1 Abstract

The transition from simple cell phones to complex smart devices was performed in the last decade. In this proposal, we will try to explain our doubts about this transition in the terms of human rights, especially freedom and we will show the need for detailed analysis of the transition. Furthermore, we will show that there is a need for detailed analysis of current usage of mobile platforms by big vendors and data mining companies. This analysis should lead into the viewpoint, that fully open-sourced device is needed, because smart device is the only device which is with most of the population 24/7 and nobody really knows, what is the device doing.

2 Motivation

A decade ago, people were using simple cell phones for making calls and sending text messages. These were perfectly reliable, they could be online for more than a week and their reliability was very high. Also the durability was much higher than in the current smart devices. The devices were smaller and smaller, lighter and lighter, so the evolution worked well. But suddenly there was a great change without any additional need.

Steve Jobs came with an iPhone, which was in all aspects much worse then it’s classical predecessor. iPhone lasted one day at top on batteries, cannot send SMS in a proper format and was highly unreliable. Also devices were much bigger, so one cannot put them into the pocket. Nobody understood this concept, but marketing worked and people started to buy devices like
this and nobody is surprised anymore, if you have mobile phone almost of the size of A4 paper. Nowadays vast majority of people has a full multi-core computer in their pocket and this computer is permanently connected to the Internet. Also the operating system in that device is general purpose operating system.

This transition can be seemed really weird and certainly was not cause by the demand of people for such device. We can ask, why somebody would invest money into device, which is not wanted by market. The answer can be, because it is needed by companies and/or government. The reason can be really simple. Full and all-time control over each individual was always desired by the leading parties in all the times of human being. But now this can be fulfilled completely with the help of today’s technology. And everything is pointing to that direction. Today’s services on smart devices are mostly used for gathering informations about users, tracking their movement via GPS, learning their habits via Facebook, learning their voice via voice translators, gathering their biometrics via fingerprint readers and much more.

This is a huge problem of todays civilization. We are using very complex things very often and we have no idea, what they are doing.

The problem is much broader. If somebody wants to learn what is his smart device doing he cannot. The hardware is closed-source, so you do not know, what actually is on your system-on-chip. The firmware is closed-source so you cannot learn what is your hardware programmed for. The bootloader is closed-sourced and secured so you cannot install your own operating system into your own bought device. Lastly the operating system is close-sourced and even you do not have root access. What this mean in a detail? Whatever you write into you device can be (and most probably is) recorded and used by the vendor. This is a huge problem if you are using your smart device for Internet banking, logging in to different service, writing you emails, writing your secret things, etc. Practically we are using a little spy and we are telling him all the secret information about is.

If we add the reality that Facebook and Google want to connect poor states in Africa to the high-speed Internet the suspicious level is getting even higher. It looks like smart device in each pocket and each state with high-speed Internet is the new reality which is in hands of a few biggest companies. Are utopian novels coming into reality, Mr. Big Brother? This is the question worth answering and our project will try to answer it — and even in the case of negative answer, we will present a solution how to keep our freedom and still have smart devices in our pockets.
3 Research Plan

• At first, we need to perform detailed analysis of the transition from simple cell phones into smart devices. Analyze what were the circumstances of the transition, try to figure out if there was a demand and/or idea from the governments and/or companies to control each person in the world by a smart device. This will touch historical, political and even social sciences. We will try to decide, if the smart devices era was made on purpose or if it is just a bad coincidence.

• No matter how the previous step will end, we will try to design open-source smart device ecosystem. This includes mapping all recent possibilities how to replace proprietary services with open-source ones, how to replace proprietary operating systems with open-sourced ones, how to replace closed-sourced hardware with open-sourced one etc.

• We will need to make all parts of the ecosystem usable, so all possible parts of the ecosystem will need to be externally supported to make them fully workable and co operable.

• Finally, we will need to bring people into the ecosystem which will be certainly based on P2P and community principles. To build this ecosystem, there will be need for supporting and motivating individuals, who will contribute to the existing projects and will make them even higher quality and more usable.

4 Intellectual Merit and Broader Impacts

The project’s aim is to allow using the most modern devices, such as so called smart devices without any privacy issues and with fully respect to the freedom. There are several technical benefits of using open-source technology and open ecosystem:

• The whole ecosystem will be much more durable because of possibility of using different open modules for different parts of the system most probably each from different provider. Also bankruptcy of one company will not ruin technology ecosystem based on their products.

• Everybody can join the ecosystem and develop modules on their own, thus the economics can benefit from this too.
• The ecosystem will be open-source, thus there will be available source-codes and even old and obsolete formats will be able to read any time in the future.

• There will be no imprisoning to products from one brand, because everything will be compatible because of open standards. Thus no price hyping.

But the most important benefit is the freedom. Everybody will be able to know what is his device consisted of, what firmware is there, what bootloader and operating system is running there. User will be able to change every part of his device because everything will be public. Thus there will not be a code in your device, what you do not want. There will be no such possibility like track you on-line or perform datamining tasks on your personal data or personal communication. Also your biometrics will not be sent to your provider like it is performed nowadays. What we are offering is the choice to be independent and free.