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OpenSource overview reveals free tools for the classroom

by Vince Long

In the ever-changing world of computer software, the OpenSource movement is beginning to have an impact. Many users, individual, institutional, and corporate, are eschewing traditional commercial applications and opting for non-cost alternatives. A few years ago there were many arguments for not taking this approach to software acquisition, but a maturation has occurred that no longer relegates free tools to the “only for hackers” category.

There is a difference, though a subtle one to the end user, between OpenSource software and free software.

“Free software” refers to software that can be acquired and used at no cost. OpenSource falls into this category with that additional caveat that the “source code” is also made freely available. The source code is what the programmer actually wrote to create the software which means that it can be modified. There are many “free” programs out there, Internet Explorer from Microsoft for example, that have no cost, yet Microsoft does not distribute the source code, meaning that only Microsoft can make changes to the software.



OpenSource software is distributed along with its source code and modifications and improvements are encouraged. This is why applications such as the web browser Mozilla Firefox can be updated so frequently as programmers from around the world are regularly contributing to updates and fixes.



What does this mean for educational users of software applications? Let’s take a look at some frequently asked questions on this topic?

Why would I want to use OpenSource programs instead of programs that are industry standards?

The short answer is that these programs are free. Even with educational pricing, it is an expensive

endeavor to install Adobe PhotoShop in a computer lab. If the goal is to train users on PhotoShop, then PhotoShop is the tool you need. However, if the goal is to have access to an image editing program that has most of the features found in PhotoShop, then the GIMP is a no-cost alternative.

But what is the downside?

The OpenSource programs may not contain all the bells and whistles found in their commercial alternatives. For

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First Impressions

by *Vince Long*

A few weeks ago I was surprised with a SmartBoard, an interactive white board, for my classroom. Our principal, Dennis Holmes, is on a mission to deploy as many of these input devices in the building as he can. Coincidentally, a few weeks before, I received a set of 32 “clickers,” an interactive student response system and a wireless writing pad both made by einstruction. These last two came on loan from Steve Gardiner, Montana’s 2008 Teacher of the Year, who received them as part of his award. Since he had received similar clickers and pad with his SmartBoard, he gave them to me to learn and use.

First off, I have been playing with the student response system and it is a very impressive piece of technology. The student’s hand held device is about the size of cell phone or remote control and contains a small viewing screen and a numbered key pad. These devices communicate with the teacher’s computer using BlueTooth radio technology. The accompanying software includes test making tools, a full grade book application, as well as many other features. In short, the teacher uses a video projector connected to their computer to show the test questions to the students. Students enter their answers on their clickers and the software automatically records their responses and grades the test.

While using this technology for summative assessment is unique, it is their use in formative assessment where this tool shines. During a presentation, discussion, or demonstration, the teacher can ask a question of the class who clicks in their responses. The teacher can see immediately who has responded and, when ready, can generate reports and graphs showing how well the class, or individuals, understand the material.

The wireless writing pad is another interesting BlueTooth enabled device. Essentially it is a wireless mouse but uses a stylus on a tablet which can seem more natural for certain operations, such as drawing. It’s power is when students can pass it around and collaborate on the computer screen that they all can see.

The interactive white board, mine is from SmartBoard, is, well, fun. I was skeptical at first whether it was just a



gimmick, but after using it daily for the past month I find it is more than that. In the past, when I would use my video projector to show what is on my computer to the class, a Power Point presentation or to demonstrate a piece of software, I would be standing at the side, driving the cursor with my mouse. The immediate change I noticed was that I am now part of the computer display, not unlike a television weatherman, interacting with the display using human touch.

The SmartBoard comes with software called NoteBook, which I can only describe as Power Point on steroids. Yes, you use it to build presentations, but it is so much more with its extensive library of tools, images, sounds, and video clips. One tool, the pop-up keyboard, needs special mention. To type on the SmartBoard, one presses a key on the pen tray at the bottom of the board. A virtual keyboard opens and you can type on it by touching the keys. The keyboard has several modes and switching to the writing mode open up a blank line that looks like the paper you learned to print on in first grade. Here, you can write the words you want instead of typing them. But wait! It gets better. You can write in cursive and after you finish writing, a voice pronounces what you have written.

The one feature that sold me on the board is its drawing tools. There are four colored pens and an eraser in a tray on the board. Picking up a pen activates the board’s drawing mode. You can draw right on your computer desktop or in your application. I have found this a tremendous advantage in my drafting class and will write about that in an upcoming issue.



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Open Source Alternatives

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example, as of this writing, OpenOffice Writer, an alternative to Microsoft Word, does not have a grammar checker feature. Other than that, it is pretty much a full-featured word processor that can open and save in Word format. For most users, who are overwhelmed with features they never use in commercial applications, chances are, OpenSource programs will have more than enough features to get job done.

What about tech support?

You get what you pay for here. Tech support comes from your use of online bulletin boards, mailing lists, and other user-supported resources. Chances are that the “help” file that comes with the application will answer most of your questions. There are some companies who distribute OpenSource software who have support plans for purchase.

Will my school district let me install these applications?

That’s a local issue. Some districts may have an “approved list” of applications and may prevent you from installing a non-commercial application. Check with your IT department. Remember, you are an educator and sometimes the IT department needs some education. However, you are more likely to find that the IT people are aware of OpenSource and are probably using these applications themselves.

Are there other advantages to using OpenSource in the classroom?

Students! If students are using any commercial software for your classes, you will likely encounter a student or two who will ask if they can install the software at home so that

they can either catch up or learn more about it. With commercial software your site license will likely prevent you from giving a copy to a student. With OpenSource software you can give each student a copy without violating any copyright issues. (In my classroom, I have a stack of compact disks containing all the common OpenSource application installers ready to hand to a student who requests it.)

Is there a political side to OpenSource?

Well, the very thought is a bit anarchist. After all, we have a decentralized group of international programmers creating and giving away the type of products that some capitalist corporations have made billions of dollars controlling in the past. That larger issue aside, switching to OpenSource software can save a school district tens of thousands of dollars. Demonstrating this type of frugality may make the voting public look more kindly on district attempts to pass local mill levies.

So, where do I find OpenSource applications?

Many of the OpenSource projects have their own web sites, such as <http://www.ubuntu.com/>, which is the home for the Ubuntu flavor of the Linux operating system. However, the bulk of the OpenSource world has a presence at SourceForge, <http://sourceforge.net/>, a site that tracks projects, hosts discussion groups, and provides the latest versions for downloading.

On the following two pages you'll find a list of common programs types shown with their commercial versions and the OpenSource alternatives. Give them a try and save some money.

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Open Source Alternatives

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Type: Operating System

Commercial: Windows (XP, Vista) (<http://www.microsoft.com/windows/products/windowsvista/default.mspx>)

OpenSource: Linux (Ubuntu) (<http://www.ubuntu.com/>)

Type: Web Browser

Commercial: Internet Explorer (<http://www.microsoft.com/windows/products/winfamily/ie/default.mspx>)

OpenSource: Firefox (<http://www.mozilla.com/en-US/firefox/>)

Type: Office Suite

Commercial: Microsoft Office (<http://office.microsoft.com>) Word processor, spreadsheet, presentations tool.

OpenSource: Open Office (<http://www.openoffice.org/>) Word processor, spreadsheet, presentations tool.

Type: Database

Commercial: Microsoft Access (<http://office.microsoft.com/en-us/access/>) A full relational database application.

OpenSource: OpenOffice Base (<http://www.openoffice.org/product/base.html>)

Type: Visualization

Commercial: Microsoft Visio (<http://office.microsoft.com/en-us/visio/default.aspx>) Take complex ideas, text, and relationships and display them as flowcharts, graphs, and more.

OpenSource: Dia (<http://live.gnome.org/Dia>)

Type: Project Management

Commercial: Microsoft Project (<http://office.microsoft.com/en-us/project/FX100487771033.aspx>) Manage the details of complex projects, schedules, and control the finances.

OpenSource:

Open Workbench (<http://www.openworkbench.org/>)

OpenSource: OpenProj (<http://openproj.org/openproj>)

Type: Online Course Management

Commercial: Blackboard (<http://www.blackboard.com/us/index.Bb>) Deliver content, discussions, testing, and other tools required for online schooling.

OpenSource: Moodle (<http://moodle.org>)

Type: Graphics - Vector

Commercial:

Adobe Illustrator (<http://www.adobe.com/products/illustrator/>) Vector creation.

CorelDraw (<http://www.corel.com>) Vector creation.

OpenSource:

Blender (<http://www.blender.org/download/get-blender/>) 3D modeling and animation

Inkscape (<http://www.inkscape.org/>)

TruSpace (<http://www.caligari.com/>) 3D modeling

Type: Graphics - Bitmaps

Commercial: Adobe PhotoShop (<http://www.adobe.com/products/photoshop/index.html>) Bitmap/photo image creation and editing.

OpenSource: Gimp (<http://www.gimp.org/>)

Type: Graphics - Video

Commercial: Adobe Premiere (<http://www.adobe.com/products/premiere/>) Video editing

OpenSource: Avidemux (<http://avidemux.sourceforge.net/>) Not exactly a replacement for Premiere. It focuses on editing of Divx videos.

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Open Source Alternatives

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Type: Audio Editing

Commercial: Sound Forge (<http://www.sonycreativesoftware.com/products/soundforgefamily.asp>)

OpenSource: Audacity (<http://audacity.sourceforge.net/>)

Type: Web Page Authoring

Commercial:

Adobe Dreamweaver (<http://www.adobe.com/products/dreamweaver/>)

Microsoft FrontPage (<http://office.microsoft.com/en-us/frontpage/default.aspx>)

OpenSource:

NVU (<http://www.nvu.com/>)

BlueFish (<http://www.roseindia.net/opensource/html-editor-open-source.shtml>)

Kompozer (<http://kompozer.net/>)

Type: Text Editor

Commercial: Windows Notepad (<http://www.notepad.org/>)

OpenSource: NotePad++ (<http://www.notepad-plus.sourceforge.net>)

Type: PDF Creation

Commercial: Adobe Acrobat (<http://createpdf.adobe.com/>)

OpenSource: PDF Creator (<http://sourceforge.net/projects/pdfcreator/>)

You can also export PDF documents from OpenOffice

Type: Desktop Publishing

Commercial:

Adobe: InDesign (<http://www.adobe.com/products/indesign/>)

Microsoft Publisher (<http://office.microsoft.com/en-us/publisher/FX100487821033.aspx>)

OpenSource:

Scribus (<http://www.scribus.net/>)

Type: Email

Commercial: Microsoft Outlook (<http://office.microsoft.com/en-us/outlook/default.aspx>)

OpenSource: Thunderbird (<http://www.mozilla.com/en-US/thunderbird/>)

Type: Voice Communication

Commercial: Skype (<http://www.skype.com/>) Voice over IP telephony

OpenSource: Wengophone: (<http://www.openwengo.org/>)

Type: Media Player

Commercial: Windows Media Player (<http://www.microsoft.com/windows/windowsmedia/default.msp>)

OpenSource:

VLC (<http://www.videolan.org>)

Miro (<http://www.getmiro.com/>)

Type: Anti-Virus

Commercial:

Kaspersky (<http://www.kaspersky.com/personal>)

McAfee Virus Scan (<http://us.mcafee.com/>)

OpenSource:

Winpooch (<http://winpooch.free.fr/page/home.php?lang=en&page=home>)

ClamWin (<http://www.clamwin.com/>)

Open Source Alternatives

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Type: Financial

Commercial:

Microsoft Money (<http://www.microsoft.com/money/default.msp>)

QuickBooks (<http://quickbooks.intuit.com/>)

OpenSource:

TurboCash (<http://www.turbocash.net/>)

Compiere (<http://www.compiere.com/>)

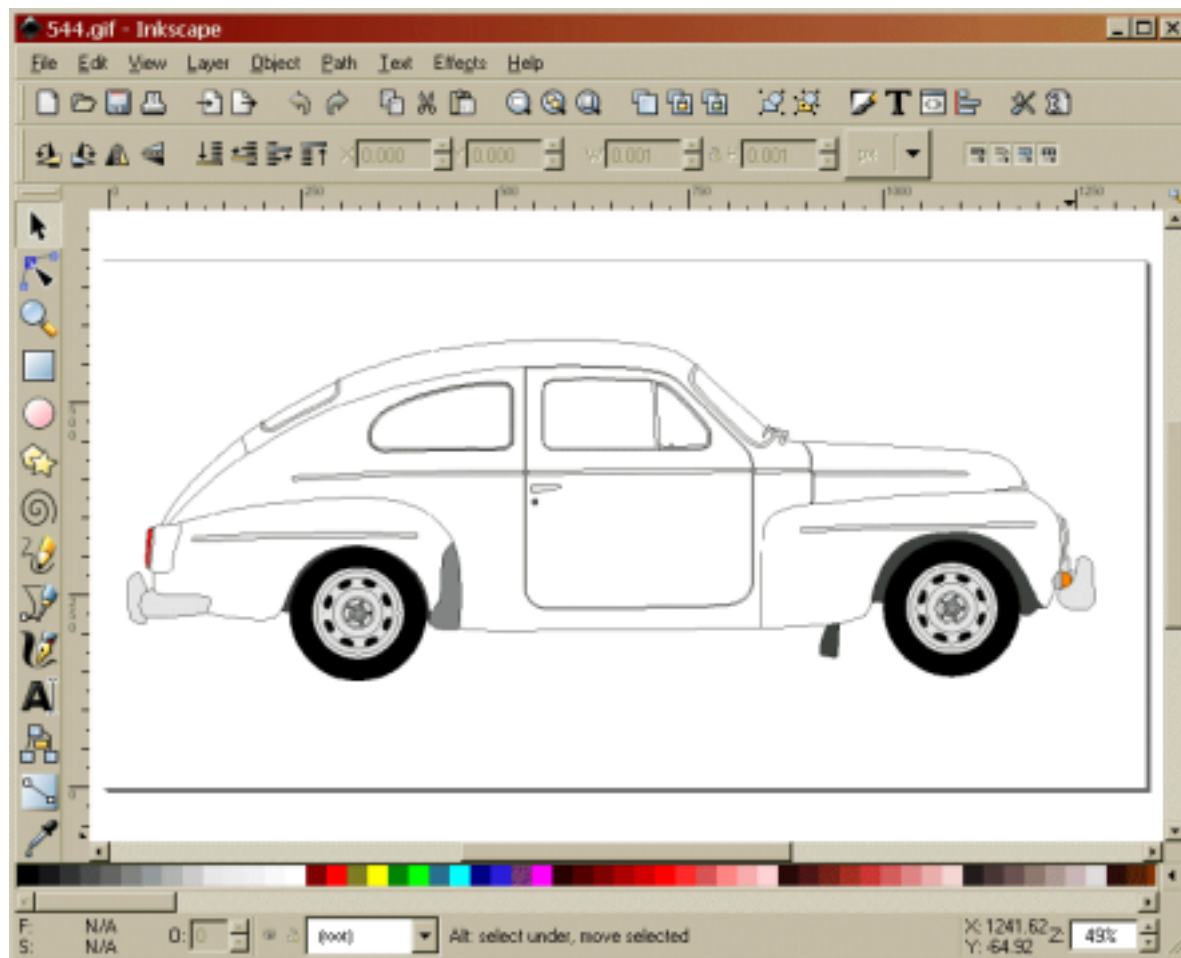
GNU Cash (<http://www.gnucash.org/>)

Free: Microsoft Accounting Express (<http://office.microsoft.com/en-us/accountingexpress/>)

Type: Computer-Aided Drafting (CAD)

Commercial: AutoCAD (<http://usa.autodesk.com/adsk/servlet/index?siteID=123112&id=2704278>)

OpenSource: Archimedes (<http://archimedes.incubadora.fapesp.br/portal>)



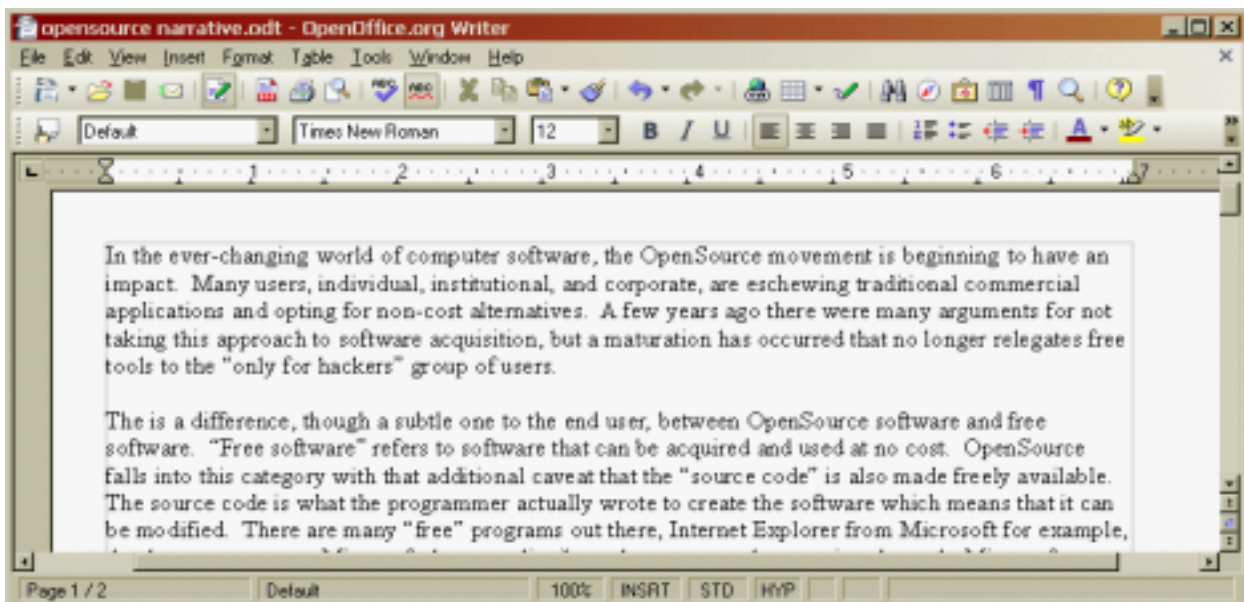
Inkscape

Open Source Alternatives

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The GIMP



OpenOffice Writer



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