

Why Free Software Matters

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at OSNews [<http://www.osnews.com/>]

Today I'm going to talk about why software - any software, all software - actually matters, what the different types of software are, and why you should care about its properties (no matter who you are, or what you do).

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You should care because - as sensationalist as it may sound - you may one day no longer be allowed to listen to your MP3's, read your MS Word documents, or send messages over the 'net to friends and relatives. You may think you will be able to continue these simple tasks forever because, like most people, you believe you actually own most of what is stored on your computer. *But that's where you're wrong!*

This simple tale will hopefully enlighten you as to why you should care about the politics and freedoms associated with various types of software, and not simply for pedantic reasons. You see, not only do you not own that copy of MS Word, that game, or even that MP3 player, but you also don't own *any other way of accessing your information*. "But I'll *always* have my computer, it's mine! No one can stop me listening to my (perfectly legal) music collection!" I hear you shout. Not quite. Not even slightly. But to get into that we must first delve into the murky world of software licenses.

A software "license" (which is actually a form of contract) has become the most common form of software distribution today. When installing a new program on your computer you may recall having to click "I Agree", or "Okay", or something to that effect. That was you signing a contract. This contract is supposedly legally binding, although they have not (for the most part) been tested in court. It is important to know that even if it wasn't you who clicked "I Agree", as the owner of the computer on which the software is running you are responsible for ensuring the license is legal. Make sure you know what programs are on your computer and what comes pre-installed when you buy it, although there does not appear to be any legal reason why the sales guy from Dell should be permitted to accept the terms of a contract on your behalf.

I'm going to take a rather simplistic approach here and divide all software licenses (contracts) into two, distinct categories. We will call them "Closed" and "Open". I make no assertions as to the monetary cost or technical quality of the software distributed under a particular license, a great deal of people hold quite strong opinions on that matter and it would take far longer than this essay to explain the merits and pitfalls of each. Lets start with "Closed" licenses, as they are currently the most common type.

Closed licenses are (usually) fairly restrictive in regards to what you are (and are not) allowed to do with the software in question - You are typically only allowed to use one license per computer, you are not allowed to pass copies on to any friends, you are most certainly not permitted to resell it, and you are in no way allowed to make changes to the software.

Let's take a moment to examine our MP3 player a little closer. We have now come to realise that no, we don't actually own the program that plays our *Best of Celine Dion* Album, even though we paid good money for both the program and the album in question (guess which I regret more). But what about those nifty little iPods and Nomads? Surely you can "own" one of those? Again, the answer is both yes and no. Although you may have bought the actual physical little box, you have only *licensed* a copy of the program running on the box. All we have paid for is *permission to use the program*.

The important thing to note here is that most closed software licenses don't actually sell you anything you can keep, they merely give you permission to run the software under a very specific set of circumstances. If I license a chess game for sale with, for example, the clause "this game may only be used when wearing fluorescent green panties on your head" then, legally, those *without* fluorescent green panties on their head are not permitted to run the program. Even after they pay me money. Here is where the distinction between *licensing* (renting) and *purchasing* (buying) software becomes important. When people say "I am going to buy a copy of Photoshop," they actually mean "I am going to buy a *license to run* a copy of Photoshop, and hope that I meet all the criteria stipulated in the license contract." *Purchasing* implies ownership, and we all know that although you can do whatever you damn well please to that old Monaro you just bought off the guy down the street, but just try sticking mag wheels and a spoiler on a rent-a-car and see how far you get. We have come to an agreement we hand over some money and we are allowed to use the car. But if we abuse the car then the owner has every right to stop us from using it. Now you're beginning to get the idea.

At this point most people would say "So what? I run MS Word/Windows. It does what I want. Why should I care? They can't come into my house and take it away from me. Get that microphone out of my face." Well, that brings us to the next part.

Control. When you use licensed software you have very little (if any) control over the software you are running. I'm not talking about picking screen savers and font sizes, I mean control over *how the program operates*. If one day Apple decides that its operating system will no longer read or write normal email, only "Apple Email" (or iMail :), then you can bet your banjos that's what's going to happen. "But I'll just keep running my old version - they can't change what I've got," I hear you mutter incoherently. You're right, they would probably have a hard time finding you, however they are well within their rights to make running old versions of their software illegal. I realise I'm talking mostly to people running pirated copies of Windows XP, but bear with me. Disregarding the possibility of their changing the terms of your current, existing license (yes, they can do that, it's usually written into the original contract), you are now forced to use old, outdated, software. Yippee. Do you know how many banks out there are still running OS/2?

You see, the way those MP3s you're playing seem to magically squeeze all that music down into bite-size chunks was originally developed and (very kindly) published by the Fraunhofer Institute. But even though they are giving you instructions on how to use their method for storing music, that doesn't mean you can do whatever you want with it. Not a chance. Did you know that any product that makes money out of MP3s must pay a royalty to the Fraunhofer Institute? nice little money maker they've got there, and quite rightly so. But did you know they also have the right to *stop you from using it*? Hmm.. So that means, even though we know how MP3s work, the people that own the "rights" to MP3s always control who may use them. So, perhaps one day they will decide that they don't want anybody using them, and that everyone should move on to MP4. And then MP5. In this way the Fraunhofer Institute always retains *control*.

The programs you are using right now do something you like, in a way that you have become accustomed to. A future version may be entirely different, however because you are using someone else's method of storing your own information, they still retain complete control over how you work. You have no way of changing that. This is quite a dill of a pickle of a jam we've gotten ourselves into. So, what now?

"Ah, well, when that happens to (program ABC) I'll just switch to a different product. They know I would switch, so they'd never get rid of (feature XYZ)." Yes, this is almost true. Well done. Now we are beginning to understand what it is they control that is so important. *Communication.* When I was using a Commodore 64 to type school essays (yes, I did that) I didn't care how my essays were saved. A message came up saying "Please insert disk," so that's what I did. When I wanted the essay back I'd put the disk back in and press "Open." Simple. However, things are now a little more complicated. Now I'll go and write an essay with MS Word and save it. Word will save it as a "Microsoft Word Document." Here's where the problems start. No one in the world *really* knows how to open a Word document, except Microsoft. There's nothing illegal about that, much in the same way that there was nothing illegal about only my Commodore 64 being able to my essays, but not my neighbour's Atari. The issue is now that anyone who wants to be absolutely sure that they are correctly opening a Word document is *required* to use (and pay for) a copy of Word, sold only by Microsoft. Sure, some people have done an excellent job of *guessing* how they work (OpenOffice.org, for example) but they're never one-hundred-percent sure. We are now required to pay someone money to be able to communicate with each other, or listen to our music. This is not unique to the world of essays and office memos, the same is true of ordinary CDs and DVDs. If you design a method to create a CD that can be played on an ordinary stereo, you must then pay royalties. No exceptions.

I'm going to diverge from software a bit here and talk about something called "Standards." A standard is a way for something to work. MP3 is a standard. DVD is a standard. PDF is a standard. The Phillips head screw is a standard. HTML (the language of the World Wide Web) is a standard. A standard is what people refer to when they say "You know what? I could make a really kick-ass MP3 player. Let's find out how." Standards allow me to buy a wheel that fits a car, and a nut that fits a bolt. Most of the time people can simply look at a standard - such as the Phillips head screw - and say "Okay, now I can make a Phillips head screwdriver, because I can see how this thing works." Unfortunately, in the world of computers it is possible to have things called "Closed Standards", where it is impossible to "see" how things work. If the person who designed the system doesn't explicitly tell you how something works then you *will not be able to imitate it*. For example, if you wanted to create a program that could save Microsoft Word documents then you would possibly have the following conversation:

You: Hello? Yes, I'd like to know how Word documents are saved, you see I'm trying to..

Microsoft: You'd like to know what?

You: I'd like to know how Word documents are saved, I'm trying to..

Microsoft: I'm sorry, we cannot reveal that information.

You: Why?

Microsoft: It's a trade secret. It's our intellectual property.

You: But I have ten years worth of essays, articles, assignments, photos, music, and other memorabilia saved as Word documents. My copy of Word is right now somewhere on the tarmac of the Iceland International Airport, so I'm going to ask a friend of mine, who is quite good with computers, to ..

Microsoft: I'm terribly sorry, but you'll have to buy a copy of Word if you wish to access those files.

You: But I play my MP3s without buying anything (except the original CDs, of course).

Microsoft: Yes, but MP3 is a published standard. At Microsoft we believe in tight control over our intellectual property.

You: But I don't want to buy a copy of Word.

Microsoft: Well, I'm sorry. I can't help you.

You: But if Word is a standard then surely everyone needs to know how it works?

Microsoft: I'm sorry sir. Anyone who wishes to use Microsoft Word Documents must buy a copy of Microsoft Word from us.

You: Well, could you convert them for me?

Microsoft: No, sir. If you wish to work with Word Documents then I'm afraid you must buy a copy of Word.

You: So if my friend emails me a Word Document then I must buy a copy of Word from you to read my friends letter?

Microsoft: Yes, Sir.

You: I See. You know, in my country people are hung for this sort of thing.

click

You: Hello?

So, now you've got ten years worth of essays, articles, assignments, photos, music, and other memorabilia saved as a file that no-one else knows for certain how to open, or is not legally allowed to. I'll say again, this type of restriction *is not illegal*. No company is required to release how their programs work, and they are most certainly not required to let anybody go around imitating them willy nilly. This use of *closed standards* results in what is known in the industry as "Vendor Lock-In", and is a well known strategy of large software houses. You must keep buying products from the same company if you want to keep up to date software, and you're up the creek if they decide to no longer support a feature you really need, or they refuse to grant license to other companies to work with the types of files you are using. And they could always cause problems for people running old versions - such as IBM refusing to support OS/2 - leaving people who are still using their systems high and dry. If software vendors never put "Save as.. Plain Text (for example)" in their products then you'd never be able to leave at all. This principle extends to everything. The so-called "Microsoft Windows Networking" (aka NetBEUI) that most home networks use still remains completely unpublished, leaving people who want to work with these systems to rely on guesswork and reverse engineering (Kudos to the SAMBA team.)

So, how can we actually have complete control over the files we save? Well, as we said before, some companies publish full specifications of their file formats - such as Adobe with their PDF files, and the Fraunhofer institute, with MP3s - allowing us to create tools to, say, play our MP3s, or convert a bunch of MP3s into an audio CD. Even though companies still retain the *intellectual* rights to these formats, we have (as a gesture of goodwill) been given complete blueprints on how to use them. So, should we all just use well-documented formats? Not quite. As we found out earlier, if you use someone else's method for storing information (be it music, photos or essays) they still retain the right to decide *who may use their method*. Well, that's a tricky one. I, in Australia, can write an essay and email it to a friend of mine in the country of Pretendistan, where Microsoft does not permit its products to be used or sold. I am using someone else's method of storing information, and I am relying on a third party (Microsoft) to provide a method for my friend to retrieve it. That's awfully trusting of me. Of course, I could just record the essay as a spoken word MP3 - which we have been given the blueprints to, and know how to create and play very well - but then the Fraunhofer Institute may go and put an export restriction on any MP3 based products being sold in Pretendistan. Back to square one.

So, who can I actually *buy* software from, and be able to do with it what I like? Technically, no one. But some people are giving it away.

I must let you in on a little secret. Some standards created by large companies, such as Adobe's PostScript (the predecessor to PDF), are given to the community for free, in the true sense of the word. No strings attached. We have been given complete instructions on how to use, create, save, print and mince PostScript documents - all without having to pay any royalties. This will remain the case forever, Adobe may never rescind on this generous donation. If Adobe Corporation fades into history then we will still be able to use our PostScript files, without any legal issues. This is a Good Thing.

The second type of software license I mentioned at the very beginning was "Open" Software. Most Open licenses, with some minor differences, allow you to add, remove, modify or cover with green cheese anything you like. They *give the software away*. You may initially have to pay for a copy, but when you click "I Agree" on a copy of Red Hat Linux you are, from then on, permitted to do whatever you like with the software. If there is a feature you want, then you (or that friend of yours down the street who is pretty good with that sort of thing) may add it. If you want to add lots of features and sell it to someone else, that's okay too. If the people who originally wrote the program go out of business, then you (or anyone else, for that matter) are completely free to start a new business selling a "New! Improved!" version of what the original firm went out of business selling. Or you could just keep on using OpenOffice.org, happy in the knowledge that you will always, not matter what, be able to get to your documents. You see, "Open" software, by design, lets *everyone* (well, anyone who cares to look) know how everything works under the hood. This spirit of "Open" is that no single person should be dependent on any third party to use their own property.

Remember what a "Standard" is? Well, there are things called "Open Standards." You can probably see where this is going, but I'm going to spell it out anyway. An open standard defines how something works, but it *isn't owned by anybody*. Sure, there may be some non-profit organisation in charge of maintaining a reference, but no-one needs to pay money to write a HTML web page, since it's an open standard.

Now imagine combining the power of open software and open standards. Anyone could communicate perfectly with anyone else, without being dependent on any third party.

This is happening today. It's called Open Source.

No one could ever (legally) have access to enough information to perfectly open a MS Word document, or sell an MP3 player without having to pay for the privilege. But there are now (as we speak) thousands upon thousands of programs that read and write (perfectly) OpenOffice.org documents, OGG Vorbis audio files, PNG images, and a countless number of other, *Open*, formats. Imagine if the taxation department kept all their records as Excel files, and then MS went out of business. Things then become more than simply inconvenient.

"Open" standards are owned by the community. By you. By your neighbour. By your boss, and your best friend. There are no royalties to pay because they belong to everyone. Why does this happen? Well, some people believe that by sharing with each other we can create bigger, better things than if we were to work alone.

These standards exist right now, and are easily available. Go and try Ogg Vorbis instead of MP3. Try OpenOffice.Org instead of Microsoft Office. Try Linux instead of Windows. This isn't about politics, it's about whether you - as an individual, professional, or an organisation - think it is worthwhile depending on a third party for access to your personal information. At this stage you have only your freedom to gain.

"Open" Software means freedom. Don't let yourself get locked in, just because it appear to be too much hassle to do otherwise. Don't let others control your life. Yes, you can work just as well, perhaps even better, and this time you can be sure you stay in control.

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