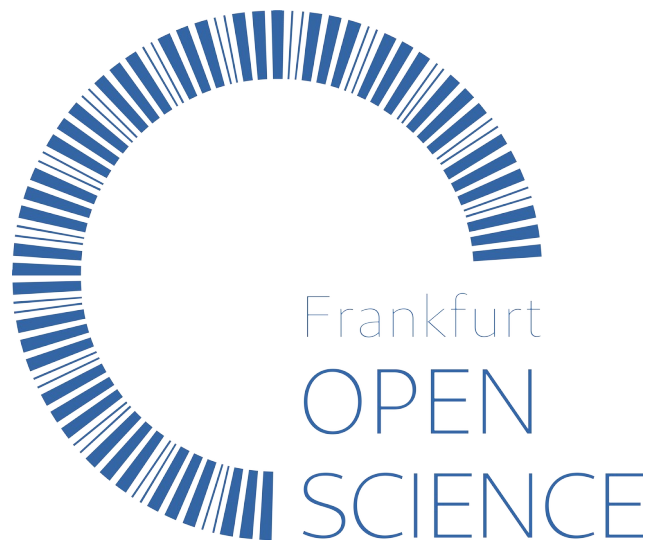


Kick-Start to Open Source Software in Science and Everyday Life

Workshop at **Perspektive offene Wissenschaft** @ RMU 2022
November 30, 2022, by Elli Zey





"I have been trying to do my PhD using only open source software, including my operating system, and so far (3.5 years later) it's working!"

Elli Zey, M.Sc. Psychology

Researcher at Cognitive Psychology II,

Goethe University Frankfurt

gitlab: @ElliZey

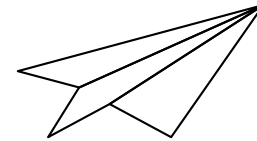
twitter: @elli_zey / mastodon: @elli_zey@mstdn.social

OSF: <https://osf.io/3wqa7/>



Short outline

- 1) What is Open Source Software?
- 2) Why use Open Source Software?
- 3) How to get started...



What is Open Source Software?



What is Open Source Software?

= software with **source code** that anyone can **inspect, modify, and enhance**



Open Source Definition by the Open Source Initiative

It's more than access to the source code.



<https://opensource.org/osd>

1. Free Redistribution
2. Source Code
3. Derived Works
4. Integrity of The Author's Source Code
5. No Discrimination Against Persons or Groups
6. No Discrimination Against Fields of Endeavor
7. Distribution of License
8. License Must Not Be Specific to a Product
9. License Must Not Restrict Other Software
10. License Must Be Technology-Neutral



What kinds of Open Source Software do you already use?





<http://redstarwebdevelopment.com/wp-content/uploads/2015/03/creative-commons.jpg>



<https://mangelesbrouillon.files.wordpress.com/2013/05/2759e-libreofficelogo.png>



<https://tctechcrunch2011.files.wordpress.com/2015/09/gitlab.png>



30. November 202



<https://halab4dev.files.wordpress.com/2016/07/java-logo.png>



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<https://fontslgo.com/wp-content/uploads/2013/02/wordpress-logo.jpg>



WIKIPEDIA
The Free Encyclopedia

<https://upload.wikimedia.org/wikipedia/commons/thumb/9/9a/File-Wikipedia-logo-v2-en-alt-b.svg/865px-File-Wikipedia-logo-v2-en-alt-b.svg.png>



<http://www.ejwagenmakers.com/misc/LaTeXlogo.jpg>



<https://1504253206.rsc.cdn77.org/wp-content/uploads/2015/11/Python-logo.png>



<https://www.tgcindia.com/wp-content/uploads/2018/02/GIMP-Logo-Graphic-Designing-training.jpg>



https://upload.wikimedia.org/wikipedia/commons/thumb/e/e1/Thunderbird_Logo_%2C_2018.svg/250px-Thunderbird_Logo_%2C_2018.svg.png



<http://www.mddsp.enel.ucalgary.ca/People/adilger/logo/0.0/logobig.jpg>





<https://www.famicadlogos.us/images/android-logo.jpg>

plus most programming languages
(javascript, C, C++, etc.)



57y2k/

What exactly is the difference between Open Source Software and other types of software?



	proprietary or closed source software 	open source software 
source code	Only the person, team, or organization who created it and maintains exclusive control over it can modify and view it	Available to others who would like to view that code, copy it, learn from it, alter it, or share it.
copy, inspect, and alter the software	Only the original authors	Anyone
licensing	Users must agree (usually by signing a license displayed the first time they run this software) that they will not do anything with the software that the software's authors have not expressly permitted.	Users must accept the terms of a license, that displays how to use, study, modify, and distribute software. Generally open source licenses grant computer users permission to use open source software for any purpose they wish.
examples	Microsoft Office, Adobe Photoshop	LibreOffice, GNU Image Manipulation Program (GIMP)



	proprietary or closed source software 	open source software 
source code	Only the person, team, or organization who created it and maintains exclusive control over it can modify and view it	Available to others who would like to view that code, copy it, learn from it, alter it, or share it.
copy, inspect, and alter the software	Only the original authors	Anyone
licensing	Users must agree (usually by signing a license displayed the first time they run this software) that they will not do anything with the software that the software's authors have not expressly permitted.	Users must accept the terms of a license, that displays how to use and distribute software. Generally open source computer users permit source software for any purpose they wish.
examples	Microsoft Office, Adobe Photoshop	LibreOffice, GNU Image Manipulation Program (GIMP)

2) Who controls it?

1) What does this imply for progress / social equality?



Why use Open Source Software?



The Open Source Way



1) What does this imply for progress / social equality?

<https://opensource.com/open-source-way>



Why use Open Source Software?

Advantages

- Community
- Access to the code: Control + Security
- Free remix and distribution
- Cooperation
- Way out of the predatory vendor lock-in

Myths

- ⚡ No control
- ⚡ Open is not secure
- ⚡ Open source code is always free



Open Source Code: Benefits of Contributions

- “We code for real-world open-source projects.”
- “It refines our existing knowledge of programming and also helps us to learn new skills.”
- “Many open-source projects offer mentorship programs to guide and help us through our first few contributions.”
- “We need not develop the whole thing from scratch, we just have to fork our favorite projects and start experimenting with them.”
- “After making any open-source contribution, we get immediate feedback regarding our developmental work.”
- “While doing open-source contributions, we interact with like-minded developers from all over the world and build connections along the way.”

<https://www.geeksforgeeks.org/introduction-to-open-source-and-its-benefits/>



Why use Open Source Software?



2) Who controls it?

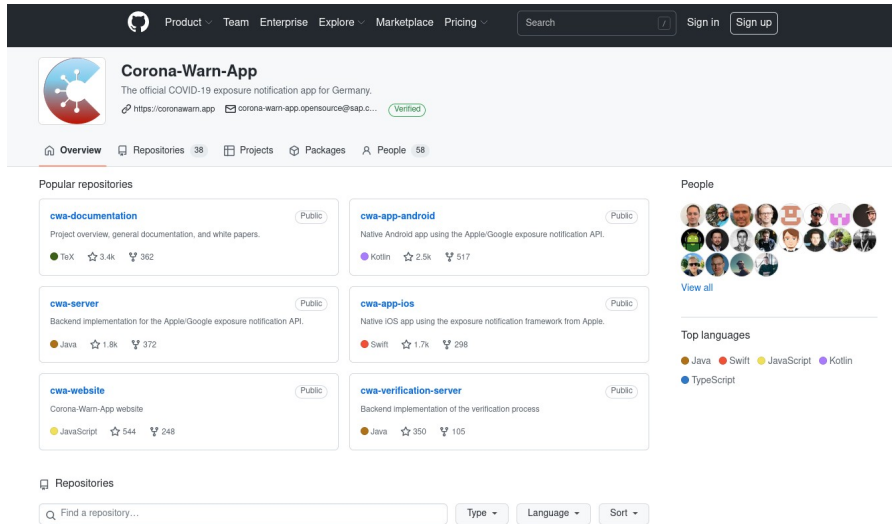
HELLO
EVERYONE

Everyone can control it (or find someone who can read the code and tell us)!



Why use Open Source Software?

2) Who controls it?



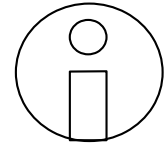
check out the source code:
<https://github.com/corona-warn-app>



<https://www.heise.de/hintergrund/Corona-Warn-App-Quellcode-Analyse-eines-beispiellosen-Open-Source-Projektes-4774655.html>



Helpful resources



To get you more excited:

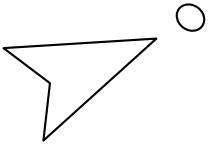
- Ted Talk with "the mind behind Linux and git":
https://www.ted.com/talks/linus_torvalds_the_mind_behind_linux?referrer=playlist-open_source_open_world

More information:

- Free Software Foundation Europe: <https://fsfe.org/about/about.en.html>
- Open Source Initiative: <https://opensource.org/>
- Find open source code alternatives: <https://alternativeto.net/>
- GNU – Free Software Foundation: <https://www.gnu.org/>
- Share your work (not software): <https://creativecommons.org/share-your-work/>
- Share your work (software): <https://mit-license.org/> or <https://www.gnu.org/licenses/gpl-3.0.en.html>
- Mike's Blog <https://mike2ykme.github.io/opensource/>



How to get started...

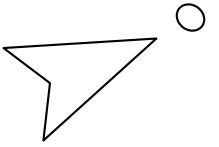


- 1) Acknowledge: Changing habits is hard, so do it step by step!
- 2) Whenever you need a new program / language / app / software, try to find an open source one. (e.g., <https://alternativeto.net/> can help you find open source alternatives)

The screenshot shows the 'AlternativeTo' website interface. At the top left is the logo and name 'AlternativeTo' with the tagline 'CROWDSOURCED SOFTWARE RECOMMENDATIONS'. To the right is a search bar with the placeholder text 'Find an alternative to...' and a blue 'Find' button. Below the search bar is a breadcrumb trail: 'Home > Photos & Graphics > Adobe Illustrator > Alternatives'. The main heading is 'Open Source Adobe Illustrator Alternatives'. The text below the heading reads: 'The best open source alternative to Adobe Illustrator is Inkscape. If that doesn't suit you, our users have ranked more than 50 alternatives to Adobe Illustrator and 13 is open source so hopefully you can find a suitable replacement. Other interesting open source alternatives to Adobe Illustrator are MyPaint, Karbon, LazPaint and Apache OpenOffice Draw.' Below this is another line of text: 'Adobe Illustrator alternatives are mainly Vector Graphic Apps but may also be Image Editors or Digital Painting Tools. Filter by these if you want a narrower list of alternatives or looking for a specific functionality of Adobe Illustrator.' On the right side of the page, there is a card for 'Adobe Illustrator' with the Adobe logo, a heart icon, and the number '450'. Below the card name are filters: 'Paid • Proprietary', 'Mac', 'Windows', and 'Online'. The card text says: 'Design quickly and confidently with Adobe Illustrator software. Sophisticated tools for drawing and typography, along with...'. At the bottom of the card is a button that says 'Learn more about Adobe Illustrator'.



How to get started...



- 1) Acknowledge: Changing habits is hard, so do it step by step!
- 2) Whenever you need a new program / language / app / software, try to find an open source one. (e.g., <https://alternativeto.net/> can help you find open source alternatives)
- 3) Use the suggestions in "Easy alternatives" and try to use some of the suggestions in "Alternatives for your data protection"
- 4) When you switch to a new computer / new job, why not try a Linux operating system? → "Changing your operating system"



a) Easy alternatives



Here are some suggestions of things, you could switch without a hassle:

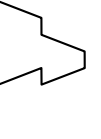
- set Thunderbird as default mail client
- use Firefox / Chromium as default internet browser
- <https://dud-poll.inf.tu-dresden.de/> or <https://terminplaner4.dfn.de/> for online scheduling
- Zoom → jitsi.meet / BigBlueButton
- GoogleMaps/ Apple Maps → OpenStreetMap
- (Microsoft Office → Libre Office)

[I cannot recommend this without two reservations:

- 1) the layout sometimes distorts for collaborations with proprietary software
- 2) working with several authors and a reference manager, the references get lost]



b) Alternatives for your data protection

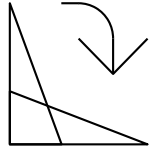


Here are some suggestions of things, where switching might take more time and effort, but is definitely worth it for your data protection:

- Mendeley → Zotero
<https://www.dgps.de/aktuelles/details/dgps-vorstand-und-kommission-open-science-unterstuetzen-stop-tracking-science-initiative/>
- WhatsApp → Signal Messenger
- Gmail → open source e-mail provider like mailbox.org
- iCloud / Google drive → open source provider like NextCloud
- set DuckDuckGo (not perfect open source) as default search engine



c) Changing your operating system

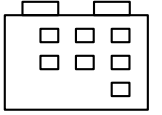


This might take some more time, but here are some tips to make it easier:

- Start out with a **user-friendly Linux version** (like fedora, Ubuntu) that is developed for a broad range of users and less for Linux developers (like Debian)
 - Advantage: you don't have to manually adjust to proprietary drivers.
 - It might save you a lot of time and effort.
- You don't have to switch it all at once: a lot of common proprietary software versions are available for Linux in a **sand-boxed version** on <https://flathub.org/>
- Make use of the **community!** (Most problems have occurred to others before, and the solution is most likely one internet search away)



d) Becoming a creator / contributor



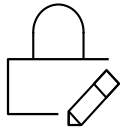
This might not be for everyone, but generally you can contribute to most projects:

First steps could be...

- Open an issue (to help finding mistakes)
- Get a new comer issue (e.g., new comer tag at gitlab)
- Join Matrix / Discord rooms of the projects



What are your next steps?



1) What kind of open source step would you like to implement in your **work life**?

- in the short term?
- in the long term?

2) What kind of open source step would you like to implement in **everyday life**
(for data protection)?

- in short term?
- in long term?



Thank you for your attention and questions!

