

# DIGITAL CIVIL SOCIETY

Access Open Tech

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# A DIGITAL WORLD FOR EVERYONE?

*Foreword by Tobias B. Bacherle*

A digital world for everyone? Those times when expectations were running high that the internet would be the accelerator for worldwide freedom seem to be over. And according to the »Freedom on the Net 2022« report by Freedom House, internet freedom has indeed declined for the 12th consecutive year. Authoritarian regimes continue to suppress domestic dissent by blocking websites, hoarding personal data, monitoring their citizens, launching disinformation campaigns and centralizing their country's technical infrastructure. The internet, created and developed in a multistakeholder approach, is increasingly being fragmented by state actors. Such a fragmentation of the internet is an internet where information for citizens is blocked, censored, restricted, and preselected. This has substantial impacts on the fundamental rights of millions of internet users online: the right of access to information, right of association and assembly, and the right of privacy and security. Today, more than two-thirds of the world's internet users live in countries where authorities punish people for exercising their right to freedom of expression online.

The shutdowns in Iran are a drastic example of these limitations to a free, open and safe internet by a government which suppresses critical voices within their own country.

In the light of these developments, the urgency to strive for a democratic, open, unitary, human rights-oriented, and safe internet is growing. But for such an open internet we need to do much better: currently, almost half of the world's population is without access to the worldwide net and therefore the chances and opportunities of digitalisation – access to education, connecting with friends and family, innovation – remain out of reach. We need to close this digital divide for all people to benefit from digital innovation. Only if we shape the internet as an open, decentralized space will we reap its merits for innovation, transformation, self-determined access, and an active civil society.

Both the challenges to a democratic internet and challenges to internet access make clear that good digital products accessible to us all are not natural byproducts of digitalisation. Instead, they require coordinated,

proactive and joint efforts by the global community in order to come into being. Free and Open Source Software (FOSS) presents an opportunity for global civil society to engage in this process of digital development, create transparency and empower its citizens. We need a global civil society to hold agency in co-creating the digital transformation. Free and Open Source Software is of huge potential to diversify the tech industry with many positive impacts, also for all of us: an open source focused, diversified digital ecosystem helps us in enhancing data security and fostering an independent, free internet. By following a multistakeholder approach, it limits the influence of monopolies, enables participation by start-ups and innovative new actors as well as civil society. FOSS is an approach to learning on both sides, and by sharing knowledge and innovation it makes us all more resilient to crises and attacks.

Free and Open Source Software and its global community are also shining a light on a very important fact: due to the international identity of the internet, digital policies are always inherently interlinked with what is happening around the world and therefore foreign policies. As a member of the Digital as well as the Foreign Committee of the German Bundestag, I am more than happy about the important initiative of the ifa – Institut für Auslandsbeziehungen to support FOSS around the world. It is bringing to life what we as the government coalition partners (Bündnis 90/Die Grünen, SPD and FDP [Alliance 90/ The Greens, the Social Democratic Party and the Free Democratic Party, which is liberal]) have agreed on in the coalition contract: we have decided to establish open standards for public IT projects and open source based public tenders. We agreed on making the respective software public and hence more transparent. Based on a multiple cloud strategy and open application programming interfaces, we seek to digitalise our public administration. And we agreed to promote and foster this approach on the international stage.

Let me make one more point which is very important to me. Until today, girls and women are heavily underrepresented when it comes to the STEM subjects at schools and universities as well as in their professional careers. Equal representation is a goal which we need to tackle internationally. The German government has brought forward two important pillars for the empowerment of women: for the first time, feminist digital policy is explicitly integrated in the government's new Digital Strategy, and our Foreign Minister, Annalena Baerbock, has introduced feminist foreign policy to the Federal Foreign Office. Both will help to guide us in the direction of more equal representation, participation and more equally shared resources in the digital ecosystem for all people worldwide.

These are the reasons why I cordially welcome the efforts of ifa in its CrossCulture Programme. With its practical training sessions and growing alumni network, ifa not only strengthens national and international civil society and its networks. Its recent focus on digital development is an important contribution on our road to a global digital society. Only with the valuable intercultural and interpersonal exchange which we see at ifa will we be able to address the challenges to digitalisation which we are currently experiencing worldwide.

I hope you will find this publication encouraging and inspiring.



*Tobias B. Bacherle*  
Member of the German Bundestag  
Alliance 90/The Greens

Coordinator on the Committee on Digital Affairs  
Member on the Committee on Foreign Affairs  
Deputy Member on the Committee  
on European Union Affairs

# IN MANY HANDS

## *Editorial by Gitte Zschoch*

International cooperation has been characterized by digitalisation, and not just since the COVID-19 pandemic. Digitalisation has made the cross-border exchange between people easier, faster and more cost-effective. Large tech companies, represented by private individuals, dominate the market and gain ever more influence, also at a political level. This monopolisation of digital technologies is opposed by the global developers' scene of Free and Open Source Software (FOSS). FOSS stands for the open, transparent and inclusive development and use of digital technologies, where power and knowledge are held in many hands, not just one. For this reason, an increasing number of civil society actors as well as governments and business enterprises throughout the world are focussing on FOSS to develop user-friendly software and adapt it to their local conditions. With its participative approach, FOSS offers users more transparency, higher development speed, collaborative innovation and sovereignty. Diversity and shared knowledge allow ideas to develop which might never have seen the light of day in closed spaces. Thus, FOSS promotes participation and community; monopolies are replaced by a global collective. We need these open spaces to enable a free and inclusive digital civil society. Politicians have also recognized this: the German Federal Foreign Office has named the use of Open Data and Open Source as one of the targets in its Digitalisation Strategy 2027 in order to enable transparency, accessibility and further development. And ifa – Institut für Auslandsbeziehungen is also contributing to this: not only is it one of several organisations which co-signed the »Digital Civil Society 2021« declaration, demanding justice, solidarity, participation, and access in the digital sector, but, since 2019, its CrossCulture Programme (CCP) has been focussing on the link between social and technical development by means of its key topic of a digital civil society. ifa promotes an open, free and fair exchange of knowledge and art throughout the world, whereby it places special emphasis on strengthening civil society – and this must now also take place in digital space, far more than was previously the case. With its CrossCulture Programme, ifa supports cross-border exchange, knowledge transfer and networking between civil society actors in North Africa, the Middle East, Central, South and Southeast Asia, in the countries of the Eastern Partnership, Russia and Germany as well as in Latin America and the Caribbean. This growing network is the point of contact for ifa to help civil society actors face digital challenges and seize the opportunities which digital transformation offers. Starting with an initial annual workshop in 2019, CCP has been bringing together key stakeholders from German civil society, CCP Fellows and alumni for in-depth discussions on the topics of digital security, digital inclusion, digital divide, and FOSS.

This publication, Digital Civil Society – Access Open Tech, combines texts by alumni from the CrossCulture Programme, all of whom come from many different countries. They show that digitalisation is linked to aspects of social justice. This is why the following questions should go hand-in-hand with a personal reflection of our fight against the digital divide: what options are there to act outside the leading tech giants in the market, who continuously adapt to the requirements set by authoritative regimes and yield to censorship? How can civil society actors help shape and promote the advancement of digitalisation autonomously and independently? How can we ensure that we can offer endangered civil society actors an online shelter? The Cuban artist, Nestor Siré, provides an answer to the last question. His contribution shows that FOSS offers new possibilities for participation and design, especially for people in authoritarian, repressive states. For example, he writes how FOSS is provided to users free of charge, especially in these contexts, and can then be actively changed and developed further by them. This enables developers to adapt the software flexibly to current and local conditions (pp. 22–29). The developers' field is still dominated by men. However, FOSS also offers women in particular the possibility to make the digital and physical world fairer and safer, such as for Nayyara Rahman. She comes from Pakistan and has developed an app which reports corruption and harassment in the working environment anonymously, thus also contributing to the protection of women and marginalised groups (pp. 30–33).

I hope you will find this an entertaining and inspiring piece of reading!



*Gitte Zschoch*  
Secretary General  
ifa – Institut für Auslandsbeziehungen

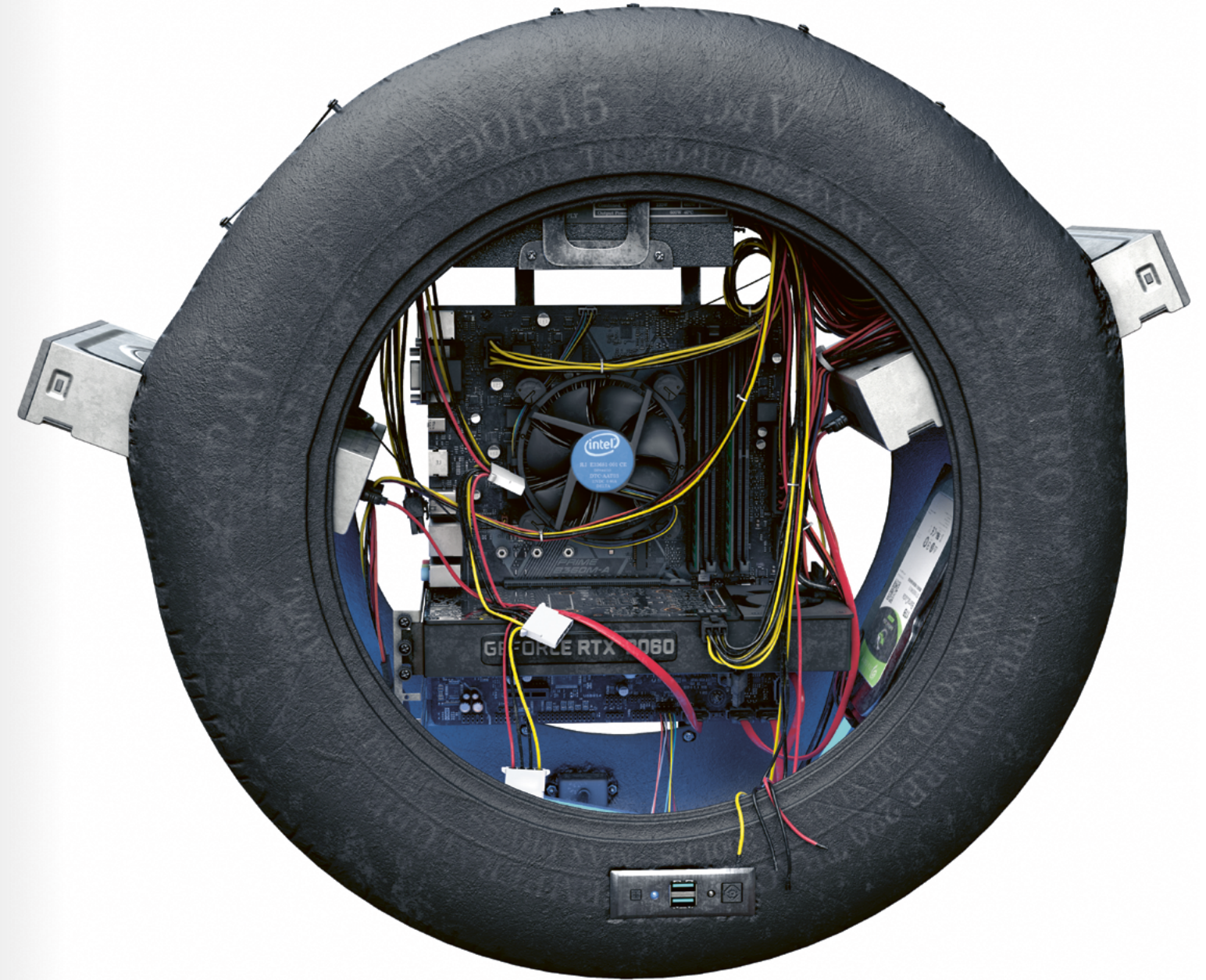
# PC GAMER

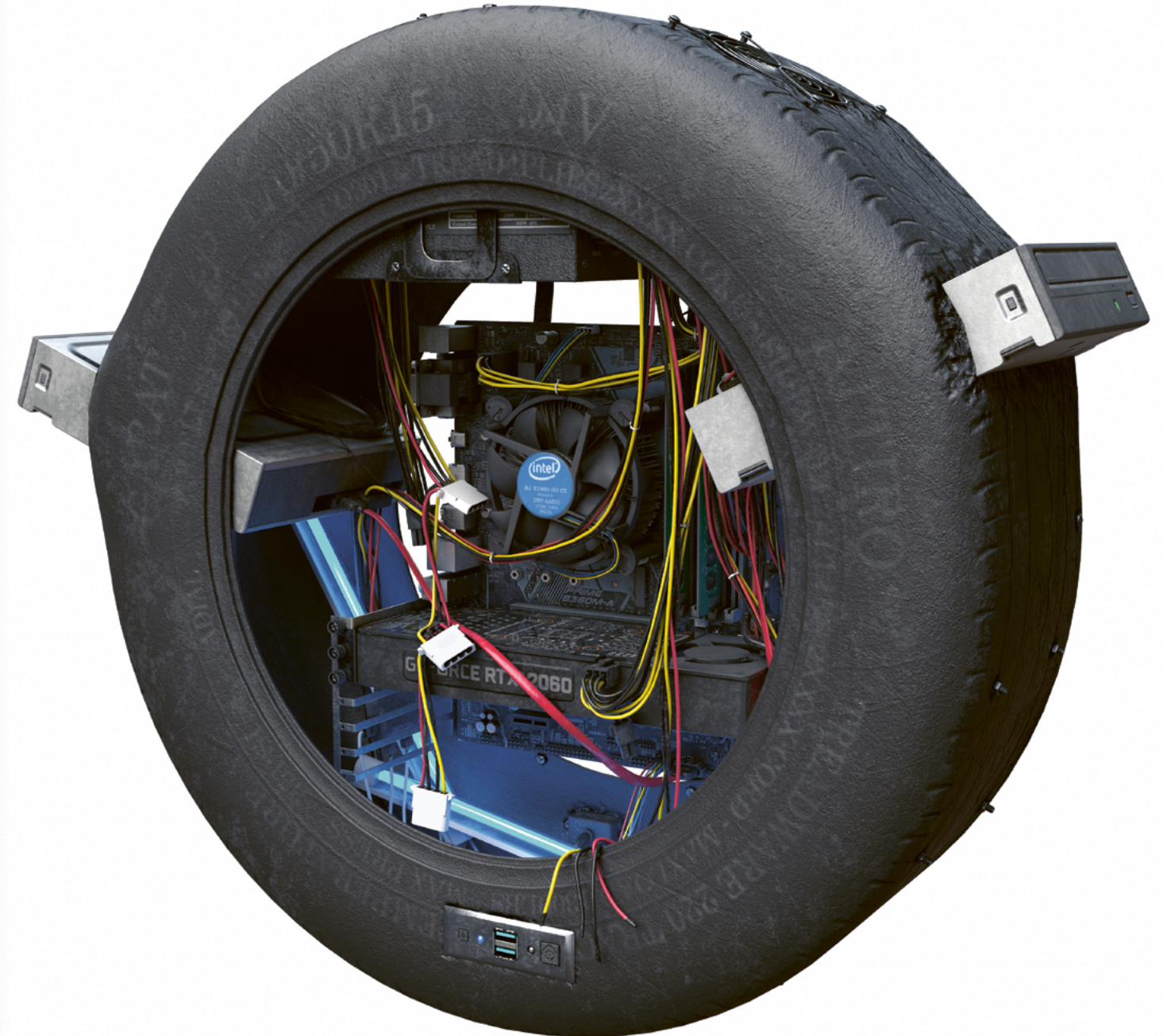
## *Nestor Siré*



Nestor Siré is a Cuban artist whose work mainly focusses on exploring identity, memory and cultural amnesia by digital means. His series »PC Gamer« (2014) is an NFT project of digital sculptures which are, in turn, functional 3D prototypes of handcrafted PC towers. Creativity as a special ability of humans is explored here.

In collaboration with artist Julia Weist, Siré organized an exhibition at Queens Museum, New York, in 2017, where the »Weekly Package« (Paquete Semanal) was presented visually to show how creative Cuban society is in circumventing the limited internet availability and therefore accessing resources in their country (pp. 26 ff).







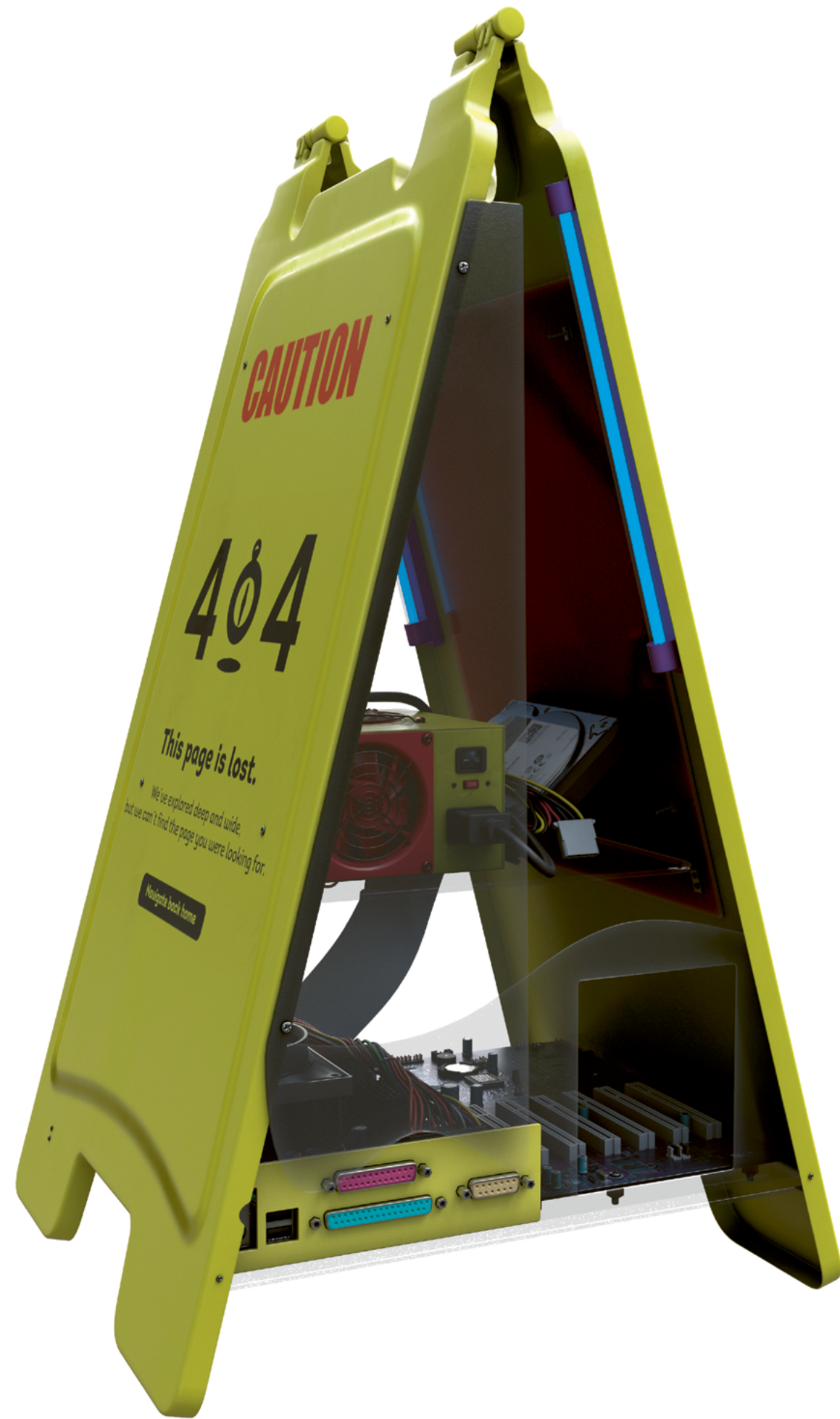
CubaCreativa [PC GAMER] focuses on the creativity of global gaming communities. For this project, Nestor Siré found images of computer towers which, instead of the traditional boxes or chassis, are made of reused materials.





This project uses NFTs as a medium and platform to present digital sculptures which are, in turn, functional 3D prototypes of handcrafted PC towers which, ironically, could be produced on an industrial level.





# INTERNATIONAL PERSPECTIVES ON FOSS

# WHAT DOES FOSS MEAN TO YOU?

»FOSS to me is freedom from the control of big tech and corporations which control intellectual properties to their proprietary software. In turn, they can make us dependent on them for our intellectual efforts, privacy and security in the digital sphere. FOSS gives us the opportunity and freedom to choose independently audited software by ourselves without the fear of becoming dependent.«

**ANEK ANWAR, BANGLADESH, CCP FELLOW 2019**

»We are facing a lack of financial means for small institutions as well as associations. The budget is becoming more and more reduced and, especially after Covid, FOSS (which is free) is an alternative which allows us to preserve our content. We can also save performance time since some FOSS is supported by artificial intelligence.«

**SAMI MEDDEB, TUNISIA, CCP FELLOW 2020**

»I have been using FOSS in one way or another for over 20 years now. I started using Linux back in 1999. To me, FOSS means software produced by a global community of bright minds – it means stability, security and reliability. It also means freedom from private licences and freedom to modify and create something else with it.«

**CAMILO OLEA, MEXICO, CCP FELLOW 2020**

# HOW DEVELOPED IS FOSS IN YOUR COUNTRY?

»By the development of FOSS in my country, I understand the adoption of FOSS in people's day-to-day work. Unfortunately, in my country, FOSS has not been developed to that extent and most people don't even know that FOSS exists, that it can be accessed easily for free and is as user-friendly and convenient as other proprietary software. Instead, many use pirated versions of software for their daily use and work, even when they know it's a criminal offence.«

**ANEK, BANGLADESH**

»It is a field which still has a long way to go. There are several university careers which prepare professionals in this area. However, there are three vital elements which hinder this development: the lack of tools, the lack of updated theoretical content, and the slow and expensive access to the Internet in Cuba.«

**MAVIS DE LA COLINA, CUBA, CCP FELLOW 2020**

# FREE SOFTWARE TO CONTROL TECHNOLOGY

*Alexander Sander  
and Lina Ceballos*

The Free Software movement only started in the 1980s, but nowadays more and more people see it as an alternative to the options provided by big tech. *Alexander Sander* and *Lina Ceballos* from the Free Software Foundation Europe give an insight into the creative development of FOSS and its use.

In modern society, digital technologies are at the core of many developments and debates. They impact many aspects of our lives and have become an important tool for all of us. It is therefore crucial to ask ourselves: how can we make sure that fundamental rights are protected in a fast-paced digitalised context, that applications and processes which are intended to serve the public and the flourishing of the market are guaranteed?

To establish trustworthy systems, we need to have full control over the software and computer systems we use.

- We need software which fosters the sharing of good ideas and solutions.
- We need software which guarantees freedom of choice, access and competition.
- We need software which helps to regain full control over critical digital infrastructure, allowing it to become and remain independent from a handful of companies.

In short, what we need are the following four freedoms: the freedom to use, study, share, and improve a software.

These freedoms are guaranteed with Free Software licences, also called Open Source licences.

## HISTORY OF THE FREE SOFTWARE MOVEMENT

The Free Software movement started in the early '80s with the launch of the GNU project<sup>1</sup>, a free software operating system, together with the establishment of the Free Software Foundation. Almost two decades later, in 2001, the Free Software Foundation Europe, FSFE, was born. Since then, the FSFE has been taking action in Europe to assure that users control technology, while highlighting how Free Software contributes to freedom, transparency and self-determination.

## THE COLLABORATIVE FREE SOFTWARE COMMUNITY

Free Software is built upon the principles of collaboration, transparency and freedom. These values promote the creation of communities which work in different disciplines, making such an exchange of ideas and knowledge a nurturing practice. The number of different Free Software projects within the community is as large as the aspects in which technology is involved in our lives, and it keeps up-to-date with our current needs. The wide offer of Free Software projects goes from operating systems, health and hospital information systems, free and decentralised social media to democratic participatory platforms; you name it.

Free Software is key to fostering a collaborative environment in which everyone has the possibility to contribute by studying, improving or auditing the software. By allowing a community-oriented ecosystem, Free Software grants the possibility for different expertise from a multi-disciplinary background to converge in pursuit of building solid technological solutions. A recent example of these solutions are the COVID apps, as explained by Julia Kloiber and Elisa Lindinger.<sup>2</sup> Several of these app projects decided to publish the source code under a Free Software licence (also known as Open Source) to enable collaboration and engage several communities.

Among other international bodies and institutions, the WHO also understood that global problems require global solutions. They released a guide on »the use of digital proximity tracking technologies for COVID-19 contact tracing« and proposed releasing all these under a Free Software licence.<sup>3</sup>

These projects show the importance and vitalness of contributions by non-coders with different fields of expertise. One clear example are the translations which are crucial to allow cross-border usability of applications. The same is true for graphics and design, tutorials, documentation, testing, etc.

However, Free Software goes beyond the software which we use for free. There is also a growing market composed mainly of local small and medium-sized enterprises developing and offering Free Software. To make sure that Free Software benefits the people, it is important to promote its values towards society but also towards decision-makers. Part of this is the »Public Money? Public Code!«<sup>4</sup> initiative which demands legislation requiring that publicly financed software developed for the public sector should be made publicly available under a Free Software licence.

This not only helps to foster the growing market, but also serves the public. On the one hand, it opens a tech ecosystem which can strengthen the collaborative innovation economy. Public procurement can create new markets and leverage local industry, allowing these small and medium-sized enterprises to compete in the digital market. On the other hand, there is a return of the financial investments to society by financing publicly available software with public funds.

## WHY SHOULD ADMINISTRATIONS USE FREE SOFTWARE?

Public administrations are facing new challenges to guarantee more transparent, efficient and inclusive digital societies. Software is playing an important role in

addressing these challenges. Hence, governments are amongst the largest purchasers of IT goods and services, amounting to up to 27% of software firms' revenues.<sup>5</sup> This is the reason why the debate around the kind of software used by public administration is essential. It raises awareness that trustworthy systems and digital sovereignty in the public digital infrastructure is needed and has to serve the public.

## BENEFITS THAT FREE SOFTWARE FOSTERS IN PUBLIC ADMINISTRATION ARE:

- Giving something back to citizens: software financed with taxpayers' money should be made available to the public.
- Saving long-term costs: similar applications do not need to be programmed from scratch as their source code can be freely reused and adapted. By working together with other partners and communities, costs and expertise can be shared by creating a collaborative ecosystem. Others do not have to reinvent the wheel over and over again.
- Supporting the local economy: local companies can participate in further software development which can boost the growth of small and medium-sized enterprises. Dependency on individual manufacturers, vendor lock-ins and restrictive licensing terms can be avoided.
- Transparency by default: open code is more auditable code. Free Software licences allow for security checks by independent parties, making government services more transparent. This transparency increases citizens' trust in the digital government infrastructure.

## FREE SOFTWARE IN THE EUROPEAN UNION

More and more governments implement guidelines for the use of Free Software in public administration. However, the speed of implementation is slow. While many initiatives at local and regional level show the potential of Free Software, they lag at national and EU level.

Innovative projects such as *re@di*, an association of nine municipalities which work together on Free Software solutions, develop these guidelines together with Free Software communities.

Another example is the city of Dortmund, where communities like *do-foss* have been successfully promoting Free Software for years and have a large cross-party majority in the city council behind them to continue with the implementation of Free Software guidelines.

Furthermore, cities like Barcelona and Madrid also organise community participation via the Free Software platforms *Decidim* and *Consul*, respectively. They let people decide on city budgets, with outcomes such as the recent redesign of the Plaza de España in Madrid.

Thanks to vital communities, the platforms are shared internationally with other administrations. Large institutions must learn from the pioneering spirit of local and regional administrations and follow up their declarations with deeds (and money!).

## FREE SOFTWARE ALWAYS WINS

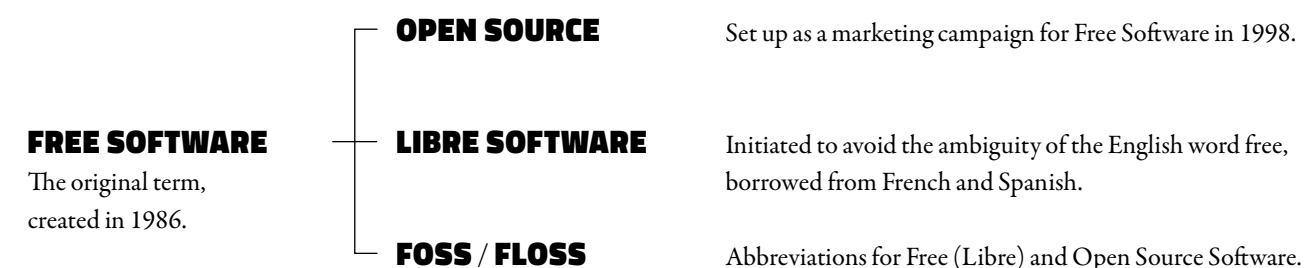
Sovereign digitalisation can only be achieved when democratic participation is part of the process. People's participation is crucial in shaping a digital sphere where collaboration, inclusion and openness are guaranteed. Therefore, Free Software is the key to doing so.

An application released under a Free Software licence has benefits in our private and public dynamics. The more individuals, organisations and, of course, public administrations which use Free Software and become part of the community, the more transparent, inclusive and sustainable our public digital infrastructure will be.

- 1 GNU. »GNU in a Nutshell«, accessed on 01 December 2022, <https://www.gnu.org/gnu/about-gnu.html.en>.
- 2 Kloiber, Julia and Elisa Lindinger. »Out in the Open: How Open-Source Shapes our Digital Future«. Institut für Auslandsbeziehungen e.V. (ifa), Digital Civil Society – (dis-)connected, 2021, page 14, accessed on 01 December 2022, [https://www.ifa.de/fileadmin/Content/docs/foerderungen/CCP\\_Programm/ifa\\_CrossCulture\\_DCS\\_web.pdf](https://www.ifa.de/fileadmin/Content/docs/foerderungen/CCP_Programm/ifa_CrossCulture_DCS_web.pdf).
- 3 World Health Organization. »Ethical considerations to guide the use of digital proximity tracking technologies for COVID-19 contact tracing«, 2020, accessed on 01 December 2022, [https://www.who.int/publications/i/item/WHO-2019-nCoV-Ethics>Contact\\_tracing\\_apps-2020.1](https://www.who.int/publications/i/item/WHO-2019-nCoV-Ethics>Contact_tracing_apps-2020.1).
- 4 Official homepage of the »Public Money? Public Code!« campaign, accessed on 01 December 2022, <https://publiccode.eu/>.
- 5 Nagle, Frank. »Government Technology Policy, Social Value, and National Competitiveness«. Harvard Business School, 2019, accessed on 01 December 2022, <https://bbswk.hbs.edu/item/government-technology-policy-social-value-and-national-competitiveness>.



**LINA CEBALLOS AND ALEXANDER SANDER** are responsible for FSFE's policy activities. They lead the »Public Money? Public Code« initiative and regularly reach out to decision-makers and staff of administrations and institutions across Europe, serve as media contacts and give talks and workshops at international conferences to promote the values of Free Software.



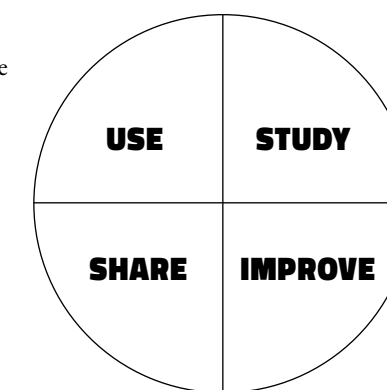
Some tech communities prefer the original term »Free Software«, others use »Open Source«. The more recent abbreviations FOSS and FLOSS bring the different terms together and are used often today.

## THE FOUR FREEDOMS

Free Software can be used for any purpose and is free of restrictions such as licence expiry or geographic limitations.

Free Software can be shared and copied at virtually no cost.

The four freedoms displayed are at the heart of what defines Free Software. If only one of them is not applicable to a software, it is therefore referred to as »proprietary software«.



Free Software and its code can be studied by anyone, without non-disclosure agreements or similar restrictions.

Free Software can be modified by anyone, and these improvements can be shared publicly.

© Free Software Foundation Europe

# » CUBANS ALWAYS HAVE A USB STICK IN THEIR POCKET «

*Nestor Siré*

On the one hand, Cubans have to deal with censorship by their own government and, at the same time, with the blockade by the USA. This results in the discovery of many alternative options so as to access data and share them, as the artist, *Nestor Siré*, shows. The CCP Alumnus also uses the possibilities of FOSS for his art.

*For a long time, Cuba was regarded as the country almost »without the internet«. During the last few years, connectivity has improved. Could you give a short overview of digitalisation on the island during the past years?*

Cuba has a strange history regarding its access to the internet and technology in general. On the one hand, the problems which arise when accessing the internet are due to the infrastructure, because Cuba is closed off to foreign companies which could offer internet services. On the other hand, the question of control is a major issue. For a long time, the internet was seen as an instrument of attack on Cuba's sovereignty. This is also due to the fact that, like other countries in the former Eastern bloc, Cuba had this idea of technological sovereignty, especially as a result of the Cold War.

All these problems led to the extremely slow development of internet access in Cuba. I first experienced the internet while I was living in Camagüey, in the so-called »Casas de Conexión«. These were private flats in which either a foreigner or a doctor had access to the internet, which was provided by the government. [NB: For a long time, only scientists, artists, journalists as well as foreign business people were entitled to a private connection.] Generally, this was a small room with three or four computers; the connection was incredibly slow and you paid for the time you used the devices.

For a student like myself, this access was incredibly expensive. At some point I moved to Havana to study art and had access to the internet at university. That was the first time that I really navigated and had a digital presence.

*For a long time, the Cuban government's priority lay in expanding the connections in research, education and health care institutions, also because, due to the American blockade, it was excluded from using the submarine cables which ran through the Caribbean and had to rely on an internet signal via satellite. How has this changed?*

In 2015, Cuba opened the first Wi-Fi parks. These public Wi-Fi hotspots brought about a huge change. A submarine internet cable had been laid from Venezuela. At the end of 2018, we then received mobile data on our cell phones for the first time.

I think that, for the government, the idea of a country which functions somewhat more digitally was stronger than the fear of the loss of control, because many social practices, such as payment transactions and bank transfers, are carried out digitally today.

But this also provides a means of control: The state telephone provider, Etecsa, holds the communications monopoly. It is the only company which offers internet

services and has absolute control over tariffs and the establishment of an internet connection. As a result of the high cost of the internet, people have neither much time nor data volume to surf or upload or download videos, even if they have access.

»As a rule, pirate copies are used«

*In this connection, what role does free and open source software (FOSS) play?*

In the academic field, there is an attempt to evoke the idea of technological sovereignty so as to achieve greater use of free software. Linux is strongly promoted. There are even programmes from the University of Informatics Sciences (UCI) for the development of Cuban operating systems. And a start has been made to develop Cuban hardware, i.e. computers, tablets and cell phones.

But generally speaking, a large part of our society unfortunately continues to use the same applications from the large global internet companies. The difference is that, as a rule, pirate copies are used, because Cuban citizens have no legal or practical possibility to pay for a licence or an online service or because these companies with their headquarters in the United States follow the policies of that country which prevent the provision of services to Cuba as part of the limitations of the economic embargo to the island. This has to do with the American blockade against Cuba.

*How does the state's policy influence this? There is a contradiction between free software and the will of the state to control...*

One good example for illustrating the question of control is SNET. SNET is a large meshed network which concentrates mainly on gamers in Cuba. There are about 100,000 users in Havana.

SNET has also become so huge, because it had clear restrictions: it does not spread pornographic content nor does it touch on any political topics. SNET was also not a direct problem for the state, because there was no ideological problem. But it was also definitely perceived as a security problem, because SNET became huge and the government had no control over it.

The state updated the Communications Act and thus specified certain technical restrictions which would have made it impossible to continue to operate SNET. The SNET community then sought interaction with the authorities to clarify that it had no intention of going beyond gaming. This was the beginning of a communication process. The solution was to link SNET and its infrastructure (nodes) to the »Joven Club« (Youth

Club). The Joven Club are the government's computer clubs. They provide economically disadvantaged people with access to technology and organise workshops.

The link from SNET to the Joven Club's network was a win-win situation. The state won, because it gave greater social relevance to the Joven Club; at the same time, SNET's users were able to maintain the network and gained more connection speed, because they now had a fibre optic connection.

*But on the other hand, the state now has control over a previously independent network.*

Over the course of time, SNET has changed from an open community to a socio-technical community with an economic basis which comes fairly close to that of a company. The cooperation with the state deprives SNET's administrators and technical support of their economic basis. But the users are, for the most part, satisfied with this fusion, because they now have to pay less and the connection speed is incredibly fast.

Citizens still find themselves in conflict with regard to the question of connectivity in Cuba: on the one hand, the Cuban state is still very careful not to lose control over what people are consuming on the internet; on the other hand, we have the American government which imposed a blockade, making access to certain platforms and applications very difficult or even impossible for Cubans. There is a permanent blockade from all sides.

»Cubans always have a USB stick in their pocket.«

*How is FOSS distributed in Cuba?*

There was always a kind of digital sovereignty system from the governmental institutions which included the development and use of free software. Those universities created with the objective of digitalizing Cuba were perhaps, together with the Joven Clubs, the spaces that most favoured the distribution and use of free software. Several editions of the Latin American Free Software Installation Festival (FLIsol) have also been held in Havana, organized by the free software movement in collaboration with Governmental Cuban institutions.

Perhaps the project with which I am most familiar would be COPINCHA, a collaborative and open creation laboratory which integrates knowledge and technological practices, in coherence with the Cuban socioeconomic and cultural context. In recent years,

at the state level, we have »Apklis«, a platform for downloading Cuban applications for Android.

As for digital distribution, everything circulates in Cuba through the so-called »Weekly Package« (»Paquete Semanal«). It is a one-terabyte collection of media, mostly of movies and entertainment content, which is compiled weekly in Cuba and distributed throughout the country by exchanging files from hand to hand through a human infrastructure.

Cubans always have a USB stick in their pocket. Then there are all the other platforms, such as the Cuban intranet, which still works, or SNET. Furthermore, a lot of free software and programs with pirated keys are also distributed.

*You mentioned the Weekly Package, a type of offline internet on which Wikipedia articles, films, advice, etc., are distributed via USB sticks or other data carriers. You've dealt with this quite a lot in your artistic work. What is the role of the Weekly Package and why did it develop in Cuba of all places?*

As an artist, I'm very interested in intervening in the phenomena with which I work. My first project in relation to this phenomenon was a folder I created within the Weekly Package in 2014 called »!!!ART Section« (»!!!Sección ARTE«). !!!ART Section is an offline curatorial project; its focus is directed towards informal ways of circulating information, digital piracy, alternative networks, the art-society relationship, the limits of net art and new media-offline art, as well as their social interaction within the spaces of mass culture.

The Weekly Package is not all that uncommon as an information archive. Netflix as an archive for streaming entertainment material can also be seen as an information archive. The uniqueness of the package lies in the fact that it is an information archive which is distributed via a human distribution network almost daily across the entire country, reaching eleven million people. Two things come together in Cuba: economic precarity and a lack of internet. This is what makes this package so popular.

It seems to me that we should regard this type of practice in a context such as Cuba not only from a romanticising perspective, based on the motto: »What genius is brought forth by precarity!« I believe that these practices offer alternatives which could also be applied at other levels.

*We have talked a lot about FOSS.*

*How do you use it in your art?*

I am a very unconventional and pragmatic artist. I'm not only interested in creating works as an aesthetic result, but also in the functionality of these works. This

means that I associate a lot with the idea of using art to create communities. As an artist, I have one foot in the academic world but, at the same time, my work or my presence as an artist is also an intervention in the phenomenon itself.

Thus, many of my works have a strong software development component. At the moment, I am developing a project called Free\_Wi-Fi with small local servers using a WEMOS D1 WiFi prototyping board, waterproof 3D printed box and a self-sustainable clean energy system which implements a solar panel. This project is open in order to create networks which are not controlled by anyone.

As an artist, I stand for the philosophy of using free software tools, especially to oppose production from Silicon Valley and the large tech corporations which control everything. There is a lot of free software which solves exactly these problems. Furthermore, for me, the use of free software is a means of teaching the use of certain tools and showing alternatives.

»My work concentrates on the development of communities«

*In 2020, you were a Fellow in the ifa's CrossCulture Programme (CCP).*

*How have you profited from this?*

During my Fellowship, I was very interested in participating in the seminar on digital civil society, especially because, as an artist, part of my work concentrates on the development of communities, the promotion of platforms for debates, etc. My main goal was to gain experience from these activities outside Cuba, not only



**NESTOR SIRÉ** (\*1988), lives and works in Havana, Cuba. Siré's artistic practice intervenes directly in social contexts in order to analyze specific cultural phenomena. His artistic methodology consists in engaging with existing social structures in order to explore new ways in which art can impact the complex relationships between official and informal networks. He pays particular attention to those dynamics deeply related to identity, memory, and cultural/historical amnesia. Often engaging with the particular idiosyncrasies of digital culture, he works within the vernacular infrastructures in the Cuban context. His works have been shown worldwide.

[www.nestorsire.com](http://www.nestorsire.com)

Interview by  
Andreas Knobloch

from the perspective of lectures or workshops, but through dialogue with scholarship holders from all over the world.

Unfortunately, the bad internet connection in Cuba was a huge problem and the fact that the pandemic made it impossible to attend the workshop in person had a negative impact on the workshop experience. Nevertheless, I learned a lot about the way in which communities organise themselves and I met many communities I had not known previously, even from Latin America, as well as other phenomena and practices of which I knew nothing.

*In your opinion, what forms of collaboration are important for digital transformation and the development of artistic forms in connection with FOSS?*

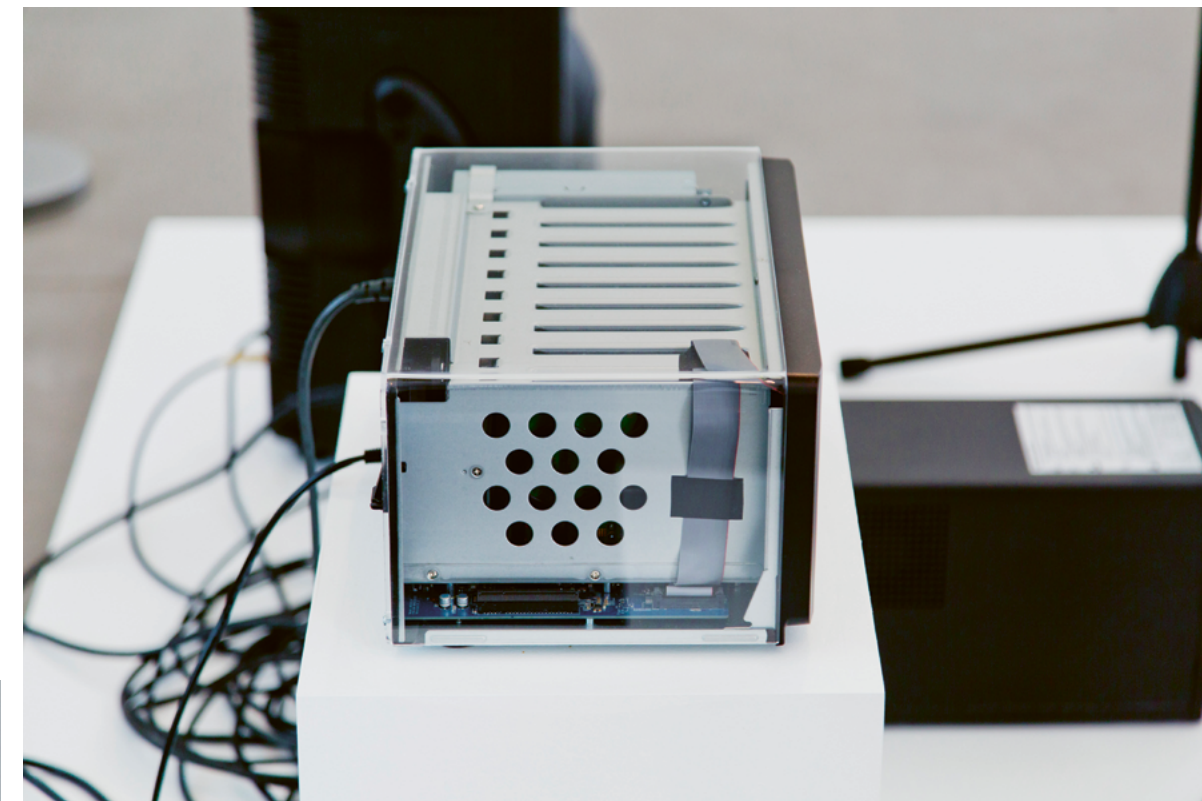
I believe that CCP is a very good starting point, especially because the participation of people from Cuba enables them to establish connections worldwide. But there are also problems: on the one hand, the process of creating these spaces and communicating these requests must become far more horizontal and transparent as well as applicable in different contexts. For example, the fact that applications can only be made online is insufficient for a context such as Cuba. Thus, the people who apply for these scholarships are often neither the most interesting nor well-known, but simply those who have access to this information (internet). On the other hand, you have to understand that these contexts have their peculiarities. The way in which civil society in Cuba is understood differs entirely from the concept of civil society at a global level. Also the way in which Cuba understands the use of free software or digital artistic practices is very unique. So my question is not only whether we should provide funds here, but also whether we should create platforms and ways to ensure that these funds end up where they are required so they do not, for example, just stay in Havana.



17.(SEPT) [By Weist\_Siré Records]™.  
Julia Weist and Nestor Siré  
Queens Museum, New York, USA [2017].  
(Photographed by Hai Zhang)

In their exhibition the artists Julia Weist and Nestor Siré explore creative social strategies surrounding connectivity in Cuba, where a majority of the population has little to no internet access. Their projects capture and contextualize the most significant of these phenomena, the Paquete Semanal or »Weekly Package«.





17.(SEPT) [By Weist\_Siré Records]<sup>TM</sup>,  
 Julia Weist and Nestor Siré  
 Queens Museum, New York, USA [2017].  
 (Photographed by Hai Zhang)

ARCA presents the Paquete Semanal in its current form and within the lineage of Cuban media circulation. Its centerpiece is an interactive archive of 52 weeks of the Paquete (64TB storage device) – the only existing record of this ephemeral phenomenon.

The Spanish word »arca« has a variety of meanings – it is a safe, a chest, a reliquary, and for Nestor Siré and Julia Weist, it is an archive. ARCA contains precious ephemeral media that is not preserved anywhere outside of their installation.



# » I HOPE WOMEN WILL BE CATALYSTS TO POPULARIZE FREE AND OPEN SOURCE SOFTWARE «

*Nayyara Rahman*

CCP Alumna *Nayyara Rahman* was not planning to get into tech, but the high-paced working environment suited her. With the app she invented she wants to fight corrupt and abusive workplace behaviour. As a female leader, she wishes to inspire other women to dive into digitalisation.

*Nayyara, you currently work as a technology consultant. How did you start out working in this field?*

It was entirely accidental. When I was doing my A-Levels here in Pakistan, I was planning on studying engineering. Then, at the last minute, I switched to business. I completed my undergraduate degree in business, and I worked hardcore boardroom-type jobs in the next four to five years. Then I went back for my Master's in Business Administration (MBA). While I was doing my MBA, I got a job in marketing at a tech firm in Pakistan that really changed my mindset. Everything I'd been looking for in the corporate world was in the technology sector: it was fast-moving, high growth, and there was a strong focus on efficiency. There was the bootstrapping.

Concepts like data protection in big data, compliance on privacy issues, and the ethics of technology drew my interest. I started studying them on my own. I have a non-technical background, but I'm slowly trying to make forays into technology. But what really draws me in is how technology has two sides. People get the good part of automation, the good part of AI, and so they overlook the very serious risks they pose, especially to uninformed users. My interest is in making sure that those concerns are highlighted and that people make more responsible decisions about their digital existences.

*What role does the Free and Open Source Software (FOSS) scene play in Pakistani society right now?*

Until recently, there wasn't much receptivity towards FOSS and there are several reasons for this. One: Pakistan is very prominent in Business Process Outsourcing (BPO) and Knowledge Process Outsourcing (KPO). We build software for users in the United States, England and other high-paying markets. The incentive to switch to free and open source was very low. There's also the issue of localization: for example, you'll have Windows in Urdu, but not its FOSS equivalent.

But this is going to change: there is an explosion of freelancers and gig workers happening who are trying to bootstrap their way up and they are looking for efficient software. Licensing fees can be punishing for an entrepreneur's budget. There's a lot of need to build knowledge about the advantages of FOSS.

*How do gender roles play into the development of this small, but growing, FOSS scene in Pakistan? Are most of the people who work in this field men?*

In the past five years the government has made a lot of effort to include women in entrepreneurship and technology. But I would say the field is still about 75 percent men.

»Women will stick to something safe«

*Why do you think that is?*

Home-based businesses still focus on traditionally female professions like catering, beauty and cosmetics. While women are steadily entering the technology field, it will take some time before they can be leaders in this space. It's very ironic: I once went to a festival where there was a panel on female financial inclusion and they couldn't get a single speaker to come who happened to be female.

It's also about mindset. In 2017, I presented a paper about the gender gap in technology and one thing we noticed was that although the pay scale difference exists on its own, there are also the careers that women in technology choose. Men will go for the high risk, high growth careers; women will stick to something safe like quality assurance, product management or website design. These areas are not as aggressive and are therefore not taken as seriously as the more fast-paced jobs.

*What are some possible solutions to the gender gap in technology in Pakistan that civil society or the government could act on?*

The first thing is the documentation of female-run businesses, because home-based businesses are usually undocumented. The numbers might be much higher than we think. Second is the ease of entrepreneurship in Pakistan. A lot of people say that it's easy to start a business in Pakistan, but I beg to differ: you can set up a company, but issues like taxation and recovery of revenue are hard. Recovery of revenue is when you've done work for a client and the client refuses to pay. Men can fight it out; they can badmouth the client. Some women shirk away from that. But platforms like [the remote work site for freelancers and clients] Upwork, etc., are making a big difference in how women participate. I hope women will be catalysts to popularize free and open source software in Pakistan.

*Where did you get the idea for your app to anonymously report corruption, nepotism and harassment in the workplace?*

The first was my own experience in the corporate world. After my undergraduate degree, I worked for some big-name companies in Pakistan. But the environment inside the organizations was very different from what it was projected to be. A lot of toxic behavior was encouraged. People had to look and talk a certain way and it had no bearing on overall productivity. I felt there was

a gap and that it was unhealthy. So that was my first source of motivation.

Then, once I became a boss myself, I realized that the problem goes both ways. It's not always the boss who's the bad guy, sometimes the employees can be toxic as well. And another source of inspiration came after I started teaching at universities here. One of the best classes I ever taught was a management course with undergraduate computer science students. The students were bright and curious, but I knew they would be at a disadvantage, because their university was not the most prestigious.

I thought I should help them design their careers better, so I made that part of the management course and the response was good. Their friends and acquaintances started approaching me, too. And that's when more honest conversations started coming up about workplaces.

»Bad practices  
should  
not be tolerated«

*How is your app different from employer-rating websites like Glassdoor?*

My app is for documenting more serious issues. There are so many limitations to websites like Glassdoor. For instance, there's no checking whether a review is legit or not. Your rivals can badmouth you by pretending to be interviewees who had a bad experience. They are very close ended with just a few parameters, such as work environment, management, lunch or not, that kind of thing.

In many corporations, a problem has to get really bad before they do something about it. My mindset is different: that bad people and bad practices should not be tolerated at all.



**NAYYARA RAHMAN** is a researcher with a focus on technology ethics and management. Her work is focused on data protection, privacy and developing systems for data transparency and accountability. This is encapsulated in glastide, her technology driven think tank that devises new futures of work.

*What stage of development is the app in right now?*

I started with the prototyping, the design and feel of it, in November 2021. We'll probably start with a website, then do social media and finally the app. By the end of spring 2023, inshallah, it should be ready.

*From June to November 2021, you participated in the CCP Fellowship with the host organisation MOTIF, a think tank and institute for digital culture based in Berlin. What did you learn from that fellowship?*

I learned a lot of new things. For instance, I feel that in Germany there's much more openness and adaptability towards FOSS. There's such respect for privacy and a much higher awareness of data rights. Sorry for the stereotyping, but I feel that people in Germany generally value privacy more than people in Pakistan. I also feel that people in Germany know more about FOSS, and not just from the cost perspective. In Pakistan, people who use FOSS are doing it because it's free, not because it's user-friendly. People in Germany have more understanding of digital civil rights and they understand why a digital freelancer would not want to use Windows, for instance. If you went to an investor in Pakistan, that would be a big question mark: Why are you using FOSS? Why aren't you using a cracked version? Cracked versions are popular in this part of the world, by the way. Surprisingly for a remote collaboration, the Fellowship with MOTIF was a very validating experience. My hosts were both entrepreneurs who shared my struggles of navigating an >untraditional< career path. Their choice of subject, an integration of social and technology issues, overlapped perfectly with my approach to digital civil rights.

Interview by  
*Jeff Brown*

# FOSS IN PRACTICE

# BEYOND THE ILLUSIONS OF CHOICE

*Muhammad  
Khalid*

How free are you as you go through your daily activities? How free are you when you choose what to wear? How free are you when you choose the software that runs your devices? CCP Alumnus *Muhammad Khalid* looks at the everyday use of technology and the many possibilities of FOSS.

As technology has generally been integrated in our lives, we interact with it on a daily basis in a continuous process of choosing among the various options. These options are all over the place, from your ringtone to your account password, from your preferred wallpaper to what airlines you want to book for your next vacation. This seemingly abundance of choices provides the user with a false sense of freedom. This false freedom is used by various parties for various purposes which are generally not in the interest of the end user.

The FOSS (Free and Open Source Software) philosophy starts with the birth of the GNU project, even though there are already first traces in the late '50s. FOSS is generated and maintained under a communal collaborative supervision. It hereby creates a real freedom of choice in the context of technologies. Free software means having freedom over the use of it, over the distribution of it, over modifying it and the economics related to it. With FOSS, the illusion of choice which leads to a false sense of freedom is eliminated from the equation.

## THE LIMITATION OF CHOICES

As humans, we have always been susceptible to having our minds tend, incline and prejudiced towards or against something or someone. This is called bias. A bias that is relevant to this topic is one that causes people to believe they have more control over their lives and choices than they actually do. This is called the illusion of choice.<sup>1</sup> Politicians, marketing agents and salesmen use the illusion of choice to meet their goal by altering language and communication. It is also present in daily life. Consider, for instance, the difference if you were to answer these two questions, »I'm free on Thursday and Friday; which day is more suitable for you for us to grab a cup of coffee?« and the other question, »When do you want to meet and grab a cup of coffee?«

This bias is present in the proprietary digital market as well. Tech companies offer various options from which the end user can choose. This only imitates the freedom of choice, but in essence it's the illusion of choice. Booking.com is a prominent example of making excessive use of the illusion of choice. So-called dark patterns flood the user with signals, creating alleged choices, which are a set-up which sucks the user towards the options which the company wants the user to decide upon.

Or did you ever find yourself scrolling down the endless one-way road of a social media timeline? You are trapped in a well-designed dark pattern, which has little to do with free choice. The former Mozilla and Jawbone employee, Aza Raskin, showed what users

are up against when he said, »Behind every screen on your phone, there are generally like literally a thousand engineers that have worked on this thing to try to make it maximally addicting.«<sup>2</sup>

## FOSS OFFERS MORE CHOICES

There is a differential in power, a kind of control relationship, between the creators of digital tools and the end users of these tools. For instance, in proprietary tools, the end user does not have much of a choice of the features, the behaviour or how these tools collect data on the user themselves. With FOSS in the equation, this differential power is lessened (if not zeroed). FOSS reduces the difference in power by allowing the user to modify and reuse the tool as it fits his or her needs.

This reduction in differential power is one of the driving forces that got me into an endeavour which shares the same intrinsic principles and concerns about freedom, namely the humanitarian sector. In the humanitarian sector, the main goal is to improve the lives of vulnerable people by reducing the differential power between them and non-vulnerable people. This is done by supporting the targeted community. With this support, they gain more freedom. For instance, a vulnerable household with no source of income does not have many options to consider, so they have no freedom of choice. Once they are supported properly, more options are available for them – and by options, I mean what they want to do in life.

As for FOSS, the same freedom is given to users by allowing them to modify and reuse FOSS tools. More options, more control.

This interaction between FOSS and the humanitarian NGOs has boosted the efficiency of humanitarian work in every stage of the project life cycles. From design to assessment to implementation, closure, monitoring and evaluation, there are FOSS tools. One of the most widespread tools among NGOs is the Kobo Toolbox. It collects data in the field for assessment as well as for monitoring and evaluation. The Toolbox offers many features to reduce required resources and errors when collecting data in the field. Furthermore, it provides users with the option to analyse and report results. And all of this is licensed under GPL (GNU General Public Licence), which means it's a copyleft licence which allows users to change and share the outcome of their projects.

The Kobo Toolbox is just one FOSS tool. Below is a list of tools which can be used in different domains:

- Ubuntu: a Linux distribution operating system which is based on Debian, with many user-friendly features.
- Mint: a more user-friendly Linux distribution which is based on Ubuntu.
- LibreOffice: a suite of programs which includes:
  - LibreOffice Writer: word processor and desktop publishing component used for creating letters, books, reports, newsletters and other documents.
  - LibreOffice Calc: spreadsheet component used for parsing spreadsheets, formatting and calculating data in a spreadsheet.
  - LibreOffice Impress: the slideshow presentation component of LibreOffice used to create, edit and present slides with various elements.
  - LibreOffice Draw: another component of the suite, used to create simple and complex drawings and export them in a number of common image formats.
  - LibreOffice Base: a database management system component of the suite used to design, create and manipulate relational databases.
- Blender: computer graphics software used to create animated films, visual effects, art, 3D printed models, motion graphics, interactive 3D applications.
- LibreCAD: a computer aided design software application.
- Atom: an IDE (integrated development environment) used to develop software.
- VSCode: another IDE.

And much more can be found on <https://osdn.net/> and <https://github.com/>. So, now knowing that there are hundreds of thousands of active, free and open source tools available which are being maintained by the community, ask yourself: how free are you?

- 1 O'Malley, John. »Dark patterns in user experience design manipulates consumers, says CGT research«. Purdue University, Polytechnic Institute, 2017, accessed on 01 December 2022, <https://polytechnic.purdue.edu/newsroom/dark-patterns-user-experience-design-manipulates-consumers#:~:text=In%20other%20words%2C%20dark%20patterns,not%20in%20their%20best%20interest.>
- 2 Andersson, Hilary. »Social media apps are >deliberately< addictive to users«. BBC, 2018, accessed on 01 December 2022, [https://www.bbc.com/news/technology-44640959.](https://www.bbc.com/news/technology-44640959)



**MUHAMMAD KHALID** is an engineer and self-taught programmer with a background in cybersecurity. He joined the humanitarian sector in 2018, where he uses his knowledge in the context of INGOs. Muhammad was a fellow in the CrossCulture Programme in 2021, cooperating with AAM-Digital, who offer open source software for development cooperation organisations.

# WHAT OPPORTUNITIES AND CHALLENGES DO YOU SEE IN FOSS?

»As someone working for some years now to close the digital and educational gap, I would say the biggest challenge is connectivity. I think the opportunity here is to enable more >offline platforms< with FOSS software, to make it easier to bring FOSS to places where there is no connectivity. Surely, FOSS can contribute to a more equal digitalisation by reaching underdeveloped communities and providing them with software tools for their development.«

**CAMILO, MEXICO**

»The issue of equal digitalization is not really that close to the FOSS community; the main source of this issue is that women are not encouraged to join the digital domain. The stereotype of a digital career is that it is all about coding. However, the digital domain is larger than coding and there are many opportunities to join that career which are unrelated to coding. Another issue which makes equality hard to achieve is that some people can't find the right mentor to start in this career; this is a very overwhelming career and one can spend years without getting real results from their work. So, most of the people in tech need a mentor to map this journey with them.«

**HAGER AHMED, EGYPT, CCP FELLOW 2019**

»FOSS can give people and small companies financial freedom from the burden of subscribing to proprietary software. It also gives people freedom from using pirated software in many parts of the world. But, there are challenges, too: the distribution of FOSS among the common mass using digital devices is extremely low in underdeveloped and developing countries. This is due to a lack of knowledge of FOSS. Popularising it in these regions can equalise the digitalisation of the world and break the monopoly of big techs and corporations.«

**ANEK, BANGLADESH**

»I think the biggest opportunity is inclusion. The use of professional-level digital tools at a very cheap price or for free helps the development of projects, communities and civil society groups which do not have their own resources for development such as a transnational company does.

I think that the challenges could be that they are not so easy to use, that is to say that the usability is often not the best and, as they are not very user-friendly, it is also necessary to study this a little bit, as in the case of people who are not used to working with software.

I believe that free software can contribute to a more egalitarian digitalization, although it should not be the only option.«

**MAVIS, CUBA**

# WHY I PREFER FOSS

## *Petra Hagemann*

Gaining back the power over the technology she used made *Petra Hagemann* turn to Free and Open Source solutions. Years later, she still praises the many advantages, but also acknowledges a downside of the FOSS community.

It was to be the safest firewall on earth. It was my first contact with Free and Open Source Software (FOSS). My flatmate was excited when he put together that piece of software that had to be »compiled«. With another software called »compiler«. All that running on an outdated PC without Windows OS. Without Windows? Was that possible? »Linux«, he called it and his eyes sparkled with joy. »Look«, he said, »this is how you set up the kernel. Isn't that fascinating? You can do that yourself!« And like that, he introduced me to completely new things. Strange words dripped slowly into my mind and became more and more familiar. I learned how computers work. And I can look inside them! I can even change them! That was FOSS. It felt just like freedom.

The firewall actually turned out to be really safe: No one was granted access to the other side as it blocked everything. It took several nights to master this fine piece of self-built software and configuration. In the end, all the other flatmates were angry. »You broke it. Now fix the internet!« And so, we did.

It is not easy to fix the internet if, a few days ago, you had no idea of a network packet or what a compiler is. But the point is: with FOSS I was given the power to do just that.

For me, FOSS is not about software you do not have to pay for. It is about power. The power to access technology and make it yours. Ditching Windows and switching to my first Ubuntu and Open Source Software was self-empowering. The power of FOSS – a lesson I also learned from the »safest firewall on earth« – comes from sharing. Sharing your knowledge, letting others look into your work means basically sharing your power. I think this is the main door to FOSS: you must be willing to share the powers you were given.

### CHALLENGING DEPENDENCIES WITH FOSS

It started with a dysfunctional firewall. But still there was more to explore with FOSS and the Open Source community. A lot more. And I was eager to learn. An excellent precondition for Open Source, even if you are professionally into subjects that look, at first sight, like being far from computers and technology.

My subject was cultural studies, and my first professional placement was in international development cooperation, where development is not mainly about software. For many people and at first sight, international cooperation still seems to be about »developing« others. This term clearly comprises violence and

rightly reminds us of colonial habits we certainly do not want to reproduce any more. But nevertheless, this still happens, and this was something my colleagues and I wanted to change – with FOSS.

In international cooperation, IT often means a Western IT company sells their software and then trains local people to use that software. This approach naturally produces dependencies and increases the imbalances of power. So, we proposed to work with FOSS instead. We had different regional projects with African and Asian partners. Some activities comprised translating Open Office and manuals into Khmer, training for Linux system administration or improving practical programming skill development in computer science studies. The goal was not to deepen dependency structures on (mostly) Western-dominated software, but to support people in developing skills to build their own or adjust it to local needs. In many African countries, for example, Ubuntu is a very popular operating system that started on the African continent and now has an active community worldwide.

FOSS cultivates a certain mindset: you are writing software and sharing it. This not only saves a lot of work, as you can use what is already there and you do not have to start from scratch. With many people working on it, better software can be built as well. It is also a very interesting form of cooperation: everyone can use, contribute, improve, or enlarge it to their needs.

### EMPOWERMENT THROUGH SHARING

FOSS is far more than building software under certain legal restrictions. Exploring this kind of empowerment, I learned a lot not only about others, but also about myself, my own powers and about power balances in general. Still on my quest for understanding the inner bits of these cryptic machines on my desks (and meanwhile in my pockets), I decided to study computer science in addition to my job. It was no surprise to me that during these studies most materials were also Open Source.

Even more, you might say, education is the natural habitat of FOSS as it empowers people by sharing knowledge. And like education, FOSS can only happen and grow if there are people who are willing to let it happen in their lives. I think that it is no coincidence that FOSS people often are so much into networking. Networking is an essential part of FOSS, which I was able to learn at the many Open Source conferences and related events I attended.

FOSS changed my life. And not only mine: FOSS has arrived just everywhere.

For example, today I am working quite a lot with WordPress, which started as a system for blogs, but is now the most used Content Management System for websites. It has 60,000 free extensions (plugins) from worldwide contributors, so you can build your individual web application. We are using it a lot to build peer learning platforms with different cooperation tools from messaging, forums to video conferencing. If we need a feature that is still missing, it is easy to programme that feature and add it to the big extension database.

## WIN BACK YOUR TECHNOLOGICAL SOVEREIGNTY

Is there something more widespread than WordPress? My smartphone is no longer supported by its original operating system but runs perfectly with LineageOS, a FOSS system. Therefore, I am not forced to change my phone every two years when the software is no longer supported; instead, I can run it in an environmentally friendly way for many years with FOSS. It also backs off from tracking me all day and night. That's what happens when you win back your technological sovereignty and restart making decisions by yourself.

Interested in contributing? There are many ways to engage in FOSS communities. Apart from program-



**PETRA HAGEMANN** is a FOSS enthusiast. She has a background in social and computer science and works on digital transformation with partners and communities around the world. She facilitated the CrossCulture Programme online workshop, »Free and Open Source – A digital world for everyone?« and works at konnektiv, a consulting agency which offers advice on digital transformation.

ming, help is also welcome in finding bugs, doing translations, community management or marketing. Just contact a community you would like to join. In a first meeting you can discuss what help is needed or what your interests are. You do not have to know everything. There is no set of required skills. In my opinion, FOSS is about sharing and connecting. Sharing knowledge, work and power. Connecting things, areas of knowledge and people. That's FOSS – but there is also a downside.

Unfortunately, women are still underrepresented in FOSS communities, like they are generally in computer science or IT jobs. Since the software and how it is designed shapes the way we are using it, our technology has a very male-centric view. Many Open Source projects are, for instance, »led« by male leaders who determine how the software or a project develops following the role-model of the »benevolent dictator« (who doesn't necessarily stay »benevolent«). Apparently, the main pillars of Open Source, sharing power and connecting on a voluntary basis, contradict easily with such approaches. This is definitely a point why more women are needed in software development and in Open Source communities. Some bigger FOSS projects have special women's groups you can join (e.g. Debian, KDE, Gnome). Especially beginners working with other women can create a difference since you are accepted the way you are and no one gives you the impression that you have no idea, just because you are non-male.

# WHAT NEEDS TO BE DONE TO FURTHER IMPROVE AND DISTRIBUTE FOSS?

»These last years we have noticed a combination between FOSS and artificial intelligence which has made it possible to gradually improve the functionalities of the free logics. Consequently, they are being used more frequently by a diversity of users.«

**SAMI, TUNISIA**

» Knowledge dissemination is of great importance to ensure its popularity among common users. More users will ensure better contribution by donors to FOSS developers and a better support system for the sustainability of the FOSS ecosystem. A sustainable FOSS ecosystem would encourage more FOSS developers and volunteers, in turn creating more users and knowledge sharing.«

**ANEK, BANGLADESH**

» More people need to join the community and that means you need to simplify the FOSS documentation and make it accessible for everyone. Also, more statistics on the status of FOSS regarding the people who are behind that software are required. They can make a partnership with universities to encourage more students to join the community as early as possible.«

**HAGER, EGYPT**

» Work more on making efficient and systematic ways to distribute FOSS to places with no basic services. Maybe an idea would be to make physical >squads< of volunteers to go to said communities and bring FOSS so as to install it on available interfaces. Most of these communities have many more cell phones than computers, though. Maybe the opportunity is to develop more FOSS tools and platforms to be easily accessible on low-cost mobile devices.«

**CAMILO, MEXICO**

» I believe that, first, it should be more widely known. Explain in schools what it means and how it should be used correctly. Encourage more professionals to work in this way and promote the use of the software. Many times, we use these programs without even knowing that they are FOSS.«

**MAVIS, CUBA**



# A SWISS-ARMY-KNIFE SOLUTION?

*Simon Ant*

Digital civil society is one of the CrossCulture Programme's focus topics. Every year since 2019, we have zoomed in on one sub-topic related to digitisation, which is relevant for civil society. In 2021, we chose the topic of Free and Open Source Software (FOSS).

## WHY IS IT WORTH FOCUSING ON FOSS?

Looking at digitisation in general, it is often regarded as a vast field of opportunities. For a long time, civil society organisations had a rather ambivalent view of digitisation and often focused on the major challenges associated with new technologies. Respective organisations analyse and inform the public about these challenges. They raise awareness of critical issues related to digitisation and come up with alternatives to avoid or solve problems. One of these alternatives is FOSS. In each sub-topic we discussed during the thematic events of the CrossCulture Programme, FOSS was frequently mentioned to describe how we can improve digital transformation.

When we focused on digital security and privacy together with CCP alumni and partner organisations in 2019, pressing issues such as online persecution, surveillance, tracking, and data collection were on the agenda. With regard to the tools chosen for digital self-defence, most of them were FOSS. As they are open source, civil society can look behind the screen and see what a software is doing in addition to its actual tasks. *FOSS is transparent.*

In 2019, we also shed light on the topic of digital inclusion. CCP Fellows and alumni discussed how the digital world needs to be designed to be accessible for as many people as possible. Here, too, the solutions are as diverse as the respective contexts and individual cases. And yet again, FOSS came up. This is because free software lowers entry costs, which can be a barrier to participation, as Nayyara Rahman also suggests in her article when she says that »licensing fees can be punishing for an entrepreneur's budget«. <sup>1</sup> FOSS also allows software to be adapted to the respective context of the users, which Petra Hagemann perceives from the perspective of development cooperation. <sup>2</sup> *FOSS is open.*

By 2021, we were dealing with the digital divide to better understand it and find tools to close it. The divide is torn due to a lack of physical devices, capped internet connectivity and group-based online discrimination which can lead to withdrawal from digital space. Is FOSS a solution here, too? Yes, it is part of the solution. First, the hardware can also be open source, facilitating its production, and can be adapted more easily to local needs. <sup>3</sup> Second, when there is an internet shutdown, one prominent solution for activists is the Tor network. Tor's software is FOSS and runs thanks to the participation of many volunteers and institutions. This network allows not only the bypassing of internet shutdowns, which occur regularly worldwide as Access Now shows <sup>4</sup>, but also the anonymous communication of civil society activists. <sup>5</sup> And, third, social networks, as the fediverse

demonstrates, can also be FOSS. Moderation of the decentralised platforms is ensured by the community rules of each instance. <sup>6</sup> *FOSS is empowering.*

With all the challenges civil society is facing in the context of digitisation, the suspicion arose that, with FOSS, we have found the Swiss-army-knife solution. Reason enough to have a closer look at the challenges.

## OBSTACLES TO IMPLEMENTATION

For one thing, FOSS is already more present than people might think. Android is one example. But this is where the problem starts. In most cases, Android comes with a heavy backpack of Google Apps on our devices. And these collect more data than we need to share. This massive data collection continues to be a major point of criticism from civil society organisations. Android is therefore offered by FOSS communities without Google <sup>7</sup>, but these so-called customROMs spread slower than the variants interwoven with Google.

For civil society organisations, where digitisation is not the focus, tools from Google, Apple or Microsoft are often used because they dominate the market and the FOSS alternatives are not known. In a survey of participants in our FOSS workshop, over 50% stated that they knew little about FOSS before the workshop. It should be noted that the participants had explicitly applied for a workshop on Digital Civil Society. The result of civil society as a whole will certainly be significantly lower. Nestor Siré mentions in his interview that pirated versions of proprietary software are more widespread in Cuba than the FOSS alternatives <sup>8</sup>, even though these alternatives can keep up with the respective proprietary software.

Similarly, a look behind the scenes at ifa reveals that these lines are written on Microsoft Word and not on LibreOffice or similar FOSS alternatives. The organisation IT'N GO gave an indication at the Bits & Bäume conference in Berlin of what makes it so difficult to stick with FOSS alternatives. Organisations and especially volunteers are often overwhelmed by the complexity of some open source solutions and stick to the well-known software from the proprietary market, which at first glance seems to offer cheap and easy-to-use solutions. Along the way, users are drawn into an environment of proprietary software which builds on each other. Thus, FOSS alternatives become more difficult to be implemented. <sup>9</sup>

The example of fediverse – an open decentralised social network – also shows that FOSS is not the magical technical solution to digitisation's challenges. Hatred is not quasi self-regulated disappearance. However, many features are an alternative to Facebook, Twitter

and co. Mastodon<sup>10</sup> is one platform in the fediverse which has been getting more attention lately as its centralised and capital-oriented alternative Twitter is reshaped by its new owner, Elon Musk. Should public places such as social media be privately owned? Many say no and believe that Mastodon is the democratic alternative for Twitter.<sup>11</sup> However, anyone hoping that this will lead to the quasi self-regulated disappearance of hate is mistaken, as anyone can create a Mastodon server which interacts with the whole network. Yet, other servers which realize that a certain server is spreading hatred or fake news can block the interaction with this server. Mastodon's founder calls this »the democratic process [through which] the hateful server can get ostracized or can get split off into basically, a little echo chamber«.<sup>12</sup> But hatred comes not only from individuals. As Facebook whistle-blower Francis Haugen showed, hatred is amplified by algorithms because it keeps us longer on social media, allowing private platforms to show us more ads and generate more revenue.<sup>13</sup> This is not the case with Mastodon, where each message stands on its own. Dark patterns which Muhammed al Taha reports on do not emerge nor are they made visible.<sup>14</sup>

As in many technology fields, there is also an imbalance in FOSS between the contributions from men and women. GitHub, for instance, is one major platform where open source code is developed. While the company presents itself as increasingly employing women (30.7% in 2022)<sup>15</sup>, it is more difficult to find accurate numbers for the 83 million users. Older statistics show that only 11.2% of the developers are women.<sup>16</sup> However, a study showed that code written by women is approved relatively more often (78.6%) than code written by men (74.6%), although this effect is lessened if the gender of the developer is made transparent on the platform.<sup>17</sup> Another example is Wikipedia's huge imbalance between female and male contributors.<sup>18</sup> Initiatives such as Women in Red address it by organising editathons which create content on women's biographies.<sup>19</sup> Even though such initiatives tackle the issue, overall progress is slow and a long way lies ahead.<sup>20</sup>

## CREATING A JUST DIGITAL WORLD

FOSS is not the one solution which will magically make the negative phenomena of digitisation disappear. These phenomena are too complexly intertwined with society; they are not simple technical problems. We still need a civil society which makes us aware of the downsides, the dark patterns, the surveillance, the injustices of digitisation, and puts them at the centre of debates. FOSS is first and foremost a software which offers many possibilities, choices and transparency without trade-offs.

But FOSS is also more. It can inspire. It builds on local and international communities which are based on the idea of openness, of sharing, and this idea extends beyond software. FOSS is not closed to anyone. It is, therefore, in stark contrast to many concepts which regard digitisation as a matter of monopoly or national security. FOSS is the best idea for creating a just digital world.

- 1 Cf. page 31 in this publication
- 2 Cf. page 41 in this publication
- 3 Speaking about hardware brings us one step further, but others might argue it also brings us away from FOSS. It is not software and therefore not FOSS. Still, some organisations which support FOSS want to translate the concept to other areas as well. There are various examples of these open hardware communities. The Global Innovation Gathering, for instance, is a network of innovators and innovation spaces in the field of hard- and software. One of their projects is »Careables«, which wants to distribute open and inclusive healthcare and offers digital fabrication and DIY healthcare, taking into account the individual's needs. (Cf. Careables, accessed on 10 November 2022, <https://www.careables.org/>). Another example is »Copincha« from Cuba, which was part of the CCP Synergy Programme in 2022. (Cf. Sanabria, Maurice Haedo. »Disconnected Experiences – Copincha«, accessed on 10 November 2022, <https://ars.electronica.art/newdigitaldeal/en/%E2%80%AFcopincha%E2%80%AF/>). A further example is »Instructables«. This is a community which documents and shares blueprints of their inventions, which are not only related to technology. (Cf. Instructables, accessed on 10 November 2022, <https://www.instructables.com/>)
- 4 Access Now. »#KeepItOn«, accessed on 10 November 2022, <https://www.accessnow.org/keepiton/>.
- 5 Tor Project. »History«, accessed on 10 November 2022, <https://www.torproject.org/about/history/>.
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- 10 Mastodon. »Social networking that's not for sale«, accessed on 29 November 2022, <https://joinmastodon.org/>
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- 12 Ibid.
- 13 Karen Hao. »The Facebook whistleblower says its algorithms are dangerous. Here's why.«, MIT Technology Review, 5 October 2021, <https://www.technologyreview.com/2021/10/05/1036519/facebook-whistleblower-frances-haugen-algorithms/>.
- 14 Cf. page 35 in this publication.
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# IFA AND ITS CROSS-CULTURE PROGRAMME

With its CrossCulture Programme (CCP), ifa (Institut für Auslandsbeziehungen) is working in partnership with the Federal Foreign Office to build strong civil society networks between Germany and the rest of the world. Since 2005, professionals and committed volunteers from the fields of culture, education, science, arts and media have benefited from the opportunities provided by work-related stays either in Germany or in CCP partner countries.

- *Strengthening civil society:* The CCP Fellowships from the CrossCulture Programme (CCP) provide funding for professionals and committed volunteers from about 40 countries each year (please refer to our website for a list of the relevant countries). During two to three months of professional exchange in host organisations in Germany or in CCP partner countries, participants deepen their expertise and acquire intercultural skills. In turn, the host organisations benefit from the expertise, regional knowledge and networks of the CCP Fellows. Upon returning to their home organisations, the participants bring their experiences gained abroad into their everyday working life. Work placements are currently being offered in the following areas: politics & society, media & culture, human rights & peace, and sustainable development. From 2019 to 2023, the focus will also be on civic & citizenship education, digital civil society and climate justice.

- *Networking civil societies:* Civil society organisations from Germany and from a CCP partner country are supported by the CCP Synergy programme as they work together on a collaboration and create a lasting network. Funding for short stays is provided to employees of the two cooperating organisations. Aims of the cooperation can be the development and the expansion of joint projects, publications or events. The programme encourages the direct exchange between organisations and helps to bring together civil society actors across borders in order for them to learn from each other.
- *Intensifying collaboration:* With travel grants and regular seminars, workshops and symposia, the CCP Alumni programme promotes the professional development of hundreds of CCP Alumni worldwide. Since 2005, the programme has been helping participants build upon their established partnerships and networks. Travel grants are available to alumni to attend conferences, work on small joint projects and undertake fact-finding missions. In addition, CCP appoints volunteer representatives in the respective countries to act as contact persons in cooperation with alumni, the German Embassy, ifa and other interested parties. Together with the CCP, they organise regular alumni network meetings on topics of regional and professional interest.

For more information about the programme, please visit:  
[www.ifa.de/en/funding/crossculture-programme](http://www.ifa.de/en/funding/crossculture-programme)

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Federal Foreign Office

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Is Free and Open Source Software the solution to gaining digital freedom, sovereignty and solidarity? Which opportunities but also challenges does it hold for civil society?

»Digital Civil Society« is one of the focal topics of the CrossCulture Programme (CCP) by ifa – Institut für Auslandsbeziehungen. A workshop for CCP Fellows, Alumni and other experts in 2021 focused on the topic of Free and Open Source Software (FOSS), its global development and usage by civil society. This publication presents personal interviews, best-practice examples and recommendations for action from different stakeholders around the world.

ifa strengthens civil society actors worldwide in their advocacy for democracy and peace, encourages dialogue within civil society and contributes to the protection of minorities and persons at risk.

With its CrossCulture Programme Fellowships, ifa supports the interlacing of German and foreign civil society actors from the cultural, educational, scientific, artistic, and media sectors in about 40 partner countries. The goals for participating fellows and organisations are to broaden their expertise, acquire intercultural skills and learn from each other.

**STRENGTHENING CIVIL SOCIETY**