

# Labor movements and the free software community

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Value your freedom or you will lose it, teaches history.  
'Don't bother us with politics', respond those who don't  
want to learn.

- Richard M. Stallman, Founder of FSF

**A note on terminology:**  
**Free Software vs. Open Source**

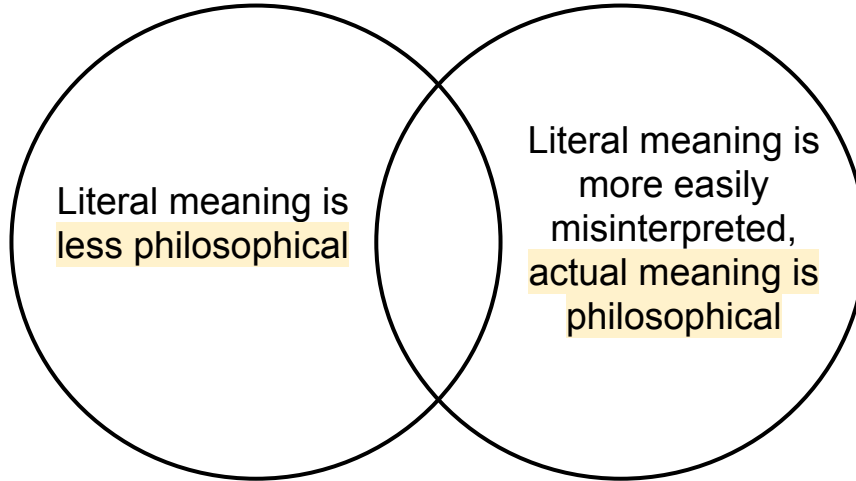
## **Free software:**

Software that ensures that the end users have freedom in using, studying, sharing and modifying that software. Free as in “free speech” not “free of charge.”

## **Open source software:**

Software for which the original source code is made freely available and may be redistributed and modified.

# Open source vs. Free software



## **FLOSS:**

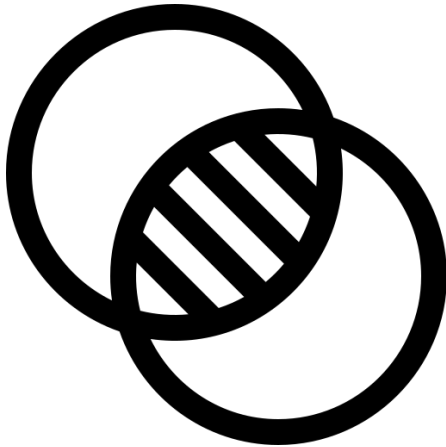
Free/Libre and Open Source Software  
(preferred)

# Agenda

- Philosophy of organized labor vs. free software
- Tactics of Organized Labor
- The rise of free software
- Why do people work on free software?
- The Internet & Organized labor



# Philosophical similarities between free software movement and organized labor



# Freedom/Choice

To be free, the workers must have choice. To have choice they must retain in their own hands the right to determine under what conditions they will work.

- Samuel Gompers, longest serving president of American Federation of Labor (AFL)

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# The importance of community

At the core, labor unions (we) are working men and women, unified as one force. Despite any personal differences that may exist between us, we have banded together to protect and improve the lives of workers. We rise up together for the greater good. We defend one another like family.

- Sue Carney, Former Director of HR for American Postal Workers Union

“If you focus your mind on the freedom and community that you can build by staying firm, you will find the strength to do it.”

- Richard Stallman, Founder of FSF

# Applying pressure through numbers

Nothing counts but pressure, pressure, more pressure, and still more pressure through broad organized aggressive mass action.

—A. Philip Randolph, labor unionist, civil rights activist

The most effective way to strengthen our community for the future is to spread understanding of the value of freedom—to teach more people to recognize the moral unacceptability of nonfree software. People who value freedom are, in the long term, its best and essential defense.

- Richard Stallman, Founder of FSF



# **Organized labor:** **Tactics, & Achievements**

# What is organized labor?

No man can be a good citizen unless he has a wage more than sufficient to cover the bare cost of living, and hours of labor short enough so after his day's work is done he will have time and energy to bear his share in the management of the community, to help in carrying the general load.

- Theodore Roosevelt

# Organized labor: The Tactics

The strike: withholding of labor



# Organized labor: The Tactics

Picketing: Gathering near an institution (usually with signs to inform others), often combined with a strike





# Organized labor: The Tactics

Boycott: Refusing to buy a company's products



# Organized labor: The Tactics

Community building: deliberate engagement with communities



# **The Opposition: Anti-union tactics**

In 2018, 48 percent of nonunion workers said they would join a union if they could; yet just 10.7 percent of workers belong to a union today.

# **The Opposition: Anti-union tactics**

Employers spend \$340 million/year on union avoidance consultants.

- Economic Policy Institute

# The Opposition: Anti-union tactics

- Forcing employees to attend daily anti-union meetings
- Plastering the workplace with anti-union posters, banners, and video ads
- Instructing managers to:
  - tell employees that there's a good chance they will lose their jobs if they vote to unionize
  - hold multiple one-on-one talks with each of their employees, stressing why it would be bad for them to vote in a union
  - tell employees that pro-union workers are "the enemy within"
  - grill subordinates about their views on unionization, effectively destroying the principle of a secret ballot

# The Opposition: Media coverage

**Table 1: Tone of Op-Eds**

<i><b>Tone</b></i>	<i><b>Number of stories</b></i>	<i><b>Percent of stories</b></i>
<i>Critical</i>	74	56%
<i>Neutral</i>	32	24%
<i>Supportive of Unions</i>	27	20%
<i><b>Total</b></i>	133	

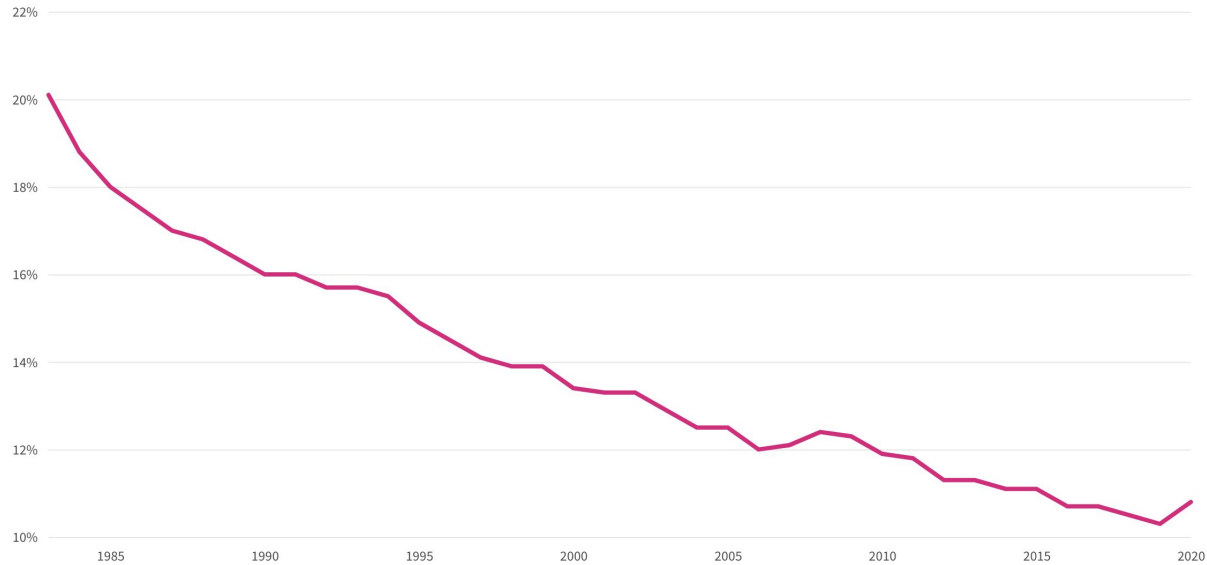
# The Opposition: Media coverage

“The shallow, stereotyped and overwhelmingly negative coverage of teachers’ unions places them in a defensive position in the national news media and forces them to fight an uphill battle for deeper public appreciation of their connection to meaningful reform,” Research Company FrameWorks Institute

# The Opposition: Worker disengagement

Union membership has been declining since the 1980s.

Percent of union members among all employees



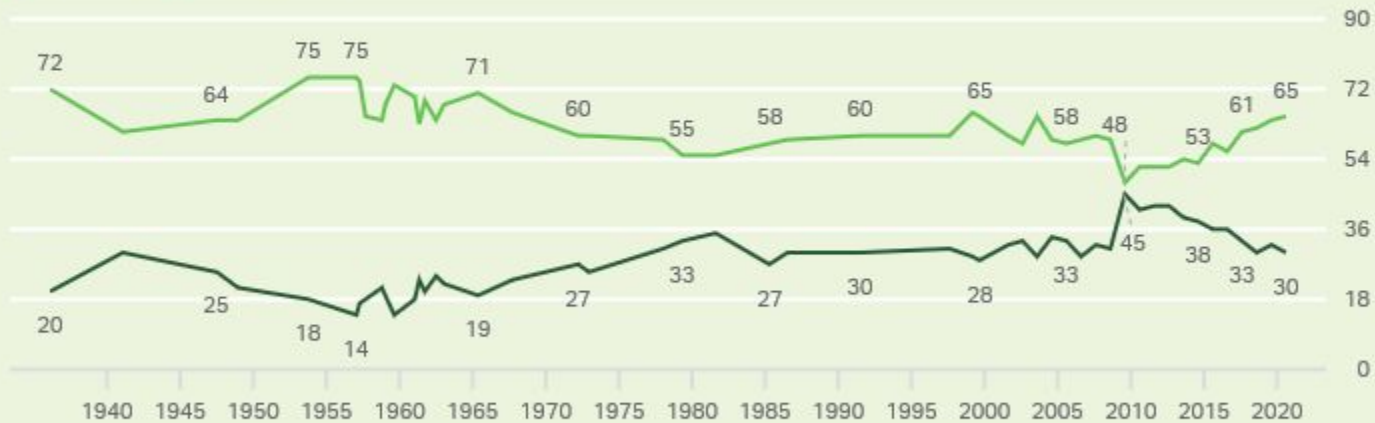
Sources: Bureau of Labor Statistics. [see more](#) ▾



# The Opposition: Worker disengagement

Do you approve or disapprove of labor unions?

■ % Approve ■ % Disapprove



GALLUP



# Labor achievements

## **Labor achievements: 1912-1918**

- 36 states adopted workmen's compensation
- Several states: one day's rest in 7, limits on night work, limits on work day, minimum wage laws

## **Labor achievements: 1930s**

- 40-hour workweek
- Overtime pay over 40 hours
- Federal minimum wage
- Abolished child labor

# **Labor achievements: Safety**

- 1913: 23,000 workers died on the job
- 2017: 5,147 workers died on the job

**Decline in workers covered by a union**  
**from 27% in 1979 to 11.6% in 2019**

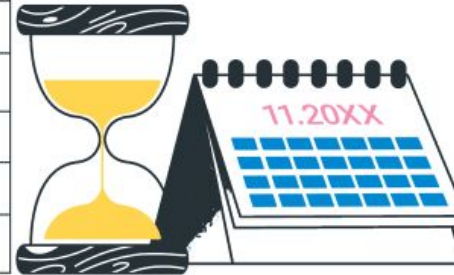
# Effects of decline in organized labor

- CEO compensation has grown 940% since 1978
- Typical worker compensation has risen only 12%
- CEO compensation ratio is 278-to-1  
(up from 58-to-1 in 1989, 20-to-1 in 1965)

# Effects of decline in organized labor

Average annual work hours 1979 vs 2015

	1979	2015	$\Delta\%$
USA	1,829	1,790	-2.13
UK	1,813	1,674	-7.67
Australia	1,834	1,665	-9.21
Canada	1,841	1,706	-7.33
France	1,832	1,482	-19.11
Germany	2,186	1,371	-37.46
Spain	1,954	1,691	-13.46
Japan	2,126	1,719	-19.14

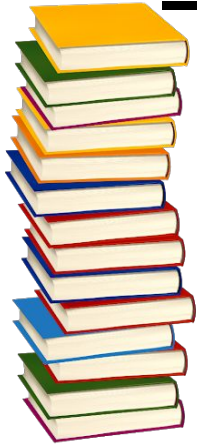




# Future of organized labor

- Teachers strikes
- Fight for 15
- Increases in union favorability

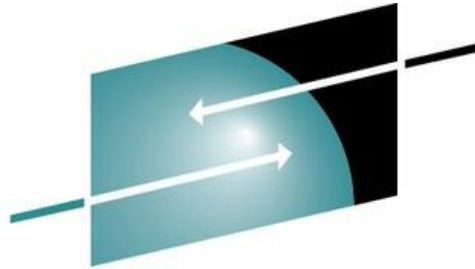
# [Abridged] History of Free/Libre and Open Source Software



**1950s and 1960s:**  
**Public domain software**



1955:  
SHARE users group

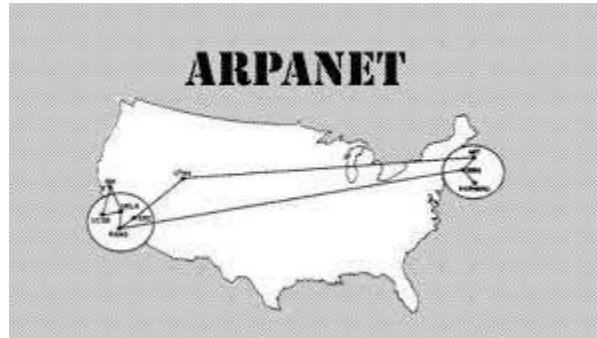


**S H A R E**®

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**1969:**

**ARPANET makes sharing source code**  
**easier**



**17 January 1969:**

**United States vs. IBM alleged that  
bundled software was anticompetitive**

**1974:**

**U.S. Commission on New  
Technological Uses of Copyrighted  
Works (CONTU) decided computer  
programs were subject to copyright**

**1980s:**

**Trend to only release machine  
executable (not human readable code)**





**1983:**  
**GNU Project**



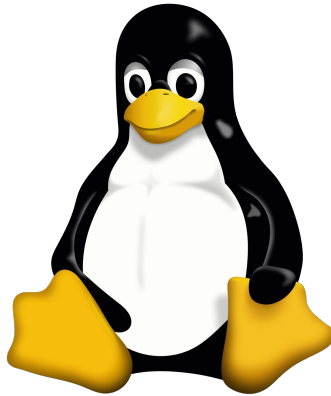
**1985:**

**Free Software Foundation created**



**FREE SOFTWARE**  
**F O U N D A T I O N**

**1991:**  
**Linux kernel released**



**1998:**  
**Open Source Initiative**





# **Growth in free software**

# The rise of FLOSS

“When I built my first company starting in 1999 it cost \$2.5 million in infrastructure just to get started and another \$2.5 million in team costs to code, launch, manage, market & sell our software.

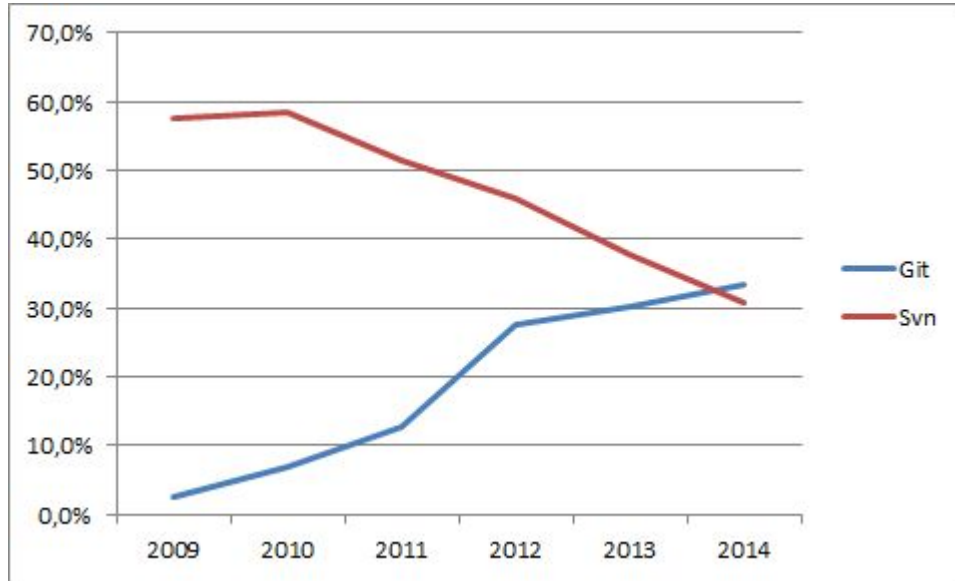
The first major change in our industry was imperceptible to us as an industry. It was driven by the introduction of opensource software, most notably what was called the LAMP stack. Linux (instead of UNIX), Apache (web server software), MySQL (instead of Oracle) and PHP. Of course there were variants – we preferred PostGres to MySQL and many people used other programming languages than PHP. Open source became a movement – a mentality. Suddenly infrastructure software was nearly free. We paid 10% of the normal costs for the software and that money was for software support. A 90% disruption in cost spawns innovation – believe me.

- Mark Suster, Managing partner at Upfront Ventures

# Free Software Contributions

According to the 2015 Future of Open Source survey, 78% of the 1,300 companies surveyed said their software created for customers was built on open source, nearly double that of 2010.

# The rise of Git







# stack overflow

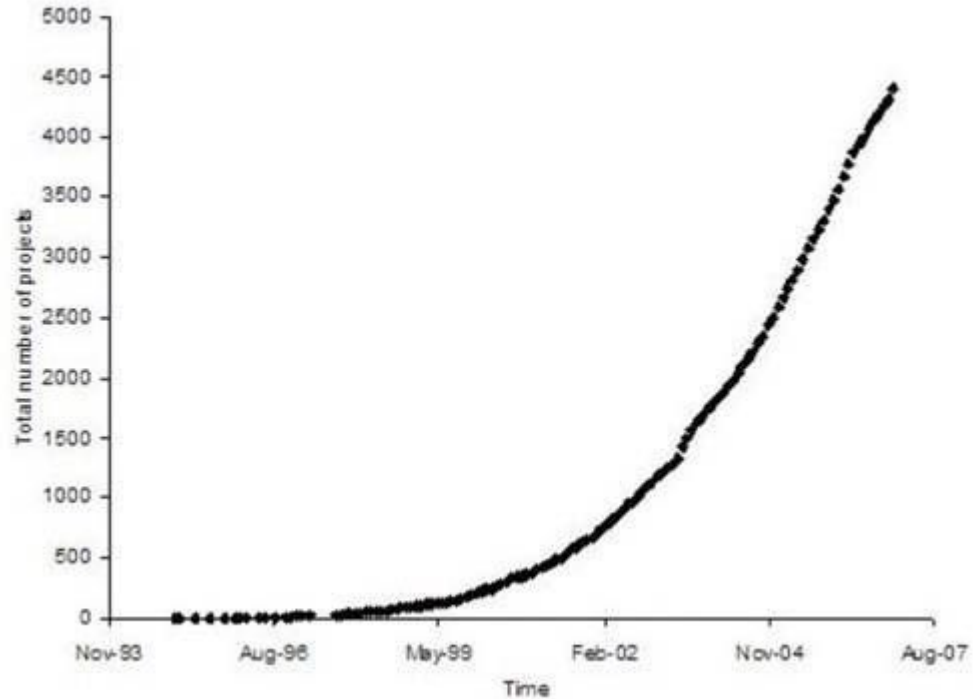
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You can't parse [X]HTML with regex. Because HTML can't be parsed by regex. Regex is not a tool that can be used to correctly parse HTML. As I have answered in HTML-and-regex questions here so many times before, the use of regex will not allow you to consume HTML. Regular expressions are a tool that is insufficiently sophisticated to understand the constructs employed by HTML. HTML is not a regular language and hence cannot be parsed by regular expressions. Regex queries are not equipped to break down HTML into its meaningful parts. so many times but it is not getting to me. Even enhanced irregular regular expressions as used by Perl are not up to the task of parsing HTML. You will never make me crack. HTML is a language of sufficient complexity that it cannot be parsed by regular expressions. Even Jon Skeet cannot parse HTML using regular expressions. Every time you attempt to parse HTML with regular expressions, the unholy child weeps the blood of virgins, and Russian hackers pwn your webapp. Parsing HTML with regex summons tainted souls into the realm of the living. HTML and regex go together like love, marriage, and ritual infanticide. The <center> cannot hold it is too late. The force of regex and HTML together in the same conceptual space will destroy your mind like so much watery putty. If you parse HTML with regex you are giving in to Them and their blasphemous ways which doom us all to inhuman toil for the One whose Name cannot be expressed in the Basic Multilingual Plane, he comes. HTML-plus-regex will liquify the nerves of the sentient whilst you observe, your psyche withering in the onslaught of horror. RegEx-based HTML parsers are the cancer that is killing StackOverflow *it is too late it is too late we cannot be saved* the transgression of a child ensures regex will consume all living tissue (except for HTML which it cannot, as previously prophesied) *dear lord help us how can anyone survive this scourge* using regex to parse HTML has doomed humanity to an eternity of dread torture and security holes *using regex* as a tool to process HTML establishes a *breach between this world* and the dread realm of corrupt entities (like SGML entities, but *more corrupt*) *a mere glimpse* of the world of regex **ex parsers for HTML will instantly transport a programmer's consciousness into a world of ceaseless screaming, he comes, the pestilent-slitly regex-infection will devour your HTML** parser, application and existence for all time like Visual Basic only worse *he comes he comes do not fight he comes, his unholy radiance destroying all enlightenment, HTML tags leaking from your eyes like liquid pain,* the song of regular expression parsing will extinguish the voices of *mortal man from the sphere I can see it can you see it it is beautiful the final snuffing of the lies of Man ALL IS LOST ALL IS LOST the pony he comes he comes he comes the ichor permeates all MY FACE MY FACE oh shed no NO NOOOO NO stop the angels, que not real* **ZALGO IS TONY THE PONY HE COMES**

Have you tried using an XML parser instead?

# Graph of source lines of code added [millions]





**What does free software do for the  
world?**



# Digital Infrastructure for the web

- Kubernetes: 56% of companies expect use of containers to increase, 78% prefer Kubernetes
- OpenSSL: 46.59% of market share
- FireFox: 250 million users

# What does free software do for the world?



Makes it easier to start a company

# What does free software do for the world?

⚡ Ignites passion in technology

“I wanted to learn to program but I didn’t have money. Not the college student version of not having money—my family situation was low-income, but also highly chaotic.... This is going to seem strange to anyone [today], but at the time there were basically two options for someone who wanted to write real software: you could use a PC with Windows and pay extra for Microsoft’s development tools, or you could have access to a Unix system and use gcc.... So my goal became to get access to accounts on Unix systems so I could learn how to write code and do cool stuff.”

- Aubrey Eschright, about learning to code in the late 1990s

# What does free software do for the world?



Provides digital infrastructure that improves the web



Makes it easier to start a company



Ignites passion in technology



# Free software Movement Tactics



# Free software: The Tactics

 Education and awareness

 GNU Project, GNU GPL

 Community building

# Free software: The Tactics

 Education and awareness [picket]

 GNU Project, GNU GPL [boycott]

 Community building [community]

**Next: Sustainability of work on free  
software**

# Heartbleed vulnerability

- 1998: Group of developers creates OpenSSL

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- 2014: 2/3 of the web encryption software depended on OpenSSL
- 1 April 2014: Heartbleed bug reported to OpenSSL
- 7 April 2014: A fixed version of OpenSSL made available



# Heartbleed vulnerability

“[S]ome might argue that [Heartbleed] is the worst vulnerability found...since commercial traffic began to flow on the Internet.”

- Joseph Steinberg, cybersecurity columnist for Forbes

# Heartbleed vulnerability

- Founder did not take a salary
- Gross revenues primarily went to security-related testing
- Only enough funding to pay one developer full-time

# Heartbleed vulnerability

“The mystery is not that a few overworked volunteers missed this bug; the mystery is why it hasn’t happened more often.”

- Steve Marquess, Founder of OpenSSL

# Free software's unpaid labor

“I’m looking at you, Fortune 1000 companies. The ones who include OpenSSL in your firewall/appliance/cloud/financial/ security products that you sell for profit, and/or who use it to secure your internal infrastructure and communications. The ones who don’t have to fund an in-house team of programmers to wrangle crypto code, and who then nag us for free consulting services when you can’t figure out how to use it. The ones who have never lifted a finger to contribute to the open source community that gave you this gift. You know who you are.”

- Marquess (OpenSSL Contributor)

# Producers vs. consumers



# Free software's unpaid labor

“These guys don't work on OpenSSL for money. They don't do it for fame (who outside of geek circles ever heard of them or OpenSSL until 'heartbleed' [sic] hit the news?). They do it out of pride in craftsmanship and the responsibility for something they believe in. It takes nerves of steel to work for many years on hundreds of thousands of lines of very complex code, with every line of code you touch visible to the world, knowing that code is used by banks, firewalls, weapons systems, web sites, smart phones, industry, government, everywhere. Knowing that you'll be ignored and unappreciated until something goes wrong. There should be at least a half dozen full time OpenSSL team members, not just one, able to concentrate on the care and feeding of OpenSSL without having to hustle commercial work. If you're a corporate or government decision maker in a position to do something about it, give it some thought.

Please. I'm getting old and weary and I'd like to retire someday.

- Marquess

**Why do people work on free  
software?**

**“The Simple Economics of  
Open Source”**



# Money & Free Software

“ Open source has been such an incredible force for quality and community exactly because it's not been defined in market terms. In market terms, most open source projects should never have had a chance. Take Ruby on Rails. [...] That's a monumental achievement of humanity! Thousands, collaborating for a decade, to produce an astoundingly accomplished framework and ecosystem available to anyone at the cost of zero. Take a second to ponder the magnitude of that success. Not just for Rails, of course, but for many other, and larger, open source projects out there with an even longer lineage and success. It's against this fantastic success of social norms that we should be extraordinarily [sic] careful before we let market norms corrupt the ecosystem.

- David Heinemeier Hansson (DHH)

# Why do people work on free software?



Experience



Prestige



Community



Meaningful work



Using the product

**What might a more sustainable free  
software community look like?**

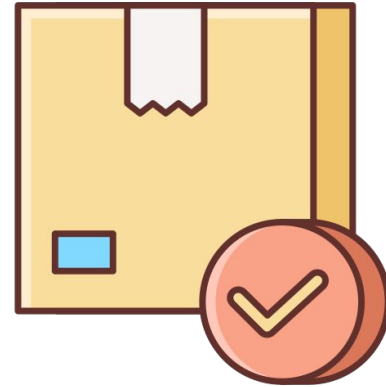
# Sustaining free software work

- Corporate donations or bounties
- Subscription based funding
- Foundation support
- Having companies structure free software development into work time
- Crowdfunding

# Rethinking our relationship to work



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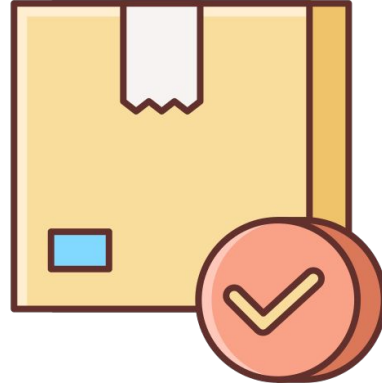
The money you get for your work

The value of your work

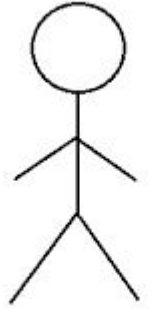
# Rethinking our relationship to work



≠



≠



The money you get for your work

The value of your work

You

# How can free software support the labor movement?



Solidarity, June 30, 1917. The Hand That Will Rule the World—One Big Union.

# 2002: Open-source unionism:




“The Internet reduces to near-zero the marginal cost of providing information, advice and some direct services to members. And Net usage in America is approaching 80 percent of households or workplaces. What this means is that unions can be continuously communicating with even a vast membership, at a cost that is basically independent of the number of members. Servicing and coordination of a mass labor movement, drawing on membership more varied and dispersed than present membership, is economically feasible today in a way it was not just a few years ago.”



“This strike wouldn’t have happened without the grassroots organization through the private Facebook group.”

- Ryan Frankenberry, an organizer with the progressive West Virginia Working Families Party

# The Internet + Organized Labor

-  Increased engagement with members
-  More effective organizing
-  Broader platforms for organized strikes

# Software & Surveillance



# Software & Surveillance

- In a 1993 survey of large corporations, 22 percent admitted they spied on their workers with some form of electronic surveillance and never told employees they were being monitored.
- By 1999, 45 percent of employers maintained active and continuous monitoring of employees.
- The latest surveys [2018] show that 67 percent of employers use some form of electronic spying on employees.

# Software & Surveillance

A survey by the Bentley Center for Business Ethics found 25% of employers allow information technology staff to look at other workers' internet activity and personal emails for any reason.

# Software & Surveillance

“Walmart did get a lot of heat for its labor practices, but I think it has been supplanted by Amazon. Amazon has taken spying on workers and trying to understand workforce behavioral trends or predilections to the next level.”

- Ian Gold, director with the Teamsters

# Software & Surveillance

Companies use anti-union surveillance tactics like:

- Monitoring email
- Monitoring social media activity
- Mapping anti-union sentiment based on location

# The Internet + Organized Labor

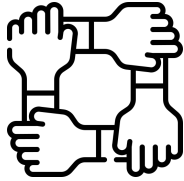
“Massive privacy intrusions like this are to be expected when people shift from storing their media locally and using local software, to storing them on other people's servers and using hosted (Web) applications. Giants like Microsoft, Facebook and Google are vulnerable to government requests for user data, and there are better, more secure ways to share information online.

Free software projects...are hard at work creating a less centralized world where users retain control over both their media and the software used to access it, while still getting the social and convenience benefits of the giant centralized -- and compromised -- services.”

- John Sullivan, Executive Director of FSF



**Fight for free software & Fight for**  
**organized labor =**  
**Fight for freedom/control**



# How to get involved

# Relevant projects

- Hacktheunion
- Fatal encounters database
- Portside

# **Free software advocacy: things you can help do**

- Measure the usefulness of free software
- Encourage standards and licenses
- Build awareness in your circles

“As long as he owns your tools he owns your job, and if he owns your job he is the master of your fate. You are in no sense a free man. You are subject to his interest and to his will. He decides whether you shall work or not. Therefore, he decides whether you shall live or die. And in that humiliating position any one who tries to persuade you that you are a free man is guilty of insulting your intelligence.”

— Eugene V. Debs,  
Founder of Industrial Workers of the World

**Thank you!**

