

Thinking Inside the Box: Using FreedomBox to Protect Your Freedoms

Danny Haidar
FreedomBox Foundation



FreedomBox

In the news...



FreedomBox

Data-mining



BUSINESS

CULTURE

GADGETS

FUTURE

STARTUPS

CNNMONEY



Facebook has suspended over 400 apps after Cambridge Analytica scandal

by Heather Kelly [@heatherkelly](#)

🕒 August 23, 2018: 8:15 AM ET



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Data-mining

The New York Times

STATE OF THE ART

Can Facebook, or Anybody, Solve the Internet's Misinformation Problem?



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Data-Mining

Silicon Valley siphons our data like oil.
But the deepest drilling has just begun

Personal data is to the tech world what oil is to the fossil fuel industry. That's why companies like Amazon and Facebook plan to dig deeper than we ever imagined



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Data-Mining

Monday, August 28, 2017

The IRS Is Mining Taxpayer Data On Social Media In Violation Of Federal Privacy Law

By Paul Caron

Kimberly Houser & Debra Sanders (Washington State), [The Use of Big Data Analytics by the IRS: Efficient Solutions or the End of Privacy as We Know It?](#), 19 Vand. J. Ent. & Tech. L. 817 (2017):

This Article examines the privacy issues resulting from the IRS's big data analytics program as well as the potential violations of federal law. Although historically, the IRS chose tax returns to audit based on internal mathematical mistakes or mismatches with third party reports (such as W-2s), the IRS is now engaging in data mining of public and commercial data pools (including social media) and creating highly detailed profiles of taxpayers upon which to run data analytics. This Article argues that current IRS practices, mostly unknown to the general public are violating fair information practices. This lack of transparency and accountability not only violates federal law regarding the government's data collection activities and use of predictive algorithms, but may also result in discrimination.



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Data-Mining

The Big Read **Hedge funds**

+ Add to myFT

Hedge funds see a gold rush in data mining

Investors seek an advantage from tradable intelligence but legality of alternative data is in question



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Data-Mining

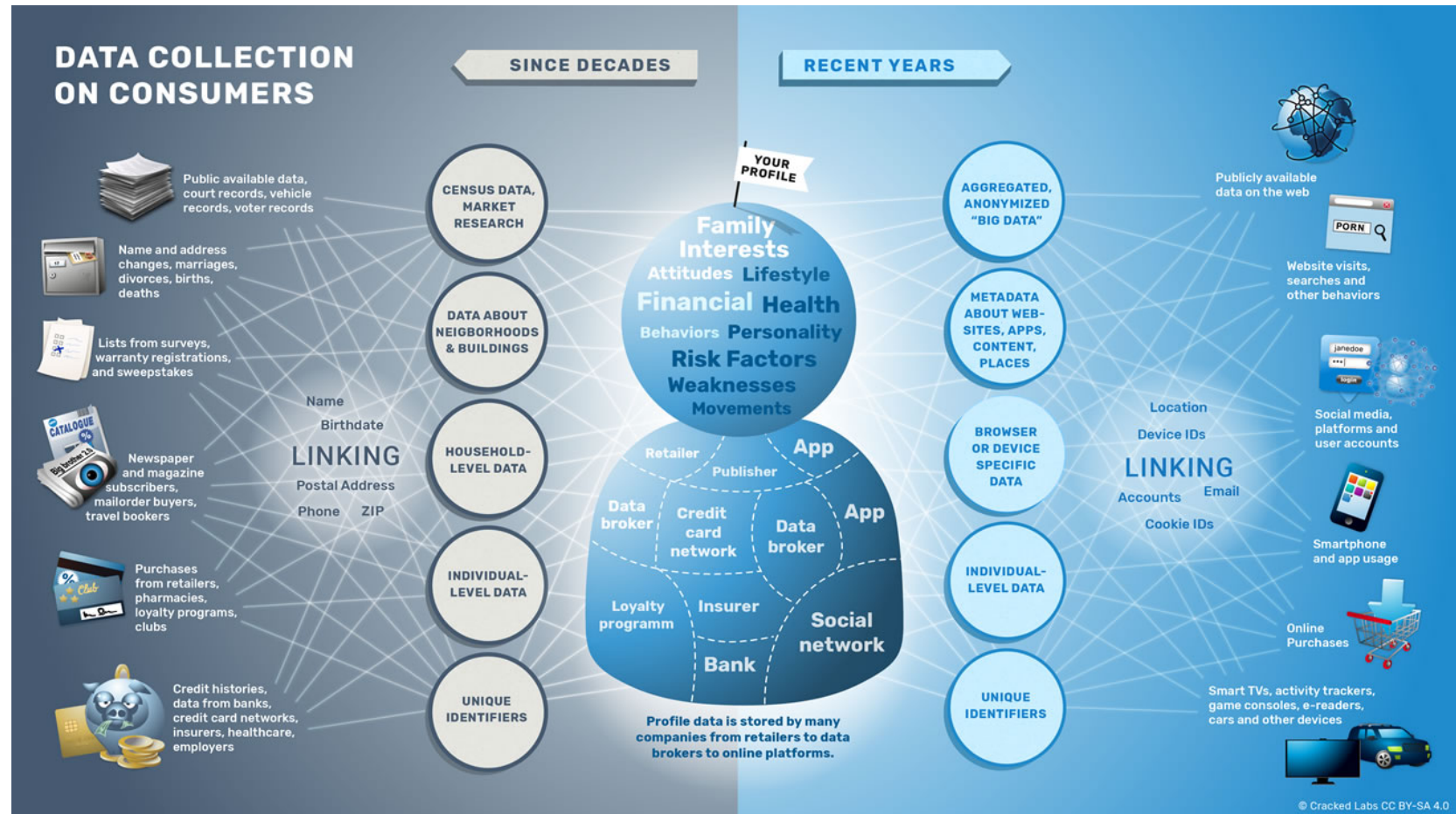


Photo: CC-BY-SA 4.0, Christl, Wolfie. *Corporate Surveillance In Everyday Life*. Cracked Labs, 8 June 2017, crackedlabs.org/en/corporate-surveillance.



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Surveillance

Facebook, Instagram, and Twitter Provided Data Access for a Surveillance Product Marketed to Target Activists of Color



By [Matt Cagle](#), Technology and Civil Liberties Policy Attorney, ACLU of Northern California

OCTOBER 11, 2016 | 11:15 AM

Monday, August 28, 2017

The IRS Is Mining Taxpayer Data On Social Media In Violation Of Federal Privacy Law

By [Paul Caron](#)

Kimberly Houser & Debra Sanders (Washington State), [The Use of Big Data Analytics by the IRS: Efficient Solutions or the End of Privacy as We Know It?](#), 19 Vand. J. Ent. & Tech. L. 817 (2017):

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Surveillance

Spyware That Governments Can't Resist

[Leer en español](#)

By THE EDITORIAL BOARD JULY 11, 2017



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Censorship

BUSINESS NEWS AUGUST 16, 2018 / 2:41 PM / 8 DAYS AGO

Google employees demand more oversight of China search engine plan

Joseph Menn, Paresh Dave

4 MIN READ



SAN FRANCISCO (Reuters) - Google is not close to launching a search engine app in China, its chief executive said at a companywide meeting on Thursday, according to a transcript seen by Reuters, as employees of the Alphabet Inc ([GOOGL.O](#)) unit called for more transparency and oversight of the project.



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Censorship

REMEMBERING LIU XIAOBO

Analyzing censorship of the death of Liu Xiaobo on WeChat and Weibo

By Masashi Crete-Nishihata, Jeffrey Knockel, Blake Miller, Jason Q. Ng, Lotus Ruan, Lokman Tsui, and Ruohan Xiong

July 16, 2017

[勿忘晓波：微信和微博针对刘晓波逝世的信息审查之分析](#)

Key Findings

- The scope of censorship of keywords and images on WeChat related to Liu Xiaobo expanded greatly after his death. Our analysis of WeChat keyword-based censorship shows that after his death messages containing his name in English and in both simplified and traditional Chinese are blocked. His death is also the first time we see image filtering in one-to-one chat, in addition to image filtering in group chats and WeChat moments.



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Censorship

Turkish court backs censorship of Wikipedia

The country continues to crack down on free speech with this rejected appeal.



Rob LeFebvre, @roblef
05.05.17 in [Politics](#)

15
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Why is this possible?



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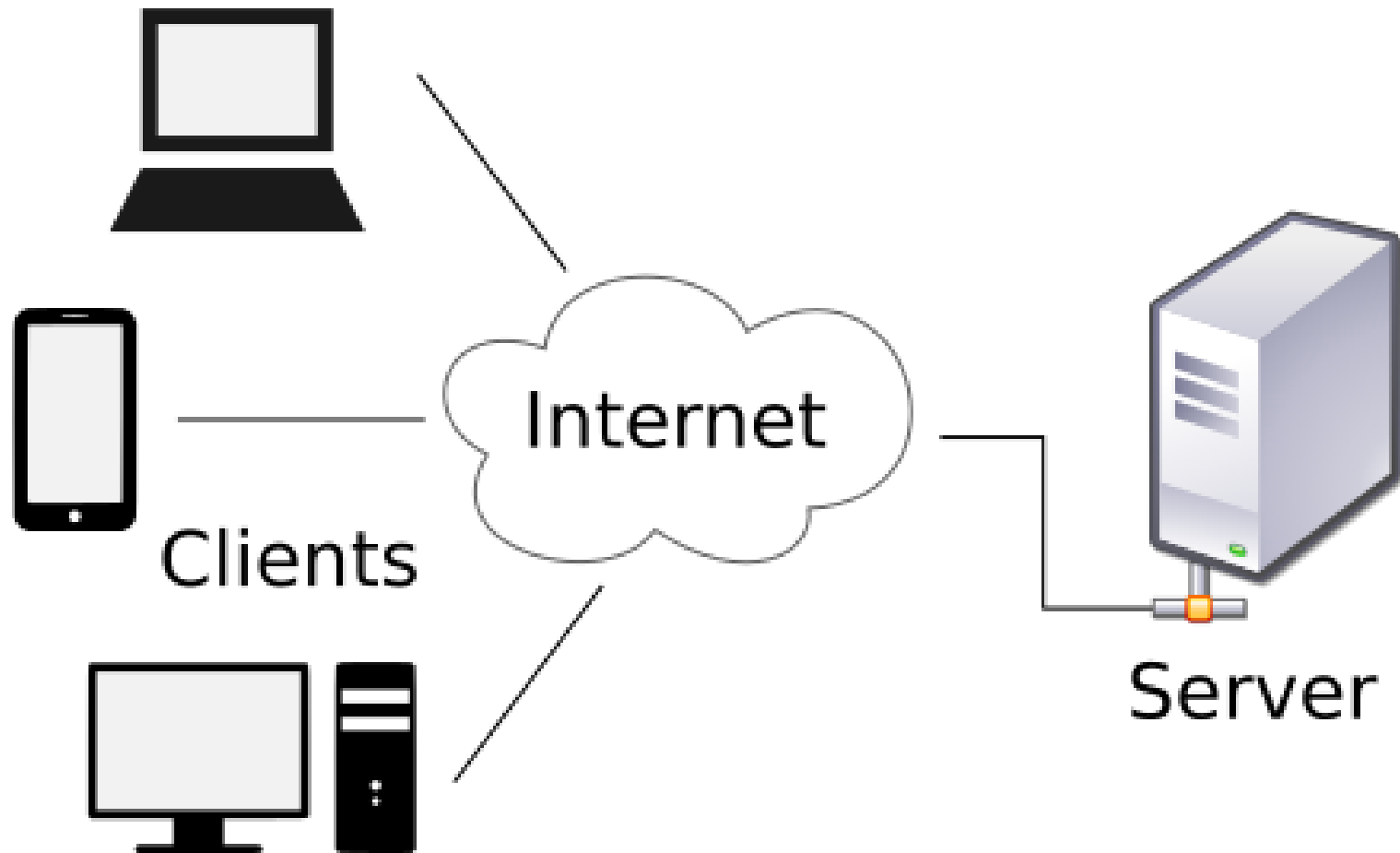
Why is this possible?

A technical answer: the client-server model



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Client-Server Model

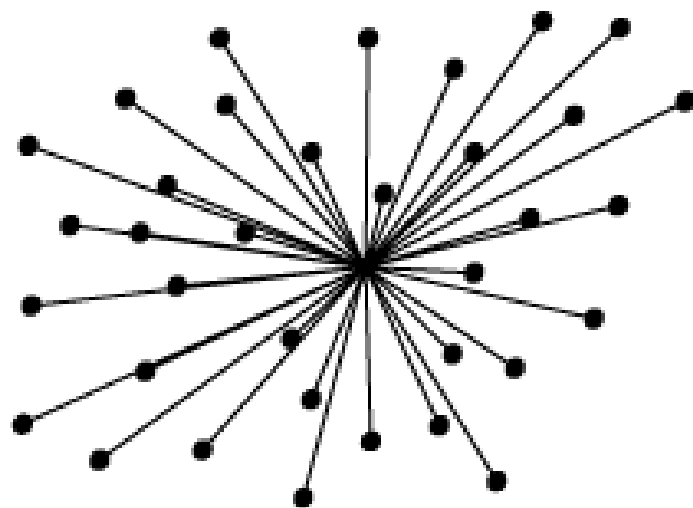


By Gnome-fs-client.svg: David Vignoni Gnome-fs-server.svg: David Vignoni derivative work: Calimo (Gnome-fs-client.svg Gnome-fs-server.svg) [LGPL (<http://www.gnu.org/licenses/lgpl.html>)], via Wikimedia Commons

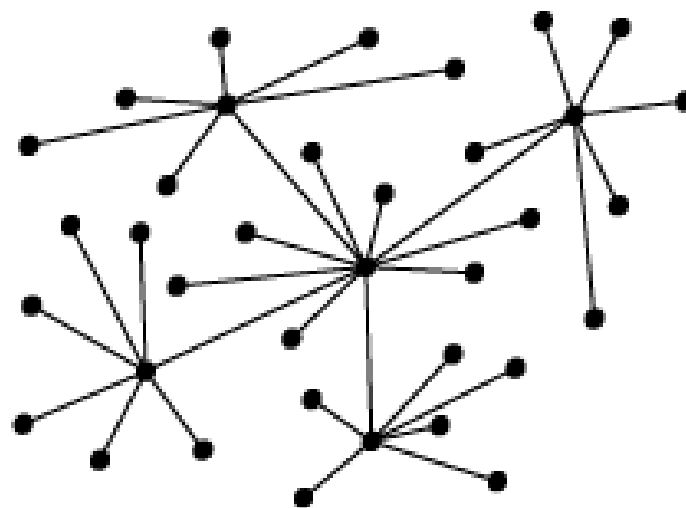


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Centralized Network Infrastructure



centralised



decentralised



What is at the center?



Google Calendar



flickr



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Why is this possible?
A social-economic answer: digital feudalism



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Client-Server Model

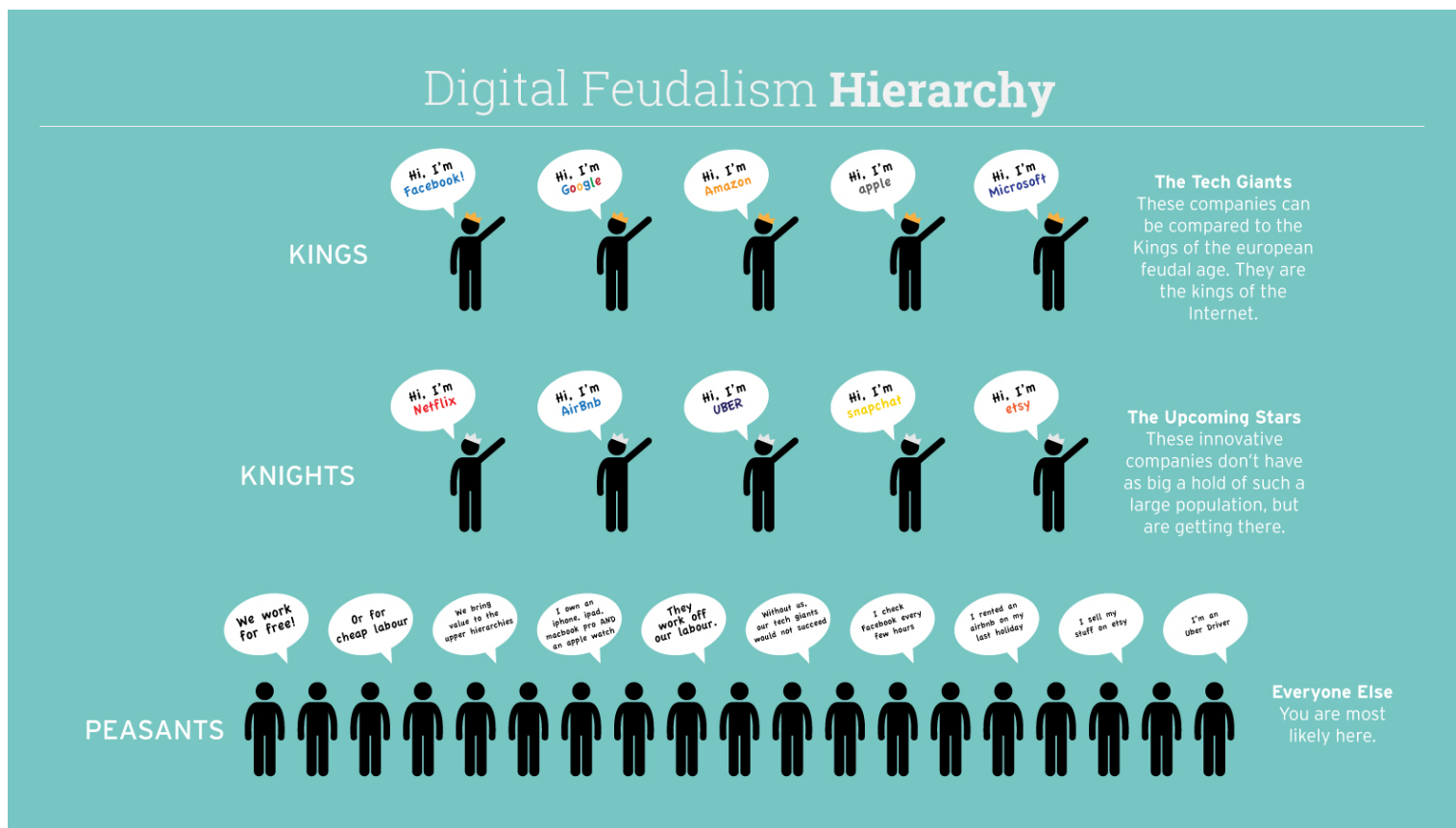


Image Source:

<https://thegrandOptimist.wordpress.com/2015/09/05/digital-feudalism/>



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Who are the lords?



Google Calendar



flickr



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Who are the peasants?
We are. (AKA the “clients”).



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How can we fix the web?



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FreedomBox: A Simple Machine



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What is FreedomBox?

- A multipurpose privacy appliance
- Independent node in the network
- Two parts: Software system + Hardware
- Four main functions (but not only four):
 - Private server
 - Communications hub
 - Browsing tool
 - Wi-Fi Router
- Design philosophy:
 - Simple
 - Customizable
 - Multi-functional
- Vision: integrate privacy technology into one system that is easy to use.



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Our Free Software: Debian



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Privacy in Infrastructure

"That level where we're actually talking about knitting together mesh nets or small scale cell networks—that's awesome. And we should do more about it. I think we will have the most success personally where we're leapfrogging any technologies that are more mobile and more agile, and [in which] we don't have the same kind of sunk infrastructure costs because ultimately infrastructure is what can be targeted by the adversary."

-Edward Snowden, LibrePlanet 2016



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How to make a FreedomBox: Hardware

Single-board
computer

~\$35*



SD Card

~\$10



SD-USB
adapter

~\$5

(optional)



Ethernet
cord

~\$5



Power
cord

~\$5



*Raspberry Pi 2 + case,
others supported



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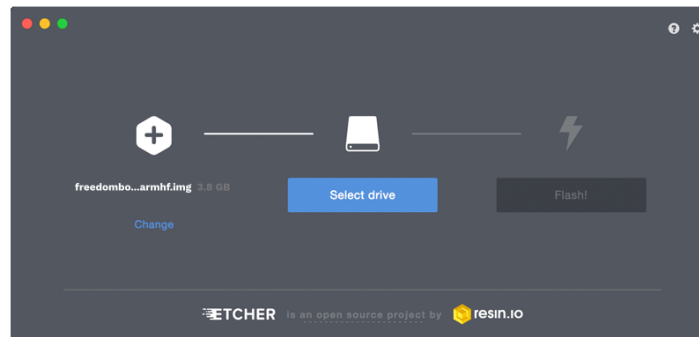
How to make a FreedomBox: Software

1. Download

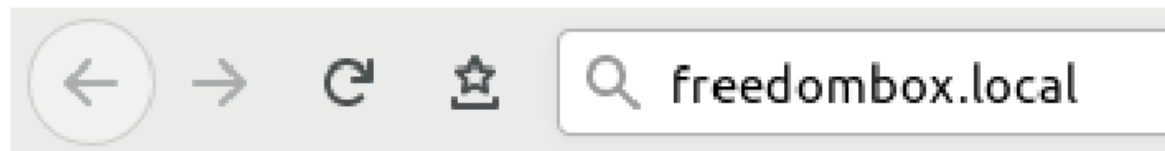


freedombox.org

2. Burn image to SD card

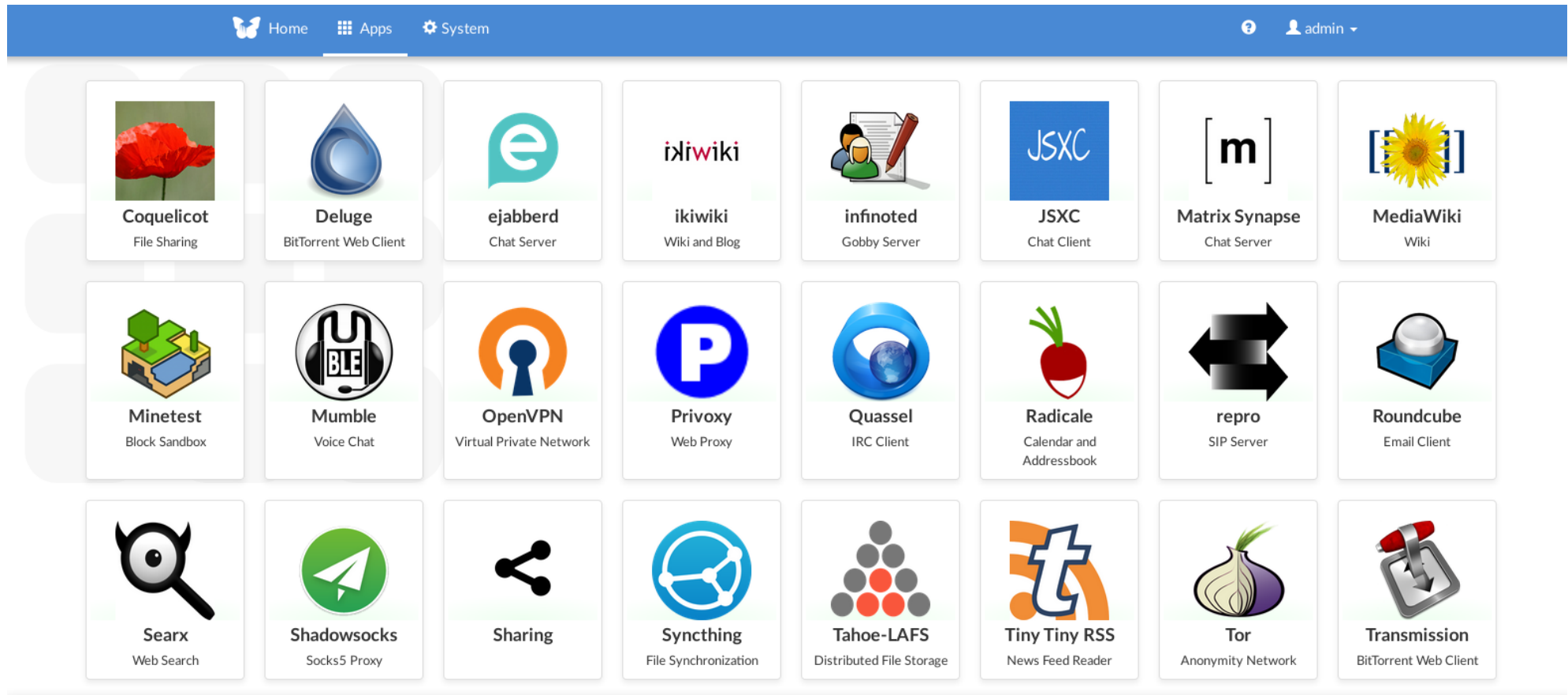


3. Insert SD and log in



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FreedomBox: The Interface



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How to Install an App: One Click!

[Home](#)[Apps](#)[System](#)[admin](#)

Installation: IRC Client (Quassel)

Quassel is an IRC application that is split into two parts, a "core" and a "client". This allows the core to remain connected to IRC servers, and to continue receiving messages, even when the client is disconnected. FreedomBox can run the Quassel core service keeping you always online and one or more Quassel clients from a desktop or a mobile can be used to connect and disconnect from it.

You can connect to your Quassel core on the default Quassel port 4242. Clients to connect to Quassel from your [desktop](#) and [mobile](#) devices are available.

[Learn more...](#)[Client Apps](#)

Install this application?

[Install](#)[JavaScript license information](#)

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FreedomBox Live Demo

- URL: `fosscon.freedombox.rocks`
- Login information:
 - Username1: `carol`
 - Password1: `debianpureblend`
 - Username2: `akeel`
 - Password2: `debianpureblend`



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FreedomBox Live Demo



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FreedomBox Features

- **Private Browsing:** No tracking, no data-mining, no censorship
- **Secure Communications:** No surveillance, no third parties, no storage of past communications without consent
- **Safe Activism:** No monitoring, no collection of location data, no data-mining



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Private Browsing

- Protection against “traffic analysis” and tracking (Tor, Dynamic DNS, PageKite)
- Protection against censorship (OpenVPN)
- Anti-tracking ad blocker (Privoxy)
- Anti-tracking, anonymous search (Searx)



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Secure Communications

- Self-hosted chat applications with no intermediary (XMPP, Quassel, Matrix)
- Medium for secure file transfers (Deluge, Transmission)
- Private voice communications with no eavesdropping (Mumble VoIP)
- Email (RoundCube)
- Social media network owned by you and your friends (Diaspora)



Safe Activism

- A publishing platform that resists oppression and censorship (Ikiwiki)
- Mesh routing when the Internet is shut down
- Safe social networking that cannot be monitored and data-mined (Diaspora)



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Who is FreedomBox?

- FreedomBox community
 - Global community of developers (60+)
 - Global community of translators (60+) working in 21 languages
- FreedomBox Foundation
 - Supporting 501(c)3 non-profit organization based in New York
 - About me: Product and Development



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FreedomBox is Global

- Rural India: FreedomBox for Wi-Fi routing
- Partnership with Localization Lab: push to translate into languages of India and more

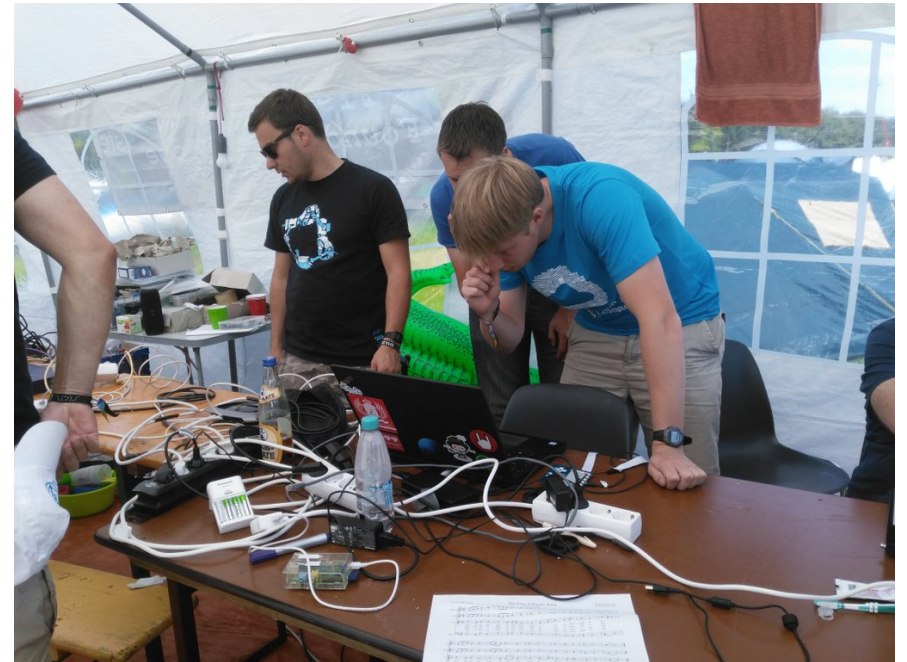


LOCALIZATION LAB



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Installfest, Netherlands, Aug. 2017



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The Future of FreedomBox

- Goals:
 - To create mainstream technology for home use, casual and advanced
 - To prioritize simplicity, freedom, and clean experiences
 - To decentralize the net and empower users to regain control
- Where we are going:
 - Hardware distributors to find partners
 - University campuses and educational institutions
 - Small businesses
 - Urban, suburban, and rural communities



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Join us!



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Raffle...



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Questions?



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- <https://www.theguardian.com/world/2017/aug/23/silicon-valley-big-data-extraction-amazon-whole-foods-facebook>
- http://taxprof.typepad.com/taxprof_blog/2017/08/the-irs-is-mining-taxpayer-data-on-social-media-in-violation-of-federal-privacy-law.html
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- crackedlabs.org/en/corporate-surveillance
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- Mastodon/GNU Social/Twitter:
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- Community email list:
wiki.debian.org/FreedomBox/Support
- Contact me: haidar@freedomboxfoundation.org



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