

Free and Open Source Software In Africa

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Keywords

FOSS: Free and Open Source Software

FOSSFA: Free and Open Source Software Foundation of Africa

FOSSREC: Free and Open Source Software Resource Centre

NGO: Non-Government Organization, CSO: Civil Society Organization

Abstract

Despite its high priorities, Africa can investigate how to better use the opportunities presented by the emergence of Free and Open Source Software in the context of limited financial resources and capacities. Open source provides a way for Africans to help themselves, not to wait for the first world, but to get up and do it themselves. This will help African countries leapfrog into the information age through reduced costs, less dependency on imported technology and its ability to be customised to local languages. Moreover, by giving users access to its inner workings, open source could stimulate the local software industry. The open source philosophy lends itself to making technology available to the masses.

The African Paradox

ICT is not seen as one of the highest African priorities due to Socio-economic circumstances, imbalanced education policies and lack of financial resources. Among them are the provision for their inhabitants of good health, adequate education, opportunities for advancement, adequate housing, employment, and sufficient income to meet material needs, a sense of personal security within the law, and a sense of security as a nation. The IT world has unwittingly excluded the masses as technology has raced on leaving many Africans behind. But without ICT, Divide will widen. A solution to this paradox is to use FOSS to minimize costs.

Africa's Technology Development and the Digital Bridge

Rapid expansion of the Internet holds substantial promise for developing nations, which can benefit greatly from the Internet's communication and information delivery capabilities to help meet these needs. The accelerating transition of information to electronic media is making information resources of the world available to an increasingly global audience through the Internet. Developing countries have much to gain from that revolution in communication and information access. In contrast to the situation in the developed world, where transport and communications infrastructures for delivery of both physical goods and information services are well established, the alternatives available within developing countries are generally slow, expensive, or nonexistent. The communications and information delivery capability of the Internet serves all sectors of society. The areas of education, health, social policy, commerce and trade, government, agriculture, communications, and science and technology all benefit from Internet access to information and to individuals through electronic mail. In developing countries, information poverty is one of the more significant and insidious obstacles to effective exploitation of information processing and other types of technology. Lack of adequate information regarding developments in other countries and other environments is often not noticed, and in the absence of new information, old techniques and procedures are continued without conscious knowledge of alternatives. In

addition, even though developing countries may not be hurt in an absolute sense by lack of information, they are certainly negatively affected by any relative measure.

African FOSS Environment

Taking into account all major cost elements, Open Source Software environments in Africa is significantly less expensive than proprietary software environments, but proprietary software is still widely in use.

The main reason is that pirating copies of proprietary software. In most countries, both Government departments, NGO's and CSO's Schools and Universities distribute and share proprietary software. It starts with casual users of illegal copies, piracy for private and non-profit use.

And letting them use it makes them more likely to depend on it at work and to spread around the demand for it. Also the steadily declining costs of proprietary solutions and "special deals" have slowed down the trend towards widespread adoption of Open Source in Africa.

The Open Source community model for software development and support represents a huge potential opportunity for a change in Africa.

There are FOSS versions of most common Server and Desktop applications allowing all Africa governments and businesses to confidently satisfy 90% of their computing needs in Open Source environment.

FOSS Community

Open Source developers and practitioners in Africa are fragmented into minor efforts that fail to compete with profit driven proprietary software industry.

FOSSFA has taken up the task of organizing and giving direction and leadership that bridge such fragmenting in the African FOSS community.

FOSSFA's action plan supports a south-to-south interchange of experiences and collaboration on Open Source projects that will help in developing Africa.

FOSSFA: <http://www.fossfa.org>

FOSSFA'S Action Plan:

http://www.wougnet.org/ICTpolicy/docs/FOSSFA_ACTION_PLAN.rtf

Project Database: <http://www.fossfa.org/database/>

OSS Business Model:

The business model of giving the product away and selling services around it has out for most Africa ISP's using Linux and other Open Source solutions. Also in countries where Open Source is widely in use.

The model makes money solely off services, solutions for Internet Infrastructures, ranging from embedded devices to secure Web Servers.

Due to the survival struggle of FOSS ICT companies, the other downside is that whereas without Open Source, good programmers are hired by companies to make specific custom modifications in a Closed Source environment.

Open Standards:

Both Open Source and Open Standards are essential for the future of Software development in Africa.

Open standards are widely accepted by both Open Source and Proprietary software developers and interoperability of applications is no longer a relevant issue for the software choice.

Open Standards is not the “*Africa solution for African ICT Problems*”, but will rather allow Africa to deliver more services, instead of seeing hard to get money disappearing into pockets of hardware and software vendors.

FOSS Consultancy:

In many African countries, the majority of software consultancies now offer ongoing professional support for proprietary software, and FOSSREC’s training and support will help bring a change.

Despite promising economic opportunities in the proprietary software environment, the number of Open Source specialist is growing steadily and will be able to be able to support local and open source industry.

There are several Organizations giving support and training in FOSS to Africa.

The Francophonie Organization: <http://www.francophonie.org>

S&T Collaborium: <http://www.collaborium.org>

FOSS and Rural Communities:

There are critical challenges related FOSS in rural areas with limited infrastructure and FOSS projects in bringing technology to under-serviced areas have not been easy in Africa largely because it is difficult to access appropriate support.

Expected challenges include, but are not limited to: the design of community technology that respects existing values, technical skills, and resources; the creation of educational approaches that help the underserved benefit from the technology capabilities; the development of operational models that allow for the ownership, sustainability, and expansion of the local ICT infrastructure over time.

Rural community based organizations had very few computers and they were used primarily for administrative tasks, keeping accounts and writing up the minutes of meetings.

Unaware of cheap and robust source solutions to their agency’s communication and information technology need, they turn to spending precious resources on expensive hardware and software solutions that are in some cases unnecessary.

Refurbished Computers:

More than 50% of all computers into use each year in Africa are being donated from developed countries and refurbished in Africa,

Thanks to the lower costs and acceptable reliability of refurbished computers, they have become the option of choice for the vast majority in Africa.

Taking into account all major cost elements over their usable lifetime, refurbished computers have become significantly less expensive than the new low cost computers.

Africa is no more a dumping ground for unreliable and costly-to-maintain computers discarded by the industrial world, for many NGO’s and CSO’s businesses set up by charity has taken it up to ort and refurbished these donated computers before they are sent out.

These computers are donated then to Schools, Universities, and Non-profit organizations.

Some of these organizations have a charity commitment to improve the lives of unemployed people by creating jobs in refurbishing and providing computers to a variety of members of the community.

The local refurbishing industry is developing a workforce of skilled computer technicians and generating significant local economic activity.

Out Of Africa: <http://www.outofafrika.org/newsite/computers.html>

Computer Aid: <http://www.computer-aid.org>

Certified Computer and Network Technicians

FOSSREC's Training the trainers is a concrete manifestation of what FOSSFA is doing to achieve the objective of open Source widespread. Participants from All African countries will be trained in various aspects of FOSS and return to their countries to facilitate introduction and growth of the OSS there.

The popularity of the workshop will reflect the fact that training is an essential part of what is needed in developing countries to jump-start the introduction, spread, and exploitation of the Open Source in many developing countries.

By helping to introduce and extend Open Source, FOSSREC in fulfilment of its mandate to ensure cooperation and coordination in the evolution of Open Source has been active in addressing the issues faced by the developing world. To date FOSSREC's emphasis has been on training, and there has been a substantial payoff to the activity. The results of the training will significantly accelerate penetration of Open Source into those countries, with benefits in many sectors of society. It is both symbolic and appropriate that the FOSSREC has chosen to invest its resources in this manner.

FOSS and African e-Government

ICT policies is an ongoing process in Africa, and some governments in Africa have adopted policies and strategies that define "equal use" terms for FOSS, and some do favour FOSS over proprietary software.

Some advantages of Government FOSS Policies:

- E-Government – better delivery of services
- Cutting short the red tape of beaurocracy
- Education processes and e-schools
- Internet research – policy and regulation
- Transparency in the public sector.

African OSS initiatives

FOSS in African languages

Translate.org.za is making great strides forward under the banner of the Zuza Software Foundation, translating computer software into the eleven official languages of South Africa.

Current languages include Xhosa, Zulu, Venda, Northern Sotho, Siswati and Tswana. www.translate.org.za

Released in Xhosa, Zulu and Venda: [Mozilla](#), [OpenOffice](#) and [KDE](#)

Google in Xhosa and Zulu : <http://www.google.com/intl/zu/>

Kiswahili. <http://www.google.com/intl/sw/>

FOSS in Education

Open Source in Education exists to promote the use of free, open-source software in education in Africa.

There are many issues facing educators in Africa who want to use technology. Lack of money or cost, the Digital Divide, and technology Support.

But there is collaboration between several African Institution to bring FOSS to Schools. FOSS can save schools thousands of dollars. Staying with FOSS technology, the money could go to buy even more computers.

Open Source in Education enhances education through the use of technologies and concepts derived from the FOSS movement. Education is one of the most important things a society can focus on, but our modern society is falling short of supporting educators with the resources they need. FOSS provides the freedom of choice in pedagogical methodologies, a better structured and more intuitive user interface and new tools to further enhance effective collaboration.

Much of the use of IT in education appears to centre on training users in the use of a specific tool. It is even regarded beneficial in some cases to be able to list things like 'Able to use XYZ Word Processor' on a CV. Unfortunately, this often means that the basics of an understanding in IT are being lost in favour of specific instructions for the use of specific tools. It is like teaching our users how to operate a specific manufacturer's car, rather than teaching them how to drive. The varied nature of free, open-source software means that there are often many applications to fit a specific need.

Many people worry that if they aren't using 'what everyone else is using' then they are missing out on vital skills. However, the aim is to convince all that by educating users in the basics of (say) Word Processing instead of the core facilities of XYZ Word Processor, they would be able to sit in front of any Word Processor and work out how to use it.

Linux labs, the shuttleworth foundation

SchoolNet Namibia: schoolchildren get access to a computer and the Internet and run its system solely on Linux.

FOSS on the continent

- Namibia runs one of Africa's groundbreaking Linux projects: SchoolNet Namibia is a volunteer-driven organisation that is working to see that all Namibian schoolchildren get access to a computer and the Internet and run its system solely on Linux.
- In East Africa, a government policy document under development in Kenya calls for utilisation of open source software. Uganda also has a vibrant Linux community.
- In West Africa, Senegal is expected to issue a strong statement on open source in the near future, says special advisor on ICT to the president, Thierno Ousmane Sy.
- Ghanaian authorities say they may consider open source for education and research institutions and sections of the civil service that are not mission-critical.
- In Nigeria, a group of charitable organisations is promoting open source to develop ICT in Africa's most populous nation.