Free Stuff for Your Computer

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We all like to get something for free and applications for our computers are especially exciting for those of us who might be considered geeks. This column is dedicated to some of the best free or nearly free software I have found. I know I am merely describing the software I find useful and there is much more out there. I would like to hear from everyone who has a favorite application on our blog when this issue is published. Our blog site is blogs.springer.com/jdi.

The Society for Imaging Informatics in Medicine (SIIM) has promoted the use of Open Source software in the form of an open access issue of the Journal of Digital Imaging dedicated to the topic,¹ the SIIM website has a page describing available software and forums,² and the annual meeting includes an open source round table. While not all open source software is free, much of it costs nothing or next to nothing, but users are encouraged to participate in future development of the applications. Although most of this has been published previously, it is worth mentioning again for newer readers in order to provide a brief overview of some of the systems an Imaging Informatics Professional might find useful. Please check the website for more current and extensive listings. The best source for open source software of all kinds is Source forge which is a warehouse of applications of all types, some more completely developed than others.³

CAVASS is an extension of the older 3DVIEW-NIX developed by the Imaging Processing Group at the University of Pennsylvania. CAVASS is directed at the visualization, processing and analysis of 3-dimensional and higher-dimensional medical imaging. It runs on Windows, Unix, Linux, and Mac OS and supports parallel processing via clusters of computers.⁴

The Digital Imaging and Communications in Medicine (DICOM) Validation Toolkit is useful for anyone working with multiple vendors who

may interpret the DICOM standard differently. It was developed as a clinical engineering tool to aid DICOM integration at clinical sites.⁵

The DCM4CHE DICOM archive is an effort from the Department of Radiology, University of Maryland School of Medicine. The archive, now called DCM4CHEE to indicate that it could be an enterprise archive, was designed around Integrating the Healthcare Enterprise (IHE) and is essentially a free, open-source, cross-platform DICOM archive. The DCM4CHEE can be used as an archive, a teaching system, or a testing system.⁶

MIRTH is an open source solution for healthcare interoperability.⁷ It is specifically designed for Health Level 7 message integration and provides the tools for developing, testing, deploying, and monitoring interfaces.

Osirix has long been a standard in open source image display and navigation. It is currently supported on the Mac OS platform with an app for the iPhone. This software is so well designed and so useful that many sites use it for clinical workstations.⁸

The Extensible Neuroimaging Archive Toolkit is a platform to facilitate management and productivity tasks for neuroimaging and associated data.⁹ In addition to data entry forms, it includes a DICOM interface as well as an interface to analyze for including images and analysis results.

In addition to open source software of interest to Imaging Informatics Professionals, there is a

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wealth of free software available to users who may be on a tight budget. Many of us have purchased a small laptop commonly referred to as a netbook that has limited storage and no CD/DVD drive included. These computers are mainly used to access the internet and to keep in touch by email, but most of us want to do more with them. It may not be economical to purchase software for occasional use, such as an office program or an image processing program, and that is where open source or free software can make them more useful. The applications below are just a few that are available and that work well on these devices as well as full functioning office computers.

Open Office is a suite of software that closely mimics the capabilities of Microsoft Office. I find it more awkward to use but I suspect that is because I use the Microsoft version every day and Open Office rarely. Open Office can create, edit, save, and open Microsoft versions of word processing, presentation, and spreadsheet software. It can be downloaded from Source Forge.³

GIMP and Irfanview are photo or image editing applications useful for preparing images for publication or just for fun.^{10,11} I use them interchangeably, finding one more convenient for some tasks and the other better for other tasks. Picasa is a free application from Google that organizes all the pictures on your computer, finding them in all the folders in which they may be hiding. Picasa gives novices a suite of tools for doing simple image manipulation and allows users to share their photos with others through an easy-to-use web site.¹²

FileZilla is about the best free FTP solution I have ever used. I know purists want to use the command line interface available in the windows command prompt and please, continue to do that to impress others with your ability to do obscure tasks using short commands. But for most of us managing a number of FTP sites, FileZilla is great.¹³ It supports not only FTP, but also SSH, FTPS, and FTPES.

Last but not least, Evernote is a free application and web site for organizing short notes.¹⁴ I enter things I want to access everywhere on my Evernote application on my desktop and sync with my web space and then can access my notes from any computer on the internet. It is simple and fast to add a web site, image, or text note to Evernote and is even available as an iPhone app.

I know I haven't mentioned all the free and open source software available, there is not enough room for them all. I will start a blog about this topic in April with this column is published and I invite everyone to add their own favorite application to the list.

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