



free/open source software



what is it?

A lot more than software can be free / open source, but that's what we're focusing on here. Free & open source software (FOSS) is software that is free as in 'protecting your freedom'. Also, you're free to do what you like with it, so you can change it and pass it on to others. FOSS is the opposite of 'closed source', or proprietary software such as that produced by Microsoft or Apple, the code of which is not available for you to look at or modify, and you may be breaking the law if you do so. Richard Stallman wrote the Four Freedoms which include the rights to use, study, share and improve the software.

Because it's free, if someone writes some code that does a specific job for them, it can be made available to someone else who can then amend it to do something different for them, and so on. The original software might have done something very basic and useful to just one person, but it can evolve into something very powerful and useful to a lot of people. It can benefit the original writer too, as it can still do the job it was first written for, but because of collaboration it has been improved – faults removed and functionality added.

Around 2% of the world's computers have an open source operating system (the free equivalent of MS Windows or Mac OS), but you can also run FOSS on a closed source operating system. Examples include Firefox (web browser), Thunderbird (email client), Libre Office (word processing, spreadsheets etc.), GIMP (image manipulation), MySQL (database) and VLC (media player) – and even the operating system itself (GNU/Linux).

History: in 1983, Richard Stallman launched the GNU free software project, on which many people could collaborate, and in 1985 he founded the Free Software Foundation, to promote and assist the development of free software.

In 1991, Linus Torvalds created the 'engine' for the first free / open source operating system called the Linux kernel. A kernel is the fundamental base of the code, like the engine of a car – you need a lot more than an engine to have a useful car, but it doesn't work without the engine. Also in the 90s, Richard Stallman was

developing a free operating system that needed a kernel. He used the Linux kernel and the GNU/Linux operating system was born. It's often referred to as just Linux, but the correct term is the GNU/Linux operating system.

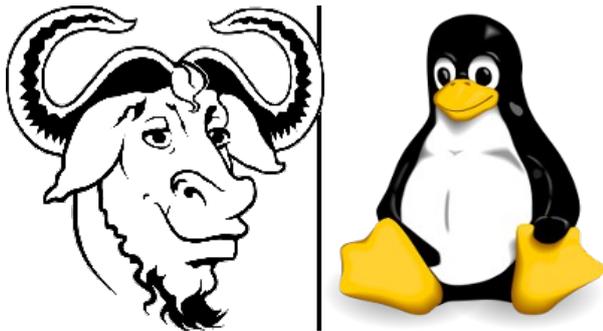
There's a difference between free software and open source software. They're the same in terms of code – the difference is political. When the free software movement started, it was all about the community – about sharing software, music, art etc. The corporate sector co-opted the term open source, and it turned into a 'software war' that most people don't even know about. Richard Stallman provides more information about the difference between free and open source software at bit.ly/2tYot1y.

what are the benefits?

- The free software movement mean 'free' as in 'free speech' rather than in 'free beer' – so 'liberty' rather than 'gratis' (however, it can be also free as in gratis or it may have a price set by the modifier).
- It doesn't cost anything to upgrade either, whereas old proprietary software often won't run on new operating systems, and so you have to buy newer versions, when the old ones work perfectly well. Commercial software companies often make their products deliberately incompatible with other companies' products (vendor lock-in); free software helps you avoid this.
- Because so many people see the open source code, it's checked more, and therefore tends to have fewer bugs and to be more secure; open source bugs tend to be fixed more quickly – again because of strength in numbers.
- Security: proprietary software can and often does have 'back doors' that allow government or corporate surveillance of people's data; open source software is much less likely to have them, for the reasons outlined above.
- GNU/Linux will run on almost any hardware, so can be used on old computers, helping to extend the life of computers and reduce waste.
- Using free software means that you don't have to support multinational corporations.



Left to right: Mozilla Firefox; GIMP; Mozilla Thunderbird; MySQL; Libre Office; VLC Media Player.



GNU/Linux

what can I do?

Software: you can do anything with free software that you can with proprietary software. Some are simple; others will present you with a bit of a learning curve. VLC, Libre Office, GIMP, Firefox are all simple and effective. Search for them, download, install and play with them. They'll all run on a proprietary operating system. You won't want to pay for software again. Our sister site NonCorporate.org has more detailed guides on how to switch to free software (see resources). It's for non-techies too. And Agaric Co-op in the States have info on the free software that businesses might need (<https://bit.ly/2t5AxOq>).

Support: you can get support via online forums for the specific software. Search for the name of the software and your question. The forums are community-based and free. You can purchase support if you'd like a bit more peace of mind.

Operating system: when it comes to changing your operating system, if you're technical, search online, find GNU/Linux and install it. There are lots of distributor websites to download it from. This next bit may be obvious to you, but after you've downloaded it, you'll have it on your computer, but you'll still have a proprietary operating system - so it will have to be transferred to a CD or pen drive for example, to be installed. Then (and here's another benefit) you can run Linux directly from an external drive and 'try before you (don't) buy'. NonCorporate.org has a detailed guide on switching from Windows to GNU/Linux (we know non-technical people who've done it). Read the articles, research, go on to online forums or talk to someone who's done it already; or just get a techie to do it all for you. Ubuntu is the most popular free system, followed by Linux Mint. It's

unusual to get problems, but if you do, they're usually easily solved. With a free operating system you can customise the desktop / user interface much more than with a proprietary system.

It's possible (but difficult) to get a computer store to remove Windows from a new computer, and to reduce the price accordingly. It would be good if vendors at least asked you which operating system you'd like - but corporations collaborate and support each other. The current situation is like buying a bookshelf, only to find that it's already full of books you don't want, but have to pay for. Linux Emporium sells computers with Linux installed, and Linux Pre-loaded lists vendors who do the same world-wide.

Spread the word: after you've learnt how to install and use it, you can teach others; and promote it, blog about it, spread it via social media etc. Introduce your kids to free software (actually, they might introduce it to you) - get them to talk to their teachers about using and learning about free software in their school - it's much better for helping them learn to code, as the code isn't secret! Large corporations are infiltrating schools, so get your kids to nag their teachers to provide information on free software.

Other: one thing to note - yes, free software can have no cost, but anyone is welcome to sell it. Say you modify and package up some free software utility programs and put them on a disc - you may sell that package. You must however give the source code back to the community for no cost. Free software is a type of 'commoning' - Wikipedia, the free encyclopedia, is another famous example. It's sometimes used in medical research. And who knows, maybe one day we'll have free & open source government.

resources

- see lowimpact.org/free-open-source for more info, links, mags, courses & books, including:
- Christopher Negus, *Linux Bible*
- Richard Stallman, *Free as in Freedom*
- Matthew Helmke, *Ubuntu Unleashed*
- NonCorporate.org/it - detailed guides
- gnu.org - helps you make the switch
- linux.org - newsletter, downloads, tutorials
- fsf.org - Free Software Foundation
- directory.fsf.org - giant free software directory
- linuxpreloaded.com - hardware with Linux

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