

# Accredited Community Empowerment Course:

**Development and presentation of research skills**

**How can IT professionals help to empower organisations to better manage their IT infrastructure and take advantage of the many IT resources available?**

**by Carlos Randall Ronceros**

**2011-2012**



**EVELYN OLDFIELD UNIT**



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Carlos Randall Ronceros  
April 2012



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## Executive Summary

### The purpose of the research

The purpose of the research was to learn about the needs that the Third Sector and SME (Small and Medium Enterprises) have in their ICT (Information and Communication Technologies) Infrastructure, their minimum software and hardware requirements, what kind of ICT support they require, to make them aware of free and open source software as an alternative for their organisations, to make them conscious of their strengths and limitations and to identify similar organisational common ICT needs so a standard ICT strategy solution could be produced in the future.

### Methodology

For the purpose of the research, four different methods were used:

- **Case studies:** consisting of organisations that have adopted open source as their ICT solution.
- **Literature review:** including reports and online information about ICT strategy, savings achieved when switching from proprietary software to free and open source software, how to better manage ICT infrastructures and ICT consultancy available to the Third Sector.
- **Online survey:** designed to learn about this types of organisation's ICT infrastructure and needs.
- **Interviews:** a more personal approach than the survey. It enable the interviewer to deal with any doubts that the interviewee had in more detail.

Because of the online survey and the interviews, the collection of data was made in a quantitative way rather than a qualitative. The purpose of collecting data in this manner was to generate an overall idea and generalise the results to all NGOs (Non-Governmental Organization)s and SME. [Note: The interviews were qualitative]

### Research Findings

The research has been divided into six main sections:

#### Information About The Company

Most of the organisations studied in this research are charities and their main sources of funding are donors and local authorities respectively.

#### Information About IT Infrastructure

The two most important key points learned in this section were, that all the organisations have internet connection and that nearly all of them share the same common problems (i.e. old and slow computers, lack of software knowledge and incompatibility (different program versions)).

#### Information About IT Management

More than half of this type of organisation are responsible for their own ICT infrastructure. Most of them do not have all key information details about their IT software and hardware. Three basic software requirements have been identified from this research: Office Package, Email and Internet Browser.

### Information About IT Skills

Three quarters of the organisations studied classify themselves as intermediate in their overall computer skills. The three basic skills that they need to be able to achieve their work are: word processing, spreadsheet and email, respectively.

### Information About Budget

Half of this type of organisation includes ICT costs when they fundraise and they just have a maximum of £1000 allocated for their ICT budget.

### Information General FOSS (Free and Open Source Software)

The concept of free and open source software was explained to each person being interviewed and a definition of it was made available on the online survey. More than three quarters of the organisations that participated had a positive opinion about it.

Nearly all of the organisations considered using free and open source software in the near future.

The three most well known free and open source software are Firefox, OpenOffice and Wordpress respectively.

Almost all small organisations agreed that there is a need for an organisation that will bring them ICT support because most of them do not have the budget for it.

## Conclusions

There is a need of an impartial consultancy for small organisations, somewhere where they can get general information and where they can learn about all the alternatives that are in the market and not just proprietary software solutions.

Organisations have much to learn about free and open source software and they have to be less conservative about their ICT strategy solution approach.

## Recommendations

1. Plan and create an ICT strategy.
2. Explore all the options available for your ICT infrastructure and take into consideration your organisation's budget.
3. Include ICT when fundraising.
4. Consider testing a open source system like Ubuntu and you will see how it can reduce your ICT budget substantially.

## Chapter 1:

### 1. Central aim

The central aim of this research is to assess IT (Information Technology) usage in NGOs (Non-Governmental Organization) or VCS (Voluntary and Community Sector) and SME (Small and Medium Enterprises).

What are the barriers that these organisations have in terms of software, training and what knowledge they have of FOSS (Free and Open Source Software) and why they are not using it.

Carlos Ronceros has worked with GNU/Linux (GNU General Public License – Linux: a Unix-like computer operating system similar to Microsoft Windows) for many years, a big success of open source software, and believes that the Third Sector and SME can benefit from this complete desktop environment and manage to reduce costs by implementing it in their ICT (Information and Communications Technology) infrastructure; By doing this, they will be using one of the most secure and reliable OS (Operating Systems) in the world, avoiding proprietary lock-in that big software companies do to make customers depend on their product.

## 2. The purpose of the research

The purpose of the research was to learn and explore the needs that the Third Sector and SME have e.g. (managing their IT, getting external support, making best practice of actual infrastructure, IT strategy, auditing, appropriate training, staff policies, data protection, budgeting and funding the technology in their organisation). The research will examine the following:

- To review the minimum software and hardware requirements organisations need to be able to function and achieve their work efficiently.
- To understand what kind of ICT support organisations need.
- To make organisations aware of better options and alternatives to proprietary software in the market, explaining to them that FOSS could be a good alternative to proprietary software and by migrating to it they could cut costs on hardware (new computers) and software.
- To inform organisations of their strengths and limitations regarding their ICT Infrastructure, helping them to determine areas that need to be improved.
- To help organisations to choose better ICT solutions that will reduce their cost and increase their productivity.
- To identify similar organisational common needs and to produce a standard ICT strategy solution for these types of organisations.
- To learn why organisations do not know or seek help with their ICT Infrastructure with the different IT organisations available around the country.

### 3. Literature review

Most of the research literature review has been done using Internet sources, computer magazine articles and IT Reports found at Lasa knowledge base and ICT Hub.

The research will concentrate on the main needs that organisations have on their ICT Infrastructure, one of the most important things to consider is cutting cost and improving their productivity. This research focuses mainly on the software needed to work effectively and run this type of organisation.

It is known that Microsoft Windows XP life cycle support ended on April the 14<sup>th</sup> of 2009 and the end of the extended support is set to April the 8<sup>th</sup> of 2014. This will imply that every organisation running MS Windows XP will have to upgrade to the next Windows OS, that is Windows 7, and most likely all of them will need to upgrade their Hardware (Computers) to be able to use this new OS.

There is a good example of how organisations could introduce big savings when considering open source software as a solution. In Linux User magazine an article can be found called "How much can open source software save your business?", taking into consideration just the basic software needed to run a small business and, as an example, settling on ten employees for the purpose of this experiment.

Figure 1:

BASIC SETUP		
Software	License Per User	Ten Licenses
MS Windows 7 Professional	£123.53	£1,235.30
McAfee (Yearly Subscription)	£22.40	£224.00
MS Office Standard 2010	£309.69	£3,096.90
<b>TOTAL:</b>		<b>£4,556.20</b>

ADVANCED SETUP		
Software	License Per PC	
Microsoft Project 2010 Standard	£509.51	
Lotus Domino Collaboration Express (Yearly)	£136.79	
Maya 3D Autodesk	£2,579.50	
Adobe Creative Suite 5.5 Master Collection	£2,483.15	
AutoCAD LT 2012 Commercial	£1,278.64	
<b>TOTAL:</b>		<b>£6,987.59</b>

As it is evident from this example of a basic setup, there is a big saving by migrating to open source software. A normal GNU/Linux distribution like Ubuntu will give an organisation all these basic features and the advanced ones, too, without incurring any costs.

A few will argue that there are maintenance costs and training costs when you migrate to another system. In reality, organisations have to incur the same costs while using proprietary software.

While adopting or migrating to another system can help budgets, it can save organisations buying new hardware. In the example above, if an organisation had to upgrade to MS Windows 7, it will have to acquire new equipment.

Figure 2:

BASIC HARDWARE		
Item	Per Item	Ten Items
Zoostorm Pentium Sandybridge, Dual Core, 4GB RAM, 320GB HDD, DVD Writer.	£189.99	£1,899.90
AOC n950Sw 18.5" LCD VGA Monitor	£59.99	£599.90
Xenta Black Wired Chiclet Style Keyboard with Black Optical Mouse - USB UK Layout.	£7.39	£73.90
<b>TOTAL:</b>		<b>£2,573.70</b>

Using or migrating to open source software will save any organisation on hardware costs. This example is for a regular organisation and not for a business that needs complicated and specialists software tools.

There are special prices for licensing charities that Microsoft gives once the charity is able to prove their charity status.

Here is another example found on cost savings by migrating from MS Office to OpenOffice or LibreOffice by adopting the Open Document Format (ODF Alliance):

Figure 3:

**ODF Cost Savings Case Studies**  
**Preliminary Cost Assessments of Migrations to ODF-Supporting Applications**

Country	Example	Savings (\$US)	Metric	Savings Percentage	Comment
Denmark	Central Administration	\$21m	Over 5 years	32%	If Expanded to Entire Public Administration, \$94 Million Saved Over 5 Years
Denmark	Faroe Islands	\$2.65m	Per migration	91%	3,500 Desktops (\$661 per desktop)
Finland	Ministry of Justice	\$5-5.8m	Over 6 years	25-30%	10,000 Desktops
France	Gendarmerie Nationale	\$2.5m	Per year		70,000 Desktops
India	Dept. of Information Technology	\$5.3m	Over 4 years	95+%	10,000 Desktops
Sweden	City of Stockholm	\$388	Per desktop	73%	25,000 desktops
UK	Bristol City Council	\$1.9m	Over 5 years	60%	5,500 Desktops
USA	Maine (state government)	\$4.4m	Over 5 years		13,000 Desktops (\$5.66 per month per desktop over 5 years)

ODF Cost Savings – [www.odfalliance.org](http://www.odfalliance.org)

**Case study 1:**

An article posted in, The Register, a British technology news and opinion website, claims that the mayor of Munich has made around €4m on savings by switching from Microsoft products to GNU/Linux.

Using GNU/Linux and OpenOffice has cut a third of their total IT department budget. Buying new Microsoft software and upgrading systems so they could actually run it would have cost over €15m, with another €2.8m due in three to four years of license renewal, according to official figures.

The migration meant that the city could carry on using older or actual hardware that was not so stressed by the OS. Support calls to help desks fell from 70 a month to 46. In these calculations support, retraining and migration costs, have been included.

The article also says that LibreOffice reports the French government has signed up to move five hundred thousand computers to this office suite. Other European governments have been examining such a scheme.

**Case study 2:**

The French National Police Force (La Gendarmerie Nationale) decided to migrate 85,000 computers across 4,500 police stations to GNU/Linux (Ubuntu desktop edition), saving the police force around €2m a year.

The case study states that with growing IT infrastructure costs, the organisation has decided to review its existing Microsoft based environment. After switching from Microsoft Office to OpenOffice and Internet Explorer to Mozilla Firefox, the police force decided to upgrade their computer systems to Ubuntu Desktop Edition. This migration simplified their maintenance and ease of use.

Employing over one hundred thousand people, La Gendarmerie Nationale, is responsible for public safety and policing in France. The force must ensure that its IT infrastructure is cost effective, easy to manage, reliable and simple for employees to use.

With access to thousands of open source applications, the force has found it easy to introduce new software, The tools available with GNU/Linux respect open standards so they do not cause many interoperability issues.

The solutions adopted by La Gendarmerie Nationale are Ubuntu Desktop Edition and Ubuntu Advantage (Premium Service Engineer) support that they get from Canonical LTD, the creators of Ubuntu Linux.

**Case study 3:**

The Voluntary Action Luton (VAL), trialled Ubuntu Desktop as part of an open source project ran by Cambridge Independent Advice Centre. The staff at VAL had no problem installing the OS and were surprised how user friendly the system is.

They found a vast amount of stable software including word processing, spreadsheets, presentations, drawing, databases, graphics, project management, accounting, email, calendaring and media players for music and videos.

The system seemed to work faster for the staff at VAL and found using open source software interesting, friendly, fun, useful and sometimes annoying, but they have no doubt that it is going to play a very important role in the development of voluntary and community sector ICT. They could not believe the range of software available and that it could all be obtained freely, legally and installed easily.

The Information Officer at VAL stated that there is a need of a pool of knowledge in the sector to call on, along with support and training, particularly when starting up.

**Case study 4:**

In January 2011, Martha Lane Fox, the government digital champion, launched a scheme to sell refurbished PCs for £98.00 to help bridge the UK digital divide.

The computers will run on open source operating system and software and the price includes a flat screen monitor, mouse, keyboard, telephone support, warranty and delivery.

The company's sales expectations were 8,000 packages on 2011, through 60 UK online centres that offer computer training.

"we have an opportunity here in the UK to make sure we are achieving internet skills and usage as high as TV usage... We should be using old computers and refurbishing them to close the gap in this country" Martha Lane Fox.

The scheme is also giving access to broadband deals with mobile operator Three, which Martha Lane Fox arranged through her digital inclusion initiative Race Online 2012.

**Case study 5:**

Taking into account Brazil and India, two developing countries that are part of the BIRC nations (acronym for Brazil, Russia, India and China), which are both leveraging open source at a rapid pace towards economic development.

India is a heavy user of open source. Sectors leveraging open source include software development outsourcing, business process outsourcing, government services, technical education as well as industries such as banking, insurance, manufacturing, oil and gas, defence and space. According to Wikipedia, India produces 2.5 million graduates every year from which only a small percentage, about 700,000 people are employed by India's BPO (Business Process Outsourcing) industry. The BPO industry which has flourished on cheap, skilled labour has started to leverage open source software based automation to gain further cost advantages.

Brazil has also been an environment and growth or development of open source activity in recent years. Government agencies, private industry, universities have been teaching and implementing open source solutions to create local centres of knowledge and gain expertise around open source in the country. Seeing India's success in IT outsourcing, Brazil has also declared an interest in using open source to gain leadership in the market of software development outsourcing.

Brazil owes its open source strategy to President Luis Inacio Lula da Silva and Marcos Mazoni when he was appointed as the Head of the Technical Committee for the Implementation of Free Software (CISL). Mazoni has earned a widespread reputation as an effective administrator and a skilled manager of FOSS migrations.

**Other articles:****eWeek:**

"Ranking seventeenth on the list of contributors to the Linux kernel, Microsoft, the company that once called Linux a "cancer," is now working within the collaborative development model to support its virtualization efforts and its customers. Because Linux has reached a state of ubiquity, in which both the enterprise and mobile computing markets are relying on the operating system, Microsoft is clearly working to adapt."

**ZDNET:**

"Microsoft wants both Linux to run Server 2008 R2 instances and for Windows 2008 R2 to run Linux instances using its own virtualization tools."

"Linux is the platform for the future of computing. More developers and companies are contributing to the advancement of the operating system than ever before, especially in the areas of mobile, embedded and cloud computing," said Amanda McPherson, the Linux Foundation's VP of marketing and developer services. "The increasing participation represents the power of Linux to quickly adapt to new market opportunities, lower costs, and provide sustained long-term support."

**TechRepublic:**

"Linux and charity go hand in hand. From cost savings to reliable computing environments, Linux fundamentally belongs in non-profits."

"Linux and charity have, since the inception of FOSS, gone hand in hand. At it's heart, the Linux community understands what it's like to depend upon donations and wants to return in kind. But where do YOU come in? Many charity-based organizations aren't currently benefiting from Linux simply because they don't know of its existence. You can make a huge difference for one (or many) of these organizations by going in and educating those groups to the benefits of Linux. Introduce them to FOSS and show them how it can be easily put in place to help lower their cost of operation. You might have to hold their hand as they make the migration, but in the end everyone will be better for your efforts. And, if you need more incentive, you can probably write off your time as a donation for tax purposes. You see, everyone wins."

#### 4. Methodology

The research was not targeted to Individuals nor a specific ethnic community, instead The main focus of the research were NGOs or VCS and SME.

There are four different methods used on this research to collect information:

- Case Studies.
- Literature Review.
- Online Survey.
- Interviews.

All these methods were used taking into account that different sources were needed to effectively use Triangulation, although only three methods are needed, and the approach taking on this research is quantitative because the data collected has been analysed to generalise all NGOs or VCS and SME. [Note: The interviews were qualitative]

A great amount of time and investigation went into planning this research. For a few months a lot of literature review was done to identify the right approach and to design a selective questionnaire. Personalized emails were produced for each organisation and the organisations were carefully selected.

The Case Studies consisted of Companies and Organisations that have adopted Open Source as their ICT Infrastructure Solution and the savings made by changing to Open Source instead of continuing to use or upgrade their Proprietary Software.

A small introduction was made at the beginning of the survey explaining the purpose of the research.

The Online Survey comprised of twenty six questions about their ICT Infrastructure, divided into five sections.

A questionnaire was designed for the Interviews (see Appendix A), grouped into six sections as the survey and consisting of forty questions about their ICT Infrastructure and Strategy. A presentation pack was created for each Interview, This presentation pack contained:

- Four CD/DVDs (see Appendix B):
  1. Ubuntu GNU/Linux (Free Open Source Desktop Solution), Microsoft Windows alternative, that will work on new and up to five year old computers.
  2. Puppy GNU/Linux (Free Open Source Desktop Solution), Microsoft Windows alternative, that will work on very old computers.
  3. Valo CD FOSS for Microsoft Window Gnu (definition) (GNU General Public License)
  4. OpenDisc DVD FOSS for Microsoft Windows.
- A CD/DVDs Introduction and quick steps (see Appendix C).
- A Consent Form (see Appendix D).
- A Information Sheet for Participants (see Appendix E).
- A presentation letter from the Evelyn Oldfield Unit and The Africa Educational Trust which run the Accredited Community Empowerment Course (see Appendix F).

As the research was confidential the names of the organisations that took part on this research, could not be mentioned.

## 5. Ethical considerations

The research was not targeted to a specific minority or ethnic group. In two of the research methods, the interview and the survey, the results are inclusive of the general population no matter what gender, religion, education, race or income.

The research has been approved by the organisations who run the Community Empowerment Course, The Evelyn Oldfield Unit and The Africa Educational Trust, by providing a letter of Introduction explaining the purpose of the research.

On both of the above methods, the letter or the contents were presented. It was explained that for the purpose of the course that all answers will be kept confidential and that the data collected will be on a secure web server, encrypted or securely locked. It was also explained that they could withdraw from the research at any time without given a reason.

Before any interview begun the reasons for the research were explained, and they were given a research pack with an Information sheet for participants and a consent form among other information.

What this research is trying to achieve is ethical, explaining NGOs and SMEs that there are alternatives and different ways to manage their ICT Infrastructure.

The whole concept of open source is ethical, being able to use powerful software without trepidation of breaking any law or not having the budget for it. NGOs should advocate FOSS because of what it stands for, including commitment to openness, freedom and knowledge sharing.

## Chapter 2: Research Findings

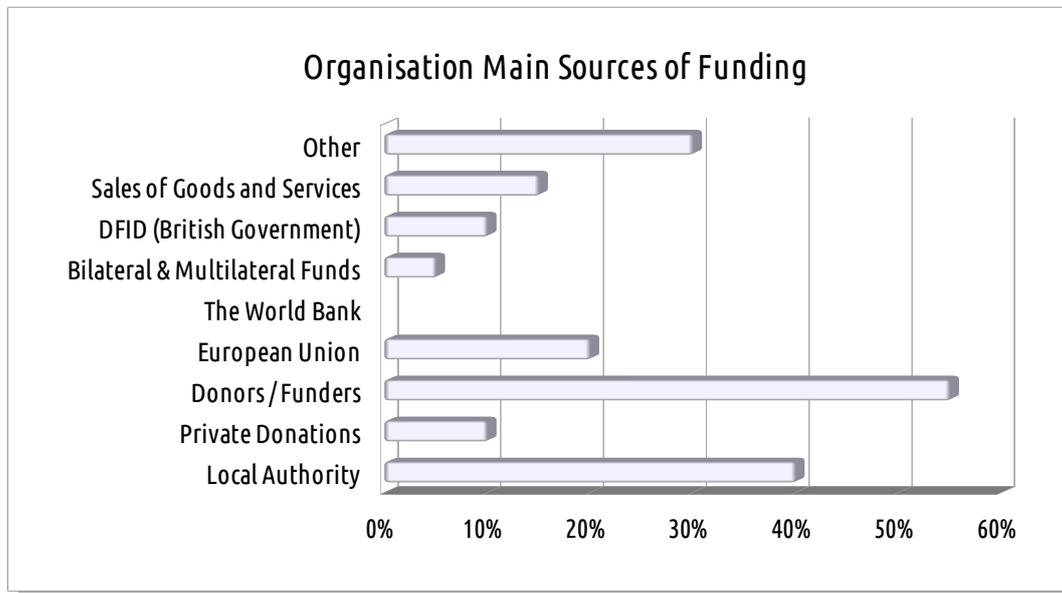
The research questionnaire, used for the interviews and survey has been divided into six main sections. The results from the interviews and surveys are as follow:

### Section 1 - Information About The Company

The first section of the questionnaire and survey aims to gather information about what type of organisation they were, in which 70% of them were Charities, VCOs or NGOs, 20% of them were Limited Companies (LTD) and Public Limited Companies (PLC), among others.

The other important question on this section was the main sources of funding, mainly targeted to the Third Sector.

**Figure 4:**



### Section 2 - Information About IT Infrastructure

This section collects data about organisation's general ICT Infrastructure. From this, the conclusion is that all of the organisations are connected to the Internet, some of them have in-house servers, they have a mixture of PC Desktops and Laptops, some of them are connected to a LAN (Local Area Network) and that the most common problems are old and slow computers, lack of software knowledge and Incompatibility (i.e. different program versions).

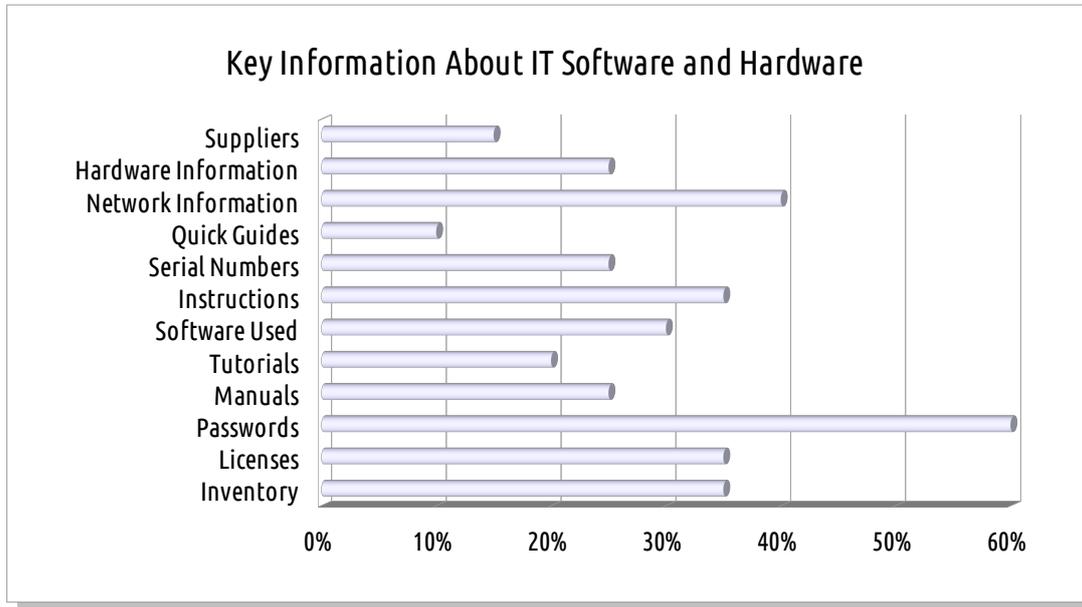
### Section 3 - Information About IT Management

The purpose of this section is to analyse how organisations manage their ICT Infrastructure. More than 60% of them are responsible for their own ICT infrastructure, 30% of them have an IT Manager, while 10% will have a volunteer with IT knowledge.

When any problem arises or the computer does not work, 50% will turn to a member of staff for help, 30% depend on volunteers that will come an help, and some of them will call an IT company or will have their ICT outsourced. This is not including the ones that have an IT manager with them.

Most of the organisations do not have key information details about their IT software and hardware.

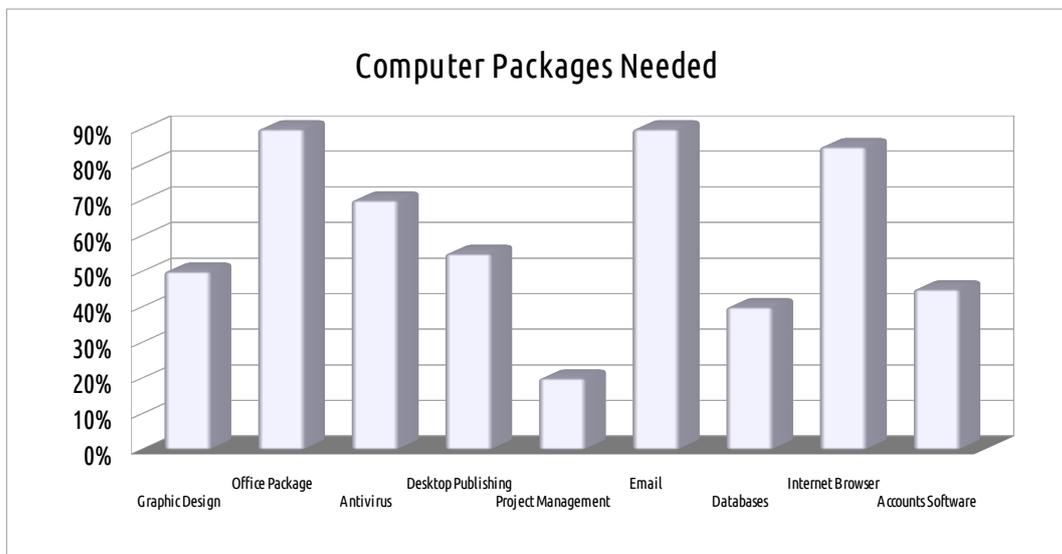
**Figure 5:**



When asked the question about if they had made an audit about the software used and if they were confident that they are correctly licensed, 55% confirmed they had, 35% have not, and 10% were not sure.

Here is the criteria that organisations have about what computer packages they need to be able to work effectively.

**Figure 6:**



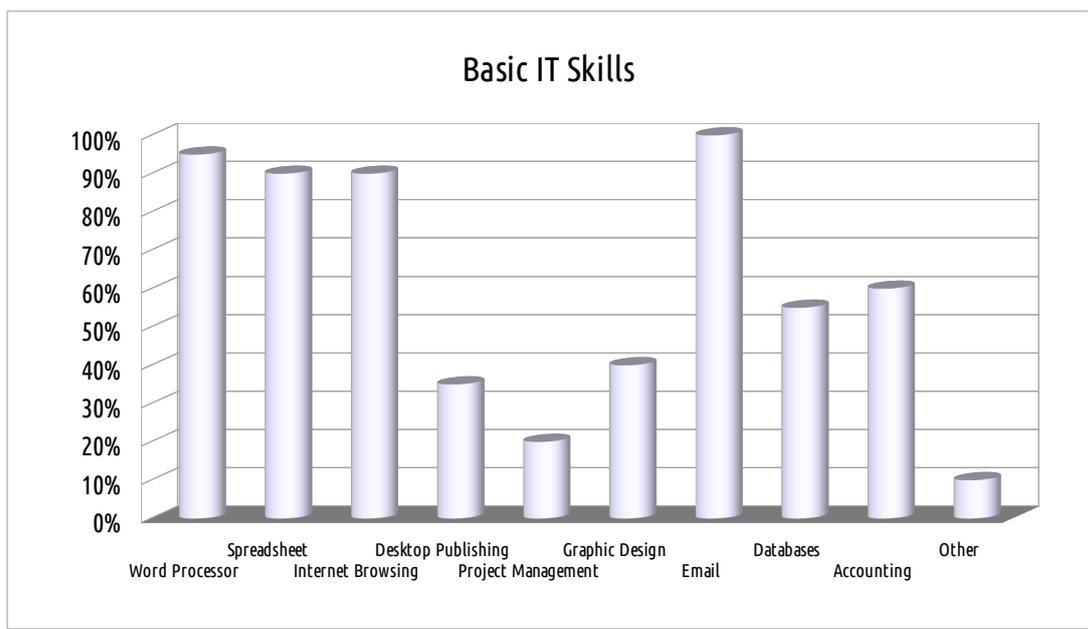
When investigating about which antivirus software they used, a few of them stated AVG, Avast and Avira free edition. Organisations need to be careful because the afore mentioned antivirus software clearly state that they can only be used on personal computers; all organisations have to pay a license for business usage.

Half of the organisations agreed that they have policies on what can be installed on the organisation computers.

**Section 4 - Information About IT Skills**

At present, IT skills are important within the function of any business or organisation. 75% of the organisations on this report have intermediate skill levels in their overall computer skills. The basic IT skills that organisations need to meet to accomplish tasks are:

**Figure 7:**



**Section 5 - Information About Budget**

ICT budget is an important factor of any organisation. Two main categories can be identified on an IT budget: IT maintenance and support and new technology expenditures.

More than 45% of these small organisations do not have a budget for their ICT and 50% of them do include IT costs when they fundraise.

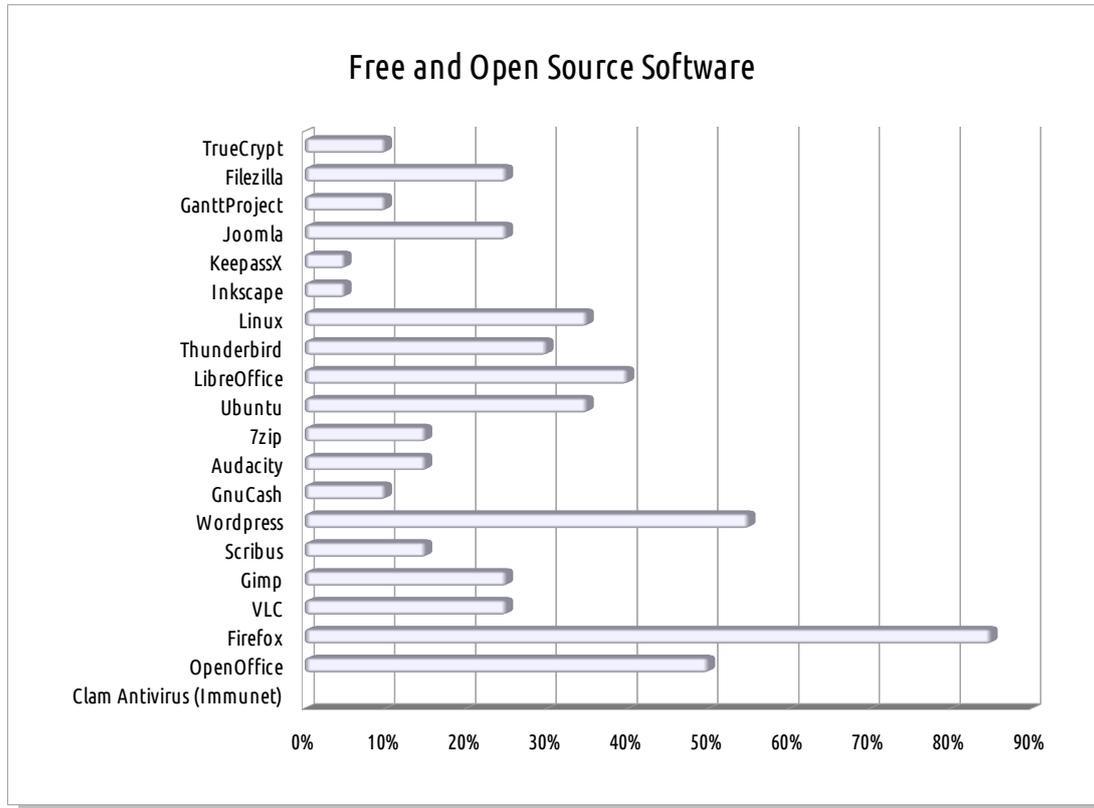
A budget of £1000 has been allocated by 50% of these organisations while 45% of them have a budget in the range of £1000 to £10,000.

**Section 6 - Information General FOSS**

This section aims to learn what knowledge organisations have about FOSS. To make them aware that it is a possible solution for their businesses and to show them that although they do not know to much about FOSS they are using it within a few programs. In both, interview and survey, the concept of open source has been explained.

More than 45% felt confident that they understood the concept of FOSS. Surprisingly nearly 80% of them have a positive opinion about it and a list of well known free and open source software were made to see if anyone had heard or used them.

Figure 8:



Only 5% of the organisations did not consider using FOSS.

There is a need for organisation types that could bring support to small NGOs or VCOs; 95% of them agreed on this fact. Small organisations do not have the budget to outsource their ICT. There are organisations like IT4Communities where they can get help and support, however this is a one off. There is no doubt that there is a need for organisations that can bring constant help.

## Chapter 3: Discussion

### BBC article

There is an article published on the BBC news website on the 8<sup>th</sup> of November 2006.

### Charity Shuns Open Source Code:

In the computing world, open-source software is often taken to mean free - so why would a charity choose to fork out good money for proprietary software?

Steven Buckley, who runs Christian Aid, common knowledge programme, prefers to buy software from the likes of Microsoft.

Mr Buckley alleged:

"Open-source doesn't mean free"

It is free, you can use it, share it, study it, copy it, change and improve its design.

"Quite often, if you install open-source software within an organisation, you have a support contract that goes with it, it's an essential part of operating that software"

Organisations can choose to have a support contract or not, you could have a third party company that could implement the software solution and give you support on it or you could hire your own IT professional to implement and support it. Saying this, companies buying and implementing proprietary software have to buy the software and at the same time buy the support for it or hire an IT professional to give support to the organisation.

"Over time, that can actually cost more than having Windows on an enterprise machine."

That is not necessary true, once a GNU/Linux system has been setup properly it could run for years without major problems. It is obvious that any OS needs upgrades or updates and some monitoring that could be done from outside the premises.

Mark Shuttleworth, Owner of Canonical LTD which gives market and commercial support to Ubuntu Linux, said that GNU/Linux was "on its way to becoming one of those standard, de facto platforms".

It is the facto platform for a lot of companies at the moment that use it on their servers like Facebook, Twitter, Amazon, Wikipedia, Novell, IBM, Cisco, Tommy Hilfiger, Toyota Motor Sales, Google, etc. GNU/Linux is used on one of the most popular systems for smart phones Google Android. The Desktop is getting more user friendly by the years.

Mr Buckley said that Linux is not widely used enough for the charity's staff to be proficient at it, meaning that there is a cost to the organisation in terms of skills.

"Microsoft skills are easily available throughout the world in terms of an organisation, and it is more effective for us to have Microsoft software which we can employ people easily for."

Organisations train their staff to use Microsoft or proprietary software. Any technology needs the training element.

"Open source software can be expensive to be configured, and only a few people have knowledge of the software."

Not entirely true, see case studies above, knowledge of the software is widely available on the Internet for free and for each open source software there is a community willing to help. Proprietary software does not come cheap.

Mr Buckley also explained that what is seen as one of the advantages of open source, that the core code can be examined by anyone, could actually work against the charity.

"We are a funding organisation that ships £90m around the world. The last thing you want to do is open up your systems to anybody to have a look at or to deal with bugs."

Any IT professional, will know, that Unix based systems are, if not the most, one of the most secure systems in the world. As eWeek post says " Meanwhile, the rate of change since the last report is high and increasing, with between 8,000 and 12,000 patches going into each recent kernel release every two to three months. That is a rate of nearly six new patches per hour since the last release of this report." no corporation could beat that on patching their systems.

"If you're a charity or an educational institution, you pay pence in the pound for the licence, compared to what a major bank might pay."

Exactly, you still pay.

Mr Buckley stressed that it was important for charities to **maximise** the benefit of the donations they receive, and as a result, using Microsoft appeared a better option.

Maximizing the donation they receive by paying Microsoft to renew their MS Office because the new version is not compatible with their old one, even Microsoft does not have the minimum idea of what standards mean.

"When you think of charities, we think they are liberal organisations with woolley-jumpered amateurs - but really, we've got a duty of care to our supporters."

"We spend one penny in the pound on administration, and that means we've got to be as effective and efficient as we can, and software is one way to do that."

However, technology analyst Bill Thompson pointed out that it was a misconception that open source means free that makes a charity opting for proprietary software seem surprising.

Mr Thompson said that as a charity, Christian Aid got a discounted price for the software from Microsoft. Mr Thompson pointed out that there was a great deal of technical support available for Linux too.

"The idea that Linux can just be installed and used is not necessarily the case, there are usability issues with the desktop, and some with connecting various bits of hardware to the Linux system."

This is an article dated back to 2006, it is a different world for Linux now. 99 percent of the time when installing a GNU/Linux systems all hardware is recognized, this does not happen with MS Windows.

"But it isn't as simple as saying, 'Linux is complicated; Windows isn't.'" These are all complex systems, and the key thing is generally to find something that works for you."

## Chapter 4:

### 1. Conclusions

Although we cannot generalise the results of this research to every NGO and SME, it provides a good insight of the needs and the knowledge they have about their ICT Infrastructure.

The overall conclusion is that small organisations have much to learn about FOSS, they have to loose the trepidation that they have about trying new technologies and have to be less conservative with their approach.

Whilst there are a lot of options (e.g. proprietary and open source software) out there in the market to choose from, it seems that the majority of small organisations choose to be conventional in their choice of ICT Infrastructure and not willing to change.

The Third Sector and SME need to have awareness about the different solutions that they can adopt in their organisations, most of the time they do not have an ICT Strategy and end up with complicated ICT Infrastructures that they do not need.

Three basic software requirements have been identified from this research: Office Package, Email and Internet Browser. This implies that only having these basic requirements will allow them to achieve most of their daily work.

There is a need of an impartial consultancy for small organisations, somewhere where they can get general information and where they can learn about all the alternatives that are in the market and not just proprietary software solutions..

## 2. Recommendations

Any small organisation need to have a good ICT Strategy, this could be accomplished following a few simple steps:

- Plan and prepare before you start.
- Identify the organisation ICT needs.
- Consultancy: find an ICT organisation to help on the design, implementation and choosing the right cost effective system for your organisation.
- Explore all the options available and choose the most appropriate.
- Communicate and put into practice the strategy within your organisation.

ICT training and maintenance should be part of any organisation's core budget.

Organisations should include ICT when Fundraising.

The government should appoint special entities or ICT organisations to help small VCOs that do not have the budget to manage their ICT Infrastructure.

By April 2014, Windows XP extended support will end, this will imply that every company in the world that uses Windows XP will have to switch to Windows 7 or 8. Only organisations with an ICT budget will be able to do so, to be able to switch to this newer version of Windows, organisations will have to upgrade their computers. Many small organisations wont be able to afford new computers so it will be the perfect time to try GNU/Linux.

Finally, why not try an open source system in your organisation, setup one old machine with Ubuntu GNU/Linux and try it, see if you could do most of your daily work with this system.

### 3. The strengths and limitations of research

The research has been designed to analyse what regular users in a working environment know about ICT, FOSS and what knowledge they have about their ICT infrastructure. This research was not intended for ICT Professionals. This research has been constructed competently so it can be used in the future; also it could generate good feedback if more time and money is invested.

Something that I would add to the research is a complete open source system (Ubuntu GNU/Linux) demonstration to show how powerful and versatile this system is; at the same time, organisations will be able to see that they can accomplish any daily task using this system and cut costs in their ICT Budget.

A factor missing in this research is that there was not enough time and money to organise a conference where we could invite small organisations to showcase open source alternatives and have open source community guest speakers.

#### Strengths:

The organisations interviewed were diverse and from different backgrounds (i.e. gender, religion, education, race or income) giving the research an overall statistic about the general ICT needs of these types of organisations.

Using online surveys as a method helps reach and collect data quickly from different organisations.

Quantitative research can often yield data that can be used to generalise to the wider organisations being studied and it has the ability to translate data into easily quantifiable charts and graphs.

Because the research has been conducted with anonymity of the participants it has increased the chances of organisations answering both, the interview questionnaire and the survey, honestly.

#### Limitations:

This was never intended to be a large scale research, not enough data has been collected to give a precise account. The research was conducted only within core areas of central London; hence a few boroughs.

The organisations approached for this research were carefully chosen from trusted sources so we could gather reliable data for it's purpose. Limiting the participants meant that the survey did not go public, reducing the chance to capture data on a larger scale.

One of the biggest limitations is time, as it is necessary to produce more accurate results and also to be able to conduct studies over wider areas.

The misuse of sampling and weighting can completely undermine the accuracy, validity and projectability of a quantitative research study.

If the research was to comprise a wider area it will need a special purpose budget.

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# Appendices

## Appendix A: Interview questionnaire

### How can IT professionals help to empower organisations to better manage their IT infrastructure and take advantage of the many IT resources available?

#### Interview Questionnaire:

##### *(INFORMATION ABOUT THE COMPANY)*

1. What is the name of your organisation (or you name)?

---

2. What is your organisation address or where is it based (optional)?

---

3. What is your organisation email address (optional)?

---

4. What is your organisation website address (optional)?

---

5. What is your main role in the organisation (optional)?

---

6. What type of organisation is it?

- |                     |                          |                           |                          |
|---------------------|--------------------------|---------------------------|--------------------------|
| • Charity           | <input type="checkbox"/> | • Sole trader             | <input type="checkbox"/> |
| • CIC               | <input type="checkbox"/> | • Co-operative            | <input type="checkbox"/> |
| • VCO               | <input type="checkbox"/> | • PLC                     | <input type="checkbox"/> |
| • NGO               | <input type="checkbox"/> | • Other (please specify): |                          |
| • Social Enterprise | <input type="checkbox"/> | -----                     |                          |
| • Limited           | <input type="checkbox"/> |                           |                          |

7. What does your organisation do?

\_\_\_\_\_

8. How many employees and volunteers do you have in your organisation?

\_\_\_\_\_

9. What is your organisation annual turnover?

- £1,000.00 - £5,000.00
- £5,000.00 - £10,000.00
- £10,000.00 - £50,000.00
- £50,000.00 – MORE.

10. What are the organisation main sources of funding?

- Local Authority
- Private Donations
- Donors / Funders
- European Union
- Other(please specify):
- The World Bank
- Bilateral & Multilateral Funds
- DFID (British Government)
- Revenue from sales of goods and services, please specify :

\_\_\_\_\_

\_\_\_\_\_

***(INFORMATION ABOUT IT INFRASTRUCTURE)***

11. How many computers and laptops does your organisation have?

\_\_\_\_\_

12. How many dedicated Computer Servers does your organisation have?

\_\_\_\_\_

13. Are the computers connected to the Internet?

- Yes
- No

14. Does your organisation have a network connecting the computers together?

- Yes
- No

15. Which are the most common problems you have with your computers?

\_\_\_\_\_

\_\_\_\_\_

**(INFORMATION ABOUT IT MANAGEMENT)**

16. Who is responsible for the computers in your organisation?

- |                                 |                          |              |                          |
|---------------------------------|--------------------------|--------------|--------------------------|
| • Staff                         | <input type="checkbox"/> | • IT Manager | <input type="checkbox"/> |
| • Volunteer                     | <input type="checkbox"/> | • Outsourced | <input type="checkbox"/> |
| • Other (please specify): _____ |                          |              |                          |

17. Who do you turn to when your computer doesn't work?

- |                                 |                          |                   |                          |
|---------------------------------|--------------------------|-------------------|--------------------------|
| • Staff                         | <input type="checkbox"/> | • IT Organisation | <input type="checkbox"/> |
| • Volunteer                     | <input type="checkbox"/> | • Outsourced      | <input type="checkbox"/> |
| • Other (please specify): _____ |                          |                   |                          |

18. Do you have key information details about your IT Software and Hardware?  
**(Please tick any that apply)**

- |                 |                          |                                    |                          |
|-----------------|--------------------------|------------------------------------|--------------------------|
| • Inventory     | <input type="checkbox"/> | • Instructions                     | <input type="checkbox"/> |
| • Licenses      | <input type="checkbox"/> | • Serial Numbers                   | <input type="checkbox"/> |
| • Passwords     | <input type="checkbox"/> | • Quick Guides                     | <input type="checkbox"/> |
| • Manuals       | <input type="checkbox"/> | • Network Information              | <input type="checkbox"/> |
| • Tutorials     | <input type="checkbox"/> | • Hardware Information             | <input type="checkbox"/> |
| • Software Used | <input type="checkbox"/> | • Other (please specify):<br>_____ |                          |

19. Has your organisation made an audit of the software used and needed and can you say that you are confident that you are correctly licensed?

- |                                 |                          |      |                          |
|---------------------------------|--------------------------|------|--------------------------|
| • Yes                           | <input type="checkbox"/> | • No | <input type="checkbox"/> |
| • Other (please specify): _____ |                          |      |                          |

20. What computer packages do you need to be able to achieve your work effectively?  
**(Please tick any that apply)**

- |                      |                          |                                    |                          |
|----------------------|--------------------------|------------------------------------|--------------------------|
| • Graphic Design     | <input type="checkbox"/> | • Databases                        | <input type="checkbox"/> |
| • Office Package     | <input type="checkbox"/> | • Internet Browser                 | <input type="checkbox"/> |
| • Antivirus          | <input type="checkbox"/> | • Accounts Software                | <input type="checkbox"/> |
| • Desktop Publishing | <input type="checkbox"/> | • Other (please specify):<br>_____ |                          |
| • Project Management | <input type="checkbox"/> |                                    |                          |
| • Email              | <input type="checkbox"/> |                                    |                          |

21. Which antivirus does your organisation use?

- |                               |                          |                                    |                          |
|-------------------------------|--------------------------|------------------------------------|--------------------------|
| • Norton                      | <input type="checkbox"/> | • Avast                            | <input type="checkbox"/> |
| • McAfee                      | <input type="checkbox"/> | • AVG                              | <input type="checkbox"/> |
| • Clam Antivirus<br>(Immunet) | <input type="checkbox"/> | • Other (please specify):<br>_____ |                          |

22. Please state what has been the impact in your organisation when a computer didn't work?

\_\_\_\_\_  
\_\_\_\_\_

23. Does your organisation have any policies on what, staff and volunteers, can install on the computers?

- Yes
- Don't know
- No

***(INFORMATION ABOUT IT SKILLS)***

24. How would you consider your IT skills as an organisation or individual?

- Beginner
- Intermediate
- Advanced

25. Is there a member of staff in your organisation able to troubleshoot and fix any IT problems?

- Yes
- No

26. Do you think that your staff and volunteers will benefit from IT training?

- Yes
- No

If so, what type: \_\_\_\_\_

27. Which are the basic IT skills you think your organisation needs to be able to achieve your work and targets?  
**(Please tick any that apply)**

- Word
- Excel
- Internet Browsing
- Desktop Publishing
- Project Management
- Graphic Design
- Email
- Databases
- Accounting
- Other (please specify):  
\_\_\_\_\_

***(INFORMATION ABOUT BUDGET)***

28. Does your organisation have a budget for IT?

- Yes
- No

29. What is your organisation IT budget?

\_\_\_\_\_

30. How much do you think you will spend on IT during this year including computers, software, maintenance and training?

- £0.00 - £1000.00
- £1000.00 - £10000.00
- £10000.00 – MORE.

31. When you fundraise, do you include IT costs?

- Yes
- No

32. How important is IT in your organisation?

- Important
- Very important
- Not to important.

**(INFORMATION GENERAL FOSS)**

*FOSS (Free and Open Source - Software) is software that is both free and open source. It's license grant users the right to use, copy, study, change and improve its design through the availability of its source code. Free software focuses on the philosophical freedoms it gives to users, whereas open source software focuses on the perceived strengths of its peer-to-peer development model. (<http://en.wikipedia.org/wiki/FOSS>)*

33. How confident would you say you are in your understanding of FOSS (Free and Open Source Software)?

- Very confident
- Confident
- Not confident

34. What is your overall opinion about FOSS (Free and Open Source Software)?

- Excellent
- Good
- Poor
- Very poor

35. Which of this Open Source Software have you heard about? **(Please tick any that apply)**

- |   |   |
|---|---|
| • Clam Antivirus <input type="checkbox"/> | • Ubuntu <input type="checkbox"/>       |
| • Open Office <input type="checkbox"/>    | • Libre Office <input type="checkbox"/> |
| • Firefox <input type="checkbox"/>        | • Thunderbird <input type="checkbox"/>  |
| • VLC <input type="checkbox"/>            | • Linux <input type="checkbox"/>        |
| • Gimp <input type="checkbox"/>           | • Inkscape <input type="checkbox"/>     |
| • Scribus <input type="checkbox"/>        | • KeePassX <input type="checkbox"/>     |
| • Wordpress <input type="checkbox"/>      | • Joomla <input type="checkbox"/>       |
| • GnuCash <input type="checkbox"/>        | • GanttProject <input type="checkbox"/> |
| • Audacity <input type="checkbox"/>       | • Filezilla <input type="checkbox"/>    |
| • 7zip <input type="checkbox"/>           | • TrueCrypt <input type="checkbox"/>    |
| • Other (please specify): _____           |   |

36. Which of this Open Source Software have you used? (Please tick any that apply)

- Clam Antivirus
- Open Office
- Firefox
- VLC
- Gimp
- Scribus
- Wordpress
- GnuCash
- Audacity
- 7zip
- Other (please specify): \_\_\_\_\_
- Ubuntu
- Libre Office
- Thunderbird
- Linux
- Inkscape
- KeepassX
- Joomla
- GanttProject
- Filezilla
- TrueCrypt

37. Would you and your organisation consider using FOSS (Free and Open Source Software) to cut costs and re-use old computers?

- Yes
- Maybe
- No

38. Do you agree that small VCOs and organisations in general have the need of an organisation to support them with their IT problems?

- Yes
- No

Please comment: \_\_\_\_\_  
\_\_\_\_\_

39. Do you think there is a need for a centralised Web Site that will have Basic IT and troubleshooting information, somewhere where you could interact and interchange opinions (BLOG) with other small VCOs or organisations in general, clearly and simple.

- Yes
- Maybe
- No

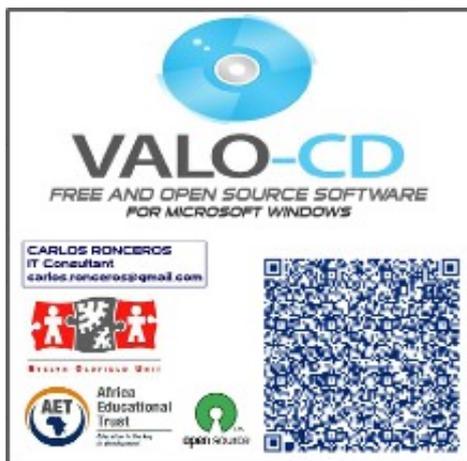
40. Do you think it will be helpful for you to have an organisation to support you with your IT needs?

- Yes
- Maybe
- No

Please comment: \_\_\_\_\_  
\_\_\_\_\_

**THANK YOU!**

Appendix B: CD/DVDs



## Appendix C: CD/DVDs introduction and quick steps

### CD's Introduction and Quick Steps

Along with your information pack you will find three Compact Discs (CD) and one Digital Versatile Disc (DVD). They are all FOSS (Free and Open Source Software) and you can use them, copy them, share them, study them and improve it's design if you wish. They are free and supported by a wide community all around the world.

**MICROSOFT WINDOWS** (Insert the DISC on your MS Windows Computer):

1. **VALO-CD ([www.valo-cd.org](http://www.valo-cd.org)):** contains all the best Windows programs on a single CD, so that installing them is as easy as possible.

All the software is FOSS (VALO), so using them does not require paying licences. With the help of this CD you can avoid buying proprietary software like Microsoft Office and instead get the FOSS equivalent LibreOffice. With this disc you can save hundreds of Pounds!

2. **OpenDisc 11.09 DVD ([www.theopendisc.com](http://www.theopendisc.com)):** OpenDisc is a high quality collection of open source software (OSS) for the Microsoft Windows operating system.  
**The two main goals of the project are:**
  - To provide a free alternative to costly software, with equal or often better quality equivalents to proprietary, shareware or freeware software for Microsoft Windows.
  - To educate users of Linux as an operating system for home, business and educational use.

The majority of programs featured on OpenDisc are also available on Linux.

**LINUX OPERATING SYSTEMS (OS):** They will run live and will not affect your computer hard disk or MS Windows, they are to **TEST** only *so please, when prompted, select try Ubuntu or Puppy Linux.*

1. **UBUNTU OS ([www.ubuntu.com](http://www.ubuntu.com)):** Ubuntu is a complete desktop Linux operating system, freely available with both community and professional support. The Ubuntu community is built on the ideas enshrined in the Ubuntu Manifesto: that software should be available free of charge, that software tools should be usable by people in their local language and despite any disabilities, and that people should have the freedom to customise and alter their software in whatever way they see fit. "**Ubuntu**" is an ancient African word, meaning "**humanity to others**". The Ubuntu distribution brings the spirit of Ubuntu to the software world.
2. **PUPPY LINUX OS ([www.puppylinux.org](http://www.puppylinux.org)):** Puppy Linux is yet another Linux distribution. What's different here is that Puppy is extraordinarily small, yet quite full-featured. Puppy boots into a ramdisk and, unlike live CD distributions that have to keep pulling stuff off the CD, it loads into RAM. This means that all applications start in the blink of an eye and respond to user input instantly.

**QUICK STEPS for (Linux OS):**

1. Put the Ubuntu CD or Puppy Linux CD into the CD/DVD-drive and restart the computer. You should see a welcome screen prompting you to choose your language and giving you the option to install Ubuntu or try it from the CD. (If this doesn't work it means that your computer it's not set to boot from CD).

2. PC requires you to hold down or press a key to boot from CD, here are some common keys to use: **Apple Computers and others**: Hold down the C key while rebooting. **Toshiba, IBM and others**: press F12 while booting to get to the boot menu and choose CD-ROM. **Asus and others**: press TAB key while booting and select CD-ROM from boot menu.



Appendix D: Consent form

CONSENT FORM

**How can IT professionals help to empower organisations to better manage their IT infrastructure and take advantage of the many IT resources available?**

**Researcher:**

Carlos Ronceros  
 IT Consultant  
[carlos.ronceros@gmail.com](mailto:carlos.ronceros@gmail.com)

The purpose of the Interview and the nature of the questions have been explained to me.

I consent to take part on this Interview to give feedback on my organisation IT Infrastructure to help find solutions to organisations common pitfalls. I also consent to be recorded during the Interview.

None of my personal and organisational information, will be shared with third parties, the sole purpose for this Interview is to gather feedback to produce a final report with statistics identifying the needs that, VCO (Voluntary Community Organisations) and small organisations in general, have with their IT Infrastructure and what steps IT Professionals have to take to help them on their IT strategy based on their needs.

The information that I provide during this interview will be grouped with answers from other organisations so it cannot be identified.

- 1. I confirm that I have read and understand the information letter for the above study and have had the opportunity to ask some questions.
- 2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason.
- 3. I agree to take part in the above study.

\_\_\_\_\_  
 Name of Participant

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Signature

## Appendix E: Information sheet for participants

### Information Sheet for Participants

#### **How can IT professionals help to empower organisations to better manage their IT infrastructure and take advantage of the many IT resources available?**

You are being invited to participate in a research study conducted by **Carlos Ronceros** who is a participant of the Accredited Community Empowerment Course, which is being run by The Evelyn Oldfield Unit in partnership with The Africa Educational Trust and it's being accredited by The Open College Network, London region.

Before you decide to participate in this research, it is important that you read this information sheet so you understand why is it being done and what it will involve.

#### **PURPOSE OF THE STUDY**

In this research we are exploring on the IT needs that Voluntary Community Organisations (VCO) and Small Organisations (SO) have e.g. (Managing their IT, Getting External Support, Making best Practice of actual Infrastructure, IT Strategy, Auditing, Appropriate Training, Staff Policies, Data Protection, Standardisation of Software, Budgeting and Funding the technology in your organisation). This will help IT Professionals to Identify and have a better understanding of the most common problems that VCO and SO have in their environment.

There are a few organisation dedicated to IT support for VCO and SO but either they are to technical or they are unreachable, by the end of this research we, IT Professionals, will analyse the data collected from the research and will be able to deliver an IT strategy and project suited to the needs of this organisations making them aware of the many IT resources and solutions.

#### **PROCEDURES**

You will be asked to participate on an Interview conducted by **Carlos Ronceros** that includes questions about your organisation's IT Infrastructure. You are also going to be asked to complete an online survey (optional) in your spare time and if you could refer or suggest the online survey to other organisations like yours.

#### **PARTICIPATION AND WITHDRAWAL**

You have been invited to participate on this Interview because your organisation falls into a Voluntary Community Organisation or Small Organisation category.

You can choose whether to be in this research or not. If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form. You may withdraw at any time and without giving a reason. You may also refuse to answer any questions you don't want to answer and still remain in the research.

#### **BENEFITS OF TAKING PART**

You will be part of a comprehensive investigation on VCO and SO IT Infrastructure, this will benefit your organisation and others by recollecting, analysing and compiling information to be able to Identify similar organisational common needs so it could be possible to produce a standard IT Strategy solution for this types of organisations.

You may become more aware of your strengths and limitations regarding your IT Infrastructure, helping you and other organisations to determine areas that need to be improved regarding this topic.

After the research is concluded and the data analysed, IT professionals could develop IT Strategies to customize IT solutions to suit your organisations and help you reduce costs and increase productivity.

### TAKING PART AND CONFIDENTIALITY

There is going to be five methods of data collection:

The first being the online survey that has been designed on Lime Survey securely stored and hosted on a Nix Server at Krystal a UK web hosting company (*Donated by Paula Graham at FOSSBOX.ORG.UK*) with a very strong thirty characters long 240 bit password (very secure).

The second method will be stored manually on a MySQL Database Server stored and hosted at the same company.

The third method will be on a spreadsheet (Libre Office Calc) password protected and stored in an encrypted folder using TrueCrypt (Open Source Encryption Software).

The fourth method will be the voice recordings made at each Interview they will be stored and encrypted using TrueCrypt.

The fifth and last method will be the note taking at each Interview, paper based, this will be secured and locked at the Evelyn Oldfield Unit.

Any Information that is obtained in connection with this research will remain confidential (subject to legal limitations) all information that is going to be used in the final report will be anonymous.

Data generated from this research project must be kept securely in paper or electronic form for a period of ten years.

If you will like to take part on this research Interview please sign the consent form attached in this presentation pack.

### THE RESULTS

The research results will be published at the end of the project in a report, this research and report is being made towards an accreditation through the Open College Network, London region. You will be able to obtain a copy of the report by contacting **Carlos Ronceros** ([carlos.ronceros@gmail.com](mailto:carlos.ronceros@gmail.com)) or the course tutor at the Evelyn Oldfield Unit, **Sarah Menzies** ([sarah@evelynoldfield.co.uk](mailto:sarah@evelynoldfield.co.uk)).

### FUNDERS AND ORGANISERS

This research is being conducted by **Carlos Ronceros**, a student at the AET-EOU Community Empowerment course and it is being funded and organised by **The Africa Educational Trust AET** ([www.africaeducationaltrust.org](http://www.africaeducationaltrust.org)) and **The Evelyn Oldfield Unit EOU** ([www.evelynoldfield.co.uk](http://www.evelynoldfield.co.uk)).

The research has been approved and reviewed by the course tutor **Sarah Menzies** from the Evelyn Oldfield Unit.

### CONTACT FOR FURTHER INFORMATION

If you require further information about the research and the project, you can contact **Carlos Ronceros** ([carlos.ronceros@gmail.com](mailto:carlos.ronceros@gmail.com))

If you have any concerns about the way in which the study and Interview has been conducted, you should contact the **Director of the Evelyn Oldfield Unit** on [mulat@evelynoldfield.co.uk](mailto:mulat@evelynoldfield.co.uk).

Thank you for taking your time to read the information sheet.

## Appendix F: Presentation letter from the Accredited Community Empowerment Course

13th December 2011

### To Whom It May Concern

The Evelyn Oldfield Unit and The Africa Educational Trust are working in partnership to run a Community Empowerment training course for representatives from London's Refugee and Migrant Communities. The course is accredited through the Open College Network, London region. The course will train participants to conduct community based research and then to advocate to local, regional and national stakeholders for improved policies and services based upon the research findings.

**Carlos Ronceros** is a participant on the research course and we would appreciate any help you can provide to assist with the research process.

If you have any queries, please feel free to contact me.

Thank you very much for your co-operation.

May Omona  
Project Co-ordinator

Email: [m.omona@africaeducationaltrust.org](mailto:m.omona@africaeducationaltrust.org)  
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Accredited Community Empowerment Course

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