Free (Libre) Software Practices and Politics

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These slides © Nick Montfort 2023, CC BY-SA 4.0 ELO Conference 2023, Overcoming Divides / 2023-07-14 I've provided these slides for people who attended my workshop at the ELO Conference, July 14, 2023, so they can look back over them if they like.

Anyone else is welcome to read them, and even to modify and share them, as they are licensed as CC BY-SA.

However, these slides do not contain notes and were not meant to be used as a stand-alone resource. I just prepared them to facilitate our workshop.

Workshop Outcomes

- **1.** Be aware of the principles behind free (libre) software
- 2. Be able to characterize the free software movement
- 3. Identify practical free (libre) software
- 4. See how our incremental/further adoption can happen
- 5. Learn with each other about how to promote free (libre) software to individuals & our institutions

Workshop Focus

... is on software.

Specifically, software relevant to artists, authors, & scholars.

Free culture / open access overall, although related, is not our main topic.

"Software" will touch on Web services & even generative AI.



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Free software is not "no cost" or \$0 software.

It happens, today, that once one is online, one can get it for no marginal cost.

WE DEMAND OUR RIGHTS AND FREEDOM

CC BY 2.0 Ivan Radic

Free software is not fundamentally "gratis," but "libre."

It is software that ensures the user has freedoms.

REALIZABLE FANTASIES

The GNU Manifesto

by Richard Stallman

This month's installment of Realizable Fantasies features a guest appearance by Richard Stallman. Stallman, inventor of the original much-imitated Emacs editor and formerly of the Artificial Intelligence Lab at MIT, has worked extensively on compilers, editors, debuggers, command interpreters, the Incompatible Timesharing System (ITS) and the Lisp Machine operating system. He pioneered terminal-independent display support in ITS. Since then he has implemented one crashproof file system and two window systems for Lisp machines, and designed a third window system now being implemented; this one will be ported to many systems including GNU.-M.S.

GNU, which stands for Gnu's Not Unix, is the name for the complete Unix-compatible software system that I am writing so that I can give it away free to everyone who can use it. Many other programmers are helping me. Contributions of time, money, programs and equipment are greatly needed. Unix. We will make all improvements that are convenient, based on our experience with other operating systems. In particular, we plan to have longer filenames, file version numbers, a crashproof file system, filename completion, perhaps, terminal-independent display support, and eventually, a Lisp-based window system through which several Lisp programs and ordinary Unix programs can share a screen.

Both C and Lisp will be available as system programming languages. We will try to support UUCP, MIT Chaosnet, and Internet protocols for communication.

GNU is aimed initially at machines in the 68000/16000 class, with virtual memory, because they are the easiest machines to make it run on. The extra effort to make it run on less powerful machines will be left to someone who wants to use it on them.

Why I Must Write GNU

If I like a program, I must share it with other people who like it. Software sellers want to divide the users and conquer them, making each user agree not not too bad. The essential features of Unix seem to be good ones, and I think I can fill in what Unix lacks without spoiling them. Furthermore a system compatible with Unix would be convenient for many other people to adopt.

How GNU Will Be Available

GNU is not in the public domain. Everyone will be permitted to modify and redistribute GNU, but no distributor will be allowed to restrict its further redistribution. That is to say, proprietary modifications will not be allowed. I want to make sure that all versions of GNU remain free.

Why Many Other Programmers Want to Help

I have found many other programmers who are excited about GNU and want to help. Many programmers are unhappy about the commercialization of system software. It may enable them to make more money, but it requires that they feel like competitors with other programmers rather than like comrades. The fundamental act of friendship among programmers is the



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What Freedoms?

To run, copy, distribute, study, change, and improve the software.

"What Is Free Software?" https://www.gnu.org/philosophy/free-sw.html

The Four Freedoms

0. To run the program as you wish, for any purpose.

- 1. To study how the program works, and change it so it does your computing as you wish. (Access to the source code is a precondition for this.)
- 2. To redistribute copies so you can help others.
- 3. To distribute copies of your modified versions to others. By doing this you can give the whole community a chance to benefit from your changes. (Access to the source code is a precondition for this.)

"What Is Free Software?" https://www.gnu.org/philosophy/free-sw.html

Can free (libre) software be commercial?

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If commercial uses are prohibited, the software is not free.

So free (libre) software *must* be available for commerical, and all other, uses.

Can export-restricted software be free software?

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Can something "for educational use only" be free software?

The Four Freedoms

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- 2. To redistribute copies so you can help others.
- 3. To distribute copies of your modified versions to others. By doing this you can give the whole community a chance to benefit from your changes. (Access to the source code is a precondition for this.)

Is all open source software free?

(Strictly speaking...)

- **0.** To run the program as you wish, for any purpose.
- 1. To study how the program works, and change it so it does your computing as you wish. (Access to the source code is a precondition for this.)
- 2. To redistribute copies so you can help others.
- 3. To distribute copies of your modified versions to others. By doing this you can give the whole community a chance to benefit from your changes. (Access to the source code is a precondition for this.)

As a practical matter, most people use "open source" to mean the same thing as "free (libre) software," but without the same emphasis on user freedoms.

If you adhere to the ideals of the free software movement, it's best to use a term like "free (libre) software."

FLOSS and FOSS are also used.

The freedom(s) to run, copy, distribute, study, change, and improve the software.

How is "software freedom" ensured?

Unix. We will make all improvements that are convenient, based on our experience with other operating systems. In particular, we plan to have longer filenames, file version numbers, a crashproof file system, filename completion, perhaps, terminal-independent display support, and eventually, a Lisp-based window system through which several Lisp programs and ordinary Unix programs can share a screen.

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How is this "software freedom" ensured?

A legal mechanism: A free software license.

Early ones pioneered the idea of "copyleft."

"Share and share alike."

Free software licenses do not *need* to be copyleft, however.

They just have to give people the right to make changes and to share them.

They have to ensure users can run, copy, distribute, study, change, and improve the software.

Types of software license and similar licenses. The highlighted columns are free software.

	Public domain & equivalents	Permissive license	Copyleft (protective license)	Noncommercial license	Proprietary license	Trade secret
Description	Grants all rights	Grants use rights, including right to relicense (allows proprietization, license compatibility)	Grants use rights, forbids proprietization	Grants rights for noncommercial use only. May be combined with copyleft.	Traditional use of copyright; no rights need to be granted	No information is made public
Software	PD, CC0	MIT, Apache, MPL	GPL, AGPL	JRL, AFPL	proprietary software, no public license	private, internal software
Other creative works	PD, CC0	CC BY	CC BY-SA	CC BY-NC	Copyright, no public license	unpublished

CC BY-SA 4.0 Wikimedia Foundation, https://en.wikipedia.org/wiki/Free-software_license

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- 5. Learn with each other about how to promote free (libre) software to individuals & our institutions

What is the free software movement?

Most essentially: People promoting software freedom through the use, sharing, and development of free software, as they also help to share the free software philosophy. You can join organizations such as the Free Software Foundation or the Mozilla Founation.

You can go to an event such as LibrePlanet or participate in Software Freedom Day.

Those connect you to others in the free software community.

You can contribute to a large-scale free software project by working on development.

You don't have to be a programmer it's useful to have clear bug reports, and translators can help, too. But joining an organization, conference, or established project is not the only way.

Using free software, making your own software free (libre), and promoting practices & philosophies are really what the movement is about. While software freedom involves technology, the movement is a social movement.

The implications of software freedom may extend beyond everyday computer use, too.

Hacking Capitalism

The Free and Open Source Software Movement

Johan Söderberg

2008, reprinted 2015

"The fact that a loosely knit community of tinkerers can rival the research departments of the world's largest corporations, epitomised in GNU/Linux versus Windows, is quite remarkable. The significance of this observation pivots on the expectation that the success of FOSS development can be exported to other walks of life. Ultimately, we are enticed by the thought that the FOSS model could become the dominant mode of organising labour in the future."
Hacking Capitalism

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"Evidence in support of such a scenario, however, is left wanting. The scalability of FOSS projects has no comparison elsewhere in the economy. The ability to coordinate a large number of contributors is facilitated by the fact that the whole development process of software code takes place in communication networks."

What are worker-owned tech cooperatives?

A very general definition:

Worker-owned cooperatives are business enterprises that are owned and governed by their employees. All worker cooperatives have two common characteristics: 1) member-owners invest in and own the business together, and share the enterprise's profits, and 2) decision-making is democratic, with each member having one vote.

- community-wealth.org

Tech cooperatives are worker-owned cooperatives that operate in the information technology industry. This list focuses on tech coops that are providing software development and consulting services.

Tech cooperatives could be a solution if you feel alienated by big software corporations and startup culture or you feel alone and in search of solidarity as a freelancer.

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https://github.com/hng/tech-coops

Digital colonialism: US empire and the new imperialism in the Global South

MICHAEL KWET

Abstract: This article proposes a conceptual framework of how the United States is reinventing colonialism in the Global South through the domination of digital technology. Using South Africa as a case study, it argues that US multinationals exercise imperial control at the architecture level of the digital ecosystem: software, hardware and network connectivity, which then gives rise to related forms of domination. The monopoly power of multinational corporations is used for resource extraction through rent and surveillance - economic domination. By controlling the digital ecosystem, Big Tech corporations control computermediated experiences, giving them direct power over political, economic and cultural domains of life - imperial control. The centrepiece of surveil lance capitalism, Big Data, violates the sanctity of privacy and concentrates economic power in the hands of US corporations - a system of global surveillance capitalism. As a feature of surveillance capitalism, Global North intelligence agencies partner with their own corporations to conduct mass and targeted surveillance in the Global South - which intensifies imperial state surveillance. US elites have persuaded people that society must proceed according to its ruling class conceptions of the digital world, setting the foundation for tech hegemony. The author argues for a different ecosystem that decentralises technology by placing control directly into the hands of the people to counter the rapidly advancing frontier of digital empire.

Michael Kwet is Visiting Fellow at the Information Society Project, Yale Law School and a PhD Candidate in Sociology at Rhodes University, South Africa.

"Software functions as the coded logic that constrains and enables particular user experiences. ... Microsoft maintains absolute control over how [Windows] works. The same goes for other proprietary apps, like Google Play or Adobe Photoshop. By design, non-free software provides the [corporate] owner power over the user experience. It is authoritarian software."

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"The Free Software Movement ... developed within the centre of empire in response to enclosure of the software commons, first through proprietary software and now through Internet centralization. It has concentrated on developing forms of technology that grant control to individuals and communities for the purpose of individual and collective freedom."

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"During the 2000s, Free Software ... was endorsed for public sector implementation across the Global South ... The development and dispersion of the Free Software philosophy across the world resembles the development of socialism within Europe as a reaction to land enclosure and industrial exploitation, and its subsequent spread across liberation movements throughout the world."

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"Impressed by the anti-possessive design of Free Software, Archbishop Desmond Tutu has endorsed the FSM. Introducing Stallman at the University of Western Cape in 2007, he stated: 'There are those who will take the fruits of the human mind and lock them up. dishing them out to us in meted amounts for a fee that locks most of our people out. And there are laws that are reserved for business reasons and changed to rob society of its own rights ... Free Software and Open Source, Free and Open Resources for Education, new ways to create and share cultural artifacts such as music, writing, and art — all of these are changing the world for the better."

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WE DEMAND OUR RIGHTS AND FREEDOM

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Apache * Audacity BIND * Blender Calibre Debian * Drupal Emacs Firefox GCC Glimpse GNU utils Inkscape LibreOffice



Linux (kernel) * MediaWiki * MySQL * Nextcloud Notepad++ Perl PHP * Pine (Alpine) Processing Python Sendmail Ubuntu VLC WordPress *

Some free software substitutes for propriety software.



Some free software substitutes for propriety software.



Some free software substitutes for propriety software.







A lot of free software does things that no proprietary software does.

Ð		Melo	ł	Text Filters = ×
Ŧ	/meld-gitlab/meld/filediff.py		Ŧ	L/meld-comparison/meld/filediff.py
2130	<pre>self.recompute_label()</pre>		1650	self.readonlytoggle[index].props.visib
2131	<pre>index = self.textbuffer.index(buf)</pre>		1651	self.set_buffer_editable(buf, writable
2132	self.readonlytoggle[index].props.visib		1652	
2133	self.set_buffer_editable(buf, writable		1653	def set_buffer_editable(self, buf, editable
2134			1654	index = self.textbuffer.index(buf)
2135	<pre>def set_buffer_editable(self, buf, editabl</pre>		1655	self.readonlytoggle[index].set_active(
2136	index = self.textbuffer.index(buf)		€1656	self.readonlytoggle[index].props.icon_
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2142	self.on_cursor_position_changed(buf, N		1662	linkmap.queue_draw()
2143			1663	
2144	@with_focused_pane		1664	@with_focused_pane
2145		→ ·	← 1665	def save(self, pane):
2146	self.save_file(pane)		1666	self.save_file(pane)
2147			1667	
2148	@with_focused_pane		1668	@with_focused_pane
2149		→ ·	←1669	<pre>def save_as(self, pane):</pre>
2150	self.save_file(pane, saveas=True)		1670	self.save_file(pane, saveas=True)
2151			1671	
2152		→ ·	←1672	<pre>def on_save_all_activate(self, action):</pre>
2153	<pre>for i in range(self.num_panes):</pre>		1673	<pre>for i in range(self.num_panes):</pre>
2154	if self.textbuffer[i].get_modified		1674	if self.textbuffer[i].get_modified
2155	<pre>self.save_file(i)</pre>		1675	self.save_file(i)
2156			1676	
Displ	lay ▼ Unicode (UTF-8) ▼ Python 2 ▼ Ln 13, Col 1 ▼		Dis	:play ▼ Unicode (UTF-8) ▼ Python 2 ▼ Ln 1658, Col 23 ▼

Some free software is not a substitute, so people hoping for one will be disappointed.

mastodon

There is free software for cloud services. You can run it yourself or pay to have a company run this software (still respecting the four freedoms) for you.



There are free software alternatives even for cutting-edge systems.



Apache * Audacity BIND * Blender Calibre Debian * Drupal Emacs Firefox GCC Glimpse GNU utils Inkscape LibreOffice



Linux (kernel) * MediaWiki * MySQL * Nextcloud Notepad++ Perl PHP * Pine (Alpine) Processing Python Sendmail Ubuntu VLC WordPress *

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A user can move toward more software freedom, even if they aren't ready to purge their computer of all proprietary software.

The best place to start is where proprietary software enforces strong types of domination:

Lock-in

Restrictions on communication Corporate surveillance & data gathering

Lock-in

Prevents users from using *any* different software, because their data is locked in a proprietary format.

You also invested your time in learning menu layouts, keyboard shortcuts, etc.

Restrictions on Communication

You cannot FaceTime with me because I have an Android phone.

You communicate using a social network where the rules may change at any point; your account may be suspended without explanation, you may be required to pay, your reading may be harshly limited.

Corporate Surveillance & Data Gathering

Your emails are all processed by a global megacorporation, which knows enough about them to suggest completions of phrases and serve you targeted advertisements.

Now, time for some workshop work!

What do we do with our computers?

(And what would we like to?)

We'll list some opportunities to incrementally adopt free software.

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We all live in hierarchies... patriarchies, systems of power & oppression.

Just as our labor allows us to eat, have shelter, and get health care, our employer may compel us to use proprietary software.

We can still make choices and find chances to further the free software cause.

What are some practical ways those of us here can think to do this?

Can we brainstorm together now?

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Thank you!

And please let me know if you join our movement!

Nick Montfort

nickm@nickm.com

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