescriptions</b>								
4	Lipitor			10mg		1	10mg	q.m	
5	Metoprolol Tartrate		Metoprolol Tartrate	25mg		2	50mg	Am & pm @ 000	
6									
7	<b>Supplements</b>								
8	Vit. C			500mg		3	1500mg	2 in am, 1 in pm	
9	Omega-3		EPA & DHA - Total 720 mg Omega-3 Fatty acids Fish Oil	1200mg		2	2400mg	1 in am, 1 in pm	
10	Pomegranate Extract with Cocoa		Pomegranate (punica granatum) extract std to 30% polyphenols	400mg		1	400mg	in am	
11			Pomegranate quinic (arabatum)	100mg		1	100mg	in am	
12			CocoaSolid cocoa (Theobroma cacao L.) std. To 45% polyphenols	112mg		1	112mg	in am	
13									
14									
15									
16									

*Illustration 1: Drug & Supplement Spreadsheet*

While you should consult with your doctor(s) and medical providers as to what information they need/wish, this example includes the brand name and actual contents, the dosage(s), frequency, and a column for comments to clarify any of the foregoing (such as time of dosage, if important for a particular drug, or to avoid undesirable drug/supplement interactions).

In contrast to this simple utilitarian application, the second category offers far greater complexity and it can be divided into two different approaches—one through commercial products sold to patients and the other from major software companies. The commercial approach is represented by companies and organizations offering medical alert bracelets or devices (necklaces, dog tags, etc.). Among the commercial companies, there appear to be two main approaches. The first approach is a centralized system wherein you enter the information online and it is stored at a central location which emergency or other medical staff can contact for details. Examples include the MedicAlert Foundation (<http://www.medicalert.org>) and the American Medical ID (<http://www.IdentifyYourself.com>). While the former is a “foundation,” its costs are substantially higher than the second, including a subscription fee as well as the initial sale/or start-up cost. Both services offer a wallet card which contains information in addition to the bracelet (or other jewelry item) and a phone number for further details from a central site/phone service with access to the patients more detailed records. In both cases, the information is provided by the patient to the service and it is not screened by medical practitioners.

One variation on these services is a small flash drive that is affixed to the jewelry/ identification item. This also depends on the patient/wearer to input the medical information in a record format on the flash drive. It affords emergency medical personnel immediate access to the information rather than contacting a third party, albeit information provided by the patient. I have been

informed that most emergency staff now have ready access to a computer that would be necessary to read the drive. These drives are available at Kroger and Walmart.

The purpose of this second group of services is to provide information necessary to provide safe and effective treatment in a medical emergency. And, its value depends on the care and timeliness of the patient in providing and keeping the information current.

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## **Web sites to try**

*by Len*

Be sure to share our BVCC web site with your friends.

[www.bvres.org/bvindex.htm](http://www.bvres.org/bvindex.htm)

Personalize Firefox.

[www.getpersonas.com/en-US/gallery/All/Popular](http://www.getpersonas.com/en-US/gallery/All/Popular)

Download free Windows fonts:

[www.1001freefonts.com/](http://www.1001freefonts.com/)

## **Computer Graphics Resolution**

The subject of computer graphics is varied and complex, so this might become a monthly newsletter topic. The first thing to discuss is resolution, which involves the pixel (or picture element).

**Pixels:** Pixels are the tiny rectangles that make up a picture or computer graphic image. If you have shopped for a digital camera lately, you have probably noticed that digital cameras are specified by mega pixels, (millions of pixels). If you shop for a computer monitor, you will notice that an important

monitor specification is the resolution that is given in pixel width and height.

Digital cameras and computers save graphic images in data files. Each image file has a finite number of pixels. The larger the number of pixels in a file, the better it will look, especially if it is enlarged.

**Camera Resolution:** The resolution of a graphic image is related to the number of pixels it contains.

The following table shows the relationship between camera specifications and resolution.

Camera Specification	Maximum Resolution	Maximum Print Size
1 Megapixel	1280x960	5x7
2 Megapixel	1600x1200	8x10
3 Megapixel	2048x1536	11x14
4 Megapixel	2560x1920	20x30
6 Megapixel	3032x2008	20x30+
7 Megapixel	3072x2304	20x30+
8 Megapixel	3264x2448	20x30+
10 Megapixel	3648x2736	20x30+
12 Megapixel	4000x3000	20x30+

Actually, each camera model may vary from the numbers shown in this table since the numbers are rounded off and a particular 6 mega pixel camera might actually have 6.13 mega pixels.

You should also note that most digital cameras allow you to take pictures at less than full resolution. If, for example, 1600x1200 is adequate for the final use of your pictures, reducing the resolution setting in a camera will allow for many more pictures to fit on the memory card. (1600x1200 is adequate for 8x10 prints.) This brings up the issue of resolution vs file size.

You may wonder, if you will never print pictures larger than 8x10, why you would need a camera

with more than 2 megabytes. One reason is that if you want to do any cropping, you need more pixels to start with. For example, if you start with a picture that is 1600x1200, and then crop a section out of it that is 600 pixels wide, the resulting image will not have enough resolution to print an 8x10 inch picture. On the other hand, if you start with an image that is 4000x3000 you can crop a small section out of the image and still make respectable 8x10 prints.

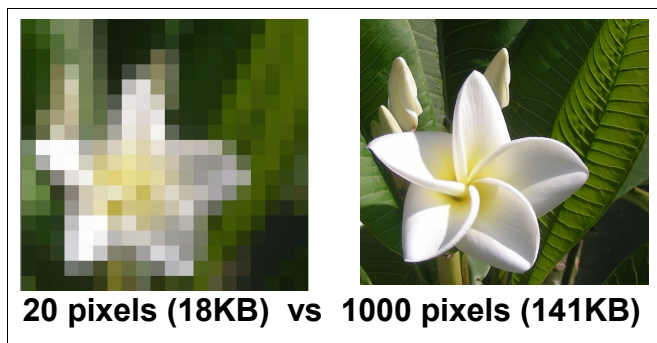
The higher the resolution, the larger the file size. A single picture from a 12 megapixel camera can be 2.5 megabytes in size while a picture from a 6 megapixel camera might be around 1 megabyte.

Some cameras have both optical and digital zoom features. Optical zoom is a good thing. Using an optical zoom gets closer while preserving the full camera resolution. Digital zoom is no better than simply cropping an image. Ignore digital zoom and save cropping for post processing in the computer.

**Computer Monitor Resolution:** Computer display monitors have their own resolution specifications. This specification is given as a maximum since the operating system can be set to have the computer display use a resolution that is lower than the maximum a monitor can display. For example, the monitor I am using right now has a resolution of 1920x1080. However, I can easily change the display resolution to something lower like 1024x768. (LCD monitors have a 'native' resolution that will provide the best display, but it can be no denser than its design specifications.)

Some people lower the resolution (in Windows) to make the text larger on the display and easier to read. Actually, it is possible to change the default text size independently from the display resolution. Lowering display resolution in Windows is not the best option for improving readability.

**Picture Resolution vs Print Quality:** The resolution of a graphic image will have an affect on the quality of a print. Basically, the higher the resolution the better the print quality. Here is an example.



If the pixels are large relative to the size of the printed output, the image will not look very good.

**Printer Resolution:** In the printing business, resolution is typically measured in dots per inch rather than pixels. Printer resolution is a factor in computer graphics. Some printers can print a maximum of 300 dots per inch while others may be capable of 600 or 1200 dots per inch.

The question is... What is the relationship between resolution in pixels vs resolution in dots per inch? Here is a picture of wild Asters that has been cropped to 1600x1600 pixels.



If this picture was printed using a printer setting of 300 dots per inch, a copy printed at 100% of the original size would be 5.33 inches wide. This means

that if the picture is printed at a size any larger than that, the quality would start to decrease.

Here is a 300 pixel wide section of the Asters picture cropped from the original image. The version you are viewing here is only 1.5 inches wide. If you were to print this same image 8.5 inches wide, you would start noticing the individual pixels. The moral of the story is that if you want to print a closeup of that cute child by cropping her out of the middle of a larger picture, you need to start with a high resolution image.



**Email Pictures:** Did you ever receive a picture in an email message that did not fit on your computer display? It can be annoying. Not only that, large pictures take longer to receive than small pictures. Here is typically what happens...

Let's say that cousin Ferd has a new 10 megapixel digital camera. If he emails a picture from this camera directly, the table above shows that it is 3648 pixels wide. If your monitor is set to a resolution of 1600x1200, and if your email program does not fit the full width of the monitor, less than half of the picture will fit on the display. This means that you have to scroll back and forth to see a bit of the picture at a time.

A solution to the problem is to open the picture in a paint or graphics program that will display high resolution images in a window on the display. For Ferd's picture to fit on your email screen, he has to reduce it to less than your screen resolution before sending. Images of 800 wide or less will display nicely in most email programs.

**Pictures for Video:** One application of digital images is to project them on a large video screen. Video projectors (like the one in the Bristol Village Auditorium) each have a maximum resolution. A resolution of 1024 wide is common and this is the specification for the Bristol Village projector.

Since the projector can not do any better than 1024, any image sent to the projector that has a resolution larger than 1024 will be overkill. Remember that larger images take more storage space and more time to load.

On the other hand, if an image with a resolution smaller than 1024 is projected at the full screen width, the image quality will be diminished. We had a recent example in Sight and Sound where someone had captured thumbnail images that had a resolution of 150 pixels and used them in a Power Point presentation. When these images were spread out over the full screen the results were not pretty.

**Pictures for Desktop Publishing:** Images that will be inserted into desktop publishing or word processing files can be reduced in resolution to match the application. For example, if an image will be inserted into a 3.5 inch wide column and printed at 300 dots per inch, a resolution of 1024 pixels wide will do the job quite nicely. Any higher resolution will add to the file size without improving quality.

**Pictures for Web Sites:** Most web sites are currently designed to work with display screens that have a 1024 wide resolution. Images that will be used for web sites should have a resolution of 1024 or less. Higher resolution images may require the user to scroll back and forth to see the entire image.

### **What Does It All Mean?**

- When you are buying a digital camera, anything with 6 megapixels or greater is adequate for most users.
- More megapixels means higher resolution which means the image files can be used for larger prints or for more severe cropping.
- High resolution images (larger than 1024) should be reduced in size before they are included with an email. Most software provided with digital cameras has an option for reducing image size. Also, most paint or graphics software provides an option for reducing resolution. (It is a good idea to save reduced resolution images with a new file name

so that the original image will be preserved for other uses.)

- If images are to be used for video projection, they should be adjusted to match the resolution of the projector (typically 1024).
- Images to be used in publications should have resolutions adjusted for the final print size.
- Images that will be used on web sites should be reduced to 1024 wide or smaller.

## **Send us your questions**

Please your computer or technical questions to:

[newseditor@bvres.org](mailto:newseditor@bvres.org)

We will try to answer them in a future issue, or perhaps make them the subject of future BVCC programs.

