

Co-operating with new technology

I'm just a computer user, not very expert in digital tech but I work for an internet-services co-operative, called Webarchitects. It's been based in Sheffield over two decades, and is now a member of the large and growing CoTech federation of tech co-ops.

This is a personal opinion; one thing's for sure: the internet/computer industry will grow due to the Coronavirus pandemic. I've seen the birth of personal computers and then the internet. I was enthusiastic, until along came the type of website that's secretly focussed on data extraction – you know the line-up: Google, Facebook, Twitter ... but I'm still happily using the internet.

Ten years ago I dumped Microsoft (Windows XP, anyone remember?) and moved over to Linux. I made the change after getting fed up with viruses on Windows XP. I'm sure Windows 10 is safer, but I won't go back. 'Open source' or so-called Free/Libre software usually works well, it's been developed over decades, and since using it I've never suffered any virus attacks, to date.

I learned from personal experience about the way Microsoft grew. I knew a South Yorkshire man who got 'busted' for running a shop selling pirate copies of Windows. It wasn't unusual in the 1990s. In globalising cities around the world, street markets peddled copies of Windows 95, Windows XP, Windows 2000, etc. These unlicensed retailers were acting, without realising, as the equivalent of 'drug-pushers'. They got a whole generation 'hooked' on using Microsoft, free or cheaply. Of course Windows was good, by the standards of the time. But in those days software was displayed on computer shop shelves, discs in shrink-wrapped shiny boxes, at high prices. Meanwhile unofficial distribution of copies was spreading it across the world like a virus. (Now, Microsoft enthusiastically supports policing of 'software theft' - after founder Bill Gates became the world's richest individual).

What is 'software theft'? Not everyone agrees about the concept. Clearly, programmers and everyone who designs and helps with computers has got to make a living, and doesn't want their work stolen, but here are some details that the tech industry capitalists would prefer people not to know:

The computer industry isn't very ethical in its treatment of workers and use of power (except in co-operatives, no doubt). Microsoft, Apple etc. have poor records.

Proprietary software like Windows is copyright, but originally computer programming was an activity shared freely among academics and enthusiasts. Then the first commercial software was sold, 'digital rights management' was applied, and the rest is history. This was essentially creation of a capitalist *market* for software that hadn't existed before. It had previously been shared, in a sort of digitally networked commons of data, now privatised by corporate capture and 'monetisation'.

IBM became the dominant power in the new US-based computer industry back in the 1980s, selling computers and software to big businesses. This impacted Richard Stallman, a programmer, who realised that computer code need not be treated like other commodities. Once a computer script is written, *no additional materials* are needed to make another copy, unlike manufacturing other products, so why should it be sold in the same way? He adapted the principles of copyright law to preserve the right to use, modify, and distribute it under free software licenses, making it permanently shareable. It's like the idea of putting software into "The Digital Commons", as a resource for public use, even for the good of humanity. This is called Free/Libre or Open Source software (FLOSS). The concept he basically invented has grown massively since then.

The way FLOSS is developed sits hand-in-hand with co-operation. It's created and refined by worldwide communities of software developers, working in teams, aiming for consensus decision-making. They make all their work available freely. OK, you might need paid-for help to install and

maintain it, but the software itself is free, because the creators have decided to make it so. And as time goes on, it usually gets better.

Once software is written, and improved to a decent standard, there's no need to keep starting again (or to keep paying). All you need are occasional security updates, and a programme of reviewing and renewing laid out in terms of years ahead. This is the approach taken by, among others, the teams who keep developing the operating system I am using, Linux Mint 18.3. I keep it updated, easily, and I know years ahead when it will be time to replace it. (Even then it won't be obsolete – and many users keep older software running very happily on older computers with less capacity to run newer, bigger processes).

This contrasts with the experience of Windows users who have been forced to upgrade repeatedly, on pain of losing support and security. The transition from Windows 7 to Windows 10 has been particularly traumatic, for many users, and yet this has been the pattern from the first Microsoft version onwards. It will continue, it's their business model. Users must pay, and keep on paying, and stay with Windows. Yet Microsoft constantly makes mistakes, ignores bugs, lacks sufficient communication with users, and even introduces suspect/surveillance types of program. To Microsoft's customers, the details of these things are generally both unknown, and unknowable.

For FLOSS software, in contrast, viruses attacks are rare. They're harder to create and spread, because the code is 'open source' - it's available for inspection so programmers would spot trouble unlike, say, Microsoft or Apple which guard their secret code. It's like buying a car with the bonnet welded shut, and no right to tinker. A garage mechanic might have the equipment to diagnose problems and make adjustments, but imagine the engine is a sealed unit. That might be OK, if it's working, but it's only a few short years before it becomes unsupported and you're urged to upgrade – at further cost.

Microsoft computers are quite simple to switch over to Linux, Mac is less easy and in some cases impossible. The reasons involve the Apple way of developing hardware and software in tandem. When a new generation of Apple/Mac machines is introduced they push the technology forwards (not always successfully) but in doing so they deliberately and freely dump previous systems such as sockets/plugs, disc drive mechanisms, etc. This makes for an accelerated form of 'built-in-obsolence' - and waste disposal sites full of old Macs.

If you imagine your laptop, say, as a house. It can't really be taken apart, but things can be changed, right down to the plumbing and electrics which would be analogous to the house's 'operating system'. The Windows operating system is more than merely copyright, it's designed to be digitally impenetrable. Its internal details, its code, can only be accessed by highly skilled experts, and without authorisation this would be called 'piracy'. If you'd bought a house but the central heating or wiring could never be altered, that's a comparison. Yes, it can all be ripped out and replaced (by installing Linux in a way that completely over-writes Windows) but you can never open the lid on the existing system. Any electrician or plumber wouldn't be allowed to tamper, not even to open the boiler panel. They couldn't even obtain a wiring diagram, on pain of prosecution for computer piracy.

Mac users might be laughing at this but they're forced to replace their whole computer after each new 'generation' of Macs arrive!

Free/open source software runs most of the world's internet servers and supercomputers. It doesn't dominate the consumer market, yet, but it's worth trying. Many programs are available for use on Microsoft Windows and Apple/MacOS if you're not ready to replace your whole operating system. To find any particular type of software, a useful website called OS Alt (www.osalt.com) compares free and commercial programs, with suggested alternatives. You may be familiar with programs like Firefox web browser and Open Office or Libre Office. More specialised tools like graphics software (Gimp and Inkscape) and audio (Audacity) have advanced over the years, until these are now

excellent. I like to experiment with film-making so I find useful HandBrake (available for Windows, Mac OS and Ubuntu) which opens videos in various formats and you can convert them to an MP4. All this and far more is free to download from servers supported by universities, companies and not-for-profit groups.

There is a huge range of free/open source operating systems to replace the paid-for ones. It works on any PC, android phones, and other devices. You can replace the whole operating system or set up to share, say Windows 10, using what's called dual-boot. Examples include Android (for mobiles), Ubuntu, Debian and Linux Mint, my favourite. The latter comes with dozens of programs ready to use. From personal experience it never crashes, nor suffers security problems. In short, I'm happy with it and I welcome any chance to help other people get started with open source/free software.

Getting started with free software isn't easy, but it's worth the trouble; ask for help if you need it. Sadly not much of the IT industry is co-operative, but our co-op, Webarchitects, works only with free/open source software.

Since Covid-19 arrived, everybody seems to talk about Zoom meetings as if it's the new "Let's do coffee" but we don't "do Zoom". Instead we're working internationally with several other co-ops to offer a video-conferencing platform for online meetings, conferences, education and presentations.

Perhaps you're helping to arrange an online meeting for the first time? Webarchitects will be pleased to advise you on this or any other internet matter, co-operatively!

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