

# The Edubuntu Implementation from the Perspectives of Free Software Communities

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In November 2007, it was announced that the Republic of Macedonia will deploy around 180.000 desktops running Edubuntu, as a part of the "Computer for every Student" project. This meant that the elementary and secondary education would be fully computerised, with no other than the GNU/Linux operating system, with its education oriented incarnation - Edubuntu. To the enjoyment of the free software community, these news echoed around the world as one of the biggest implementations parallel to the OLPC project. Now, almost two years after this announcement, what is the status of the project, and how can the advantages and shortcomings of the implementation be seen in a broader perspective of governmental policies. This paper will focus from the community perspective in analysing these issues.

The computer systems are based on terminals, with 6 working nodes and a server. They are running Edubuntu 7.04 and other specific programs for the purpose of different subjects and areas. Almost all of them, if not all, are free or open source software. The software in use is localised, either previously by the community or specifically for the purpose of the implementation.

This reform in the education was not to be an easy endeavour. Firstly, field conditions in Macedonia varied, and from a logistical point of view, computerising the education in Macedonia was, at least, adventurous, from adapting the objects to house modern equipment, to installing electricity for the first time. Similar difficulties were noted in a previous project, funded by USAid, for supplying Internet to every elementary school in the country. Secondly, under the objectives of the education reform, all the classes and subjects should be carried out with the aid of the computers, meaning that all the teachers, and the staff in general, had to be trained to use the new environment. Again, this posed difficulties in the implementation, since, the majority of the teachers did not know how to use computer themselves, let alone to implement their use in the educational process. Therefore, they have frequently refused to use the computers. These factors have delayed the full implementation.

What had they do right?

One of the most important benefits of the implementation was using free software. Using this kind of software, as the government elaborated, made the implementation financially possible. The operating system, in addition to a plethora of software packages that were needed for the educational purposes, 46 specific tools to be more precise, meant that using free software was a comparative advantage over proprietary variants. This was the case mostly the case with the implementation of the additional area specific software packages, since most of the preparation and installation was done in-house in the Ministry for Information Society, which was the technical authority, after the initial instalments were finished by the tender winner. Additionally, a fair amount of independence was won against the provider, since the state is not bound by proprietary license agreements. Having an access to the code enabled the provider, but also the technical staff at the Ministry to change parts of the software in order to fit specific arrangements that were needed.

Where did they go wrong?

The weakest point of the technical side of the implementation was perhaps the only proprietary software sets - the drivers for the specific terminal hardware. This is why Edubuntu 7.04 is used, since, allegedly (that is what we were being told), the drivers only work on this version. A result of this is the majority of the environment is rather outdated, most importantly the Gnome environment. This effects are seen now, when the advancement in the new versions can not be used in the schools. One of the most prominent examples are the accessibility tools, which have advanced significantly in the past couple of years. For instance, the Orca screen reader in the 9.04 version can read Macedonian, while the version that is a part of Edubuntu 7.04 can not. It is hard to see how this is going to be overcome, since the obligations of the provider appear to have ended. The effort to hack the existing environment seem to difficult to the support staff. But nevertheless, it is ironic how this dependence to a provider, a typical proprietary scenario is a part of such a big free software implementation.

But perhaps the weakest point of the undertaken approach was the failure to recognise the potential the free software community in Macedonia had for the level of success of the project. The first big mistake was the project for localisation. At the request of the Government, the USAid funded a localisation project with the aim to finish what the community already started. Rather than specifying a long term strategy for providing localisation, which would include the several active localisation communities, the Government was satisfied with the one-time approach and some company's product. The second mistake was not collaborating with local communities on issues for support and training. People within the technical teams have obviously less experience and their customisations to Edubuntu resulted in some broken software. Other examples show that the implementers did not fully know the features of, for instance, the Gnome environment. For instance, getting back to the accessibility tools, people in the Ministry were not aware that the desktop environment had voice synthesiser and screen reader. All this could be avoided if the Government employed the potential of the community which was very interested to participate and help the project. In the words of Yochai Benkler, the Government did not use the wealth of networks already established in the country. An optimistic side note to this conclusion are the accounts of the involvement of various students, part of the community, in in-house help and support within the schools.

What are the reasons for this?

There is a difficulty to recognise the ecology of the phenomenons such as free software and open content. Other than being less expensive, such ecosystems provide independence and their openness results in easier opportunities for growth, whether it be education tools or content or simply infrastructure to deliver information. But these ecosystems need support. A number of education programs saw Wikipedia, or similar projects or principles, as an opportunity to go in that direction while developing educational content. We don't see any such direction in the case of Macedonia, although the increased use of computers in schools would inevitably lead teachers or students to use such content. It is similar with the free software ecosystem. Choosing Edubuntu and free software was not a part of a certain formal policy seeking to support free software. It was rather a personal motivation of individual(s) or, in worse case, a simple way out of spending more money.

There is a lack of clearly developed and formal policies that would support open content and free software as a preferred choice. Such policies would have to, in addition, recognise the communities that surround these projects. This would enable the use of the aforementioned wealth of the networks. But the most important side of having formal policies towards these issues is that the use of free software or open content are not a result of arbitrary support or preference, but are a part of institutional conduct. A project for developing a national strategy towards free software in Macedonia is just about to start, and hopefully, the results or willingness to implement such policies would be visible in the near future.