FREE SOFTWARE FOUNDATION

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Contents

FSF at 35: Why free software matters more than ever

By John Sullivan
Executive Director

These are excerpts from John's talk at the FSF35 anniversary celebration, edited for length and clarity. You can watch the full event videos at `u.fsf.org/35vid`.

I hope you have been enjoying our small celebration of the thirty-five years that the FSF and our supporters have been hacking, campaigning, organizing, and educating for user freedom.

I've had the good fortune of being at the FSF for over seventeen years – nearly half of the thirty-five years we're celebrating today. I'm so thankful for all of you – the members, volunteers, and supporters – who have stuck with us through the ups and downs.

I miss seeing so many of you in person, hearing your stories, and getting updates on your projects and organizing efforts. This work that we do together, standing up to some of the most powerful and wealthy corporations and governments on the

The FSF thirty-fifth anniversary artwork was inspired by the interdependence of organisms in a coral reef.

planet, can be exhausting. This pandemic has been hell on people in so many ways, and I've wondered at several points whether we should even be talking about free software with so many kinds of suffering happening around the world.

Then, I see the headlines. Public schooling conducted over Zoom, which requires nonfree software; bulk surveillance of protesters at Black Lives Matter events, including exploitation of proprietary software backdoors; the massive cultural land grab by music and video streaming services that use Digital Restrictions Management (DRM) to tightly control and surveil what we watch and listen to, and even what gets created; and, of course, all of the headlines about science and our desperate need for major breakthroughs.

Our new "Rewind" animated short focuses on the necessity of free software and free software principles to scientific advancement – if you haven't seen it yet, please watch and share `u.fsf.org/rewind`. We can't have our doctors and researchers unable to collaborate with each other or check each other's math because of the proprietary terms of some company's stupid license agreement.

We also saw the antitrust hearings in the US that focused on Big Tech, but mistakenly viewed the problem as companies having grown too large, rather than companies being based on fundamentally unjust power.

We can't have massive companies leveraging their completely artificial and arbitrary control over the software and platforms through which billions of people experience their daily lives to subvert our democracies.

We can't have cultural gatekeepers with the ability to determine what we watch and listen to – both by deciding what gets made and what gets deleted, sometimes silently – who also claim the right to stop you from recording the things they show, while they freely record you.

We can't have our political speech or willingness to join important peaceful demonstrations chilled by bulk surveillance facilitated by the proprietary software devices in so many people's pockets, and the proprietary software entangling our governments.

We can't have our schooling dependent on proprietary software, which represents the very antithesis of learning: you may not study it to learn how it works, you may not share it to help someone else, and you may not apply what you've learned to make improvements to it or just experiment.

So yes, free software is important right now. It isn't a magic wand, and it won't, by itself, solve all of these

issues. But it is a precondition, a necessary foundation on which to build the solutions we need. And the FSF is likewise a foundation upon which the free software movement has been built, and upon which it can continue to grow. We are not developing all of the free software ourselves, but we are fighting for the ideals, the awareness, and the sharing. We are providing legal and technical infrastructure, which creates and holds the space for other people to do amazing things with free software.

When you support the FSF, that's what you're supporting. It isn't just the development of particular programs, or the propagation and defense of the GNU General Public License and copyleft, though we absolutely do that. You are supporting the idea that all software must be free as in freedom, and that without free software, we cannot and will not have free societies.

With your support, we can win. "Big Tech," the term used to describe corporate behemoths, is a misnomer, because there is no bigger tech than free software. By definition, software that you distribute under terms that allow anyone on the planet to use, share, and improve – that is the biggest possible tech. Let's make that a reality. Let's make sure all software is free software before another thirty-five years pass. Thank you for your support.

Celebrating the FSF's tireless commitment

By Greg Farough
Campaigns Manager

It's an honor to be the campaigns manager of an organization that has maintained a tireless commitment to user freedom for thirty-five years. Getting an accurate handle on decades of historical, philosophical, and technical development hasn't been easy, but it never ceases to be inspiring.

The free software movement is a testament to how enduring a simple set of principles can be. Not only has the Free Software Definition been influential in other fields of endeavor like cultural works, but it's served as a foundational tool for evaluating whether the digital tools we use have our best interests in mind. If they do, that gives us cause to celebrate. But if they don't, the definition also points the way to practical steps that we need to take to achieve freedom. These sound principles and the dedicated activists behind them are rare in any community, but when the organization was founded in 1985, they were visionary.

The stakes for our work are higher today than most people would have anticipated back then, unless they had read and understood their Philip K. Dick. However, the FSF has been discussing the potential for software to lead to a dystopia since

its inception. In a world in which your doorbell spies on you and Digital Restrictions Management (DRM) has penetrated to the deepest levels of computer hardware, subverting the user's interests for those of surveillance capitalism, these principles are as vital and necessary as when they were conceived.

The campaigns team, whose role is to address issues threatening software freedom and to expand the free software movement, was not present at the beginning of the FSF's history. Instead, the early FSF focused on being the legal steward of the GNU General Public License (GPL) and the technical development of the GNU operating system. But as we saw threats arise, and knowing that only we would stand up in defense of the founding principles, the organization decided to combat them holistically. Today, we have messaging on nearly every topic affecting the freedom of computer users, and our team is constantly addressing new issues, such as the need for ethical hosting services, the continual threat of nonfree JavaScript, Service as a Software Substitute, institutional pressure to use nonfree communication tools, and the ubiquitous presence of DRM.

We're now grappling with the fact that a significant chunk of computing is done exclusively on mobile phones, but due to technical limitations, the community can only make limited recommendations on mobile phone freedom. We need to harness the energy and enthusiasm of a new generation of hackers from around the world to remedy this. It's our job to ensure that freedom is brought to all software users, even if their computer is pocket-sized, and this is particularly of concern to our younger audience.

Thirty-five years in, our movement is just as relevant and important as ever, and if its goals are going to succeed, we need more supporters than ever. Although our community has built enough software for the average person to do all of their daily computing in full freedom, we are up against an incredible amount of adversity. Companies like Apple, Google, Facebook, and Amazon have billions of dollars to pour into funding proprietary software. When the FSF was founded, computing freedom was a niche concern, but today, the digital freedom of everyone you know is at stake. We hope you'll continue your support for many anniversaries to come.

How Tor improves usability without compromising user privacy

By Isabela Bagueros
Executive Director, Tor Project

The Tor Project is a nonprofit whose mission is to advance

Isabela and a colleague at the Tor Project table at LibrePlanet 2019.

human rights and freedoms by creating and deploying free software anonymity and privacy technologies, supporting their unrestricted availability and use, and furthering their scientific and popular understanding.

We are the developers of the Tor network and Tor Browser. The Tor network protects the privacy of 2.5 million users every day via "onion routing," which directs Internet traffic – email, instant messages, online posts, Web form visits, and more – through a multilayered network that obfuscates who the user is, concealing their identity and location. It can be accessed through Tor Browser or integrated into third-party applications and Web sites, to protect users against network traffic analysis, government censors, and network attacks.

Users depend on Tor for matters of huge importance like circumventing censorship, protecting democracy, and even protection from violence. It's extremely important that our tools are easy to use.

However, because our design prioritizes privacy, our tools gather very little information about our users, which makes it difficult for us to communicate with users and determine what their needs are. Our metrics portal has some usage data about which countries users connect from, and if the user connected directly to the network or had to use any circumvention tool. We also meet users at conferences and training sessions. And we utilize research published by the academic and research communities, which have always collaborated with Tor.

So until recently, we did not have a systematic and proactive way to involve users and integrate their use cases and feedback into development cycles. This is why, early in 2018, we

began our User Research Program, where our team meets users face-to-face. This meant building a digital security training program for partners in the Global South who are working on human rights struggles within minority communities in the region. We incorporated user research as part of our trainings by doing interviews and collecting user feedback on the tools we taught participants.

During every training, we carry out a threat model exercise that will influence the content of the training. We created courses with different modules that can be put together according to the needs of the participants. Along with Tor Browser, we teach about other tools that improve security: for instance, in trainings customized for journalists, we talk about ways to securely share sensitive information using OnionShare.

So far, this program has reached an audience of over 800 people in countries like Brazil, Colombia, Mexico, India, Indonesia, Kenya, and Uganda. We collected and mapped real user stories, identified the patterns across them, and created five "personas," to help our teams understand who is using their tools and what their needs are. These are just a small reflection of user needs, and are not real individuals. The personas are:

• *Jelani, the human rights defender:* Jelani lives in Uganda, and is a human rights defender who publishes information related to the LGBTQ+ community. He wants to minimize risk of arrest for doing this in a country where LGBTQ+ people are criminalized.

• *Aleisha, the privacy-seeker:* Aleisha is facing domestic violence from her husband and is looking for a safe way to seek help.

• *Fernanda, the feminist activist*: Fernanda is another activist, a feminist who also wants to publish information online without fear of surveillance and arrest.

• *Fatima, the censored user:* Fatima is looking for a way to circumvent censorship safely, so she can do research online.

• *Alex, the fearless journalist:* Alex wants to chat and receive information securely without compromising his sources.

This user research and usability feedback has affected every stable Tor Browser release since 7.5 (and we're up to 10.0.2!). Users have helped us make huge improvements, including the improvement of Tor Launcher (a window that helps you to configure Tor Browser when it first launches), the introduction of new user onboarding, the elimination of Torbutton, and simplification of bridge requests for censored users. To

find out more about these changes, see u.fsf.org/tor2020 to read the rest of this article in the *Free Software Foundation Bulletin* online.

Are you a Tor user? Your experiences count, and letting us know how you use Tor will help us make it even better. You can become a tester by joining our tor-qa mailing list.

And if you're not a Tor user, we encourage you to start today: you will gain protection from trackers and surveillance, increase your online security with strong encryption, and be able to access Web sites freely. And by becoming a Tor user, you will also be helping other Tor users: as we say, anonymity loves company! The more people use Tor, the more secure and anonymous all users can be.

Free software payment system launches at Swiss university

By Christian Grothoff
Professor, Bern University of Applied Sciences

GNU Taler (taler.net) is a free software payment system (not a cryptocurrency), which has been in development through the GNU Project since 2014. All components and complete documentation are released under free licenses.

On September 16th, 2020, the GNU Taler payment system went operational for the first time in the cafeteria of the department of computer science at the Bern University of Applied Sciences (BFH) (bfh.ch/) in Biel, Switzerland.

Students, staff, faculty, and visitors can transform francs, the Swiss currency, into "e-Franken," stored in a GNU Taler wallet, at the cashier in the cafeteria using a smartphone and the free software GNU Taler app available on F-Droid (f-droid.org), using a Quick Response code or Near Field Communication (NFC). e-Franken can currently only be spent at one snack machine in the cafeteria, which is made compatible with the app using a special taler-mdb component that runs on a Raspberry Pi. In the future, some coffee machines and other systems at the university will be able to accept GNU Taler payments, and an online payment system is in the works; you can see a demonstration using the test currency "KUDOS" at demo.taler.net.

Customers paying with GNU Taler can do so with full privacy due to GNU Taler's use of blind signatures (see: u.fsf.org/36i). In contrast, merchants receiving payments are always identified as the recipients, allowing the state to impose taxation, and effectively restricting payment

processing to legal businesses. Because GNU Taler uses a central entity that issues electronic coins, processing payments with GNU Taler only requires a few cheap cryptographic operations and a database transaction.

Expensive consensus mechanisms, such as proof-of-work computations, which are needed with systems using blockchains, are thus avoided. As all GNU Taler coins are backed by funds held by the issuer in an escrow fund, GNU Taler does not create a new currency, but merely a different representation of an existing currency, thus eliminating the risks and costs of currency conversion.

GNU Taler is an important advancement because most people interact with payment systems every day, so having a free software payment system that respects human rights, and especially our right to privacy, is critical. However, it will be a complex process to make these systems widely available: a payment system requires complex secure interactions between many parties, such as customers, merchants, payment system providers, banks, and regulators. Payment systems additionally must support many application scenarios and platforms, and work for people from different cultures.

Currently, work is ongoing to integrate GNU Taler with various free software e-commerce solutions. Volunteers, especially for integration and translation, can join the mailing list at `u.fsf.org/36tx`.

The next step for GNU Taler will be to allow payments in euro, in cooperation with a commercial bank. This will require going though the regulatory approval process for the payment system. Afterwards, all citizens of the eurozone should in principle be able to pay with GNU Taler. In the long run, the team hopes that a central bank will use GNU Taler as the basis for a centrally banked digital currency.

For now, GNU Taler was unveiled at BFH with a ceremony in the presence of Dr. Thomas Moser, a member of the extended directorate of the Swiss National Bank (SNB). Dr. Moser used GNU Taler to buy an award-winning, best-selling book by Sybille Berg (see: `u.fsf.org/36j`). He remarked that "The SNB does not plan to issue an e-Franken.

Nevertheless, the system based on the technology of Taler is entirely convincing." Or, as Richard Stallman, Chief GNUisance, said: "GNU Taler isn't something that [everyone] can use (today), however it probably will be, and that shall be actually thrilling." 

Why providing source code for unmodified works is important

By Donald Robertson, III
Licensing and Compliance Manager

One common misconception we run into in our compliance work here at the FSF is the idea that if you distribute an unmodified GNU General Public License (GPL)-licensed binary, you don't have to provide the source. All versions of the GPL actually require you to provide source code in some manner whenever you propagate the work. When explaining this requirement, we often get asked why this is so.

Sure, thirty-five years ago when the FSF was founded, if you didn't provide the source code, then it was unlikely that the user could ever find it. But in 2020, with most free software packages widely available on the Internet, why do users need to get the unmodified source from the distributor? Can't they just get it from upstream?

First, the responsibility shouldn't be placed on the user to track down the source code they need. When developers place their work under the GPL, they do so in order to ensure that all users can enjoy the software in freedom. Finding the proper source code and dependencies isn't always the easiest of tasks, especially for users new to free software. The GPL promises users that they can get the source, but this promise is impaired when they don't know where to find the version of the source code that matches the copy of the package they own.

If finding the source is a simple enough task, then surely it isn't too much of an issue for the distributor to find it and provide directly to the user. And making the source easy to find is also important because when it's not, in many compliance cases, the violator will suddenly find that they themselves do not know how to get the source that matches their version.

The responsibility also can't be placed on upstream to provide source code. For projects that self-host, they shouldn't have to offer the bandwidth up to satisfy third party users. This is particularly important when volunteer efforts, with little in terms of resources, are being asked to provide bandwidth for large companies or organizations with more than enough resources to

handle their own source obligations. Plus, not everything on the Internet is forever. Projects can choose to remove or stop offering downloads of their source, meaning that users (as well as well as the distributor!) could be left without any access to the source code for the version of the work provided.

Finally, no one else can handle the responsibility of providing accurate installation information. The vast majority of our compliance cases involve devices that run free software. For these devices, users might be able to find the upstream source and build it, but be left with no way to actually install the work on the device it is meant to run upon. Instructions are critical for allowing users to get their own modified code on the device, and in the correct place. Without these critical parts of the complete and corresponding source code, the upstream source is of diminished value to users of these devices.

Taken together, it is clear that providing source code, even when it is unmodified, is just as critical today as it was decades ago before the rise of the Internet. So if you're reading this now and haven't been properly providing source, now is the time to fix that. If you need help or have questions, you can always write to us at `licensing@fsf.org`. We're more than happy to help.

Updates from the FSF Tech Team

By Ian Kelling
Senior Systems Administrator

Since the last issue of the *FSF Bulletin*, the tech team has made steady progress on key projects, while still working almost entirely remotely due to COVID-19.

For starters, the FSF Web site, `fsf.org`, now has a new skin that is easier to read on small screens. This is just a prelude to even bigger improvements: we are working on migrating the Web site backend from Plone to Drupal, and then making many more visible changes.

We have also been improving our videoconferencing and livestreaming capabilities. We set up some machines to run BigBlueButton (BBB), which can be used for both videoconferencing and online classrooms. With our assistance, FSF board member and Massachusetts Institute of Technology (MIT) Professor Gerald Sussman was using our BBB instance to teach his classes; he has since established and is using his own instance.

We also used BBB for the one-day online celebration of the FSF's thirty-fifth anniversary, as well as Gstreamer and Icecast, which we used for LibrePlanet 2020 (see: `u.fsf.org/31j`). The event included talks from FSF leadership past and present, short videos from

community members, a panel discussion, and an IRC chat that enabled over 200 viewers to participate. You can see the videos at `u.fsf.org/35vid`. We also still run a Jitsi Meet server for FSF associate members (see: `u.fsf.org/33s`), and are exploring other videoconferencing options, including some that we haven't evaluated yet on our remote communication LibrePlanet wiki page (see: `u.fsf.org/368`).

We continue to modernize many older systems. Summer intern Eostre Emily Danne has been a huge help, upgrading the `shop.fsf.org` and `defectivebydesign.org` Web servers to Trisquel 9. We also upgraded to the latest version of MediaGoblin, and updated email servers and several other systems. We are close to finally getting ahead of the upgrade curve, a process that has been going on at least since I started at the FSF in 2017.

One difficult issue we faced this spring was that Yahoo started rejecting the monthly *Free Software Supporter* newsletter email. With much trial and error, we wrote a script to speed up, slow down, or pause sending, based on Yahoo's SMTP status codes, and Yahoo is once again accepting all our emails.

The FSF forge (see: `u.fsf.org/33p`) is still a work in progress. Since our last update, summer intern Amin Bandali deployed a testing instance of SourceHut, one of many possible programs for the forge.

We also updated the FSF associate member USB cards (see: `u.fsf.org/369`) to Trisquel 9, and updated the included audio, video, and articles to more recent resources. To fit the operating system, source code, and advocacy materials, we increased the USB disk size to 16 GB.

The FSF member forum, `forum.members.fsf.org`, which launched about a year ago, has become a thriving community, averaging 409 posts per month over the summer. If you're an FSF associate member, you can interact there with dozens of others, and tech team members Ian and Michael are regular posters.

One more big change in an unusual year: chief technology officer Ruben Rodriguez has returned to Spain. Before his departure, the tech team and a few other staff members met for a farewell picnic in a park, hanging out at a safe distance. Otherwise, our main communication mediums have been Mumble, IRC, and email. The pandemic has shown us that providing free software communications programs that enable computer user freedom is more important than ever, and I have high hopes for what we can accomplish in the next year with your support.

Donate to the FSF with Bitcoin
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Associate Membership:
Become an associate member of the FSF. Members will receive a bootable 16GB USB card, email forwarding, and an account on the FSF's Jabber/XMPP server. Plus: participate in our members forum at forum.members.fsf.org! To sign up or get more information, visit member.fsf.org or write to membership@fsf.org.

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