

Free Software for Busy People

Mohammad Al-Ubaydli

First Edition

Idiopathic Publishing · Cambridge, UK

Free Software for Busy People

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Published by:

Idiopathic Publishing

Cambridge, UK

orders@idiopathic.com

<http://www.idiopathic.com>

Cover design by Buthaina Fakhro

Artwork for the six characters by Todd Groesbeck

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ISBN, print ed. 0-9544157-3-6

First printing 2005

Cataloguing in Publication Data is available from the British Library

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About the author

Mohammad Al-Ubaydli is a Bahraini doctor and programmer who uses IT to improve healthcare.

In 2000 He graduated as a doctor with a first-class degree from the University of Cambridge. His research project, ImmunoSim, won the Fulton Roberts Immunology Prize.

Since then, he has continued to combine his medical and computing knowledge. This included developing the software for Project Palm at Cambridge University, which allowed medical students to share their learning using handhelds (www.cbcu.cam.ac.uk/handhelds).

He co-founded Medical Futures Ltd, which launched the Medical Futures Innovation Awards in 2001 (www.medicalfutures.co.uk). The awards have raised awareness amongst doctors of the process of using their ideas and inventions to improve healthcare. The event also raises money for UK hospitals.

During his first year of clinical practice, he was able to lecture and consult on the use of handhelds in medicine. He wrote the book “Handheld Computers for Doctors” (www.handheldsfordoctors.com) in 2003. He is now a Visiting Research Fellow at the NCBI (National Center for Biotechnology Information[†] – www.ncbi.nlm.nih.gov) in Bethesda, MD, USA.

[†] The views expressed in this book do not necessarily represent the views of the NCBI or the United States.

To Laura

Acknowledgements

It took a global village to make this book and I am grateful for the help I received.



First, I would like to thank John Knight for teaching me about Free Software, and for showing the typical generosity of Free Software experts around the world.

I am grateful that Rebecca Jones waded through the early manuscripts. Jeff Loo, Amir Mehrkar and Sanjay Sharma all helped with editing the book. Thanks also to Patrick “Che Guevara” Goymer for his heroic last-minute editing.

Todd Groesbeck drew beautifully the six characters of this book and my mother designed the front cover.

Which brings me to my parents, Buthaina and Ahmad, and my brother, Omar, who supported me in their usual ways. On my recommendation, they downloaded beta software even when I was unsure how to use it. They improved my writing and cheered me on all the way.

Thank you all and I cannot wait to see you again soon.

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An electronic version of this book is available free online at:
www.freedomsoftware.info

Get it, read it, share it.
I hope you enjoy it.

Preface

To understand why I love the power of affordable technology, you need to know that in 2000 three major events occurred in my life. First, the deregulation of the UK telecommunications market meant that I could make cheap calls on my cell phone. For just three pence (around five cents) per minute I could call anywhere in the UK or USA. That was less than one fifth of the previous price.

Second, the deregulation of telecommunications also meant that I had unlimited internet access for just £15 (around \$25) per month. Previously, dialup access in the UK was billed by the minute.

Third, I graduated as a medical doctor.

Only because of these events was I able to join three colleagues and co-found Medical Futures, Ltd. The previous years of study had not been kind to my bank account, and my first day job was a low paying research position.

But thanks to deregulation, I could afford to spend my evenings and weekends designing our company's site, co-ordinating with my colleagues in London, and interviewing innovators in the UK and USA. The core business of Medical Futures was spreading the lessons of those innovators.

Later that year I began my House Officer job (first year residency) and I became excited about what affordable technology can do when combined with a little education. My training that year was split between surgery, internal medicine, and family medicine, so I was able to see the computer needs of my colleagues in

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all clinical specialities.

High quality handheld computers had become available for £125 (around \$200). Working with Dr Laura Dean, I convinced clinicians in several departments that they could improve their information management using the machines. We then taught them how to use the machines with the least effort for the maximum benefit.

These successes led me to write a book called “Handheld Computers for Doctors”. I wanted to pass on enough knowledge and enthusiasm for the readers to be able to design their own local projects. To my continuing delight, I get emails every day from readers around the world who tell me of their projects.

In 2003 I came to the USA and met John Knight. I do not know why John was so kind with his time, but I am grateful that he was. He taught me about the next affordable technology, which is Free Software.

Of course, I instantly liked Free Software because the software was available free of charge. In this book I will show you how to use such software to save money.

What John also taught me was the reason for the capitalisation in Free Software. The software is Free as in Free Speech and Free Enterprise – it is about freedom itself. The importance of this point took me a little while to understand, and will take a little while to explain.

What I can tell you, though, is that freedom breaks monopolies, and that is a good thing. The reason that cell phone and internet prices were so good back in 2000 is that the UK government had spent the previous years breaking up British Telecom's monopoly on telecommunication services. Without this I could not have co-founded Medical Futures.

Think what this could mean for you and your organisation. I have chosen the examples in this book to illustrate what hospitals, schools, charities, start-ups, governments and big businesses can do, but of course the lessons apply to every organisation. And if reading this book can save enough money to employ one more nurse or one more teacher, or to allow one more start-up to succeed financially, then my job is done.

Mohammad Al-Ubaydli, June 2005
www.freedomsoftware.info

Introduction

I've finally done it – I've quit my job, and started my own company. I'll freelance from home and get rich quick.

Congratulations!

But starting up is so expensive. I need furniture, stationery, a fax machine, new PCs... and then there's the software. That's going to cost me more than the computers.

You should try Free Software.

I can get Microsoft Office for free? That's great.

Not quite. Microsoft makes some of its software available free of charge, like Internet Explorer and Outlook Express. But Microsoft Office costs money and you cannot get it for free.

Oh, that's no good to me.

But you can still get OpenOffice. It has most of the features of Microsoft Office, plus a few tricks of its own. And it's all for free from www.openoffice.org.

What's the catch? I must have to pay someone else later.

There is no catch. You can copy it too and use it on as many computers as you want without paying anyone any money.

If you want technical support, however, you can buy StarOffice. For \$100 you get a CD copy of OpenOffice, a paper manual, and technical support from Sun Microsystems.

Oh I get it – the software is difficult to use, so that

you have to pay the money to understand how to use it.

Ah, so young yet so cynical. But no – the software is quite simple to use. If you have used Microsoft Office in the past, you will find OpenOffice to be familiar for many tasks. This book will fill in the gaps.

Great. Any more money saving tips?

Sure. You can use Mozilla's Firefox for web browsing and Thunderbird for email instead of Microsoft's Internet Explorer and Outlook Express.

Why would I? I already get Explorer and Outlook Express for free.

They show you the difference between free software and Free Software.

Huh?

Outlook Express is software that is available free of charge. So it is free software. The problem is that it has many bugs and security holes. The virus MyDoom spread amongst millions of computers with Outlook Express, and even those with Microsoft Outlook, which is not free of charge. And MyDoom is just one of scores of dangerous viruses. Businesses around the world spent millions of hours fixing the infected computers.

And time is money...

Exactly. Thunderbird by contrast is Free Software – it has the four freedoms described by Richard Stallman¹:

1. The freedom to run the program, for any purpose.
2. The freedom to study how the program works, and adapt

1 Page 41 of “[Free Software Free Society](#)” by Richard M Stallman. GNU Press 2002. ISBN 1882114981.

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it to your needs.

3. The freedom to redistribute copies so you can help your neighbour.
4. The freedom to improve the program, and release your improvements to the public so that the whole community benefits.

The second and fourth freedoms are crucial. They allow anyone to see how Thunderbird works, identify security problems, and create fixes. Microsoft has some of the smartest software developers in the world, but they are still human, so they make mistakes.

The beauty of allowing everyone to see your mistakes is that you can use everyone's intelligence to find and fix them. The quality of Free Software comes from these two freedoms. Modern science is possible because of these two freedoms – scientists know them as the peer review process. And modern societies benefit because of these two freedoms in government – we know them as the democratic process.

Slow down comrade, all I want is cheap software.

Firefox shows you another advantage of Free Software over free software like Internet Explorer. It has many features that Internet Explorer does not, such as tabbed browsing, extensions, pop-up blocking and themes.

“Tabbed browsing”, “extensions”, “pop-up blocking”? I knew this would get too technical.

Don't worry, this book will explain all the terms for you. There are lots of wonderful things that computers can do if you have a background in computer science.

This book does not cover them.

Instead, I have focused on cost-effective uses of computers. I

assume that you are not a computer professional – but if you have used email or the web in the past, then you know enough to make use of Free Software. This book will show you how.

Part I

OpenOffice.org

OpenOffice.org is the name of a comprehensive group of software tools. It should provide for most of your office needs.

For example, you can write letters and essays using OpenOffice.org Writer. I used it to write this book. For electronic and overhead presentations, use OpenOffice.org Impress. OpenOffice.org Calc allows you to create spreadsheets, with tables and calculations, then to create charts and graphs from the data in your tables.

If you have used Microsoft Office in the past, these tasks will be familiar to you. OpenOffice.org Writer is similar to Microsoft Word, as are Impress to PowerPoint and Calc to Excel. Like Word, Writer also allows you to create basic web pages.

OpenOffice.org also has a drawing tool. You can use this to create newsletters, business cards and posters.

Like the tools of Microsoft Office, those of OpenOffice.org work well together. For example, you can create a chart in Calc and include it in an article that you are writing in Writer. You can also include it in any of your Impress presentations.

But OpenOffice.org can be better than Microsoft Office at working with other tools. For instance if a colleague sends you an article created in Microsoft Word, OpenOffice.org Writer allows you to open it, change it and save it in Microsoft Word format. You can send it back to your colleague, with the changes and they will not know that you had not used Microsoft Word.

However, you might like to let them know, because Microsoft Word 2003 costs \$229 and Microsoft Office Standard Edition 2003 costs \$399.99, while OpenOffice.org costs nothing.

Switching from Microsoft Office to OpenOffice.org

“War and Peace”, “Gone With the Wind”, “An Apartment Called Freedom”² – a great book needs great characters and this one is no exception. Six characters from different backgrounds will help illustrate the uses of Free Software in different settings. It is worth reading about all their examples to get ideas for your own situation. Finally, my lawyer wants you to know that although their computing needs and the Free Software solutions that they find are real, these characters and their stories are products of my imagination. So, without further ado, here they are:



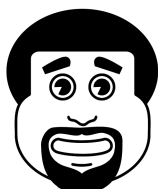
Mrs Shrub



Monsieur Braille



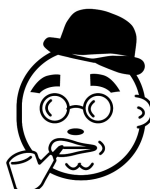
Dr Digitalis



Mr Salah Al-Din



Ms Yates



Mr Big

- Mrs Shrub is the Mayor of London. Intelligent, ambitious and charismatic, she wants to cut the

2 [“An Apartment Called Freedom”](#) by Ghazi A AlGosaibi. Kegan Paul International 1996. ISBN 0-7103-0550-8.

Switching from Microsoft Office to OpenOffice.org

costs and increase the accessibility of government services.

- Monsieur Braille is a Frenchman working for an educational charity in Ghana. The charity operates a primary school.
- Dr Digitalis is a general practitioner (GP) who has spent the last two years on sabbatical in China researching and training in Chinese medicine. She knows that her combination of Western and Chinese medical skills will become highly sought after by British patients, so she sets up a private clinic in London's Harley Street.
- Mr Salah Al-Din is a history teacher at a private high-school in Bahrain, an Arab country in the Gulf.
- Ms Yates is an entrepreneur. A few years ago she saw a businessman struggling to write on his handheld computer. She had an idea for a better writing stylus so she quit her job to focus on the design, production and sale of this product.
- Mr Big is the CEO of a Fortune 500 hotel company. The company has frozen all IT investments since 1999, when it had had to upgrade all its computers for Year 2000 (Y2K) compliance. He knows another round of upgrades is due within the next 18 months.

Examples

[Mrs Shrub learns about the switch of governments to OpenOffice.org](#) (page 14)

[The GNU/Linux User Group helps M. Braille install OpenOffice.org](#) (page 16)

[Dr Digitalis uses OpenOffice.org to work with Microsoft Office files](#) (page 17)

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[Mr Big chooses OpenOffice.org for its cutting-edge features and buys StarOffice for his managers](#) (p19)

Mrs Shrub learns about the switch of governments to OpenOffice.org



During her campaign, one of Mrs Shrub's interns showed her an article³ about Munich City Council. In May 2003, the council had voted to switch its 14,000 computers to Free Software.

Munich is not the only government making the switch. Singapore's Ministry of Defence has already installed OpenOffice.org on 5,000 computers, with 20,000 computers planned for 2006. France's Paris City Council is switching over five years, starting with OpenOffice.org instead of Microsoft Office and ending with GNU/Linux

3 “LiMux – The Linux Migration of the City of Munich” – www.suse.de/en/company/press/services/information/linux/limux.html.

Switching from Microsoft Office to OpenOffice.org

instead of Microsoft Windows. And Norway's Bergen City Council would move all 32,000 of its schools' computers to OpenOffice.org and GNU/Linux by 2005.

Meanwhile in 2004 the Chinese, Japanese and South Korean governments had signed an agreement to invest in developing GNU/Linux for the region.

She noted several lessons from the article. First, that moving to the latest versions of Free Software packages was cheaper than the latest versions of proprietary packages. This was despite the efforts of a special delegation from Microsoft that had promised Munich considerable cuts in licensing prices.

Second, the move to Free Software still had some costs, even though the software itself is free of charge. In fact Microsoft offered licensing costs of \$23.7 million versus the projected immediate costs of \$35.7 million for the switch. That is because IT staff had to install all the new software on all of the computers and configure the network settings to allow the computers to work with each other.

Finally, she learned from her intern that the move to Free Software need not be sudden. Bergen is switching all its software, including abandoning Windows, while Singapore focused just on OpenOffice.org. The switch from Windows to GNU/Linux is harder and requires staff training.

On the other hand the switch to OpenOffice.org is much easier, as the appearance is similar to Microsoft Office, the software works on Microsoft Windows and OpenOffice.org can open and save files in Microsoft Office format.

She decided that in the first year she would standardise London government's computers to OpenOffice.org. The head of her IT department downloaded a copy of the software (www.openoffice.org), copied it onto CDs and distributed these to the other members of staff who then

installed it onto all the computers. They also bought 100 copies of “OOoSwitch”⁴, which they distributed around the London offices and provided training for the non-IT staff.

The GNU/Linux User Group helps M. Braille install OpenOffice.org



M. Braille heard about Free Software from the United Nations Development Programme's International Open Source Network (www.iosn.net). He downloaded a free copy of their book about Free Software⁵.

After months of efforts, M. Braille finally achieved his goal: he collected 60 computers as charitable donations from companies in the local area. These machines were out-of-date as far as the businesses were concerned, many of them bought back in 1995. But for M. Braille's class they were perfect, as each machine included Windows 95, a drive for CDs and an ethernet card for connecting to the internet.

He would be able to provide one machine for each pair of his students in Ghana.

He explained his project to the local GNU/Linux User Group (LUG - www.linux.org/groups). The members were keen to help. They provided him with several CD copies of OpenOffice.org and two members spent a weekend installing

4 “[OOoSwitch: 501 Things You Wanted to Know About Switching to OpenOffice.org from Microsoft Office](#)” by Tamar E Granor. Hentzenwerke Publishing 2003. ISBN 1-930919-36-0.

5 “Free / Open Source Software Education Primer” – www.iosn.net/education/foss-education-primer.

Switching from Microsoft Office to OpenOffice.org

the software onto the 60 computers.

Dr Digitalis uses OpenOffice.org to work with Microsoft Office files



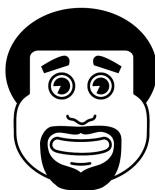
Dr Digitalis found OpenOffice.org on the CD of a computer magazine. By installing it on her own computer and that of her secretary she saved the £544 charge (around \$1000) for two copies of Microsoft Office Standard edition.

However, she would be doing much of her work with doctors in the UK's National Health Service (NHS) and would have to read and follow the protocols and guidelines of the local NHS Hospital Trust. Her colleagues were accustomed to sending and receiving documents in Microsoft Word format and all of the guidelines and protocols were also in that format.

Opening Microsoft Office documents was easy. When she installed OpenOffice.org on her laptop with Microsoft Windows, OpenOffice.org became the default program for opening documents in Microsoft Word, Excel or PowerPoint format. Whenever she received such a document from her NHS colleagues, or from an NHS website, OpenOffice.org opened it and displayed it perfectly.

Dr Digitalis decided to stick to Microsoft Office format for saving all her documents. The **Options...** dialogue from the **Tools** menu included a section titled **Microsoft Office**. This allowed her to work with her colleagues' Microsoft Word, PowerPoint and Excel documents without needing to buy Microsoft Office.

Mr Salah Al-Din uses the Arabic version of OpenOffice.org



Mr Salah Al-Din wanted to show his students how to use computer tools to research historical topics. He wanted to teach them how to write professional scholarly essays about history; and he wanted the school's students to provide educational material for other schools and for the students' parents. In short, he had a vision.

He began by downloading a copy of the Arabic version of OpenOffice.org. The software is available in scores of languages from around the world. The Arabic version includes an Arabic user-interface and the ability to cope with bidirectional writing. This is important because Arabic is written from right to left.

He installed a copy on every one of the machines in his classroom. Because he knew that other teachers would eventually become interested in the software, he installed the English version onto the computers in the English language classroom. That way, the students could learn English computer terms by comparing them with the identical commands in the Arabic software version. He also created a CD with both versions that he lent out to the students, because the students soon asked to install the software on their parents' computers at home.

Ms Yates buys StarOffice to get templates and technical support

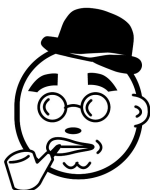


Ms Yates bought a copy of StarOffice for her laptop. In researching software tools to buy for her business, she had read about OpenOffice.org's capabilities and its wonderful price.

But she wanted to use StarOffice's commercial features. StarOffice is built from the same Free Software code as OpenOffice.org, but is sold by Sun Microsystems (www.sun.com/staroffice), with prices starting at \$80 for online download. Included in the price are templates for all parts of the software, including the presentation tool. She wanted this in order to create her own custom professional presentation as soon as possible.

She also wanted to take advantage of the 90 days of technical support provided by Sun, because she was unsure about how well she would get on with the software at the start.

Mr Big chooses OpenOffice.org for its cutting-edge features and buys StarOffice for his managers



Mr Big's Chief Technology Officer (CTO) provided him with a plan for the transition to Free Software. The easiest win at the start would be from switching all the company's current computers to OpenOffice.org.

These machines only had Microsoft Office 97 and so could benefit from the newer features of

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OpenOffice.org such as the document review feature. This allows the author of a text document to email it to colleagues for review. They in turn can make changes to the document and OpenOffice.org keeps track of those changes. When they return the document, it highlights the changes and the author can approve or reject each of the changes.

Because OpenOffice.org was available free of charge, the company saved money relative to what it would have spent on upgrading to the latest version of Microsoft Office.

The IT department also saved time and effort in managing software licenses. Microsoft Office of course could only be installed on as many machines as the company had Microsoft Office software licenses. This helped offset the time that the IT department had to spend installing the software on all the old machines.

The company did invest in StarOffice for the managers, however. This was because they could save time by taking advantage of the templates in the software. Technical support was available through Sun, but Mr Big's company's IT department was capable of providing that support in-house. The company bought 300 licenses, qualifying for a bulk discount, so paid \$50 per copy.

Of course, OpenOffice.org and StarOffice shared the same document format, so managers and junior staff could share documents easily regardless of which software package they used. And both packages were also able to handle any of the company's old Microsoft Office documents and any new documents sent from other organisations that still used Microsoft Office.

Learning from the characters

This book is not a computer manual, but a showcase of what

Switching from Microsoft Office to OpenOffice.org

you achieve with Free Software. I wrote it to be easy enough to read in bed and to inspire you to use Free Software the next day.

Therefore you will not find step by step instructions within these pages.

However, selecting **OpenOffice.org Help** from the **Help** menu will provide you with most of the instructions you will need (see Figure 1). The **Index** tab allows you to search for particular features that the characters used.

For example, to learn how Mr Big used the macro recording feature in the next chapter, type **macro** under the **Search term** in the **Index** tab. As soon as you finish typing **OpenOffice.org** will provide a list entitled **macros** that includes **recording**. Click twice on this to read the instructions.



Figure 1: OpenOffice.org's help documentation is detailed

Alternatively, clicking the  icon allows you to explore the

Free Software for Busy People

features of OpenOffice.org. The documentation is surprisingly clear and detailed.

Finally, if you prefer to read the instructions in a book rather than on a computer screen, I have recommended several in the examples that follow. Happy reading.

Further resources

- OpenOffice.org – www.openoffice.org
- StarOffice – www.sun.com/staroffice
- Example OpenOffice.org CD site (USA) – www.getopenoffice.org
- Example OpenOffice.org CD site (UK) – www.8daysaweek.co.uk
- “OOoSwitch” by Tamar E Granor. Hentzenwerke Publishing 2003. ISBN 1-930919-36-0.
- GNU/Linux User Groups – www.linux.org/groups
- United Nations International Open Source Network – www.iosn.net
- IOSN book site – www.iosn.net/education/foss-education-primer

Text documents

“Freedom of the press is guaranteed only to those who own one.” — A. J. Liebling

Every ten years, as part of the US Census Bureau's counting of voters, the results from a questionnaire by the National Endowment for the Arts are also collated.

These results⁶ are regularly quoted in the press as showing that Americans are reading less than ever before. Of course they might be, because they have more TV, more radio, more films and now more computer games than ever before. All these media are competing for every citizen's limited time.

What often goes unmentioned, however, is the amount of writing that Americans do. In 2003, the USA broke another publishing record, producing over 175,000 books. (The UK broke its own, with almost 120,000). And of course, there are more people writing websites than ever before.

Go on – join the revolution and write something.

6 “Reading At Risk: A Survey of Literary Reading in America” – www.nea.gov/pub/ReadingAtRisk.pdf. National Endowment for the Arts, Research Division Report #46.

Examples

[Shrub's switching success](#) (page 24)

[Ms Yates's templates](#) (page 25)

[M. Braille teaches typing](#) (page 26)

[Mr Salah Al-Din spell checks and keeps track of reviewer corrections](#) (page 28)

[Dr Digitalis creates PDF documents](#) (page 31)

[Mr Big's staff use macros to automate common tasks](#) (page 33)

Shrub's switching success



For most of the staff at the Mayor of London's office, the switch to OpenOffice.org was painless. They could open all of their old Microsoft Office documents and were soon creating new OpenOffice.org files.

The few staff who had difficulties were actually the more experienced Microsoft Word users. They regularly used Word's more advanced features and OpenOffice.org Writer places these features in different parts of the program.

However, they found “OOoSwitch”⁷ to be a very useful book. As the title promised, the book showed them how to use all those advanced Microsoft Office features in OpenOffice.org. But its question and answer format (e.g. “How do I leave white space between paragraphs?”) meant

7 [“OOoSwitch: 501 Things You Wanted to Know About Switching to OpenOffice.org from Microsoft Office”](#) by Tamar E Granor. Hentzenwerke Publishing 2003. ISBN 1-930919-36-0.

that finding that information was quick and easy.

In fact the staff found the bite-size format made it enjoyable to learn about other features that they had not been aware of in Microsoft Office (e.g. “How do I put multiple columns in a document?”) and they taught these to their colleagues.


Ms Yates's templates





The first text file that Ms Yates created was a letter requesting a manufacturing quote. She had identified four companies that could produce the high quality prototypes she needed. The letter contained a list of her requirements and requests for the costs, time frames and samples.

Because she had bought the StarOffice version of OpenOffice.org Writer, she could use its templates. These made writing the letter quick and easy. They are available from the [File menu's Templates and Documents](#) item.



Writer offers a choice of letter styles and she picked an understated professional one. Writer then asked for the address of the recipient and the address that Ms Yates wanted to quote. It placed both at the top of the letter. The recipient's address would appear through the envelope's window once the page was folded.

Ms Yates was also able to insert her company's logo at the top of the page by clicking on the  icon.


When listing her requirements, she clicked the  icon so that a bullet point appeared at the start of every line in her list. When she finished the list, she clicked the  icon again to write normal text without bullet points.

In listing the deadlines for different stages of production, she

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clicked the  icon because the order of the deadlines in the list was important. This meant that the first deadline, on the first line, began with “1 -”, the second with “2 -” and so on. When she finished her list she clicked the  icon again to write normal text without numbers.

When the letter was complete she selected **Print...** from the **File** menu. She typed “2” in the **Number of copies...** box, then clicked the **OK** button. After a few seconds her printer produced two copies of her letter. She kept one copy in her filing cabinet and put the other into an envelope, with the address appearing through the envelope's window.

For the other three manufacturers she needed the same letter but with different addresses at the top. For each, she selected the address, pressed the delete key on her keyboard and typed in the correct address for that manufacturer. Then she printed one copy by clicking the  icon.

Writer's Mail Merge Wizard..., available from the **Tools** menu, is a powerful tool for automating a task like this. It would have allowed Ms Yates to create the letter, select the addresses to which she wanted copies of the letter sent and then have **Writer** take care of printing each letter with the correct address. Ms Yates would use the feature in the future for mailing adverts to her customers and press releases to her contacts.

However, in this case doing the four addresses manually was faster and soon Ms Yates was on her way to the post office.

M. Braille teaches typing



The children in M. Braille's class were delighted by the computers, especially when they figured out how to play the card games that come with Microsoft Windows.

However, getting the children to use OpenOffice.org Writer was much harder as none of the children knew how to type. Writing an essay on the computer took far too long because they did not know their way around the keyboard. M. Braille was worried when he saw some of the children give up in frustration.

M. Braille downloaded and installed Tux Typing from <http://tuxtype.sourceforge.net/download>. It is made by Tux4Kids (www.tux4kids.com), an organisation that makes several other educational Free Software tools.

The children loved playing with Tux, the penguin hero of Tux Typing. Tux eats the fish coming down the screen, but only if the letters on the bodies of the fish were correctly typed (see Figure 2).

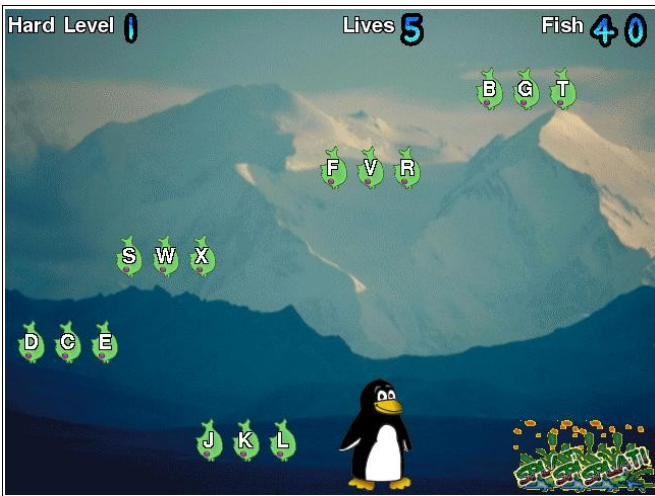


Figure 2: Tux Typing software teaches typing skills

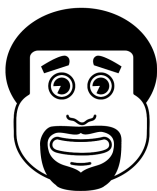
Soon the children began to feed Tux the most fish. At first they typed with one finger on each hand, trying to type as fast as possible. Then they formed teams, with one student

covering the right of the keyboard and the other covering the left.

This showed the important role that teachers have to play in the classroom – computers support education, they do not provide it. M. Braille spent a few minutes with each child showing them how to use the left hand for the left side of the keyboard and likewise for the right. He also explained that the fingers should be along the middle row of the keyboard, with the left little finger on the “a” key and the index finger on the “f”. Similarly the right index finger would be on the “j” and the right little finger on the “;”.

At first, this way of typing slowed the children down. But M. Braille encouraged them to persist and soon they were able to beat their previous high scores: they had learnt to touch-type. This skill would serve them well in adulthood as they entered the job market, but in the meantime it allowed them to write all their assignments on the classroom computers.

Mr Salah Al-Din spell checks and keeps track of reviewer corrections



As Mr Salah Al-Din explored the tools in OpenOffice.org Writer, he created exercises that would improve the students' learning.

First, he switched off the spelling checker in OpenOffice.org. From the Tools menu, he clicked Spellcheck and then clicked AutoSpellcheck⁸ until the tick mark (☑) disappeared. He knew that he could restart automatic spell checking by

8 Of course, because the students were using the Arabic version of OpenOffice.org, they actually clicked the أدوات menu, then دقق الإملاء and أوتوماتيكياً. The software included an Arabic spelling checker.

clicking on **AutoSpellcheck** again, but for now he wanted to test the students' own spelling skills.

He would run dictation exercises with the class on the computer. At the end, he would show them how to run the spelling checker by clicking the **Tools** menu, then **Spellcheck**, then **Check...**

Of course, spelling checkers are not replacements for knowing how to spell correctly and Mr Salah Al-Din wanted to prove this point to the class.

Therefore he asked each student to give a copy of their file to another student and get that student to check the spelling manually. The students found several errors of meaning that automatic spelling checkers cannot find – for example “there” is spelt correctly if you mean the position (“I will look over there”) but incorrectly if you mean the possession (“I will look over their property”).

He then taught the students how to make the corrections on their friends' files efficiently. From the **Edit** menu, he told them to click on **Changes** then **Record** until the tick mark () appeared. That meant that OpenOffice.org Writer would record every change made from that point onward. To stop recording at any time the student just had to click **Record** until the tick mark disappeared.

| This is the ~~starting~~changed sentence.

Figure 3: OpenOffice.org can track changes

OpenOffice.org makes these changes clear on the screen. For example, Figure 3 shows what happens when the sentence “This is the starting sentence” is changed to “This is the changed sentence”. The vertical line on the left-hand side is to show that a change has been made to that line of text.

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Both “changed” and “starting” are in red, meaning that the change concerned those two words on that line. And the word “changed” is underlined because it has been added to the text, while “~~starting~~” has a strikethrough to show that it has been deleted.

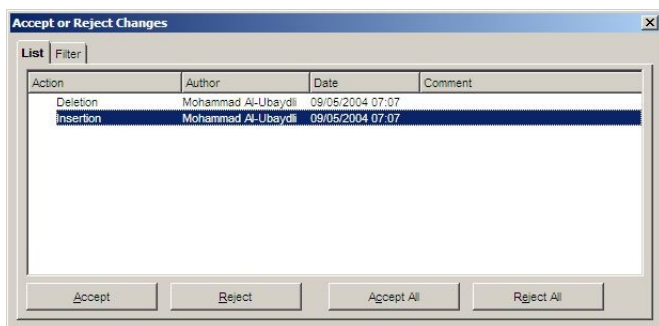


Figure 4: accepting and rejecting changes to a document

The real fun began when the students returned each file to its original creator. The student could see which changes had been made, but also had the power to accept or reject each one. This feature is available by selecting the Edit menu, then Changes, then Accept or Reject... (see Figure 4). Mr Salah Al-Din used the same feature for his marking of the students' documents.

Mr Salah Al-Din was also able to add notes and comments to the document such as “7/10”, “very good”, or “have you thought about including information about Al-Khawarizmi⁹ from the Wikipedia?”. This is possible through the Note...

9 Abu Abdullah Muhammad bin Musa al-Khawarizmi was a Persian scientist, mathematician and author born around 780 AD. He developed the concept of an algorithm in mathematics and is thus sometimes given the title “grandfather of computer science”. To learn more, see <http://en.wikipedia.org/wiki/Al-Khawarizmi>

command from the **Insert** menu. A yellow rectangle would appear in the text, (see Figure 5) and moving the mouse on top of that rectangle would show the note to the student.

sentence. **And here is a note.**

Figure 5: OpenOffice.org notes appear as yellow rectangles

Dr Digitalis creates PDF documents



OpenOffice.org provides an excellent tool for distributing completed files. This feature is not available in Microsoft Word. Dr Digitalis used it to send posters to the practices of other GPs announcing her launch party.

In the past she would have designed the poster in Microsoft Word and in fact she began this poster by opening one of her old Microsoft Word files in OpenOffice.org Writer. She then changed the layout and updated the details on the poster.

When the file was ready, however, she clicked **Export as PDF...** from the **File** menu. This feature is not present in Microsoft Word and to add it would require buying Adobe Acrobat, with prices starting from \$299 on top of the cost of Microsoft Word itself. OpenOffice.org Writer creates PDF files free of charge.

PDF is an abbreviation of Portable Document Format, which hints as to its advantages. It makes your file (the “Document”) easily transferable (“Portable”) to any other computer. Adobe is the company that created the PDF standard. They originally did so to guarantee to graphic designers that files created on their own computers would look exactly the same on the computer of a printing

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company.

This was important to Dr Digitalis. In the past, when she had given her Word documents to a printing company, she would have to spend some time at the printer's office double-checking that the pages came out as she had wanted them. Often, in moving from her own computer to the printer's, the layout was slightly changed by a fraction of an inch. That fraction could mean that the final printout looked amateurish and careless. If she found such changes, she would have to spend more time at the printer's computer fixing them.

PDF made her confident that she did not need to spend that time. She just emailed the PDF file to her printing office, asked that 500 copies be printed and came by the next day to pick up the pages. These pages looked exactly as she had wanted.

PDF also made the process of emailing easier. A Microsoft Word or OpenOffice.org Writer file can quickly grow in size as more and more amendments are made. This is because the software keeps track of those changes to allow you to reverse them. However, when including the file in an email to the printer, such changes are not useful and the large file size becomes a problem. PDF documents are much smaller in size, making them great for email.

And so Dr Digitalis was also able to email the documents to her GP colleagues. In time, the posters that she had printed off would arrive in her colleagues' surgeries through the mail, but she knew that they would appreciate having the email reminder.


The GPs were able to open and view the file because almost every computer today comes with Adobe Reader¹⁰

10 Adobe Reader is not Free Software, but it is free of charge. There are Free Software alternatives, but for now consider

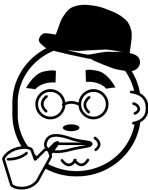
(www.adobe.com/acrobat). This opens any PDF file and Dr Digitalis's poster appeared on her colleagues' computer screens exactly as she had intended it to.

Furthermore, the PDF file did not include anything that she did not want to appear. For example, if she had sent a Microsoft Word file her colleagues could have found out that her poster had originally been an advertisement for her old car.

Nor do PDF files allow changes to be made by the recipient of the file. This is crucial for clinicians. It would be terrible if Dr Digitalis had sent a Microsoft Word file that recommended drug dosages and one of the recipients accidentally deleted a decimal point from one of them. And it would be disastrous if that person then forwarded the amended document to others, because those recipients would have the wrong dosage and because they would think it had come from Dr Digitalis.

For all of these reasons, you should use PDF when sharing completed OpenOffice.org files. This feature, also accessible through the  icon, is available in all OpenOffice.org tools, including Writer, Impress and Calc.

Mr Big's staff use macros to automate common tasks



OpenOffice.org can be customised using OpenOffice.org Basic, a programming language. Like Microsoft Office's Visual Basic, it allows the fast creation of small programs to automate short sequences of tasks.

Adobe Reader good enough.

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For Mr Big's IT team members, the most important factor in making the switch to OpenOffice.org was their ability to customise it. The extraordinary flexibility of Microsoft's Office software has always been important for businesses and Mr Big's company was no exception.

For example, Mr Big's software developers wanted to create a macro that allowed a receptionist to print off a customer's bill. The macro would ask the receptionist for the name of the customer, then automatically get the amount of money that the customer owed, create a letter in OpenOffice.org Writer that included the customer's name and billing amount and print two copies of that letter.

OpenOffice.org makes this possible because it includes tools to connect to any database and because most of OpenOffice.org Writer's tasks (such as creating a letter) can be controlled with the OpenOffice.org Basic language.

This language is not the same as Microsoft Office Visual Basic, but it is similar. Mr Big's IT staff were able to quickly convert their old Microsoft Office macros into macros that did the same job in OpenOffice.org.

OpenOffice.org's help documentation covers this well. For tricky parts, they read the book “OpenOffice.org Macros Explained”¹¹.

But it is not just programmers who can create macros. The **Record Macro** command from the **Tool** menu allowed Mr Big to create a macro simply by using OpenOffice.org Writer. The software kept track of the actions that Mr Big took until he clicked the **Stop Recording** button. In this way he was able to create a macro that he called “**PrintTwoCopies**”. This would print two copies of his

11 “[OpenOffice.org Macros Explained](#)” by Andrew Pitonyak. Hentzenwerke Publishing 2004. ISBN 1930919514.

document every time he selected it from the **Tools** menu.

Further resources

- TuxType – <http://tuxtype.sourceforge.net/>
- Tux4Kids – www.tux4kids.com
- Wikipedia – www.wikipedia.org
- Adobe Acrobat and Adobe Reader – www.adobe.com/acrobat
- “[OpenOffice.org Macros Explained](http://OpenOffice.org/Macros/Explained)” by Andrew Pitonyak. Hentzenwerke Publishing 2004. ISBN 1930919514.

Calculations and graphs

During the 1940s the US military was making full use of “computers”. These were nothing like the small machines that you and I are used to, nor even the room-sized machines that IBM had originally sold to the US census back in 1890. Rather, “computers” were people, usually young men and women with undergraduate degrees in science and mathematics¹².

Each “computer” would spend each day performing long and laborious computations, thankfully with the assistance of calculating machines. Each computation could answer questions about the outcome of a scenario.

OpenOffice.org Calc gives you more computational power than a whole roomful of these patient “computers”. It is an example of a spreadsheet, software that has transformed accounting and business planning. The rest of this chapter discusses peaceful uses of a spreadsheet.

At its most basic a spreadsheet like Calc allows you to create a table with column headings, rows of data and colourful formatting to enhance the presentation. If you want to create a beautiful table for your paper brochure, OpenOffice.org Calc may be your best starting point.

However, every number you enter into the table is a number the spreadsheet can use for calculations. Sums, averages, extrapolations, deviations, integrations and

¹² This story is taken from page 16 of the book “[Supergenius](#)” by B Bruce-Briggs. North American Policy Press 2000. The book is the biography of one such “computer”, Herman Kahn, who went on to found the Hudson Institute.

differentials – computers compute and Calc is your personal computing slave.

And a spreadsheet brings life to its tables. If you change one number at the top of a table, the outcomes of all the calculations further down the table also change. For example, to find out what would happen to your profits if you decreased the unit price by 10% but increased sales by 20%, change the unit price and sale price in the table. Almost as soon as you finish typing Calc will show you the outcome for profits. This makes Calc a powerful tool for planning.

Finally, Calc creates graphs from your tables' data: pie charts, line graphs, histograms and scatter plots are just a few of the options that Calc gives you.

Examples

[M. Braille creates a simple and secure table of pupil attendance](#) (page 38)

[Mr Salah Al-Din sums and sorts](#) (page 40)

[Dr Digitalis creates graphs of her patient surveys](#) (page 41)

[Ms Yates copys and pastes chart from Calc into her Writer text documents](#) (page 42)

[Mr Big and conditional forecasting](#) (page 43)

[Mrs Shrub imports data and learns from the US Census](#) (page 44)

M. Braille creates a simple and secure table of pupil attendance



M. Braille maintained a record of pupil attendance in a large book. The book served its purpose but he wondered if he could do better with OpenOffice.org Calc.

The program is well-suited to tables because its default display is of many rows and many columns. Down the left-most column he typed in the names of each of the pupils. Across the top row he typed in the first date of the new school year and then the second date.

He used Calc's automatic filling feature for the remaining days. First, he selected both dates. Calc displayed these in white text over a black background to indicate that they were selected and a thick black square appeared in the bottom right-hand corner to indicate that automatic filling was possible (see Figure 6).



Figure 6: Begin autofill

He clicked on the square and dragged it to the right. When he let go of the mouse button, part of the row that he had dragged over was automatically filled with consecutive dates (see Figure 7). Automatic filling is a powerful feature and several sophisticated options are available in OpenOffice.org Calc through the **Fill** item of the **Edit** menu.



Figure 7: Calc can automatically fill a series

Calc provides many features for formatting the tables. M. Braille selected the top row and the left-hand column and changed their background colour to grey. For days on which a student was absent, he changed the background colour of that cell to red. It was easy to see at a glance the attendance of any class or student over the year.

M. Braille wanted to use one file for all his students in any one year. He made use of the sheets to divide each file by class. The sheets of a file are listed in the bottom left-hand corner of the screen (see Figure 8). He renamed each sheet by clicking on it with the right mouse button and selecting **Rename sheet...**

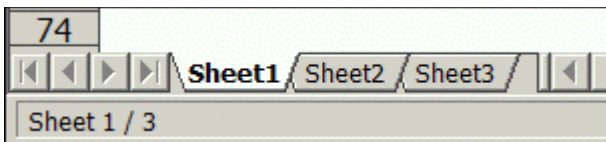


Figure 8: Sheets group relate tables and graphs

Finally, because he was keeping so much information in one file, M. Braille wanted to ensure its security. When saving the file he ticked the box **Save with password** and clicked

Save. Once he had filled out the password, Calc encrypted the file. This meant that, for all intents and purposes, the contents of the file could only be read by someone who entered the correct password to open the file.


Mr Salah Al-Din sums and sorts



Mr Salah Al-Din used OpenOffice.org to store his students' test marks. He created a table with the name of each student in the left-hand column and the date of each test in the top row. He wrote the test scores in the intersecting cells.

In the left-hand column, beneath the name of the last student, he typed in “Average”. The rest of the row would contain the average score of the students on each test. This analysis is easy because scores are numbers and Calc has many tools for running calculations on numbers.

After marking the first test of the year he filled an entire column with test scores. He clicked inside the blank cell just below this list of scores, which was on the same row as the “Average” heading.

Then he clicked the  icon to start the **Function Wizard**. He selected **AVERAGE** from the lengthy list of functions and clicked the **Next** button. He then indicated to Calc the cells that contained the data to be averaged by clicking on the first score and dragging down to the last one to highlight all the numbers in the column. He clicked the **OK** button and the average appeared instantly.

For subsequent tests he entered the scores in the columns to right, but he did not need to use the **Function Wizard** again. Instead he selected the first average, clicked on the thick

square that appeared in the bottom right hand corner and dragged to the right. The automatic filling of Calc took care of the rest, using the same **AVERAGE** function on the data to the right.


Finally, Calc is good for sorting text and numbers. Mr Salah Al-Din highlighted all the cells in his table and selected **Sort...** from the **Data** menu. First he sorted using the left-hand column, ordering the tests by the names of the students; he printed that page off. Then he sorted again, this time using the column of the latest test's data. He printed that off to give the students their rankings.

Dr Digitalis creates graphs of her patient surveys



Every patient that consulted Dr Digitalis filled out a satisfaction survey that she had prepared. Her secretary entered the data from the paper survey into OpenOffice.org Calc.

Dr Digitalis could then analyse the data and create charts.

To create a graph, click in the top left corner of the data and drag down to the bottom right corner, ensuring that column and row headings are included in your selection. Click on the  icon, select the area of your chart, and Calc will show you the **AutoFormat Chart** dialogue.

The chart type of which Dr Digitalis was most fond was the pie chart – she used this at monthly team meetings to show the proportion of patients who found the care it received to be less than acceptable. When she had collected data over many months she used line charts to show trends over time.

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Bar charts are good for comparing data from groups of patients, while XY charts show the relationship between two variables, such as waiting time and satisfaction.

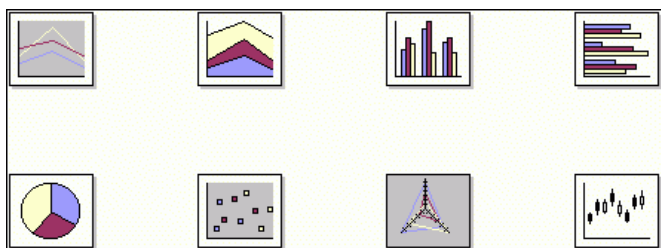


Figure 9: The AutoFormat Chart dialogue

A chart created by Calc automatically uses the original table row and column headings for its labels. You can edit individual elements by double-clicking on them. For example, clicking twice on a slice of a pie chart allows you to change its colour. Likewise doing so on the x-axis of an XY chart changes its scale and the increments of its tick marks.

Ms Yates copies and pastes charts from Calc into her Writer text documents



Because OpenOffice.org is so well integrated you can use Calc charts in any other OpenOffice.org document. Click on a chart, select **Copy** from the **Edit** menu, switch to your other document and select **Paste** from its **Edit** menu.

In researching her business plan Ms Yates collected a lot of data about the market, her customers, and competitors. She stored these data in Calc and made several charts to support

her arguments.

She used this to incorporate charts into the Writer document of her business plan. The greyscale PDF that she printed for her bank manager illustrated her findings. She used the same charts in the Impress presentations to venture capitalists and the pie charts were projected in their colourful glory.

Mr Big and conditional forecasting



Calc supports scenario planning: changing the data in one cell changes the data in all the other cells and charts that depend on that cell. As Mr Big began his career as an accountant, he still loved a good spreadsheet document because of this feature.

For example, changing the revenue from one of his company's hotels changed the total for the region that contained the hotel and the total of all the regions.

The change impacted charts as well. For example, in the pie chart showing a region's contribution to revenues, that region's portion decreased and the other regions' portions increased in size. Mr Big and his team could immediately see the impact of changing costs and revenues on the affected charts.

Calc offers some powerful and subtle tools for the tabular data. For example, using **Conditional Formatting...** from the **Format** menu you can set a cell to appear red if its value is negative and black otherwise. Making this cell the sum of revenues and costs for the hotels in a region makes it immediately apparent when changing the revenues leads to losses for the region.

The **Tools** menu's **Goal Seek...** item allows the reverse – Mr

Big could set the target value for that cell and then calculate the revenues necessary from the hotels that contributed to the value of that cell.

Mrs Shrub imports data and learns from the US Census



Mrs Shrub liked the US Census website (www.census.gov). Like the best of US government websites it makes as much of its data publicly available as possible. She wanted to create a similar site for the statistics collected by London's government.

Like the UK's Census site¹³, the US site is impressively interactive with maps generated on the fly to illustrate data of any subset.

More significantly, its data were available for download and she could use these in OpenOffice.org. Of course Microsoft Excel files opened instantly in Calc and many of the business data were available in this format.

Other statistics were available in CSV format. This is simpler than Excel's but it is an open standard that is fully supported by all spreadsheet software, including Excel and Calc.

Finally, other data were available in dBase format. OpenOffice.org includes Base, a database tool, that is capable of handling a whole range of database formats. Although Mrs Shrub had no interest in these files, she understood that businesses and citizens' organisations would benefit from having access to the data for their own analysis and integration.

13 www.statistics.gov.uk/census2001/

Further resources

- “[Supergenius](#)” by B Bruce-Briggs. North American Policy Press 2000.
- The US Census – www.census.gov
- The UK Census – www.statistics.gov.uk/census2001/

Presentations

Dr Whitfield Diffie is one of the few computer scientists to receive erotically-charged fan mail. His best known contribution to the world of computing is the co-invention of a method for protecting secrets electronically: public-key cryptography.

What is less well known is that he created the first presentation software. His program inspired his colleague Bob Gaskins to create PowerPoint¹⁴.

Microsoft eventually bought PowerPoint. On over 250 million computers around the world businessmen, teachers, officials, clinicians, professionals and citizens are using PowerPoint to make their point.

Impress is the OpenOffice.org equivalent.

14 A fascinating history of PowerPoint appeared in *The New Yorker's* May 28th 2001 issue. Written by Ian Parker, "Absolute Power point" is well worth the read at:

www.physics.ohio-state.edu/~wilkins/group/powerpt.html

Examples

[M. Braille uses existing PowerPoint files](#) (page 47)

[Ms Yates creates a simple presentation and uses the StarOffice gallery](#) (page 48)

[Dr Digitalis creates a lecture handout](#) (page 49)

[Mrs Shrub creates animations and organisational charts](#) (page 50)

[Mr Big adds corporate logos and colours using the slide master](#) (page 52)

[Mr Salah Al-Din shares his presentations with other teachers](#) (page 54)

M. Braille uses existing PowerPoint files



Around the world, many teachers use PowerPoint to support their lessons. And many of them make their PowerPoint files available for other teachers to use. In fact Microsoft's own site provides a whole range of materials

(www.microsoft.com/Education/).

OpenOffice.org Impress can open all these files. M. Braille found that for each particular lesson he could take elements from the lesson plans of several other teachers.

He could Copy entire slides that he liked and Paste them into his own Impress presentation. By choosing Slide Sorter from the View menu the order of the slides can be changed. The text can be changed by double-clicking on the slide containing it. Finally, the Layouts part of the Tasks pane on the right-hand side allows changing the layout of each slide

(see Figure 10).

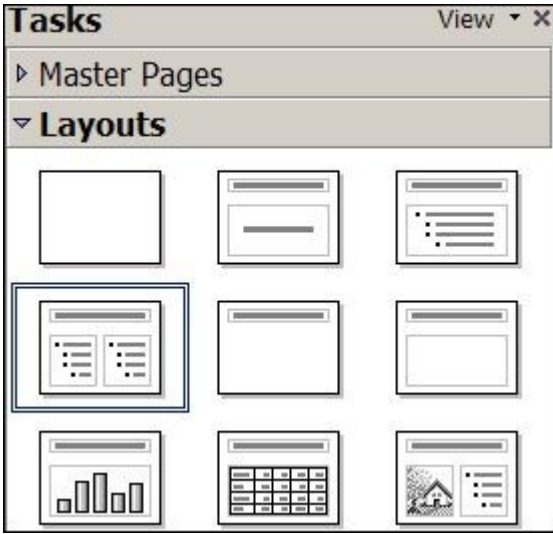


Figure 10: The Layouts part of the Tasks pane

Ms Yates creates a simple presentation and uses the StarOffice gallery



Creating a new Impress document is easy. You can select [OpenOffice.org Impress](#) from the Start menu. Alternatively, within any OpenOffice.org file (including a text or spreadsheet document) you can select [New](#) from the File menu and then [Presentation](#).

To create a new slide, select [Slide...](#) from the [Insert](#) menu.

However, OpenOffice.org does not contain many templates, nor are the included graphics as slick as those in Microsoft PowerPoint.

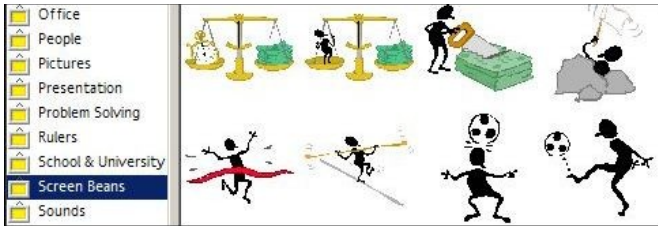



Figure 11: The StarOffice gallery

This is why Ms Yates was so pleased with having paid for StarOffice. It has many useful templates and a gallery of graphics. Within every application in OpenOffice.org the Gallery can be reached through the Tools menu, or by clicking on the  icon. The gallery of StarOffice has hundreds of useful graphics, including maps, icons and the infamous screenbean characters (see Figure 11).

Dr Digitalis creates a lecture handout



Dr Digitalis read “The Cognitive Style of PowerPoint”¹⁵. This 28-page essay is by the wonderful Professor Edward Tufte, who teaches courses in statistical evidence at Yale University. The essay is highly critical of “slideware” like PowerPoint and Impress:

Alas, slideware often reduces the analytical quality of presentations. In particular, the popular PowerPoint templates (ready-made designs) usually weaken verbal and spatial reasoning, and almost always corrupt statistical analysis. What is the problem with PowerPoint? And how can we improve our presentations?

15 “[The Cognitive Style of PowerPoint](#)” by Edward Tufte. Graphics Press 2003. ISBN 0961392150.

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One of the points that Tufte stresses is the importance of a good handout for sharing data with the audience. Showing the data on “slideware” limits the audience's ability to digest the data, while a detailed handout complements the overview that good slides can give.

OpenOffice.org has several features for creating handouts. First, there is the Handout Page, available from the View menu in Impress. This automatically includes reduced versions of each slide on a page with space left over for providing extra notes about the slides. The **T** icon at the bottom of the screen allows text to be added.


Second, because OpenOffice.org is so well integrated, you can Copy and Paste text, tables and charts from Writer and Calc. You can also do the reverse: create the handout in Writer, then Copy and Paste each slide from Impress into your text document.

Finally, the Handout Page in Impress automatically includes a header and footer area. In these Dr Digitalis put the title of her lecture, her name and the website address of her clinic. She knew that her detailed handouts would be so useful that they would be shared with other clinicians.

Mrs Shrub creates animations and organisational charts



Creating slideshows is not all that Impress is good for. The Drawing toolbar (see Figure 12) at the bottom of the window has many tools for creating shapes, colouring them in and connecting them.


For example, clicking the  icon allows the insertion of basic shapes like rectangles, ovals and rings.

The **Line and Filling** toolbar at the top of the page allows alteration of the border line and filling colour of a shape. And double-clicking on a shape allows you to write inside it.



Figure 12: The Drawing toolbar

These tools allowed Mrs Shrub to mock up quickly a neat diagram of anything that she wanted. She was able to show the website designer the elements she wanted displayed on the London government's website homepage, the layout of the staff newsletter, a birthday card for her sister and the organisation chart for her department.

The chart was particularly easy to create because of the **Connector** tool () in the Drawing toolbar. This draws connecting lines between any two shapes. Impress correctly redraws each line every time one of the shapes it was connected to is moved.

Mrs Shrub brought her organisational diagrams to life using the animation feature of Impress.

Like **Layouts**, this is also available from the **Tasks** pane on the right hand side (see Figure 13). By clicking on **Custom Animation** you can **Add...** and **Remove** effects for each item of each slide.

For shapes representing employees lower in the hierarchy Mrs Shrub selected the **Basic** effect called **Appear**. The rectangle would appear during her slideshow when she pressed the spacebar.

For employees whom she wanted to single out for praise, she chose the **Fly In** effect and made the shape levitate from the bottom of the screen. She was always careful, however, to avoid too many animation effects, or effects that were too jarring. A classy lady, she did not need Tufte to tell her that

less is more when it comes to the special effects of slideware.

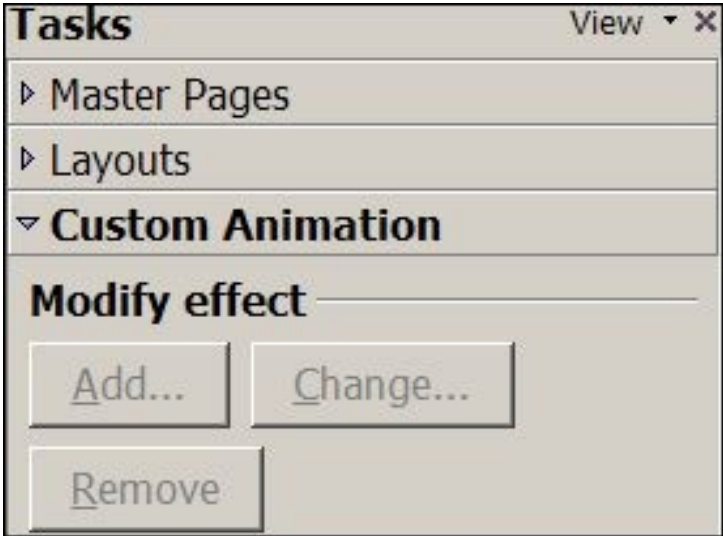


Figure 13: The Custom Animation part of the Tasks pane

Mr Big adds corporate logos and colours using the slide master



Impress has two features to ensure that different slides have the same background, logos and corporate theme. This was important for Mr Big and his executives as they give many lectures at industry conferences.

First, the **Slide Master** is available from the **View** menu. Changing any element in this view changes all of the elements in the **Normal** view (see Figure 14). For example, by changing the background to match the orange and amber

colours of the logo of Mr Big's hotel chain, the background in every single slide was changed. And pasting the logo in the top left corner of the master slide made it appear in the top left corner of every slide.

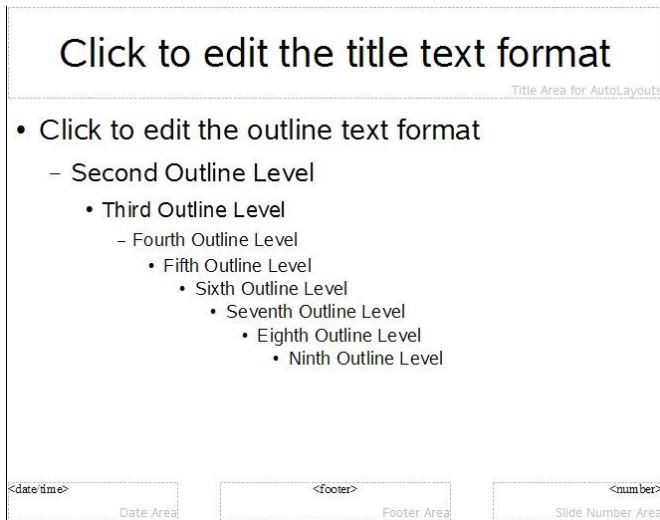


Figure 14: The Slide Master view

Furthermore, changing the size of the writing in the style of each **Outline Level** changes the size of that writing in every slide. Using this Mr Big changed the default typeface from Albany to Tahoma, his favourite.

The second important feature is saving the file as a template (see Figure 15) through the **File** menu's **Save As...** dialogue. The company made the template file available to all of its employees.

Whenever an OpenOffice.org template is opened, it creates a new file with the same default settings as the template. In other words, Mr Big's executives would begin their Impress presentations by opening the template. All their slides would

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have the company's background, logo and typeface. Mr Big loved consistency.

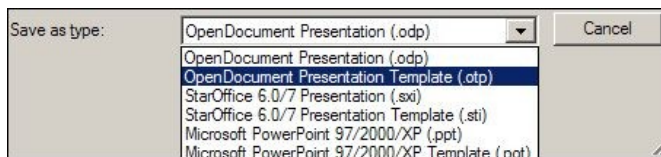


Figure 15: The Impress Save As... dialogue

Mr Salah Al-Din shares his presentations with other teachers



Like M. Braille, Mr Salah Al-Din used Impress extensively in his lessons. However, he liked to make his files available to others through the school website. This was good for students who had missed his lessons through illness. He also shared the files with other teachers to save their time and to allow improvements to the lesson plans.

The **Save As...** dialogue of Impress (see Figure 15) offers several options, including Microsoft PowerPoint presentation and Microsoft PowerPoint template formats. For sharing on the web there are several useful read-only formats. Like OpenOffice.org Writer these are available through the **Export...** dialogue of the **File** menu. The **PDF** format is useful for emailing copies of a lesson that would be printed, while **HTML** is useful for including the lesson in a website. Finally, the **Marcomedia Flash** format is good for playing the slides on a website.

The next part of this book will cover the internet and some of the many Free Software tools that will help you create your own website. But I will finish this part with a reminder

of just how much OpenOffice.org can do for you.

Further resources

- “Absolute PowerPoint” by Ian Parker. *New Yorker*, May 28th 2001. A copy is available at:
www.physics.ohio-state.edu/~wilkins/group/powerpt.html
- Microsoft education resources –
www.microsoft.com/Education/
- “[The Cognitive Style of PowerPoint](#)” by Edward Tufte. Graphics Press 2003. ISBN 0961392150.

Other OpenOffice.org features

“If all you have is a hammer, everything looks like a nail.” Anonymous

In 1891 Victorinox began supplying the Swiss Army with pocket knives. The company now produces over 22,000 Swiss Army knives per day most of which are for export. Around the world many people have come to depend on these knives for their versatility.

OpenOffice.org is even more versatile. In this chapter I hope to give you some ideas that show off more of its abilities.

Writer has everything you need for writing your own book

I wrote this book using OpenOffice.org Writer. Many features made the software an excellent choice. For example, the `Indexes and Tables...` command automatically generated the table of contents for the book. As I added, deleted and reorganised chapters, Writer adjusted the table of contents and kept track of the page numbers.

The command also created the index at the back of the book. All I had to do was identify individual ideas as important enough to include in the index using the `Entry...` command.

As the book increased in size I decided to divide it into separate files for faster loading and easier backing up. I used the `Master Document` command to create a single file that collated the other files. Writer automatically

renumbered the pages, figure captions and entries in the table of contents and index across all of these files.

I exported the result into a single PDF file. I could provide this to any printer and be sure that the output would be exactly as I had intended. I had done this using Microsoft Word and Adobe Acrobat when I wrote and published my first book, “Handhelds for Doctors”¹⁶.

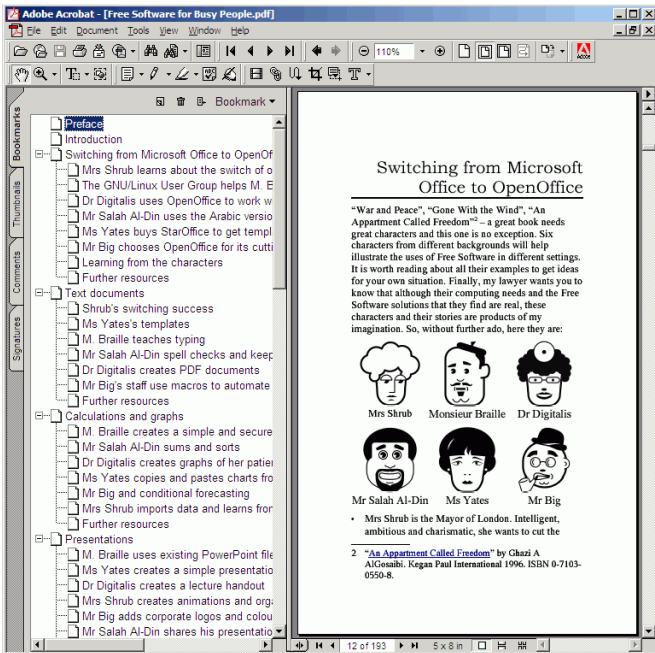


Figure 16: OpenOffice.org's PDFs include bookmarks

What impressed me with OpenOffice.org was that the exported PDF included Adobe Reader-compatible features

16 This was the self-published edition of the book that was eventually published by John Wiley & Sons, Ltd, under the title “Handheld Computers for Doctors”.

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like **Bookmarks**. This adds a professional touch to the electronic book and makes for a pleasant reading experience. Doing this with Word and Acrobat is difficult and time-consuming but Writer handled the job beautifully and automatically (see Figure 16).

Academic authors will also appreciate Writer's formulae and bibliography features. The **Formula** feature is powerful, allowing the insertion and manipulation of many mathematical symbols.

Unlike Word, Writer also includes a bibliography manager, accessible as the **Bibliography Database** from the **Tools** menu. This feature is particularly worth watching, as with the release of Version 2 of OpenOffice.org development of more advanced bibliographic tools has begun¹⁷.

In fact the release of this version also heralds development of lots of other tools because OpenOffice.org is built on XML¹⁸. For software developers and enterprises this means a transparent foundation on which to build quickly extensions. For you and me it means a wealth of more powerful tools is on the way.

But enough about text – OpenOffice.org can also handle drawings.

Drawings with OpenOffice.org

Impress is surprisingly good for layout design. The **Toolbars** submenu from the **View** menu lists several useful toolbars. These include the **Drawing** toolbar that appears at the bottom of the screen by default, but also the **3D-Objects**, **Circles and Ovals**, and other toolbars. On a blank slide with no layout

17 <http://bibliographic.openoffice.org/>

18 <http://xml.openoffice.org/>

you can use all the text, shapes and colours that you need for your drawing.

OpenOffice.org Draw is a more specialised tool that has no equivalent in Microsoft Office. You can access it by choosing **New** then **Drawing** from the **File** menu.

Use the **Page...** command from the **Format** menu to select a different layout for the page. For example, you can choose a much larger page for a poster, or a square one for a birthday card.

When your drawing is finished, the **Export...** command will create something appropriate for your publication medium. For the large poster example, **PDF** is what your printer will expect from you. If you are publishing for the web the **HTML Document** option creates a web page while the **PNG** option creates an image that you can use in other web pages.

You can use any of your OpenOffice.org Draw documents in any of your other OpenOffice.org documents. This even works in OpenOffice.org Base.

OpenOffice.org Base creates databases as Microsoft Access does

The most significant improvement in OpenOffice.org 2.0 is the addition of Base because it allows you to create databases.

A database is an electronic version of a filing cabinet containing paper forms. Like the filing cabinet you can use it to store the forms for safe keeping, and see the data entered in each form whenever you need. You can also add more data by completing a new form and adding it to the store.

But because it is electronic, a database has many advantages

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over filing cabinets. First, it sorts the data quickly and in as many ways as you want it to. For example, you can sort a database of your friends' birthdays by the last name of each of them, or their birthday, or both. The forms can also be faster to complete. For example, a database form with addresses can include a drop-down list of countries. Choosing from these can be faster than writing the country name. More importantly, you can guarantee that everyone who fills out the form will have spelt the country correctly because they chose from your correctly spelt list.

With a little programming, Base can be very powerful. For example, when the user types in the zip code the database can automatically deduce the city and state.

The programming aspect means that most of us will leave the design of databases to someone with formal computer training. What you need to tell this member of your team is that Base is a relational database with **Forms** and **Reports**, that it can connect to any ODBC datasource, including MySQL databases and that it handles SQL queries.

In other words, Base matches Microsoft Access in features, but is available free of charge.

Meanwhile, what you need to know is that Base is powerful and useful. Whenever you find yourself and your team filling out a form more than a few times, think of using Base. Whether you want to store your church's membership, your clients' addresses, your patients' cancer diagnoses, or your city residents' property tax valuations, consider using Base as part of the solution.

I hope that by now you have understood some of the power of OpenOffice.org and the implications of having this power free of charge. The next part will show you that such power and price is available in many other examples of Free

Software.

Further resources

- OpenOffice.org Bibliographic Project – <http://bibliographic.openoffice.org/>
- OpenOffice.org XML – <http://xml.openoffice.org/>

Part II

Internet tools

If you have ever used Google (www.google.com) to search the internet, then you have relied upon Free Software.

That is because Google's website runs on tens of thousands of computers and each of these is using the GNU/Linux operating system and the Apache web server.

Google's scientists have stated many times that only Apache and GNU/Linux can provide the stability and security required to serve the millions of web users every day. And only with Apache and GNU/Linux could they have afforded to buy so many scores of thousands of computers.

That is why Google, Amazon, Yahoo!, eBay and numerous other companies depend on Free Software. In fact, almost 70% of websites are run using the Apache web server Free Software and the computers of many websites use Free operating systems like GNU/Linux or BSD Unix¹⁹.

Your organisation does not need to have as many

¹⁹ http://news.netcraft.com/archives/web_server_survey.htm

customers as Google does to be able to benefit from Free Software's internet tools. The fact is that the free cost of Free Software means that everyone can afford to use it. And as this part of the book will show you, the Free tools available are often superior in quality to commercial software.

Browsing the web with Firefox

“I suggest dumping Microsoft's Internet Explorer, which has a history of security breaches. I recommend instead using Mozilla Firefox. It's not only more secure but also more modern and advanced, with tabbed browsing and a better pop-up ad blocker.” — Walt Mossberg, *Wall Street Journal*, September 16th 2004.

In the preface I mentioned that one of the advantages of Free Software is that it breaks monopolies and that that is a good thing. Web browser software is a great illustration of this point.

The world wide web was literally invented by Tim Berners-Lee, a British physicist working at CERN, the world's largest particle physics laboratory. Sir Tim, who received a knighthood in 2004 for his efforts, created a standard for web pages and designed software for looking at those pages. The standard that he created was brilliant because it made writing web pages so easy. His software was not so brilliant, but Sir Tim made sure that anyone else could write software for browsing and creating pages. In fact, he deliberately refused to make money from his world wide web so that other developers would be free to create better and better software tools.

This worked magnificently and one of the first companies to take advantage of the web was Netscape. Their browser software was powerful and free of charge for non-commercial users. In the mid-1990s, up to 90% of people reading web pages were doing so

with Netscape's web browser²⁰.

In 1995, Microsoft launched its own web browser, Internet Explorer²¹, which was initially inferior to Netscape's. However, Microsoft could afford to give the software away free of charge because it was making so much money from Windows and Office software. Furthermore, it included Internet Explorer with Windows and made it the default browser. Today around 90% of web users do so with Internet Explorer.

This does not mean Internet Explorer is the best browser. In the last few years features like tabbed browsing and integrated customised searching and themes have dramatically improved the experience of browsing the web. However, Microsoft has not added any of these to Internet Explorer.

Furthermore, Internet Explorer has been downright dangerous, exposing computers to attacks. These dangers drove the governments of the USA²² and Germany²³, as well as several security companies, to advise against using Internet Explorer.

There are several reasons for this state of affairs. First, the incentives: Microsoft does not make any money from you when you use its web browsing software, its only interest being to ensure that other web browser companies pose no threat to its monopoly. Because they have achieved this, obtaining 90% market share, they have no further incentive to improve the software.

20 http://en.wikipedia.org/wiki/Netscape_Navigator

21 http://en.wikipedia.org/wiki/Internet_explorer

22 <http://www.kb.cert.org/vuls/id/713878>

23 http://www.theregister.co.uk/2004/09/13/german_ie_jitters/

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Companies like Opera (www.opera.com) sell web browser software, so they are constantly adding features because they must constantly fight for income.

Second, many of the security risks come from a similar problem of incentives. At the time that Microsoft was trying to beat Netscape, they added features like ActiveX to Internet Explorer that allowed them to advertise capabilities that Netscape could not match. Netscape could not match these because the features depended on having direct access to the Windows code. But ActiveX had significant security risks²⁴. Microsoft advertised the features despite the risks.

The advertising is gone, because Netscape's threat is gone, but on millions of PCs today the security risks remain.

Finally, Microsoft simply cannot do everything right because no one can be so perfect. It only has so many software developers, they can only spend so much time analysing their code for security risks and they only have so much expertise about security.

This chapter is about Mozilla Foundation's approach to web browsers and its product, Firefox (www.mozilla.org/firefox). The Foundation funds developers who are passionate about web browsing software. The tools are further checked by people from all over the world who are also passionate about browsing software. All these people use Firefox. If there is a problem with the software they know about it soon and they fix it soon after. They depend on the software being of high quality, which is why they have an incentive to fix it.

Second, the developers were concerned about security from the start. They lay the foundations for good security in their software because the it will be used by important people in mission-critical projects.

24 <http://www.cs.princeton.edu/sip/faq/java-vs-activex.html>

Furthermore, the code that they produce is available for everyone to see. The paradox of security is that by exposing every security hole it is easier to ensure security – experts around the world are constantly scrutinising Firefox code and pointing out deficiencies. On the other hand this should not surprise us.

The democracies of the West flourished while the Communist states of the Soviet Union collapsed *because* the democracies shared information with their citizens, not despite it. Transparency encourages security.

Finally, by making the code available to everyone, it is much easier to build good extensions to the code. The rest of this chapter will show you these tools and end with technical explanations of how to get them and use them.

But the main point for now is that the monopoly is breaking and that is good for users of the web. Every week brings more articles praising the superior quality of Firefox versus Internet Explorer. Every week more computer users decide that using the web is faster, more powerful and simply more pleasant when using Firefox. And every week decision makers in governments, companies and organisations make the decision that the security of their computer network depends on using Mozilla's software.

Microsoft will simply have to respond by improving the quality and security of Internet Explorer. All computer users will be winners from such improvements. Until that day, you can benefit by switching to Firefox.

Examples

[Ms Yates searches Google, uses tabs and avoids pop-up windows](#) (page 68)

[Mr Salah Al-Din searches for meaning](#) (page 69)

[Dr Digitalis searches PubMed](#) (page 70)

[M. Braille downloads entire websites](#) (page 72)

[Mr Big's team improves security, creates bookmarks and designs a theme](#) (page 73)

Ms Yates searches Google, uses tabs and avoids pop-up windows



Firefox makes searching easy. Rather than visiting Google to begin a search, type your search text into text area in the top right corner of Firefox (see Figure 17) and press the return key. Firefox will show you the list of results from Google. The tabs feature

allows you to study these results quickly.



Figure 17: The search bar is in the top right corner of Firefox

Ms Yates typed “handheld computer accessories” into the search bar. She decided that the first ten companies in the list would be the the most important source of competition or partnerships.

With the right mouse button, she clicked on the title of the first website, then with the left mouse button she clicked on **Open Link in New Tab**. At the top of Firefox, a tab appeared with the title of that website. She repeated this for the next

nine websites and nine new tabs appeared for the websites (see Figure 18).



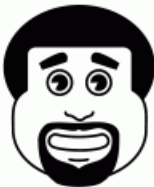
Figure 18: Opening multiple tabs from Google search results


By clicking on the title of each tab, she could see each company's website. Comparing different companies' sites by clicking on the different tabs was easy and quick.

Firefox was a particularly good time saver when Ms Yates connected to the internet through her laptop's dial-up modem. She frequently had to do this while travelling, which meant that she was often in a hurry, but that she had a slow internet connection. By opening multiple tabs for browsing, she found that by the time she had finished reading the text of the web page of the first tab, the text of all the other tabs' web pages had finished loading.

This is because Firefox works efficiently on multiple tasks, like loading other tabs, even as it remains responsive to your main task, which is reading a particular web page. It also avoids wasting time by blocking the windows that pop up on some sites, often called pop-up windows. These are almost always advertisements and Ms Yates was delighted that she was no longer bothered by them.

Mr Salah Al-Din searches for meaning



Google is not the only search engine that Firefox offers. Click on the  icon to see a list of alternatives included with Firefox and click on [Add Engines...](#) to see a huge and expanding list of other search engines

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you can add.

Mr Salah Al-Din was delighted to find the Wikipedia (www.wikipedia.org). It meant that he could search this encyclopaedia from the top right-hand corner of Firefox. There were all sorts of other encyclopaedias for him to choose from, including HowStuffWorks (www.howstuffworks.com) and Microsoft Encarta (<http://encarta.msn.com/>).

He also found a list of dictionaries, from which he chose the Wiktionary (www.wiktionary.org). Others on the list included the Cambridge Dictionary (<http://dictionary.cambridge.org>) and the Merriam-Webster Thesaurus (www.merriam-webster.com). He made sure that all of the students' PCs had the encyclopaedia and dictionary searches added.

Dr Digitalis searches PubMed



PubMed (www.pubmed.gov) provides the abstracts of the papers from most modern biomedical journals. It is run by the US government's National Center for Biotechnology Information (NCBI).

Dr Digitalis had found it an invaluable resource when dealing with unusual clinical problems because she could find the very latest papers that could help answer her questions.

Using the **Add Engines...** feature she added **NCBI PubMed** to her search engines, speeding up her PubMed searches.

She also found PubMed Central²⁵ and PubMed Books²⁶ as search engines for other NCBI tools. The first allowed searching papers for which the entire text was available. This was very useful because her private practice had not yet subscribed to many journals, which had previously meant that Dr Digitalis could read only the abstracts for free and would have to request the full copies from her local medical library. Searching PubMed Central meant that any papers that did appear would instantly be available free of charge.

PubMed Central makes all these papers available because the journals that published them did so under an Open Access licence (www.doaj.org).

This is the publishing world's equivalent to Free Software, because it means that there are no restrictions on the viewing and redistribution of the digital version of the papers. In 2004 the US Congress passed legislation so that papers from any research that received Federal funds would be made available through PubMed Central in this way. The UK's Parliament is also looking at similar legislation for British science, as are the governments of Germany, France and Japan.

Dr Digitalis found that the NCBI Bookshelf (“PubMed Books”) also provided an incredible amount of free biomedical information, but in the form of textbooks. For example, the HSTAT series of textbooks²⁷ provided US government guidelines on the treatment of a wide range of diseases.

She frequently used the PubMed Books search engine to

25 www.pubmedcentral.gov

26 <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Books>

27 <http://www.ncbi.nlm.nih.gov/books/bv.fcgi?call=bv.View..ShowTOC&rid=hstat.TOC&depth=2>

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look up biological terms with which she was not familiar. This led her to textbooks like Stryer's *Biochemistry*²⁸ and Baron & Samuel's *Medical Microbiology*²⁹ because they covered areas of medical science that were not her strongest. To her surprise, the books were well-written and actually enjoyable to read, a refreshingly different experience from her early years at medical school.

M. Braille downloads entire websites



Like Mr Salah Al-Din, M. Braille added the Wikipedia search engine to the top right corner of Firefox, but he used the French version of the encyclopaedia (<http://fr.wikipedia.org>).

However, his students could not use the encyclopaedia, nor even the web in general, because the school did not have internet access.

M. Braille could use the internet in his home through his own PC and phone line. When he found a page that would be useful for his lessons, he selected **Save Page As...** from the **File** menu and Firefox would save a copy of the page on his floppy disk. M. Braille would then take the disk to school and copy the page from the disk to every computer.

He was careful to only do this from sites that gave permission. He found many sites, like the Wikipedia, which used the GNU Free Documentation License, which gave him all the freedom he needed to make copies in this way.

28 <http://www.ncbi.nlm.nih.gov/books/bv.fcgi?call=bv.View..ShowTOC&rid=stryer.TOC&depth=2>

29 <http://www.ncbi.nlm.nih.gov/books/bv.fcgi?call=bv.View..ShowTOC&rid=mmed.TOC&depth=2>

But soon he found that he wanted several related pages from each site and the process of saving each individual page was lengthy and burdensome.

Spiderzilla (<http://spiderzilla.mozdev.org>) is an Extension that solves this problem. By clicking Download this site from the Tools menu, M. Braille could download entire websites onto his computer. He could then copy these onto the computers at the school and the children could browse around the sites without needing internet access.

Mr Big's team improves security, creates bookmarks and designs a theme




Mr Big's Chief Technology Officer was relieved when the IT department installed Firefox on all the PCs in all the hotels. Using Firefox rather than Internet Explorer removed several important security threats. It also saved the time of IT department staff who were having to constantly keep up with Microsoft's security patches for Internet Explorer and ensure that all of them were installed on all PCs.

With this security risk removed, the CTO felt more confident about his plan to provide computers for customers in all of the hotel lobbies. He wanted customers to be able to use the machines to get information about their hotel and about the local area.

To achieve this, the IT staff changed the default starting web page for Firefox in each hotel. They selected Options... from the Tools menu and clicked on General. Under Home Page, they typed in the web address for the hotel chain's website, then clicked the OK button.

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This meant that when a customer began browsing the web on a PC in the hotel lobby, the first web page to appear would be the hotel's. If the customer wanted to get back to that page, they could just click the  icon.

The IT staff also taught the hotel staff how to add bookmarks that would be useful to customers wanting to learn about the local area. For example, the *Washington Post's* local events page is useful for hotels in the Washington, DC area. The easiest way was to visit the right web page, then click **Bookmark This Page...** (see Figure 19). The customer could visit that web page again by clicking on the **Bookmarks** menu and then on the web page's name.

The Themes feature in Firefox allows changing the colours and icons of the web browser. Selecting **Get More Themes** shows a list of freely available themes. Creating a theme takes a little more work, but the MozillaZine website provides clear explanations and examples³⁰.

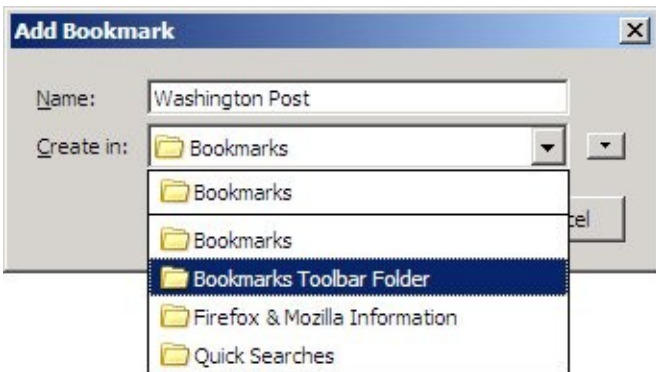


Figure 19 Adding a bookmark

Naturally, the marketing department wanted to use this for branding. Soon the hotel had its own Firefox theme and it

30 http://kb.mozillazine.org/Dev:_Themes

was installed on all the machines in the lobby.

Further resources

- Mozilla Firefox – www.mozilla.org/firefox
- Opera – www.opera.com
- Google – www.google.com
- Wikipedia – www.wikipedia.org
- HowStuffWorks – www.howstuffworks.com
- MSN Encarta – <http://encarta.msn.com/>
- Wiktionary – www.wiktionary.org
- Cambridge Dictionary – <http://dictionary.cambridge.org/>
- Merriam-Webster Thesaurus – www.merriam-webster.com
- Website for this book – www.freedomsoftware.info
- PubMed Central – www.pubmedcentral.gov
- NCBI Bookshelf – <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Books>
- Dictionary of Open Access Journals – www.doaj.org
- “Health Services/Technology Assessment Text (HSTAT)”, National Library of Medicine 2003. – <http://www.ncbi.nlm.nih.gov/books/bv.fcgi?call=bv.View..ShowTOC&rid=hstat.TOC&depth=2>
- “Biochemistry” by Berg, Tymoczko & Stryer. WH Freeman & Company 2002. ISBN 0716746840. <http://www.ncbi.nlm.nih.gov/books/bv.fcgi?call=bv.View..ShowTOC&rid=stryer.TOC&depth=2>

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- “Medical Microbiology” by Baron, Samuel. University of Texas 1996. ISBN 0963117211.
<http://www.ncbi.nlm.nih.gov/books/bv.fcgi?call=bv.View..ShowTOC&rid=mmed.TOC&depth=2>
- MozillaZine article about creating themes –
http://kb.mozillazine.org/Dev_-_Themes

Using email with Thunderbird

According to Grant Thornton's 2005 International Business Owners Survey the average US business owner spends two hours every day using email. Nor is this the highest average – business owners in the Philippines reported spending 2.1 hours per day. They were also highly optimistic about the internet, 84% of them reporting that the internet had increased their revenues. The French view was more sceptical, only 13% responding so positively about the internet. However, they still spent close to one hour per day using email³¹.

Whether you are of the French or the Filipino school of thought, it is clear that the internet has an important role to play in our institutions and many of us spend a significant part of each day reading and writing emails. Given this popularity it is no surprise that spammers have targeted email as a way to reach millions of people cheaply.

What is surprising is how long so many people tolerate using email software that is vulnerable to viruses. Microsoft's Outlook and Outlook Express are by far the most popular software tools for email, but they have also been the reason for the spread of the most devastating viruses. Sasser, Blaster, Nachi and Sobig were notorious names in the last two years, affecting literally millions of machines around the world.

Of course part of the reason for their creation is that

31 "Email". *Economist* March 3rd 2005.

www.economist.com/markets/displayStory.cfm?story_id=3722779

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malicious creators of computer viruses target the most popular software to cause the most damage. But the other component is that Microsoft had made some uniquely bad security decisions³² in the past and the users of Outlook and Outlook Express have suffered because of this.

Email does not have to be this way – and Mozilla's Free Software gives you impressive alternatives

(www.mozilla.org/thunderbird).

32 For example, see:

<http://pcworld.about.com/magazine/1910p059id57963.htm>

<http://news.com.com/2100-1023-866307.html?legacy=cnet> and

<http://secunia.com/advisories/11067/>

Examples

[Dr Digitalis switches to Thunderbird and imports her old email messages](#) (page 79)

[Mr Salah Al-Din switches from POP to IMAP for accessing his email at home](#) (page 81)

[Mrs Shrub reads the news with RSS](#) (page 82)

[M. Braille filters out his spam mail](#) (page 85)

[Ms Yates uses extensions](#) (page 87)


[Mr Big uses Mozilla suite](#) (page 88)

Dr Digitalis switches to Thunderbird and imports her old email messages



The Thunderbird installer automatically asks you if you want to import your old email messages and settings. It can import data from Outlook, Outlook Express and Eudora, as well as other email software from Mozilla.

This was a great relief to Dr Digitalis as she was worried about her old messages. Because she had so many old emails, the process took about half an hour.

After this, however, Thunderbird was quite fast. In fact Thunderbird indexes all email messages in advance so that searching through them is much faster than with Outlook or Outlook Express. You can quickly find an email by a particular person, or with a particular phrase in the subject, by typing next to the  icon.

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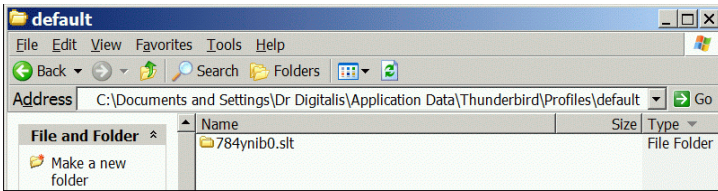


Figure 20: Thunderbird stores your email in the "Documents and Settings" folder under your profile.

Finally, Dr Digitalis was relieved at how easy it is to back up messages. As Figure 20 shows the Dr Digitalis folder is inside her computer's Documents and Settings folder. This contains the Application Data folder, which contains the Thunderbird folder, which in turn contains all her emails. Making a backup copy of this folder meant that all her messages were backed up.

This method is good for several reasons. First, the folder itself is easy to find – Outlook Express and Outlook use cryptic names for their storage. Second, Outlook stores the messages for each user in just one file. If any message in that file is corrupted, the whole of the file – and all the messages it contains – can no longer be opened. Because Thunderbird creates a folder on your computer for each message folder that you create in Thunderbird from the File menu.

Third, backing up a folder to a CD can be easier. If the size of a file exceeds that of your backup medium (around 700 MB for a CD) splitting up that file is complicated. Because Thunderbird uses a folder that contains several smaller files and folders, it is more likely that each of these files will fit inside your backup medium.

Mr Salah Al-Din switches from POP to IMAP for accessing his email at home



Thunderbird can connect to POP and IMAP email servers. POP stands for Post Office Protocol and is a common method for managing email within an organisation. Commercial email accounts from companies like Yahoo! and Google also provide POP servers for their customers.

Mr Salah Al-Din had a computer at home that he used to check his email outside of school hours. Initially, he had set up Thunderbird so that it connects to the school's POP electronic mail server.

However, the default for Thunderbird and most email software is to remove email from a POP server. In other words every time Mr Salah Al-Din clicked the **Get Mail** button, Thunderbird downloaded messages from his POP server to his computer then deleted the messages on the POP server. This is useful for saving space on the POP server.

However, for Mr Salah Al-Din this was a major inconvenience – as soon as he checked his email on his home PC it would not be available the next day on his work PC. And at home he could not access any of the messages that had been downloaded to his PC at work earlier during the day.


Initially the solution was to switch off the deletion using the **Account Settings** item from the **Tools** menu.

However, an even better solution was possible when the school switched to using IMAP (Internet Message Access Protocol) rather than POP for running the email server. First, almost as soon as an email arrived for Mr Salah Al-Din on

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the school's email server, it appeared on the PC he was using. He no longer needed to click the **Get Mail** button.

Second, the message was not deleted from the server when it appeared on his computer – rather, Thunderbird gave Mr Salah Al-Din direct access to what was on the server. This meant that the messages that Mr Salah Al-Din read in the evening on his home PC were available for him to see the next day on his work PC.

In addition, the Thunderbird interface on both machines indicated which messages he had already read, because their titles were not in bold text (see Figure 21). The  icon showed which messages he had replied to the night before.

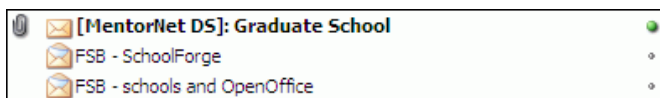


Figure 21: Thunderbird uses bold text to indicate messages that have not yet been read

In fact, Thunderbird keeps a copy of the messages sent on the IMAP server, so no matter which computer Mr Salah Al-Din used for sending and receiving his messages he would always be able to see all of these messages.

Finally, he installed Thunderbird onto his laptop. The **Account Settings** dialogue included an option to keep an offline copy of the mail from the IMAP server. This allowed Mr Salah Al-Din to see his old email messages even while not connected to the internet.

Mrs Shrub reads the news with RSS



Thunderbird offers a useful way of getting the news. This is because many websites offer RSS versions of their news stories and

Thunderbird can use RSS to collect those stories. RSS stands for the Really Simple Syndication, but the name belies the power that it offers and the professionalism of the organisations that offer it.

Mrs Shrub liked to start her day by reading the newspapers while watching the BBC's news on TV. She was intrigued to learn that the BBC offers RSS feeds from its news site³³ (see Figure 22).

To use RSS, look out for the **XML** icon in Firefox. Click on it with the right mouse button and select **Copy Link Location**. In Thunderbird, click on **Manage Subscriptions**, then **Add** and paste the address of the link you copied in Firefox. After you click the **OK** button Thunderbird begins downloading the stories.

As soon as the BBC published a new story, it would appear on Mrs Shrub's RSS account in Thunderbird. The BBC site also offers several news categories, from which she selected "News Front Page", "UK", "Business" and "Politics" (see Figure 22).

Other sites offer an even greater choice. For example, *Moreover*³⁴ provides over 330 news categories, including "Top UK stories", which collects stories from the UK's newspapers.

Once she understood the significance of the **XML** icon Mrs Shrub began spotting it everywhere, including the websites of CNN³⁵ and *The New York Times*³⁶. Some consulting

33 <http://news.bbc.co.uk/2/hi/help/3223484.stm>

34 http://w.moreover.com/new/other/categories_rss.html

35 www.cnn.com/services/rss/

36 www.nytimes.com/services/xml/rss/

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companies, like the Oxford Business Group³⁷, used the  icon instead.



Figure 22: The BBC's news site makes RSS feeds available at <http://news.bbc.co.uk/1/hi/help/rss/3223484.stm>


This is the icon that she found on many blogs – online diaries – that she enjoyed reading. One of these was the blog³⁸ of Margot Wallström, the Vice-President of the European Commission. Her site had developed a loyal readership and seemed a public relations triumph. Mrs Shrub wondered if she could create a similar blog to reach her voters in London.

37 www.oxfordbusinessgroup.com

38 <http://weblog.jrc.cec.eu.int/page/wallstrom>

M. Braille filters out his spam mail



Sadly, having an email address means receiving junk emails. However, when Thunderbird collects your email messages you will notice that many of the spammers' messages have a  icon. This is Thunderbird's **Junk Mail Control...** at work.

However, not all the junk messages will have the icon. Select each of these and click the **Junk** button at the top of the window. Conversely, some messages will have been identified wrongly as junk mail. Select each of these and click the **Not Junk** button.

Although M. Braille received many messages every day from family, friends and co-workers, he received even more junk messages from spammers. After a few days of manually overriding the junk status that Thunderbird had assigned to each of his messages he noticed that the program's accuracy was improving.

This is because the junk mail feature changes its rules to match more closely the judgement of the user. It also refrains from labelling as junk mail any messages that come from email addresses that are already contained in your address book.

Thunderbird has a subtle feature for blocking the efforts of spammers – it does not automatically show the pictures in an email if the picture was not included with the email. This is because some spammers simply include a reference to a picture in the mass emails that they send out. Some email software automatically follows those references, connecting to the internet to get a copy of the pictures and then displaying it. However, as soon as the software connects to the internet it confirms to the spammer that the email address

is a legitimate one. The spammer targets confirmed email addresses even more strongly.

By not automatically following such references Thunderbird prevents the confirmation that spammers thrive on. The **Show Images** button allows manual overriding in each message (see Figure 23).

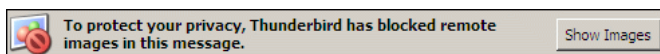


Figure 23: To protect against spammers Thunderbird does not automatically show remote images. Click the "Show Images" button to override this.

Soon M. Braille trusted the software enough – it did not label everything correctly as junk mail, but it stopped incorrectly labelling any of his legitimate messages as junk mail. From the **Tools** menu he selected **Junk Mail Controls...** and switched on automatic message handling. This meant that Thunderbird automatically moved junk mail messages to a separate folder, clearing his Inbox.

Inspired by this automation M. Braille began reading about the **Message Filters...** command in the **Tools** menu. This allows setting rules for handling new messages.

He added a rule so that Thunderbird automatically moved every message from his colleagues at the charity to a folder he called "Charity". He created another folder called "Lit-Ideas". This was for messages that he received from the Lit-Ideas mailing list³⁹, an entertaining discussion list for university professors in the humanities to discuss the impact of technology. Every message that came from the list included "[lit-ideas]" in the subject. M. Braille created a filter that automatically identified these messages by their subject and copied them to the "Lit-ideas" folder.

³⁹ www.freelists.org/list/lit-ideas

Ms Yates uses extensions



Ms Yates had used several extensions for Firefox. She was delighted that extensions were also available for Thunderbird from the [Tools](#) menu.

The first extension that she installed was a dictionary⁴⁰ – this allowed her to look up the definitions of technical words in her messages.

Another extension allowed her to control her iTunes music player and most other music players, including the Free Software Zinf⁴¹. This was important because she spent a lot of time every day reading and writing her emails and she liked to do so with music playing in the background. The extension's controls were available in every Thunderbird window, meaning that she could fast-forward, rewind, pause, play and change the volume without switching away from the message she was reading. Another version of the extension gave her the same controls on Firefox as well⁴².

New extensions are always being added and Ms Yates wanted to keep track of all them. She found the Mozilla Foundation's RSS feed about new extensions⁴³.

40 <https://addons.update.mozilla.org/extensions/moreinfo.php?id=68&application=thunderbird>

41 <https://addons.update.mozilla.org/extensions/moreinfo.php?id=219&application=thunderbird>

42 <https://addons.update.mozilla.org/extensions/moreinfo.php?id=219&application=firefox>

43 <https://addons.update.mozilla.org/rss/?application=thunderbird&type=E&list=newest>

Mr Big uses Mozilla suite



One of the key strengths of Microsoft Outlook is its calendar. This feature is not included in the default installation of Thunderbird. Several Free Software options are available.

One is to use Thunderbird's extensions. For example, the Mozilla Calendar extension⁴⁴ adds a **Calendar** command to the **Tools** menu. The calendar icon can also be added to the toolbar (see Figure 24). The PalmSync extension⁴⁵ further strengthens Thunderbird's address book by allowing its synchronisation with Palm Powered handheld computers.

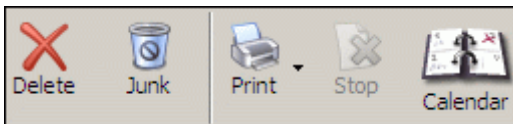


Figure 24: The Calendar extension's icon can be added by right-clicking onto the toolbar and selecting **Customize...**

However, other Free Software tools are available that were designed with calendar integration as a key feature rather than an afterthought. For example, the Open Source Application Foundation is creating Chandler (www.osafoundation.org), with an impressive vision for personal information management. However, it is still under development and a stable version is not yet available.

On the other hand Ximian Evolution is mature software that is similar to Outlook in functionality and user interface but superior in security (www.ximian.com). It also integrates

44 <http://www.mozilla.org/projects/calendar/>

45 http://kb.mozillazine.org/Thunderbird:_FAQs:_PalmSync

into the Microsoft Exchange email server, allowing group calendar functionality. However, it is only available for computers running GNU/Linux, not Windows.

In the end Mr Big chose the Mozilla Suite (www.mozilla.org/products/mozilla1.x/), after which the Mozilla foundation was originally named. Its integration is even greater than Outlook's, combining web browsing, email handling, RSS reading, calendar functionality and web page creation.

And because it is based on the Mozilla Foundation's technology, it can use the same extensions that are available for Firefox and Thunderbird.

Further resources

- Mozilla Thunderbird – www.mozilla.org/thunderbird
- BBC News RSS feeds – <http://news.bbc.co.uk/2/hi/help/3223484.stm>
- Moreover news RSS feeds – http://w.moreover.com/new/other/categories_rss.html
- CNN RSS feeds – www.cnn.com/services/rss/
- *New York Times* RSS feeds – www.nytimes.com/services/xml/rss/
- Oxford Business Group – www.oxfordbusinessgroup.com
- Margot Wallström's blog – <http://weblog.jrc.cec.eu.int/page/wallstrom>
- DictionarySearch extension – <https://addons.update.mozilla.org/extensions/moreinfo.php?id=68&application=thunderbird>

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- FoxyTunes extension for Thunderbird – <https://addons.update.mozilla.org/extensions/moreinfo.php?id=219&application=thunderbird>
- FoxyTunes extension for Firefox – <https://addons.update.mozilla.org/extensions/moreinfo.php?id=219&application=firefox>
- Thunderbird new extensions RSS feed – <https://addons.update.mozilla.org/rss/?application=thunderbird&type=E&list=newest>
- Calendar extension – www.mozilla.org/projects/calendar/
- PalmSync extension – http://kb.mozillazine.org/Thunderbird:_FAQs:_PalmSync
- Open Source Application Foundation Chandler – www.osafoundation.org
- Ximian Evolution – www.ximian.com
- Mozilla Suite – www.mozilla.org/products/mozilla1.x/

Creating a basic website

In 2004, King Sihanouk of Cambodia abdicated his throne⁴⁶. The world and his parliamentarians, found out about this through his personal website (www.norodomsihanouk.info). During 2003, Salam Pax (http://dear_raed.blogspot.com/) described to readers around the world his daily experiences during the fighting between the US and Saddam's army. And in 2005, BoingBoing (www.boingboing.net) continues to fascinate as “a directory of wonderful things”.

A website is a great way to share information with others around the world.

To create a website, you need three things. First, you need content in the form of webpages. Writing a webpage is simpler than writing a word processing document, so if you are comfortable with OpenOffice.org Writer then you will find creating a webpage is easy.

Second, you need a computer to store the webpages for your readers. This is called a webserver. Running your own webserver is expensive and can be a full-time job. But renting a webserver is easy and affordable and some companies even offer the service free of charge. The companies that rent out parts of their webserver to host your website are called webhosts.

Third, you need a web address so that other people using the web can find the webserver containing your webpages. Examples of web addresses include www.freedomsoftware.info for this book. The address also allows others to email you. For example, you can

46 www.economist.com/displaystory.cfm?story_id=311462

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email me at mo@freedomsoftware.info.

The costs of these steps are constantly dropping, the ease of starting is constantly improving and this chapter will demystify the basics.

What is most important to learn from this chapter is that there are many possibilities for your own website. Each of the characters uses their site for different reasons and you will have reasons of your own.

It is a common reaction to feel shy about setting up your own website for the first time. However, we all have something to tell others about, whether it is our day's events for family and friends to read about, or our professional expertise for colleagues to learn from.

You may feel scared about the risks and workload of your website and you are right to think ahead. There are four points to mention. First, avoid putting information on the internet that you do not want *everyone* to learn about. It is possible to secure your website so that only certain users can read it, but this takes some knowledge and is never without risks. So stick to sanitised information, at least at the start. In other words, do not broadcast your love life, or your complaints about your boss. On the other hand these topics make for some of the most charming and compelling reading material on the web and in time you will gain the confidence to discuss them in a way that minimises the risks to you.

Second, running a webserver is often a full-time job because of the constant attacks from malicious computer users. However, by renting a webserver you avoid all these headaches as there are professionals taking the load for you. On a good webhost's website you will see a guarantee of at least "99.9% uptime", which means that they will ensure that their webserver makes your website available at least 99.9%

of the year. In a single year, your website will be working for almost every single hour of every single day, faltering for no more than 9 hours in total.

Third, writing for the web is different from traditional writing. Dr. Jakob Nielson has excellent introductory articles⁴⁷ about this, while Dan Briklin's site provides a wonderful guide (www.gooddocuments.com) from a pioneer.

Finally, the workload of creating and maintaining a site can build up, especially as you come to enjoy writing and your website's visitors enjoy reading. On the other hand, that may not be a bad thing. But start with a simple site and slowly add content to it.

What most often astonishes new authors is how quickly the content on their website grows. My personal website (www.mo.md) began as a single article that I wrote about handheld computers. I began occasionally adding articles, until a medical company noticed it and commissioned a ten-part series from me. Soon I had readers from around the world and in time I decided that I had enough material for a book. "Handheld Computers for Doctors" was the result (www.handheldsfordoctors.com).

47 www.useit.com/papers/webwriting/

Examples

[Mr Salah Al-Din and his students use OpenOffice.org for simple websites](#) (page 94)

[Ms Yates uses NVU to create her company's website](#) (page 97)

[M. Braille uses PayPal and Amazon to collect donations through his website](#) (page 99)

[Mrs Shrub uses CivicSpace to blog](#) (page 102)

[Dr Digitalis uses WordPress to create a blog about acupuncture](#) (page 103)

[Mr Big's employees use WordPress blogs to keep colleagues informed](#) (page 104)

Mr Salah Al-Din and his students use OpenOffice.org for simple websites



To create your first webpage you only need OpenOffice.org. From the File menu selected New then HTML Document. HTML is an abbreviation of HyperText Markup Language, which is the name the Sir Tim Berners-Lee had given to the language

he invented back in 1989 and all webpages are written in HTML.


Mr Salah Al-Din's school already had a website, but it consisted of just a few pages. Mr Salah Al-Din wanted to give each of his students some space on the school website so that they could express themselves and improve their writing skills.

Because the school already had a webserver and a web address, all Mr Salah Al-Din had to worry about was the

tools for creating the extra webpages.

OpenOffice.org HTML editor is easy to use because its icons are identical to those of OpenOffice.org Writer. You can make text **bold**, *italicized* or underlined by clicking on the **B**, *I* and U icons respectively.

Inserting images in a document is also similar to OpenOffice.org Writer: select **Graphics...** from the **Insert** menu. However, there is one important difference. It is better for the image file to already be in the same folder as the HTML file.

You can also create hyperlinks to other webpages. From the **Insert** menu select **Hyperlink**. If the hyperlink is to another webpage in the same website, click on the **Document** icon on the left hand side, then the  icon in the top right corner (see Figure 25).

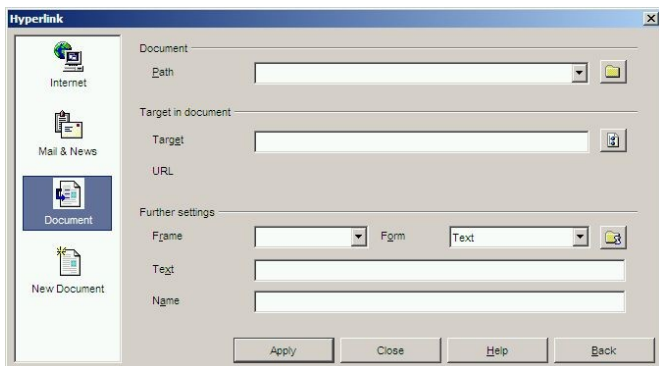


Figure 25 The hyperlink dialogue

For example, one student created several webpages in her folder, each containing a single essay. The student then created a single page with the titles of all the essays. For each title, she selected its text then inserted a hyperlink to the webpage with the full essay. And on every essay's

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webpage she wrote “Home” at the top of the page and inserted a hyperlink to the page listing all the essays. In this way her parents could start with that page, click on the title of every essay that they wanted to read and click on “Home” to get back to the list when they had finished reading an essay.

To link to any other webpage on the internet, click on the Internet icon on the left hand side. Then type in the address of the webpage into the Target field and click the Apply button.

For example, another student liked to quote a lot of references in his essays. Many of those references were available on the internet, so he selected the title of each reference and inserted a hyperlink to the website with the full text. Other references were to books that were not available on the web, so the student created links to the Amazon.com pages that contained more information about the books. By following a link the reader would find reviews of the book, find out information about its publisher and buy it.

However, OpenOffice.org is only capable of basic HTML. For more sophisticated layout or advanced HTML features the students needed more professional HTML editing software. The students began reading books about webpage design⁴⁸ and searching the internet for more information⁴⁹. That is how they found out about NVU.

48 “[Create Your Own Website \(Using What You Already Know\)](#)” by Scott Mitchell. Sams 2004. ISBN 0672326620.

49 www.w3schools.com/html/default.asp

Ms Yates uses NVU to create her company's website



You can get a web address in ten minutes for less than \$10 per year. Type in the name of your organisation as one word at www.godaddy.com then click the Search button (see Figure 26).

There are several alternative endings for your web address. For example, [.com](#) is for companies with global customers, [.co.uk](#) is for UK companies and [.org](#) is for non-profit organisations⁵⁰.

Ms Yates bought a [.com](#) address. Within 48 hours her address was working. She ordered some new business cards that included her website and email addresses. For a webhost, she chose SiteGround (www.siteground.com).

A typical SiteGround account costs \$60 for each year's service. This includes 1 GB of space, which is enough for detailed photographs. The performance of the site is good enough for starting and would cope with Ms Yates's expanding needs for at least the first few years.

Finally, for writing the webpages, she chose NVU (www.nvu.com). It allows more sophisticated page design than OpenOffice.org as it can handle tables⁵¹.

NVU also copes better than OpenOffice.org does with multiple interlinked webpages. As your site expands, you will rearrange and reorganise the webpages. NVU automatically updates the links between the pages.

50 "Getting an internet address" by Mohammad Al-Ubaydli. *BMJ Career Focus* 2005. www.mo.md/id174.htm

51 www.w3schools.com/html/html_tables.asp

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Figure 26: Choosing a website address (www.godaddy.com)

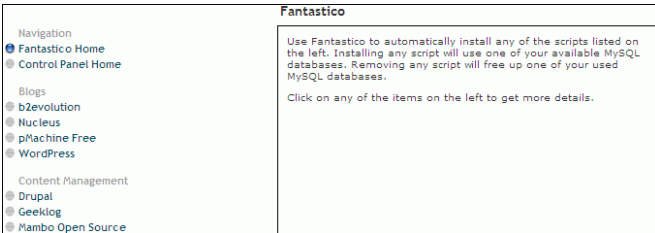


Figure 27: SiteGround's Fantastico allows easy installation of many Free Software tools for your website

Finally, NVU can copy the webpages from your computer to your webhost's server. You will need some details from your webhost and SiteGround includes these in the welcome email you receive on setting up your account. Enter these details into NVU using the **Edit sites** button on the left hand side (see Figure 28).

The software is similar enough to OpenOffice.org to use comfortably for writing. However, designing the correct layout takes some more effort. The easiest way to get started is to use Firefox and find some websites that you like. From the Firefox **File** menu select **Save Page As...** to save a copy

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of the webpage on your computer. Then **Open** the copy in NVU and customise it to suit your needs.

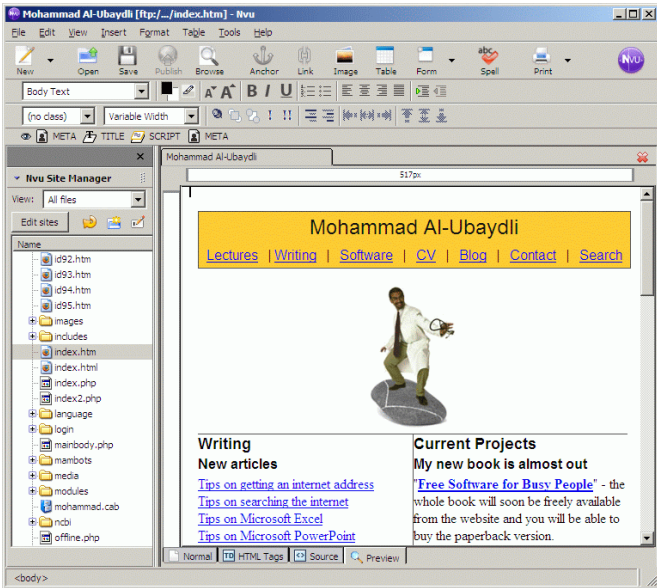


Figure 28: NVU

M. Braille uses PayPal and Amazon to collect donations through his website



Two companies make it easy to receive credit card payments through your website: Amazon (www.amazon.com) and PayPal (www.paypal.com). Around the world millions of people trust these companies to handle their online transactions.

M. Braille wanted to use his website to raise money for his charity. He bought an address ending in .org and created

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three documents. For the first he used OpenOffice.org Writer to create the complete brochure about the charity with photographs of the children, the school and its staff. He then exported the document in PDF format.

For the second document he used NVU to create the main webpage of his website. It also contained a hyperlink to the PDF document that he had created and another to the download site for Adobe Reader⁵². The former link would allow visitors to his site to get the brochure about the charity's work and the latter ensured that any visitors who did not have Adobe Reader software could download a free copy before downloading the brochure.

To handle the donation through PayPal he used his charity's bank account in France. He registered with PayPal's French site (www.paypal.com/fr/) and waited for a few days while the company verified his bank account details. Logging in to PayPal's site he was able to access its **Outils marchand** (merchant tools) section to create payment buttons (see Figure 29). For each button he specified the currency and amount of payment.



Figure 29: PayPal offers several payment buttons

Whenever a user clicks one of these buttons PayPal would guide them through the payment process, transferring the appropriate amount in the appropriate currency from the donor's bank account to that of M. Braille's charity.

52 www.adobe.com/products/acrobat/readstep2.html

M. Braille used PayPal to create buttons for the Euro, Pound Sterling and US Dollar currencies. For each currency he created three levels of payment. At the end, PayPal provided him with the HTML code for nine payment buttons. He copied these codes into NVU under the heading “Donate using PayPal”.

The final page that he created, again using NVU, was a “Thank you” page. This was the page that PayPal would show to donors after they had completed their donation and allowed M. Braille to thank the donor in French and in English.

For Amazon donations he used Amazon's **Honor System** feature. This required him to have an American bank account to receive deposits so he provided the details of a sister charity in the USA. At the end of this Amazon presented him with HTML code, like PayPal's, that he added to his webpage in NVU.

Underneath the Amazon donation button he included the 501(c)(3) information about the American charity. This would allow Americans to count their donation as tax-deductible.

The beauty of this system was its low cost. Annually, the charity had to pay around \$100 for the domain name and hosting. Furthermore, PayPal and Amazon do not charge any setup fees, simply taking around 5% of each donation. Just \$105 in donations would have made the site self-financing. But as it happened, the site became quite profitable, attracting interest and donors from around the world, including people that the charity's French postal mailings had not previously reached.

Mrs Shrub uses CivicSpace to blog



The 2004 US presidential elections demonstrated the use of weblogs by the political candidates. Weblogs – or blogs, as they're commonly known – are websites in which the author can keep a log of events and their thoughts about these events.

To a reader a blog is a webpage with several entries. Each has a date, a title and some text. The newest entries are at the top and the oldest at the bottom.

Readers of blogs like them because they can easily see the latest entries – in the US elections candidates placed their opinions about the most recent issues and provided links to more detailed information. Voters were able to follow these to make informed decisions.

Authors of blogs like them because they make writing easy – all you would need is a web browser with access to the internet. You can access your own blog, log in and fill out a new entry. For politicians travelling around the USA this was a godsend.

Furthermore, the structure of a blog means that the author does not have to worry about the layout, only the writing.

These efforts contributed to Howard Dean's ability to raise several million dollars. Ultimately, Dean failed to secure the nomination of his party, losing to John Kerry.

However, the software that his team had developed continued to be developed even after his campaign ended. Now called CivicSpace (www.civicspacelabs.org), it is available as Free Software and developers around the world have joined the effort to improve its features.

Mrs Shrub was halfway through her term which meant that she would soon begin campaigning again. For now, she had enough time to learn to write her blog and for her team to begin forging relationships with the authors of other blogs.

Dr Digitalis uses WordPress to create a blog about acupuncture



A key advantage of choosing SiteGround for web hosting is its Fantastico control panel (see Figure 27). It allows you to quickly and easily install a whole range of Free Software. This includes the WordPress blogging software (www.wordpress.org).

Dr Digitalis wanted to write a blog to keep track of developments in acupuncture and store links to the articles that she found useful. From godaddy.com she bought an address ending in .info. In her SiteGround account she installed WordPress.

Every day, during her reading of the latest literature, she would pick a few articles about which she would write. For each she included a link to the article, a few choice quotes from its text and her own comment on the article.

This was useful for her memory. First, because she had spent this effort on each article she found it easier to remember the contents of the article on future occasions. Furthermore, WordPress indexes all the entries and provides a search box. She could enter into the search box the keywords of the article that she was interested in finding and WordPress would show a list of the blog entries that included these keywords. The more detail she included in each of her entries the easier it was to find the article again.

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In time, however, other doctors found the blog useful. Many of them were GPs and found the background explanations that she gave to be useful and entertaining. They, in turn, recommended it to other colleagues. For this kind of recommendation it was important that the web address that she had chosen was short and memorable.

What Dr Digitalis had not expected was the number of new referrals coming her way because of the blog. By providing an educational service she was also demonstrating to other GPs her knowledge and her ability to explain things clearly to patients that the GPs would send. All this without advertising.

Mr Big's employees use WordPress blogs to keep colleagues informed



More and more businesses are finding the advantages of blogs written by employees for internal communication. WordPress allows the creation of different user accounts and different entry categories.

The manager of the San Francisco hotel showed Mr Big the employee blogs. Using an internal server, available only to employees within the hotel's network, the team had installed WordPress.

This meant that each of the senior employees could write entries about their own department's work. For each entry WordPress would display the name of the author as well as its date. The author would also tick the categories to which the entry was most appropriate, for example “maintenance”, “room service”, “customer feedback” and so on.

This was a great way to communicate amongst the different

employees who worked different shifts in different parts of the hotel. If an employee wanted to check on the progress of a particular item of maintenance they would search the blog.

Some employees found this so useful that they took advantage of the RSS feature on WordPress. This would allow them to subscribe to the blog in Thunderbird, to receive all the entries. At the start of their shift they would spend around 15 minutes reading all that had gone on in the previous shift.

Mr Big ordered that WordPress be installed on all the internal servers of all the hotels. The regional managers found they could subscribe to the RSS feeds of all the hotels that they were responsible for. The other employees around the world took some training before they understood the benefits – not all of them were like the technophiles of San Francisco.

But soon they too found the act of documentation and the ease of searching others' documentation to be useful. In fact the pendulum began swinging too much in that direction with some managers asking that every employee use the blog.

This was possible in the hotels that provided computers and internet connections in every room: junior employees that worked on individual floors could login to WordPress using the computers in customers' rooms and document their progress during the day.

However, the problem with this was the information overload. Regional managers subscribing to the RSS feeds of a hotel's blog were flooded with entries announcing that the cleaning of a particular floor's rooms had been completed.

The company's policy became that the main blog was for senior employees. Each hotel manager could then choose to

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have another copy of WordPress for junior employees. This would only be of interest to that hotel's employees but allowed those employees the freedom to use it in the way that suited their work habits.

At any rate the experiment was now enough of a success that Mr Big was looking for other solutions that Free Software could bring to his web servers. Perhaps San Francisco would show the way again.

Further resources

- King Sihanouk's website – www.norodomsihanouk.info
- Salam Pax's blog – http://dear_raed.blogspot.com/
- BoingBoing – www.boingboing.net
- Free Software for Busy People website – www.freedomsoftware.info
- “Writing for the Web” article by Dr. Jakob Nielsen – www.useit.com/papers/webwriting/
- Dan Briklin's guidelines for web writing – www.gooddocuments.com
- Mohammad Al-Ubaydli's website – www.mo.md
- “Handheld Computers for Doctors” by Mohammad Al-Ubaydli. Wiley 2003. ISBN 0470858990 – www.handheldsfordoctors.com
- “[Create Your Own Website \(Using What You Already Know\)](#)” by Scott Mitchell. Sams 2004. ISBN 0672326620.
- HTML tutorial – <http://www.w3schools.com/html/>
- GoDaddy – www.godaddy.com

- “Getting an internet address” by Mohammad Al-Ubaydli.
BMJ Career Focus 2005 330: 130.
www.mo.md/id174.htm
- HTML tables tutorial –
www.w3schools.com/html/html_tables.asp
- Amazon – www.amazon.com
- PayPal – www.paypal.com
- Civic Space – www.civicspacelabs.org
- WordPress – www.wordpress.org

Creating a large website

Amazon is more than a bookshop – it is *your* bookshop. After a few visits to and purchases from the site, it begins to include recommendations that are eerily attuned to your tastes. But when *I* visit the site I see different recommendations, ones that are tailored to my tastes rather than yours. And when your friend visits the site they will see recommendations that are also unique to them.

This is all possible because Amazon's website is built on a database. A database is a place to store data – think of it as an electronic filing cabinet. Amazon collects all sorts of data about you, including your billing address and orders of course, but also your rating of these books and even book links you click on. It also compares data about you with data about other customers and uses that to generate more data.

All of Amazon's pages are shown to you after consulting the database. If you are ordering a book Amazon shows you previous delivery addresses that you used, in case you want to use one of them again. If you are looking at a book Amazon shows you ratings by other users who have read the book. Most lucratively, Amazon constantly extrapolates from your previous behaviour to recommend books to you that you would not have known about or thought of reading.

You, I and others buy these books because Amazon is not in the books business as much as in the database business. And databases are the beauty of the web.

The websites that you build with OpenOffice.org and NVU will for the most part not be database-driven. It is possible and many web programmers do so, to use

NVU to develop database-driven sites. But for most people the process is complicated and requires too much training.

However, WordPress is a tool that allows the easy creation of database-driven sites. To add entries to a blog you need a username and a password, which WordPress keeps track of. WordPress can keep track of the login details of many users and it stores the date and authorship data about each entry.

WordPress is not the only Free Software that allows you to create database-driven sites – there are other tools and many are far more powerful.

But of course with power comes complexity. These tools require time and knowledge to set up and administer but they make it easy to create and edit content. So this chapter does not provide a tips section to explain how to do everything – reading the documentation for every tool is necessary for this.

This is why you might find it useful to hire someone's services, at least for the setup phase of your site. After that you will have the tools and ability to focus on content. So the rest of the chapter is to give you ideas on what you might do with the tools. Welcome to the database business.

Examples

[Dr Digitalis creates a discussion board](#) (page 110)

[Ms Yates uses the Mambo content management system](#) (page 113)

[Mr Salah Al-Din's students use a Wiki to collaborate in writing](#) (page 115)

[Mrs Shrub uses CivicSpace for her campaign](#) (page 117)

[M. Braille uses Claroline to run courses](#) (page 118)

[Mr Big uses dotProject for project management](#) (page 120)

Dr Digitalis creates a discussion board



Bulletin boards, or discussion boards, allow the posting and reading of comments about different topics. Phpbb (www.phpbb.com) is a popular Free Software version.

Dr Digitalis found it under the **Discussion Boards** heading of SiteGround's Fantastico. It took three steps to install.

Since starting the blog Dr Digitalis was receiving emails from clinicians around the UK and increasingly from abroad, asking her questions about acupuncture

The questions were good for business because many were followed by the referring of a patient. She also liked answering these questions. However, some would always be beyond her expertise. Others were simple and frequent, requiring her to type the same answers several times in a week.

Discussion boards like phpbb make it easy for people to ask

questions and others to respond to the questions. It also makes it easy to debate the answers.

Furthermore, by debating the answers through phpbb the deliberations are available to future visitors to the site. A visitor can search through past questions and answers.

Finally, phpbb allows each user to include information about themselves. This pleases experts because each can include information about their work.

Dr Digitalis recruited colleagues in China, Toronto and California to share the load of answering the questions. Their geographical spread ensured that there would be at least one expert available to answer questions at any time.

Whoever sets up a phpbb site becomes its Administrator. This allows controlling the functioning of the site.

For example, at the start Dr Digitalis only allowed registered users to see the questions and answers and only allowed users to register after she had seen the details on their application forms. She wanted to restrict questions to those from UK doctors, so she would contact each of the applicants to ask for their General Medical Council (GMC) number. This would provide a safe environment for clinicians to discuss questions amongst themselves and maintain patient confidentiality.

However, there were several problems with this stringency. First, phpbb is a good system but it is designed for ease of use, not security. Quite simply, Dr Digitalis understood that she did not understand enough about security to provide the site's users with guarantees of confidentiality.

Furthermore, many UK doctors bristled at the registration requirement, assuming that Dr Digitalis wanted to send them junk mail. And applicants without a UK GMC number

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would be excluded. This meant that the international experts she had recruited would be deprived of local clients and patient referrals. In fact the restrictions on reading the discussion meant that Google and other search engines could not index the site, depriving the experts of a particularly significant source of clients: patients searching Google.

Finally, it was simply too much work to look at every single applicant's details.

Dr Digitalis switched to a more relaxed approach. She allowed anyone to read any of the pages. She also allowed anyone to register and to include as few details as they wanted to on registration, but registration was still necessary to contribute questions or answers. That way search engines and casual readers could access the site while a little more commitment was necessary to contribute.

Another administrative task is to organise a site's discussion. Dr Digitalis created topics and subtopics to help someone browsing through the site's past discussions. For example, she created the "Consultations" topic for general questions about patient problems that could benefit from acupuncture, while the "UK", "China" and "Canada" topics dealt with country-specific questions.

The organisation of phpbb also allowed her to devote some topic areas to issues that would concern her experts. She chose to restrict the access to one area so that only the colleagues that she had recruited could read its contents and add to them.

This allowed for reasonably confidential discussions amongst her team. Most of these discussions centred about the occasional registered user who was abusing the forum. She would debate with her colleagues how to deal with the behaviour. When appropriate, Dr Digitalis could bar that

user from using the site and remove any inappropriate contributions they had made.

In time she began to entrust her colleagues with more responsibility on the site, upgrading their administration privileges. This reduced the drain on her time from managing the site. It also increased the commitment of her colleagues as their profiles showed their new status.

Ms Yates uses the Mambo content management system



A Content Management System (CMS) allows easy adding to and updating of a website's content. Several are available from SiteGround's Fantastico including Mambo (www.mambosource.com).

Authors like Mambo because its editing interface is similar to a word processor's (see Figure 30). However, it still runs inside a web browser like Firefox or Internet Explorer. This means the authors can do their writing on any computer that is connected to the internet. You can write while at work, at a friend's computer, or in an internet café while on holiday.

Website administrators like Mambo because it is so flexible. Someone with a little programming knowledge can change every aspect of the website's appearance. There are also hundreds of extensions available at www.mamboforge.net. These add features to your website like discussion boards, group calendars and shopping catalogues.

Ms Yates installed Mambo for her company website. She searched Google for “mambo templates” to find ready-made designs for the site. She found several available free of

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charge but paid \$20 for a professional design from www.template-museum.com. Customizing it was far easier than creating a template from scratch.

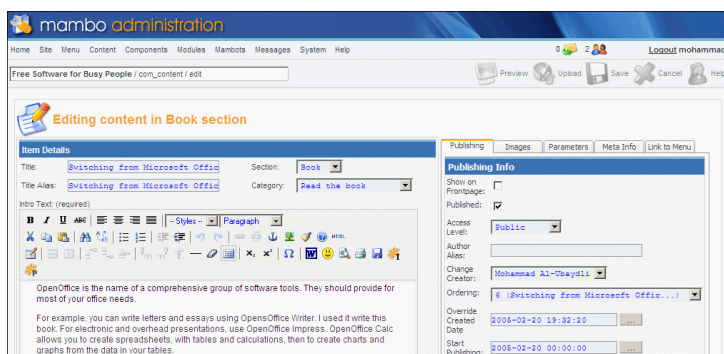


Figure 30: Mambo's content editing has a familiar word processing interface but runs inside a web browser

Of course the site lacked content. Ms Yates already had several OpenOffice.org documents with the text that she needed. She was able to Copy and Paste the text into her Mambo pages.

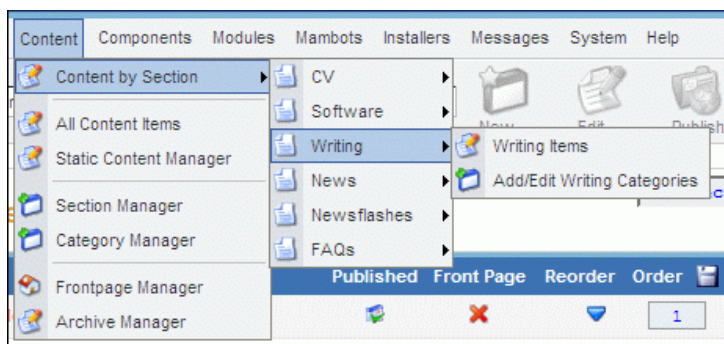


Figure 31: Mambo content is organised in Sections, which in turn contain Categories

She installed mambo-shop⁵³ to manage her shop. This allowed her to handle different products, currencies, shipping rates, taxes and payment methods. For the latter she chose PayPal and WorldPay.

Mr Salah Al-Din's students use a Wiki to collaborate in writing



Wikis are websites designed for easy collaboration on content. The Wikipedia, at www.wikipedia.org, is a great example of this tool in action. The site provides free access to encyclopaedias in different languages. Each encyclopaedia was written by hundreds of authors around the world. Each author picks a topic about which they have an expertise then they write about it.

The twist is the peer review. Anyone can edit any of the articles. This sounds like a recipe for chaos but the outcome, in this case, is scholarly accuracy: if anyone writes an extreme view, other authors with opposing extreme views alter the page. This can lead to a back-and-forth of editing and counter-editing, but soon the parties settle down on objective accuracy, reporting only the facts that cannot be disputed and ensuring that all the facts are included.

Mr Salah Al-Din used a wiki to help teach his class about the Bahraini Constitution. In 2002 Bahrainis voted overwhelmingly in favour of the new Constitution⁵⁴, based on the one that had been suspended in 1975. Mr Salah Al-Din wanted to help his students understand the document

53 <http://mamboforge.net/projects/mambo-phshop/>

54 www.bahrain.gov.bh/pdfs/constitution.pdf

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and its political significance.

There are many different types of Wiki software. Mr Salah Al-Din chose DokuWiki because its emphasis was on easy documentation creation with a clean design (<http://wiki.splitbrain.org/wiki:dokuwiki>). The software has its own database as a text file, meaning that installation is quick and easy. He uploaded the files to his server, changed the access rules for some of the files as described in the instructions and the system began working.

Security features were not so good, but this did not matter in this case as the DokuWiki would only be reachable by computers on the school's network, not by internet users outside the network.

He divided his students into teams. Each team would be in charge of one part of the constitution. Writing this in a DokuWiki is easy. Each student would create a page by typing its address in the web browser. For example, to create the overview page they would type in `doku.php?id=overview` while to create the page about Section 2 Article 3 of the constitution they would type in `doku.php?id=section2article3`. They made sure that the overview page listed all the pages in the site and provided links to them so that a visitor could browse the constitution.

The next stage was what excited Mr Salah Al-Din the most. He asked each of the teams to compare the Bahraini Constitution with that of another country. Then the teams would write their thoughts in these comparisons. For example, the Bahraini Constitution states that Islam is the religion of Bahrain, that all citizens are entitled to education and healthcare and that the head of state would be a member of the royal family chosen through heredity. These features were in stark contrast to the US Constitution.

After each team had written their comparison and commentary he asked them to read and edit the efforts of every other group. Of course this led to lively debates amongst the students, exactly as Mr Salah Al-Din wanted. The school was developing a reputation for teaching civic leadership.

Mrs Shrub uses CivicSpace for her campaign



Mrs Shrub's campaign team members were putting CivicSpace to great use. The software's installation is easy and includes step-by-step instructions to explain the various available options. The team chose to use the site as a political action platform which would allow them to manage spreading information to the voters about the campaign.

Two alternatives are also available. The first, a Slashdot-style community site, mimics the features of www.slashdot.org. That site, itself a Free Software project, is great for discussions between participants but terrible for spreading information in the top-down manner that campaigns depend on. The second, a personal website or blog, was a possibility for Mrs Shrub. However, it lacks the other features that would have helped coordinate her campaign.

These include:

- Forum topics to allow discussions amongst voters, activists and campaign staff. In the early stages campaign staff used these to coordinate their efforts with activists and consult them on the messages with which to reach out to the voters. In later stages the staff actively invited voters to pose their questions and comment on the

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answers.

- Polls to help quantify opinions. Of course the data is not scientific or statistically representative, but visitors to the site enjoyed taking part in topical surveys.
- The story feature allows writing lengthy articles.
- The mass mailer streamlines the sending of email messages to different groups.

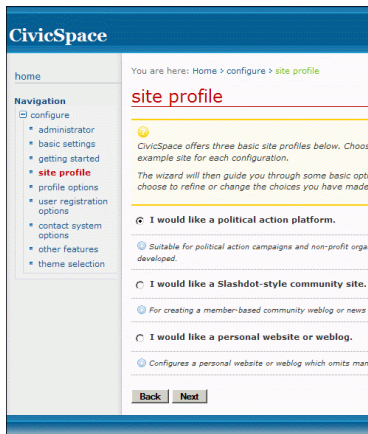


Figure 32: Installation screen for CivicSpace

M. Braille uses Claroline to run courses



Apache is the webserver software behind most websites and MySQL is open source database software that powers an increasing number of them. Both have proven their stability.

The latest computer that M. Braille received from the GNU/Linux User Group ran Apache and MySQL.

M. Braille did not understand how to use these but he did not need to – once installed, M. Braille could just add the computer to the network in his school and the software would just work.

Because the network did not have access to the outside internet M. Braille did not have to worry about security – the only threat was attack from inside the network and that would only come from the school children.

The computer also included Claroline (www.claroline.net), which is software for administering an educational institution .

When M. Braille logged in to his computer's Claroline site he was presented with the view of a course teacher. He could create as many courses as he wanted. For each course he could write educational material and design exercises and tests. He could also determine who had access to each course.

Claroline allows the monitoring of which student had gone through which educational materials and exercises and their scores on the tests. M. Braille could impose time limits for the tests and weightings for the questions.

If M. Braille had wanted, he could have run a university using this computer. In fact, France's Université de Nantes, Britain's University of Glasgow, America's University of Pittsburgh and over 350 other organisations from over 55 countries around the world are using Claroline to deliver their education to students.

But his ambitions were more modest. He wanted to provide education to more of the parents of students in the village by using his limited computer resources. He made five computers and one assistant available to the parents of students so that they could access his Claroline-powered

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website.

Thanks to the testing modules he could also provide certificates for the parents as they learnt more and completed harder tasks. The service was modest but it made a difference to the parents and added to their pride. And he also knew that educated parents can better support the education of their children.

Of course the key was providing useful courses and M. Braille greatly enjoyed writing these. But he did not have to do all the writing – teaching materials are free at Creative Commons (www.creativecommons.org).

The organisation allows creators around the world to make their intellectual property available to others according to each creator's individual preferences. The education section provides lesson plans that are freely available (www.creativecommons.org/education) for reuse and customisation. In time he would be visiting Creative Commons to make his own creations available to others (www.creativecommons.org/license/). But for now his students would be the beneficiaries of his teaching.

Mr Big uses dotProject for project management



Microsoft Project is designed to help with managing projects. It can keep track of the tasks for the project, the people carrying them out and the progress of the project. For the latter, the software automatically creates Gantt charts⁵⁵ to provide a visual

55 Invented by the mechanical engineer Henry Laurence Gantt (1861-1919), Gantt charts were used on large construction projects like the Hoover Dam, started in 1931 and the interstate

representation.

The problem with all versions before Microsoft Project 2003 is collaboration. Only one person can enter information into the file at a time, which usually means that one person becomes in charge of entering all the information. That person must keep track of all the employees on the project, as well as document their progress on all of the tasks.

Microsoft Project 2003 helps solve this problem by providing a version that works on a server and a version that works on PCs. The server version keeps track of the information that the individual employees submit using the PC version on their own PCs. However, the server itself costs \$1,499 and then there is the cost of upgrading to the latest PC version.

Mr Big is a fan of Microsoft Project, regularly using the older PC version and insisting that his immediate employees also use it, but this pricing was too high.

So dotProject (www.dotproject.net) seemed like the perfect solution. It is a Free Software project management server and its interface is accessible through any web browser.

Once installed each user can create as many projects as they need to manage. For each project they can collaborate with as many users as necessary. Each user in a project can enter information about the tasks they are responsible for, including their costs, expected duration and progress so far. The person managing the project no longer has to enter this information but still gets to see it, including the overview provided by Gantt charts that dotProject generates.

DotProject allows storage of files. The team can collaborate on these files, amending project proposals in OpenOffice.org Writer and presentations in OpenOffice.org Impress. The

highway network, started in 1956.

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Record Changes feature in OpenOffice.org keeps track of these amendments.

The creators of dotProject cared about integration, making sure that it worked well with other software. Most immediately Mr Big appreciated this because he could import his old Microsoft Project files into dotProject. The software also integrates into LDAP servers, meaning that Mr Big's employees could use the same passwords to log onto dotProject as they used to log on to their computers. Once logged in they could see the contact details of all their colleagues because these had been imported from the company's LDAP server. Similar tools are being developed to integrate dotProject with the Mambo content management system and with the SugarCRM sales force software.

The creators also provided support contracts. The software is quite stable and well tested but Mr Big insisted that dedicated support be available to his IT department in case there were any problems. He began with a US company (www.caseysoftware.com) and added a contract with the Australian company that had started the whole project (www.saki.com.au). A third company, based in Brazil, is also available. The time zones meant that the first two companies provided his staff with support around the clock.

Further resources

- Phpbb discussion board – www.phpbb.com
- Mambo CMS – www.mamboserver.com
- MamboForge – www.mamboforge.net
- Template Museum – www.templateuseum.com
- Wikipedia – www.wikipedia.org

- DokuWiki – <http://wiki.splitbrain.org/wiki:dokuwiki>
- Slashdot – www.slashdot.org
- Creative Commons – www.creativecommons.org
- Creative Commons Education – www.creativecommons.org/education
- Creative Commons License – www.creativecommons.org/license/
- dotProject – www.dotproject.net
- SugarCRM – www.sugarcrm.com
- Casey Software – www.caseysoftware.com
- Saki – www.saki.com.au

Part III

Getting serious with Free Software

Finding Free Software to suit your needs

According to Barry Schwartz's "The Paradox of Choice", choice can be a bad thing. If that is the case, then Free Software is very bad, because so many choices are available. It is, as a good friend of mine describes it, an embarrassment of riches.

This chapter will help you choose from these riches. It will teach you about some of the resources available and give some tips for finding and evaluating Free Software. The character examples highlight some of the best available software to get you started. By the end, I hope you will agree that choice is a wonderful thing.

Searching for software – let Google guide you

With the right words, you can find most Free Software through Google (www.google.com). Google is useful because its rankings are influenced by popularity – the more websites linked to a particular website, the more importance Google assigns to that website. This is usually a good indicator of how close software is to being the standard in its category.

For example, if you search for **web browser**, the top result on Google is Mozilla, with its open source software like Firefox and Thunderbird (see Figure 33).

However, not all examples are this simple. For most cases you will need to specify that you are interested in Free Software by adding **GPL** to your search. This refers to the GNU General Public License, which has

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the four freedoms of Free Software. For example, `cd rip gpl` shows Zlurp (www.zlurp.com), which allows you to copy your music CDs onto your computer.

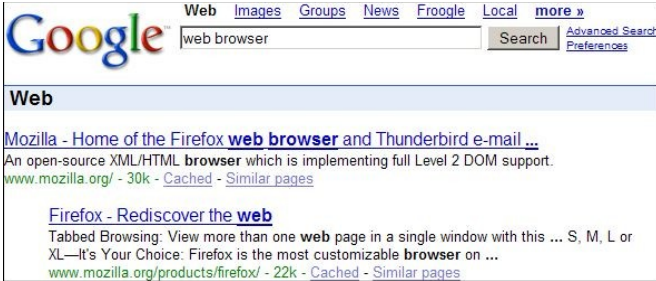


Figure 33: Mozilla's Firefox is the top result for web browser on Google

You can widen your search a little by using `open source` rather than `gpl`. Open source software is available free of charge and its source code is available for inspection and improvement. Free Software is an example of open source software, but the term open source is more commonly used on Google.

This is why Google shows Audacity as the top result (<http://audacity.sourceforge.net/>) for the search `sound editor open source`.

So far we have used search terms that accurately describe the software, but sometimes you will not know the correct description. It helps to use the name of a popular commercial alternative. For example, `word open source` shows OpenOffice.org on Google.

Finally, you will not always get software as the top result on Google. Instead you might more usefully get an article guiding you through your options. For example, `photoshop`

open source shows a NewsForge article⁵⁶ describing alternatives to the image editor Adobe Photoshop. These include GIMP, which is described in more detail in M. Braille's example on page 135.

Friends, family and forums

Of course, you do not have to accept Google's judgement of the most popular software. Often, choosing the same software as the one that your friends and family members are using is better. This way you can ask them for help when you are learning how to use the software and exchanging files is easier. You will also be able to ask for their opinion of the software's strengths and weaknesses.

Finally, contact your local GNU/Linux User Group. GNU/Linux is a Free Software operating system, an alternative to Microsoft Windows that is discussed in the next chapter. Enthusiasts in these user groups provide useful advice, training and support with Free Software. Attendance at their sessions is almost always free and the details of your nearest group will probably be available at www.linux.org/groups/.

Downloading the software

Once you find software that you think you will use, you can download and install it for your computer. There are three points to look out for: the version number of the software, its download location and whether or not the file is zipped.

The version number

The version number of the software tells you how recent the

⁵⁶ <http://www.newsforge.com/article.pl?sid=04/07/19/214206>

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version is. For example, OpenOffice.org 2.0 is more recent version than 1.1.4, which is in turn more recent than 1.1.3. Usually you will want the latest version because it has the most features and the fewest bugs, but there are two exceptions.

First, you might want an older version if you have an older computer. This is because the fewer features of the older version make fewer demands on your computer, which is important if the computer is old and therefore less powerful.

Second, the words “beta” or “alpha” next to a version number indicate that it is still under testing. This means you can get early access to the new features but that the bugs have not been fully removed yet. For example, Mozilla Firefox 1.1 alpha should only be downloaded by programmers because it is so experimental, while Firefox 1.1 beta is probably stable enough for most users to take advantage of the new features. However, if you are using your computer for critical work, or if reliability matters to you more than features, you should only download Firefox 1.0 today, or Firefox 1.1 when it is finally available.

Download location

Because Free Software is so popular and because downloads make considerable demands on the websites making them available, creators of Free Software share the load with partners around the world. To download the software you must pick one of these partners to get a copy.

For example, OpenOffice.org is available through universities (such as Brazil’s Pontificia Universidade Católica do Paraná) and internet service providers (such as Australia’s Pacific Internet) around the world. The list is shown to you when you click the download link on

Finding Free Software to suit your needs

OpenOffice.org's website (see Figure 34).

Any of the sites is suitable, but it is often faster to choose the one that is closest to you geographically. For example, if you are in Canada, choosing the US site will probably be more efficient than choosing the Australian one and choosing the Canadian one probably the most efficient.

Finally, because you are looking at the page using a web browser, make sure that you select the link next to **HTTP** rather than **FTP**.

OpenOffice.org 1.9.m104 (680_m104)			
Location	Type	URL	Connection
BitTorrent	P2P	http://distribution.openoffice.org/p2p/bittorrent/download.html	***
Australia	FTP	Pacific Internet	***
Australia	HTTP	Pacific Internet	***
Australia	FTP	Planet Mirror	***
Australia	HTTP	Planet Mirror	***
Austria	HTTP	Goodie Domain Service (Vienna Univ. of Tech.)	***
Austria	FTP	Goodie Domain Service (Vienna Univ. of Tech.)	***
Belgium	HTTP	Belnet	??
Belgium	FTP	KULeuvenNet	**
Belgium	HTTP	Scarlet	??
Brazil	FTP	Pontificia Universidade Católica do Paraná	***
Bulgaria	HTTP	Spectrum NET	***
Canada	HTTP	Cygnal	***
Canada	FTP	Cygnal	***
Canada	HTTP	GULUS	***
Denmark	HTTP	Dotsrc.org (formerly sunsite.dk)	***
Denmark	FTP	Dotsrc.org	***

Figure 34: you must choose the download site for OpenOffice.org

Unzipping software files

Software installers usually require several files. To save you the trouble of downloading each of these separately, programmers often combine the files into one. This is the case with OpenOffice.org. The combining is called

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compression, or zipping and you can tell this has been done because the file name ends in `.zip`.

When you download the file you must reverse the compression to recreate the original files. This is called unzipping.

If your computer is running Windows XP or Mac OS X it is already capable of unzipping⁵⁷. If not, 7-zip is Free Software that works on all versions of Windows and allows you to unzip (www.7-zip.org).

Incidentally, you can use 7-zip to zip your own files. This is useful for emailing several files together as one file; converting several large files into one file which is smaller than the total of the original file sizes; and for encrypting files so that their contents can only be accessed with the correct password.

57 <http://www.cod.edu/dept/tlc/TIPS/Zip-unzip.htm>

Examples

[Mrs Shrub uses FreeMind for mind maps](#) (see page 131)

[Dr Digitalis uses OpenEMR for her patients' medical records](#) (see page 133)

[M. Braille uses GIMP for drawings](#) (see page 135)

[Mr Big uses Gantt Project for project management](#) (see page 136)

[Ms Yates uses Plucker for her handheld computer](#) (see page 137)

[Mr Salah Al-Din plays games](#) (see page 139)

Mrs Shrub uses FreeMind for mind maps




A mind map is a great way to show complex information. The most important point is largest and at the centre of the page. Its subsidiary points appear as smaller branches and sub-branches. Using colours and pictures provides vivid learning for the brain (see Figure 36).

I greatly benefited from this method during medical school because it allowed me to understand and remember the lectures.

Mind maps (www.mind-map.com) were invented by Tony Buzan in the 1960s and since then millions of students, businessmen and professionals have benefited from his techniques. If you have not read any of his books yet, your library will almost certainly contain one and it is well worth learning more.

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The screenshot shows the SourceForge.net download server interface. At the top, it says "SOURCEFORGE.NET" and "DOWNLOAD SERVER". Below that, it states "You are requesting file: /freemind/FreeMind-Windows-Installer-0_7_1.exe" and "Please select a mirror". A table lists five mirrors with columns for Host, Location, Continent, and Download size (750 kb).



Host	Location	Continent	Download
 OVH.com	Paris, France	Europe	 750 kb
 HEAnet	Dublin, Ireland	Europe	 750 kb
 JAIST 北陸 先端科学技術大学院大学	Ishikawa, Japan	Asia	 750 kb
 INTERNAP The Internet Performance Company	Atlanta, GA	North America	 750 kb
 UNIVERSITY OF KENT UKMIRROR service	Kent, UK	Europe	 750 kb

Figure 35: choosing the download site for the Windows version of FreeMind mind mapping software

Mrs Shrub liked to use mind maps because of the number of policy reports and data that came to her desk every day. She made mind maps of the important reports so that she could refer to them later.

Searching for mind maps gpl she found FreeMind (<http://freemind.sourceforge.net/>), which she downloaded from the UK's University of Kent (see Figure 35). Like OpenOffice.org, it required the latest version of Java to run (<http://java.sun.com/j2se/index.jsp>).

FreeMind is designed for speed. Pressing the Insert key creates a new sub-branch, while pressing the Enter key creates a branch of the same thickness (see Figure 36). Mrs Shrub could quickly create an outline of the points in any document she was reading.

The left hand side contains icons that you can add to each branch, or you can add your own pictures and diagrams using the Set Image command. Finally, the Export to HTML command creates webpages out of mind maps.

Finding Free Software to suit your needs

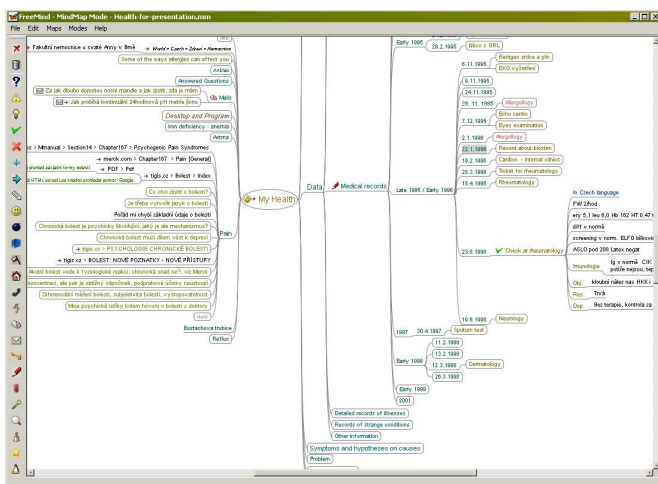


Figure 36: FreeMind creates mind maps

Dr Digitalis uses OpenEMR for her patients' medical records



There are several open source tools for storing medical records. One of the most widely used is the Veterans Health Information Systems and Technology Architecture (VistA).

Created by and for the US Department of Veterans Affairs, the software contains the medical records of millions of US military veterans and their families (www.worldvista.org). This means it is probably the most popular medical records software in the world. Because it is available in the public domain it is also used outside the USA, including in the Berlin Heart Institute of Germany and the National Cancer Institute of Cairo University in Egypt.

However, setting up the software requires considerable

Free Software for Busy People

expertise and maintaining it requires access to an IT department. This meant it was not suitable for the small practice of Dr Digitalis.

For her, OpenEMR (www.openemr.net) was more appropriate. Its code is available as Free Software and an experienced computer professional can install it onto a website within one hour.

Once running, OpenEMR is available through any web browser software on any computer connected to the internet. This included the tablet computer of which Dr Digitalis had grown fond.

With the right username and password you can create different user accounts for your team members. Through the website a clinician can enter information about a patient's problem, examination findings and test results. The clinician can also prescribe medications and print off the prescription.

OpenEMR is fully HIPAA-compliant. This means that it conforms to the US legislation on the security and portability of medical records. Its billing modules work with US health insurance clearing houses like ProxyMed and Zirmed.

More importantly for Dr Digitalis, several companies sell products and support to ease installation and maintenance. For example, for \$300 Synitech sells a portable hard disk with the software already installed (www.synitech.com). The patient records are stored encrypted on the hard disk and this can be locked at night. And because it is portable, Dr Digitalis could carry it home if she wanted to access her patient records there.

In the end, she chose the services of the Pennington Firm (www.pennfirm.com). For an annual fee they provide a website running OpenEMR through which she could access her patients' records. They make regular backups of the

patient data. They also implemented several extra security measures such as restricting access to the website so that only computers in her clinic or home could view the patient records. This meant that Dr Digitalis could stop worrying about backups and security and just concentrate on using the software to support the care of her patients.

M. Braille uses GIMP for drawings



The GNU Image Manipulation Program (GIMP – www.gimp.org) allows you to create and edit images. Its features match those of Adobe’s Photoshop, including layers, masking, blending, toning, image maps and scripting.

These features make it well suited to professionals, but M. Braille’s students also wasted no time in putting it to use.

Because it is such a well established tool, many books have been written about it. The GIMP website lists these, including the French book “(A la) SOS GIMP”⁵⁸. Its entire text is available free online (www.le-radar.com), as is the text of the English book “Grokking the GIMP”⁵⁹.

The site also included several useful tutorials for beginners (www.gimp.org/tutorials/). The children used these and were soon editing their family pictures for the school’s website.

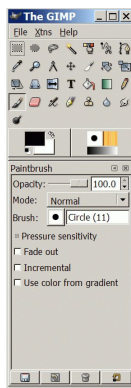


Figure 37:
The GIMP

58 “[A la] SOS GIMP” by Cédric Gemy. 2005. ISBN 2952170312.

59 “Grokking the GIMP” by Carey Bunks. Pearson Education 2000. ISBN 0735709246.

In trained hands, the GIMP is a speedy tool because it has many keyboard shortcuts. Pressing a series of shortcuts is faster than clicking the menu items using the mouse. The more experience the students gained, the more they wanted to memorise these shortcuts. They were delighted when M. Braille bought a copy of “The GIMP Pocket Reference”⁶⁰.

Mr Big uses Gantt Project for project management



Because it is web-based, dotProject does have a weakness: entering lots of information can be slow.

That is why Mr Big appreciated the ability to import Microsoft Project files. At the start of a project he could enter lots of preliminary details quickly using Microsoft Project then import the file into dotProject. Collaborating with the rest of the team on finalising the details was faster with dotProject.

Better still, dotProject can import Gantt Project files (<http://ganttproject.sourceforge.net/>). Like Microsoft Project this runs on a PC rather than a webserver so it is fast to enter data. It matches Microsoft Project for many features.

The software also works with FreeMind thanks to gan2mm (<http://ganttproject.sourceforge.net/extras.php>). This is one of the extra tools available and demonstrates an advantage of Free Software: because the code and files are transparent it is easy to create integrated tools.

And because it is free of charge Mr Big insisted that all his employees use the software. Combining it with dotProject

60 “[The GIMP Pocket Reference](#)” by Sven Neumann. O’Reilly & Associates 2000. ISBN 1565927311.

Finding Free Software to suit your needs

gave the staff powerful tools for planning and tracking their projects.

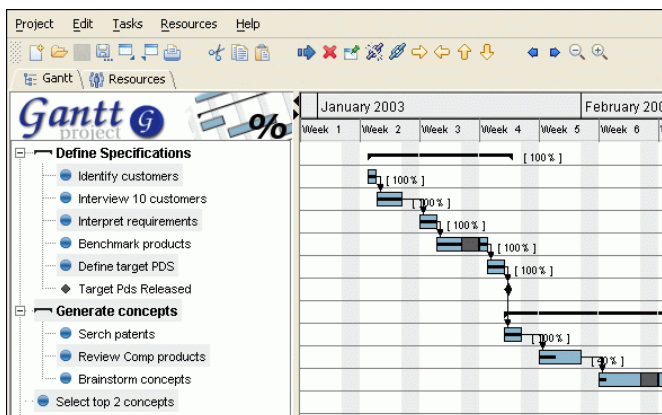


Figure 38: Gantt Project is similar to Microsoft Project

Ms Yates uses Plucker for her handheld computer



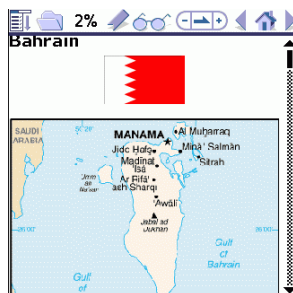
Plucker can make a copy of a website. This is useful if you want to look at the website later on without a connection to the internet.

The software comes in two parts: the distiller, which makes the copy and the viewer, which lets you look at it. The distiller is designed to work on a PC running Windows, GNU/Linux or Mac OS X operating systems. Although viewer versions are available for these PCs the most useful versions run on Palm Powered and Pocket PC handheld computers.

The Palm Powered version interested Ms Yates the most. She downloaded the [Plucker Desktop for Windows](#) from

Free Software for Busy People

www.plkr.org. This includes the distiller for her Windows PC and the viewer for her Palm Powered computer. The Pocket PC viewer is available at <http://vade-mecum.sourceforge.net/>.



Ms Yates used Plucker for news websites. Although handheld computer screens are small, the Plucker viewer adjusts the layout for comfortable reading. It was perfect for long trips. The battery on her handheld computer lasted much longer than her laptop's, allowing her to read the news while standing in line or waiting for her flight.

Plucker is also useful for reference websites. For example, the entire CIA World Factbook is available for download⁶¹ and Plucker can work on the downloaded webpages. Ms Yates loved learning about other countries through this.

Ms Yates also used Plucker to create copies of books from Project Gutenberg (www.gutenberg.org). The website has copies of books that are available in the public domain. She particularly enjoyed reading "Self Help"⁶², perhaps the first book in the self-help genre.

61 www.cia.gov/cia/download.html

62 "[Self Help: Conduct and Perseverance](#)" by Samuel Smiles. It was originally published in 1859, the same year as "On Liberty" by [John Stuart Mill](#) and "[On the Origin of Species](#)" by Charles Darwin.

The website www.palmopensource.com contains several other Free Software tools for handheld computers. Most of it is for Palm Powered devices, but the newer <http://ppc.palmopensource.com/> contains Pocket PC software as well. The sites include several serious business applications that helped Ms Yates with her work – but it was the game OpenChess that occupied her most (<http://palmopenchess.sourceforge.net/>).

Mr Salah Al-Din plays games



There are many Free Software games available, including the educational ones like Tux Typing produced by Tux4Kids (www.tux4kids.com).

One of the most comprehensive listing is the Games / Entertainment category⁶³ of www.sourceforge.net. The students used this to find a Free Software version of the Risk (<http://jrisk.sourceforge.net/>) board game.

Many of the multiplayer games can be played through a computer network. To start a game, one student would designate his computer as a game server and the other students would use their computers to connect to it. All the students connected to the server would be able to play the same game together.

Some games, like FreeCiv (www.freeciv.org), make public servers available (<http://pubserver.freeciv.org/>). This allowed the students to play from their home computers with their friends from around the world. But it was Mr Salah Al-Din that played the most. The game is a Free Software version of Sid Meier's classic game, Civilization, which is wonderful

63 www.sourceforge.net/softwaremap/trove_list.php?form_cat=80

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for teaching history. As the game progresses the player builds cities of increasing sophistication and develops technologies and military units.

Finally, there are plenty of Free Software games that offer original gameplay rather than copying existing commercial games. But many of these are only available for the GNU/Linux operating system, with no Microsoft Windows version available. The students began asking Mr Salah Al-Din for copies of GNU/Linux.

Further resources

- Google – www.google.com
- Zlurp – www.zlurp.com
- Audacity – <http://audacity.sourceforge.net/>
- Guide to Adobe Photoshop alternatives – <http://www.newsforge.com/article.pl?sid=04/07/19/214206>
- GNU/Linux User Groups – www.linux.org/groups/
- Guide to unzipping on Windows – <http://www.cod.edu/dept/tlc/TIPS/Zip-unzip.htm>
- 7-zip – www.7-zip.org
- Mind maps – www.mind-map.com
- FreeMind – <http://freemind.sourceforge.net/>
- Java – <http://java.sun.com/j2se/index.jsp>
- VISTA – www.worldvista.org
- Synitech – www.synitech.com
- Pennington Firm – www.pennfirm.com

Finding Free Software to suit your needs

- GIMP – www.gimp.org
- “[A la] SOS GIMP” by Cédric Gemy. 2005. ISBN 2952170312.
- “Grokking the GIMP” by Carey Bunks. Pearson Education 2000. ISBN 0735709246.
- “The GIMP Pocket Reference” by Sven Neumann. O'Reilly & Associates 2000. ISBN 1565927311.
- GanttProject – <http://ganttproject.sourceforge.net/>
- Gantt Project extras – <http://ganttproject.sourceforge.net/extras.php>
- Plucker, including distiller for Windows and viewer for Palm Powered handheld computers – www.plkr.org
- Vade Mecum Plucker viewer for Pocket PCs – <http://vade-mecum.sourceforge.net/>
- CIA World Factbook – <http://www.cia.gov/cia/download.html>
- “Self Help; Conduct and Perseverance” by Samuel Smiles. Project Gutenberg provides the text at <http://www.gutenberg.org/etext/935>
- <http://palmopenchess.sourceforge.net/>
- Tux4Kids – www.tux4kids.com
- SourceForge – www.sourceforge.net
- SourceForge Games / Entertainment – www.sourceforge.net/softwaremap/trove_list.php?form_cat=80
- Risk – <http://jrisk.sourceforge.net/>
- FreeCiv – www.freeciv.org

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- FreeCiv public server – <http://pubserver.freeciv.org/>

Go all the way with GNU/Linux operating system

On January 6th 2005, Bill Gates's computer crashed, again. Embarrassingly this happened while he was giving the keynote speech at the International Consumer Electronics Show in Las Vegas. Even if Mr Gates had been using OpenOffice.org Impress rather than Microsoft PowerPoint his presentation would still have had an unnecessarily high chance of crashing because his computer was running Windows. As you read this chapter there may well be another news story about a bug or virus that is threatening Windows users.

It does not have to be this way.

GNU/Linux is good

So far most of the Free Software tools in this book run on Microsoft's Windows and Apple's Mac OS X operating systems. I chose these tools because you can experience the advantages of Free Software without having to change your habits.

But a Free Software operating system does exist and it is called GNU/Linux. In fact it is the jewel in the Free Software crown: secure, high quality, tested software that enterprises depend on for their most critical computing tasks.

All the Free Software described so far is available in versions that run on GNU/Linux. There are also some great examples that only run on GNU/Linux, with no Windows versions available. For example, GnuCash is

respected accounting software (www.gnucash.org). Scribus has impressive desktop publishing capabilities for designing posters, brochures and books (www.scribus.org.uk). Evolution (www.gnome.org/projects/evolution/) has the features of Microsoft Outlook, including a calendar and address book. It also has Microsoft Exchange compatibility, without the security risks and viruses of Outlook.

As operating systems go, GNU/Linux is rather efficient. It runs quickly even on computers that may be running too slowly with Microsoft Windows. Many users begin their switch to GNU/Linux by installing it onto an old computer that is no longer coping with Windows.

GNU/Linux is also more secure. The HoneyNet Project's (www.honeynet.org) researchers regularly test operating systems for their ability to withstand attacks from the internet. Their January 2005 report⁶⁴ showed that PCs running unmodified GNU/Linux lasted an average of three months before being hacked. The average time for PCs running unmodified Windows was measured in minutes.

GNU/Linux is not for beginners

There are some caveats. Not all the software that is available in a Windows version is also available for GNU/Linux. This is changing as more software is developed for the expanding market of GNU/Linux users.

You might still find that one or two applications you depend on are only available for Windows.

There are two ways around this. The easiest is to find alternative software designed for GNU/Linux. For example, Evolution has similar features to Microsoft Outlook and its

64 <http://www.honeynet.org/papers/trends/life-linux.pdf>

Go all the way with GNU/Linux operating system

interface will be familiar to anyone who is used to Outlook's. The software is also compatible with Microsoft Exchange, meaning that your GNU/Linux machine fits perfectly well into a network of Windows machines.

Alternatively, for specialised applications with no GNU/Linux alternative, you can use emulator software. This allows your GNU/Linux machine to act like Windows for the purposes of running your Windows software. One of the most popular emulators is called Wine (www.winehq.com) and it is quite usable for most Windows software.

The other caveat is more significant: GNU/Linux works in a different way to Windows. On the one hand, this is a good thing; it is how you can avoid the crashes and security problems of Windows. On the other, this will mean a period of unfamiliarity at the start.

In the past few years, one welcome development has been a dramatic improvement in the GNU/Linux user interface. Newer versions of the software are more user-friendly and some versions have tried to mimic the Windows interface, making the switch less painful.

But it is not painless. **You should only install GNU/Linux if you are a computer expert, or if you have the help of a computer expert.** For a start, the expertise is necessary to choose between the different versions.

There are many versions of GNU/Linux

There are different versions of GNU/Linux and the differences matter. Each of the versions, known as a distribution (www.linux.org/dist/), is maintained by one company or organisation. Each distribution focuses on a particular group of users. Making the right choice at the start will save you effort and ensure your needs are met.

Examples

[Mr Salah Al-Din experiments with Knoppix live CD](#) (page 146)

[Ms Yates chooses Linspire for ease of use](#) (page 147)

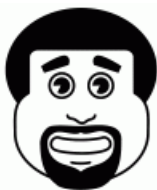
[M. Braille chooses Ubuntu for its international features](#) (page 150)

[Mrs Shrub chooses a Beowulf cluster for affordable and scalable computing power](#) (page 151)

[Dr Digitalis chooses Lycoris for her tablet PC](#) (page 153)

[Mr Big chooses Red Hat for support](#) (page 155)

Mr Salah Al-Din experiments with Knoppix live CD



A live CD is a safe way of trying GNU/Linux. Whenever you start up a computer with a live CD inserted the computer will run GNU/Linux. No software will be installed, instead the operating system will run from the CD.

If for any reason you decide you no longer want to use GNU/Linux, take out the CD and restart the computer. The computer will return to whatever state it was in before you used the CD. Your Windows installation and files will be untouched.

One of Mr Salah Al-Din's students gave him a live CD version of GNU/Linux Knoppix (www.knoppix.org). He tried it on an old computer and it ran well. The CD included Firefox, OpenOffice.org and other tools for class work.

Rather than installing it, Mr Salah Al-Din decided to make

copies of the CD for each of his classroom's computers. This way he would avoid the problems of Windows crashing in the classroom and of students making changes to the computers that he had to fix. All he had to do was restart the computer and the live CD would return to its original GNU/Linux state, ready for the next classroom.

He also made copies of the CD for other students to take home – Knoppix included several games that they had been asking for.

Ms Yates chooses Linspire for ease of use



Linspire (www.linspire.com) is one of the easiest versions of GNU/Linux to use. When Ms Yates decided to switch she found it at her local Staples store. The Value Bundle includes a CD and a one year subscription.

She switched because she could not restart her Windows computer. She did not know why and the computer support representative did not know why either. The representative could only suggest using the recovery CD that had come with the computer.

Sadly, “recovery” was a misnomer. The CD would delete all the files on her computer and then install a new copy of Windows. She would have to install any other software that she wanted. And, she would only be able to reclaim her files because she had been regularly backing up her computer, making weekly copies of her documents onto external hard disks.

Within half an hour of inserting the Linspire CD into her laptop computer, Ms Yates was browsing the web through

Free Software for Busy People

her broadband connection. The software looked as familiar and easy to use as Microsoft Windows (see Figure 39).

However, in some ways Linspire was even easier to use. The one year membership meant she could take advantage of the Click-N-Run (CNR) Warehouse. This gave her access to thousands of software applications. She would select the ones she wanted to install and CNR would take care of the rest.

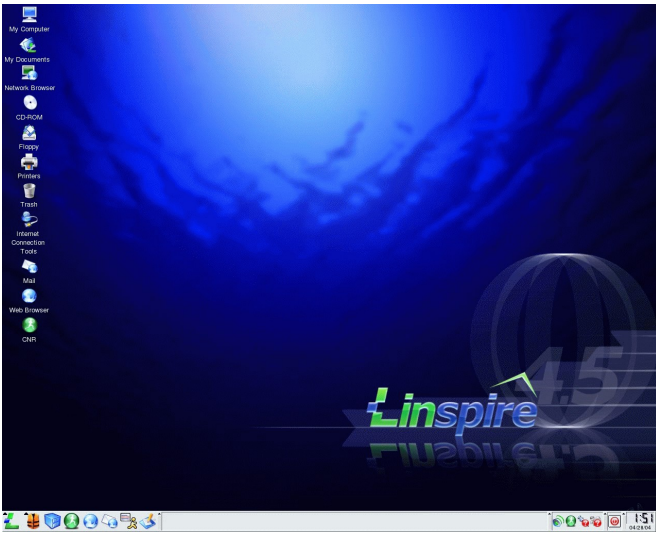


Figure 39: Linspire has a friendly and familiar user interface

Half an hour later, she had installed the latest versions of OpenOffice.org, Firefox, Thunderbird and GIMP. She also found new software like Evolution, which was more powerful than Thunderbird and GnuCash, which seemed promising as an alternative to Quasar Accounting. In the end, however, she stuck to Quasar because she wanted to use her prior accounting files and Thunderbird because she was

Go all the way with GNU/Linux operating system

used to it.

Browsing the CNR Warehouse is particularly useful because it is well organised into categories and the software tools in each category are ranked by popularity. In this way Ms Yates identified many software tools of which she was not aware.

These included project management tools like Planner (www.imendio.com/projects/planner/) which allowed her to draw a Gantt chart for the next phase of her marketing plan. But it also included plenty of home and educational software that her children would enjoy.

The children would not need her laptop to use the software because she could install Linspire on all her home machines. Within another hour she had installed Linspire on her family desktop PC and used her CNR account on that PC to get more software.

That PC still had Windows installed, but Linspire coexisted happily with it. In time the children preferred the Linspire machine because it included software to manage their digital camera's photographs (<http://info.linspire.com/lphoto/>) and to organise the music (<http://info.linspire.com/lsongs/>) from their CD collection.

To protect them on the internet Ms Yates bought a one-year subscription to SurfSafe. This service prevents family computers from accessing adult-only websites (www.linspire.com/surf_safe_info.php).

In time, Ms Yates would feel safe enough to delete Windows from that PC. For now, she felt comfortable with the security and stability that Linspire's GNU/Linux technology gave her laptop.

M. Braille chooses Ubuntu for its international features



Ubuntu has excellent support for different languages, particularly African ones such as Swahili. This is a language supported by OpenOffice.org but not Microsoft Office.

M. Braille first heard about Ubuntu GNU/Linux while on a trip to Kenya, where another school there was already using it.

Ubuntu GNU/Linux solved another problem that M. Braille was facing: donated PCs with Microsoft Windows 98. Because Microsoft had stopped supporting Windows 98, he could not get security updates to ensure the safety of the machines when browsing the internet. Ubuntu can run on these machines and includes excellent security.

Installing Ubuntu (www.ubuntulinux.org) is easy. M. Braille copied an installation CD from the Kenyan school and inserted it into each of his PCs. The Ubuntu website also provides free CDs and covers the costs of delivery (<http://shipit.ubuntulinux.org/>).

The CD automatically detected the different hardware and configured it to access the network. It also installed several common software packages including OpenOffice.org, Firefox, Evolution and GIMP – everything a school PC needs.

The students liked the interface because it was colourful and simple to use (see Figure 38). M. Braille liked it because it placed strict limits on what changes the students could make to the settings.

M. Braille decided to use Ubuntu even on PCs that came with later versions of Windows.

Go all the way with GNU/Linux operating system

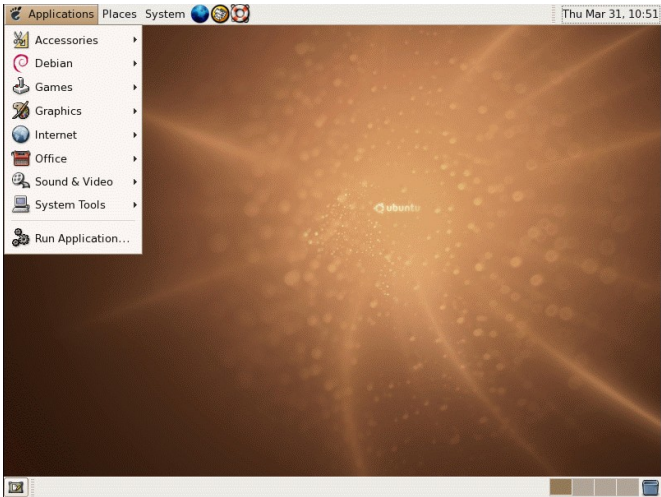


Figure 40: Ubuntu is perfect for schools

Mrs Shrub chooses a Beowulf cluster for affordable and scalable computing power



Mrs Shrub instructed her computer officer to lay out a plan for switching to GNU/Linux. The easiest starting point, he decided, was to switch the government's web servers to GNU/Linux.

The machines were currently running Windows as the operating system, MySQL as the database and PHP as the programming language. The same machines could have GNU/Linux installed on them, then use the same PHP code and MySQL database to serve the public.

But the new machines would function better because the team chose a Beowulf cluster (www.beowulf.org). This is

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the method used by Google and other organisations running websites with enormous demand because it allows affordable upgrading of computer resources to meet demand.

For example, when a citizen visits the London government website to pay off a parking ticket, he or she is assigned the least busy computer within the Beowulf cluster. The remainder of the citizen's visit is handled by that computer, from the explanations of the process of payment to checking with the citizen's credit card provider for availability of funds.

If any computer in the cluster breaks down, the cluster continues to work – albeit a little more slowly – with the remaining computers. When the failing computer is replaced, the cluster returns to its former speed.

The power of the system is that it has almost no diminishing returns. In other words, doubling the number of computers working in the cluster doubles the power of the cluster. It can handle twice as many visits by citizens, or handle the same number of visits in half the time.

By switching from Windows to GNU/Linux the computer team was able to switch their efforts from plugging the security holes and breaches of their servers, to improving their power and responsiveness to citizens' demands. The results for citizens were measurable and Mrs Shrub made sure that the measurements were publicised in time for the election.

However, the Beowulf version of GNU/Linux is not much use for government employees doing their daily work. It lacks the user-friendliness of Windows. In fact it lacks windows or any other familiar aspects of user interfaces that we take for granted today.

For those users, Mrs Shrub's team chose SuSE GNU/Linux

Go all the way with GNU/Linux operating system

(www.novell.com/linux/suse/). They found a London-based company that would provide help with the migration from Windows to GNU/Linux. It could also provide ongoing technical support. The SuSE distribution includes a user interface that is similar to Windows.

The switch would be more difficult than switching the servers to Beowolf or switching the employees to using OpenOffice.org. But again the computers would be faster, safer and more stable.

Dr Digitalis chooses Lycoris for her tablet PC



A tablet PC looks like a laptop but its screen can be turned and folded back onto the keyboard. The screen is also touch-sensitive. This design has been heavily marketed to clinicians. It promised the advantages of paper pads.

In reality, tablet PCs running Windows have several problems. First, their handwriting recognition is lacklustre and slow (particularly with the famously messy handwriting of doctors, but that is another matter). The battery life is also poor, not enough to last a full clinical day. Furthermore, the screen only responds to a special stylus, certainly not a finger or a pen.

When Dr Digitalis picked a tablet PC that ran GNU/Linux, she did so to avoid that last problem – she was able to write on her machine using whatever pointed object was available, be it the included stylus or even her finger. She particularly favoured TrueTip pen tops (www.truetip.com) because one end is a pen tip for writing on paper and the other is a plastic tip that worked on her tablet PC.

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The handwriting recognition was not brilliant, but at least it used the same alphabet as the one on her Palm Powered handheld computer, so she did not have to learn a new writing system.

Dr Digitalis and her patients loved the machine. At the beginning of each session with a patient, she would use the machine as a laptop. She could twist the screen to allow the patient to see some details that would be useful to them, like the response of their blood pressure to the new hypertension tablet. The end of the session would usually involve educating the patient, at which point she would switch to tablet mode. She used Firefox to show websites that the patient would find useful and Adobe Reader to read through educational documents before printing them off.

Printing and browsing were easy with the tablet because they mainly required tapping the icons on the screen. But prescriptions were also possible (and impressive to her patients) because they required only limited writing. Instead, most of the prescription involved selecting from different choices, such as the number of tablets per day or the number of days per prescription.

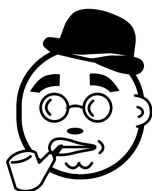
The tablet included Lycoris GNU/Linux (www.lycoris.com). This has tablet-friendly features such as switching between landscape display (for laptop mode) and portrait display (for tablet mode).

But it also shares two features with Linspire. First, its interface was reassuringly familiar to users of Windows and had similar ease of use. Second, it had the application installation features of Linspire, which allowed Dr Digitalis to browse easily for and install additional software. The mix and focus of the applications was less for the home user than the office professional, which suited the needs of Dr Digitalis.

Go all the way with GNU/Linux operating system

Not that Dr Digitalis did not use the tablet at home. The machine included wireless internet connectivity, which is what allowed Dr Digitalis to move freely with it from room to room in the clinic. Once she got used to browsing the internet in tablet mode, however, she could not resist using it in the same way at home. She could lie on the couch, glass of wine in one hand and TrueTip stylus in the other, reading the Guardian newspaper's site in portrait display. It was the perfect end to her day.

Mr Big switches to Red Hat for support



At the start of 2005 Microsoft announced that they would no longer support Windows NT 4. This meant that the company would not create any new security fixes for the software. Although the NT series of Windows was designed for security and was the basis of Windows XP's enhanced security, new security holes were found every week even in Windows XP. Without the fixes, the old NT 4.0 machines would become a greater risk every day as new problems were publicly announced but solutions remained unavailable.

The business opportunity of legacy NT 4.0 machines was not lost on GNU/Linux companies, many of whom bought advertising spots where CEOs like Mr Big would see them.

Around the world, many of Mr Big's hotel staff were still using machines that ran Windows NT 4.0 software. The machines were old, but they worked and replacing them would cost too much money.

One of the best companies doing this is Red Hat (www.redhat.com). Its Red Hat GNU/Linux distribution had become one of the most popular because of its focus on

Free Software for Busy People

making the switch between Windows and GNU/Linux as easy as possible – its installation software was clear and comforting, guiding the user through the steps and it installed software that Windows users found reassuringly familiar.

Now called Red Hat Fedora GNU/Linux, it is still available free of charge (<http://fedora.redhat.com/>). Books like “Red Hat Fedora 4: Unleashed”⁶⁵ include the software on a DVD and you can install it onto as many computers as you want.

More recently, Red Hat began focusing all its efforts on selling to large organisations, releasing Red Hat Enterprise GNU/Linux. For example, it created tools which would ease the installation onto multiple machines and assist the management of all these machines. Furthermore, its pricing and support contracts were scalable, allowing Mr Big's company to begin with the Windows NT machines and then ramp up their GNU/Linux installations to all of the company's computers. Mr Big's Chief Technology Officer liked this because it would allow him to “start low and go slow”, his favourite aphorism, and thus reduce the risk and pain of the switch. And Mr Big himself liked it because the costs were transparent, predictable and manageable. He could see where the money was going and what his company would get out of it.

In time, he would switch all the company's machines to GNU/Linux.

Further resources

- GnuCash – www.gnucash.org

⁶⁵ “[Red Hat Fedora 4 Unleashed](#)” by Paul Hudson, Andrew Hudson, Bill Ball, Hoyt Duff. Sams 2005. ISBN 0672327929.

Go all the way with GNU/Linux operating system

- Scribus – www.scribus.org.uk
- Evolution – www.gnome.org/projects/evolution
- HoneyNet Project – www.honeynet.org
- HoneyNet Project report on GNU/Linux security – <http://www.honeynet.org/papers/trends/life-linux.pdf>
- Wine – www.winehq.com
- GNU/Linux distributions – www.linux.org/dist/
- Knoppix – www.knoppix.org
- Linspire GNU/Linux – www.linspire.com
- Planner – www.imendio.com/projects/planner/
- Lphoto – <http://info.linspire.com/lphoto/>
- Lsongs – <http://info.linspire.com/lsongs/>
- SurfSafe – www.linspire.com/surf_safe_info.php
- Ubuntu GNU/Linux – www.ubuntulinux.org
- Ubuntu free CDs – <http://shipit.ubuntulinux.org/>
- Beowulf cluster – www.beowulf.org
- SuSE GNU/Linux – www.novell.com/linux/suse/
- TrueTip – www.truetip.com
- Lycoris GNU/Linux – www.lycoris.com
- Red Hat GNU/Linux – www.redhat.com
- Red Hat Fedora GNU/Linux – <http://fedora.redhat.com/>
- “[Red Hat Fedora 4 Unleashed](#)” by Paul Hudson, Andrew Hudson, Bill Ball, Hoyt Duff. Sams 2005. ISBN 0672327929.

How on earth can Free Software even exist?

“What is a cynic? A man who knows the price of everything and the value of nothing” Oscar Wilde, *Lady Windermere's Fan* (1892) Act 3.

During my childhood I learnt the value of freedom. I lived in several countries as my parents travelled to pursue their work and studies. These included Syria, a communist dictatorship, and Lebanon, a country that had been a free-market democracy before its tragic civil war.

Back then communism made sense to many people – the government would take responsibility for organising the economy to produce the goods that its citizens needed.

By contrast free markets seemed chaotic. How could the right goods be produced if there was no one to plan or take responsibility for their production?

But the fact is that they are produced, the system does work and it does so better than the central planning of communist countries. Understanding this helps us understand why Free Software is so important and successful.

Free markets and Free Software

What I learnt on my travels is the benefit that freedom brings to society.

In a free market, anyone has the freedom to try their hand at meeting customers' needs. With time, customers find that some companies are better than

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others for meeting these needs and so they focus their spending on those companies.

However, if one of the companies raises its prices or lowers the quality of its products, customers are able to redirect their spending to that company's competitors. This freedom means companies that mistreat their customers go bankrupt while those that treat them well grow richer.

More importantly, knowledge of this freedom means that companies understand that they must treat their customers well. Most companies in free market societies are constantly striving to deliver better products at lower prices for their customers.

This is particularly clear in the information technology industry – every 18 months, for over 40 years, the market's freedom has produced a doubling of computer power, with astonishing drops in costs. This phenomenon was described in a seminal paper⁶⁶ by Intel's Dr Gordon Moore back in 1965 and led to his eponymous law.

Computing power has been mirrored by software with rising features and dropping costs. Wherever there has been competition in IT, the customer has benefited. Conversely, wherever competition was lacking, the customer has suffered.

Free Software ensures competition – any developer is free to build on existing Free Software and extend its functionality. If this work does improve the software, anyone can benefit from the improvements by copying and using the extended software. Competition to make these improvements is fierce

66 “Cramming more components into integrated circuits”, Gordon E Moore. Electronics, Volume 38, Number 8, April 19th 1965. The original paper is available from Intel:
<ftp://download.intel.com/research/silicon/moorespaper.pdf>

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and as this book has described, the result has been an extraordinary variety of quality software.

Free speech and Free Software

My parents spent many years campaigning for the democratic rights of their fellow citizens in Bahrain. My generation is the first to benefit and in 2002 I was able to vote for the first time in my life. My generation is also a beneficiary of free speech, an essential right enshrined in numerous democracies' constitutions.

Free speech allows honest intelligent discussion of problems and their solutions. Without it, accountability collapses and corruption begins.

Free Software is built on such openness. The source code from which software programs are created is openly available for anyone to read and critique. This is why Free Software is often referred to as open source software. It is also why bugs in Free Software are spotted and fixed more quickly than in its closed source alternative.

For example, a study by Stanford University scientists that analysed GNU/Linux operating system's kernel source code found just 985 bugs in 5.7 million lines of code⁶⁷. That is just 0.17 bugs per 1,000 lines of code. Another study, of MySQL, found similarly low levels of bugs⁶⁸. By contrast, the industry average for closed code is 20 to 30 bugs for every 1,000 lines.

This could explain why bugs are found so often in Windows XP's 40 million lines of closed source code.

67 www.wired.com/news/linux/0,1411,66022,00.html

68 www.internetnews.com/security/article.php/3469631

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The principle extends to security. Bruce Schneier (www.schneier.com) is the celebrated author of several textbooks on security and the co-founder of Counterpane Internet Security, Inc. His book “Beyond Fear”⁶⁹ is well worth the read and discusses openness versus secrecy for security.

The secrecy of closed source software is bad for security. As Schneier explains the computer security world has long ago “learned that publishing security vulnerabilities is the only way to get software vendors to fix them. Before publication was the norm, vendors would routinely deny the existence of vulnerabilities and not bother fixing them... The risk, of course, is that attackers learn about the vulnerabilities and exploit them.”

In fact secrecy creates dangerous ignorance for the user. Taking the example of door locks described in his book there was “a vulnerability in a certain type of door lock that has existed for a hundred years or so”. Locksmiths and criminals knew about the vulnerability, but most customers did not and continued to buy the faulty locks.

Furthermore, the ignorance of users of closed software means that they will not demand better software. Finally, of course, secrecy in the name of security can be misused to hide the mistakes and malpractice of companies.

For all these reasons democratic societies benefit from openness and Free Software benefits from open source practices.

This explains why so many government and commercial security agencies have recommended against using the closed source Internet Explorer and in favour of the open

69 Pages 130-132 of “[Beyond Fear](#)” by Bruce Schneier. Springer 2003. ISBN 0387026207.

source Firefox⁷⁰.

Freedom isn't free

Just because Free Software is available free of charge to users and distributors, it does not mean that it cost nothing to create. Quite the contrary – it is the result of the labours of tens of thousands of software developers around the world requiring astonishing investments of time, effort and knowledge.

Such investments requires payment and the only reason they continue, and indeed increase, is that the payments continue and increase. There are several ways in which this happens.

1 – Programmers are funded by their institutions

The beginnings of Free Software rest with Richard Stallman (www.stallman.org), who created the GPL license and the Free Software Foundation (www.gnu.org).

He wrote software to solve a problem as part of his work for his employer. Working at MIT's Artificial Intelligence Laboratory in the 1970s he and colleagues used a printer that frequently broke down. However, because his team had the source code for the software connecting the printer to the computer they were able to write additional software that alerted them whenever the printer had broken down. This saved a lot of time for MIT's employees so was worth the initial investment in writing the software.

Around the world thousands of software developers are paid

70 For example, see www.washingtonpost.com/wp-dyn/articles/A5524-2004Jun25.html and www.theregister.co.uk/2004/09/13/german_ie_jitters/

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by their employers to fix bugs and add features to Free Software programs. Such investments are good for the employers because their immediate business problems are solved, but also good for the rest of us as the GPL license means that the solution has to be shared with other users.

2 – Software companies reduce their costs by sharing development with the Free Software community

Other companies save money on development costs by making their software available through the GPL license. For example, in 1999 America Online bought Netscape for around \$4 billion. Netscape made web browser software and AOL wanted to have an alternative to Microsoft's Internet Explorer. By creating the Mozilla Foundation and giving it the source code for Netscape's browser products AOL was able to ensure the continued development of the software for a relatively small investment of \$2 million over the first two years. Mozilla was then able to receive investments from Red Hat and Sun as well as the development efforts of software developers around the world.

The result has been the continued development of the Mozilla suite, as well as the creation of Firefox, Thunderbird and other software projects. AOL can now incorporate Mozilla's browser technology into its own products as a valid and highly cost-effective alternative to Internet Explorer.

Sun itself makes money from Free Software by providing technical support services. In 1999 it bought the StarOffice software company and then made the source code freely available in the form of OpenOffice.org. By making the source code available to the community Sun was also able to ensure continued high quality development of the software for a minimal investment of its own resources. On this

foundation it built and sold StarOffice which is essentially the OpenOffice.org suite with clipart libraries and technical support.

3 – Companies earn money from services

Companies like IBM make money by providing consulting and integration services. In the 1990s the company made a commitment to GNU/Linux as the operating system it would recommend to its clients because this would provide the value and power demanded by its corporate customers. These clients pay IBM to incorporate Free Software solutions into their computer networks and buy IBM hardware running this software. The transformation to this business model was described by its CEO Louis V. Gerstner in his surprisingly enjoyable book “Who Says Elephants Can't Dance?”⁷¹ and he credits it with billions of dollars in revenue streams for the company.

RedHat, another investor in the Mozilla Foundation, is one of the companies that makes money from distributing Free Software, mainly the GNU/Linux operating system. It focuses its efforts on large organisations, ensuring that system administrators can deploy GNU/Linux software as fast and securely as possible. By contrast, Linspire focuses on consumers, providing them with a version of GNU/Linux that is easy to use. Clients also pay a yearly subscription to have easy access to thousands of software applications which they can install through the internet.

71 “[Who Says Elephants Can't Dance? Inside IBM's Historic Turnaround](#)” by Louis V. Gerstner, Jr. HarperBusiness 2002. ISBN 0060523794.

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4 – Companies earn money from software development

Of course software development itself can be profitable. The most popular open source database, MYSQL (www.mysql.com), is made by a Swedish start-up of the same name. The software is freely available through the GPL license but the company makes its money from customers who want to be able to customise the software without making those customisations available to others. The company's clients include the Associated Press, Google, NASA, Sabre Holdings and Suzuki.

Many such Free Software start-ups are arising around the world. For example, Pennington Firm makes the OpenEMR (www.openemr.net) medical records software and sells installation and technical support. Octance Security (www.octane-security.com) extends existing Free Software like MailScanner (www.mailscanner.info) and SpamAssassin (<http://spamassassin.apache.org>) which it sells as security solutions.

The best of these companies will increase revenues and profits and their size may come to rival that of software giants like Microsoft, Oracle and Adobe.

5 – Money is not always necessary

It is worth pointing out the non-monetary methods of compensation. For many programmers, contributing to Free Software projects is a labour of love. The only payment that they ask for is attribution as they take pride in their name being attached to great software. Others use it as a way of building their skills and expertise. They can then use these for future employment and higher salaries.

6 – Governments support Free Software for national security

Governments have their own agendas on behalf of their citizens. For example, in the name of national security, the governments of China, South Korea and Japan announced that they would develop Asian GNU/Linux. This version of the GNU/Linux operating system would assuage concerns over the use of the Microsoft Windows operating system because the source would be open and transparent. Critical government computing infrastructure would not be in the hands of a single American software company.

Also in the interests of transparency the government of Brazil is considering developing Free Software in its electronic voting machines. Britain's taxpayer-funded BBC created Dirac video compression software to facilitate its public service mission of making its programmes freely available to the public. In the USA, funding for the government's National Institutes of Health (NIH) now includes the development of open source software to support biomedical research.

There are plenty of other reasons that investments in Free Software are made, but the result is the same: we all benefit from the advancement and availability of these tools.

Further resources

- “Cramming more components into integrated circuits”, Gordon E Moore. Electronics, Volume 38, Number 8, April 19, 1965.
<ftp://download.intel.com/research/silicon/moorespaper.pdf>
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- MailScanner – www.mailscanner.info
- SpamAssassin – <http://spamassassin.apache.org>

Giving back to the Free Software community

“The general tendency of monopolies is to make things dear, to make them scarce, and to make them bad.” — Thomas Babington Macaulay⁷²

I wrote this book for two reasons. First, because I take great pleasure and pride in teaching others how to benefit from technology. In writing “Handheld Computers for Doctors” I was able to teach clinicians how to make use of an affordable technology – handheld computers – to improve patient care. With this book I am able to teach an even wider audience about an even more affordable technology.

This chapter is about the second reason for writing this book. I want to explain to you why you should care about the health and development of the Free Software movement.

Yes, for many around the world, it is a movement. It is one with similar moral imperatives to movements to improve the environment, tackle poverty and uphold civil liberties. And it is one with political dimensions and challenges.

I hope that the previous chapters have convinced you of how much you can benefit from Free Software. The rest of this chapter will explain what you can do in return.

Ask what you can do

Of course, the method of helping that is easiest to

72 <http://www.law.duke.edu/boylesite/experiment.html>

understand is giving money. Almost all Free Software sites accept donations and they use this money to invest in further development of the software. For many volunteers working on such projects the donations act as reassurance that their work is appreciated and motivation to work even more.

So the next time that you particularly appreciate the quality of some Free Software, consider donating. If you work for a business that uses Free Software talk to your boss about making a donation from the company's budget. Your company will have already saved great sums by switching to Free Software and faster development and improvement of this software will make a measurable contribution to your company's profit margins.

Many of these donations are tax-deductible. For example, the Mozilla Foundation (www.mozilla.org), the Open Source Applications Foundation (www.osafoundation.org) and the Free Software Foundation (www.gnu.org) are all section 501(c)3 compliant which means that donations can be deducted from US tax payments. Analogous deductions are possible for other countries' tax systems as well.

But money is not the only contribution, nor necessarily the most important.

1 – Give feedback

For example, you have an important contribution to make simply by reporting problems in the software. Some groups, such as the Mozilla Foundation, make this particularly easy for you by including the Quality Feedback Agent⁷³ (QFA). The QFA appears when the software crashes and asks you to fill out a report of what you were doing when it happened. This report is sent back to the developers who can then

73 www.mozilla.org/quality/qfa.html

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include fixing this bug in their development schedule.

Using the QFA takes little of your time but provides valuable data to the software developers. Through receiving thousands of reports from around the world they can quickly identify new bugs. They can also assess the impact of a bug from the number of reports they receive about it. We all benefit as the developers are rapidly alerted and can focus their efforts on the most important bugs.

2 – Teach in your community

One thing we can all do is teach. In my case I felt so strongly about this that I wrote a whole book, but all kinds of teaching are necessary. If you have a website, write articles about the software that you find useful. In fact, just by posting a link to the websites of Free Software projects you help people looking for the software. This is because search engines like Google constantly analyse the links. The more links that a site receives the more importance it assigns to that site and the more frequently it displays the site to searchers.

Consider writing a letter to your newspaper, an article in your journal or a tutorial for your school newsletter.

For many people the decisions that they make about computer technology are determined by the advice of their friends and colleagues. The biggest barrier to adopting Free Software is often the uncertainty that comes with novelty. You can reassure them because you use and benefit from the software and you can educate them about properties of Free Software that deliver quality with value.

When your friends do decide to make the switch they will need a little support to get them going. Consider installing the software onto their machine and spending the first hour

with them. You can show them how to do the things with the new software that they were used to doing with the old software. And you can show them how to do new things of which they had not even thought.

3 – Teach your boss

If you work for an organisation, convince the decision makers to make the switch. Going through this exercise will do wonders for your career. First, you will have to write a formal proposal making a strong business case for the switch. This is a useful exercise and good expertise to mention on your CV. It is also an opportunity to come to the attention of your organisation's leaders. Try to send your proposal to the highest level of management in your organisation because this is a strategic switch that requires their attention. Once this works you will become associated with a successful project that saved money and improved quality.

Then of course there is the biggest organisation of them all – your government.

Ask what your country can do

Governments have an important role to play in Free Software. First, there is the financial support they give Free Software projects. Second, governments can insist on open standards for storing the important data for which they are responsible. Finally, they must avoid passing harmful laws.

1 – Governments can fund Free Software

When the local governments of Paris, Munich and Haarlem in Europe made the switch they saved money without

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sacrificing quality. As taxpayers we should all care about such trends and ensure that they continue.

Make sure your local government representative knows that you expect them to consider Free Software as a way to spend your money intelligently. At local town hall meetings you can teach the audience about the benefits of this software.

2 – Governments can demand open data standards

A bigger role comes from the government's ability to set standards. Take the example of data standards. Even with expensive commercial software and top specification hardware the most expensive component of computing is data. The salary for the hours that you may spend creating Microsoft Word documents is far more than the cost of Microsoft Word itself. For every organisation data is far more expensive than the computers on which it resides or the software used to manage it.

Given this importance, open data standards are crucial. Most proprietary software tools use proprietary data formats. This means that only the company which wrote the software truly understands the data format and in many cases the company takes significant efforts to obscure the details of the format. Proprietary software business models depend on this, guarding data format as a commercial secret, because it locks their customers into depending on the software company for the safety of their data.

Only the software company benefits from this. The customers do not, starting with the high costs that the company can charge because customers are dependent on the company for the safety of their data.

Furthermore, if the company were to go bankrupt, or simply

decide that supporting the software is no longer worth the investment, the customers are left in a terrible position. The data that they depend on is only accessible through software that will neither improve in features nor decrease in bugs. And because the format is proprietary it may prove impossible to transfer the data into another format for use with other software.

Because governments keep track of crucial data, they must ensure that the formats they use are open. This is one of the reasons why the Department of Veterans Affairs (VA) in the USA chose the open source method for its electronic medical records software. The Department is responsible for the healthcare of 26 million veterans as well another 44 million Americans who are the families and surviving dependants of veterans.

Dealing with so much important data means that the VA could not afford the risk of using proprietary formats. In fact, the history of medical software is littered with failed software projects⁷⁴ and the subsequent failure of the companies that owned the software. So the VA decided to develop the software itself, openly and over time, to reduce the risks and ensure delivery of the exact features that it needed. Because it is funded by US taxpayers the software that it created is made freely available in the public domain for anyone to use.

The project began in the 1980s as Decentralized Hospital Computer Program (DHCP) and was launched as the Veterans Health Information Systems and Technology Architecture (VistA – www.worldvista.org) in 1996. Over 20 years the software has proved its stability and quality. Because it is available free of charge, users around the world are deploying it. And the open data format means that data

74 <http://www.pubmedcentral.gov/articlerender.fcgi?artid=129665>

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can be exchanged between different healthcare providers.

This makes it a solution to a problem that plagues the US healthcare system and those of other countries around the world. The proprietary data formats in use in each practice, laboratory and hospital around the country are incompatible. Each year these healthcare providers spend millions trying to convert data from one proprietary format to another as they try to share data about patients under their care. Often they end up with the lowest common denominator – printing out tons of paper in medical records which recipients must then type into their own medical records software.

This is why the software is under consideration as the building block of President Bush's plan for a nationwide electronic health record system.

In the Netherlands the government has taken the principle of open data formats even further. In 2002 the Dutch Lower Chamber unanimously carried a motion requiring that by 2006 all government IT purchases would be of software that was based on open standards.

Not only do such purchases ensure that government data is safe, they also allow Free Software to compete on a fair footing in the marketplace. One of the biggest barriers to adoption of OpenOffice.org was that most businesses had been locked into using Microsoft Office. The creators of OpenOffice.org overcame the technical barrier by ensuring that their software was compatible with Microsoft's proprietary file format. However, government laws and purchases that are friendly to Free Software overcome the psychological barrier and have spurred the virtuous cycle of OpenOffice.org's adoption around the world.

3 – Governments should avoid passing bad laws

The final and perhaps most important role of government is that of doing no harm. For example, one of the most harmful laws adopted in USA is that for software patents. In 1996 the US Patent and Trademark Office adopted its Final Computer Related Examination Guidelines. These allowed the patenting of software processes.

It is important to realise that before 1996 the software industry was making tremendous strides in innovation and software companies were investing millions of dollars in development. In other words, laws to allow software patents have never been necessary to support software innovation and investment.

Lawrence Lessig is Professor of Law at Stanford University (www.lessig.org) and author of several books, including “Free Culture”⁷⁵ (www.free-culture.cc). This book describes the harm that software patents will cause to the software industry's development. In fact on page 140 he includes a memo written in 1991 by Bill Gates, chairman of Microsoft, criticising software patents because “established companies have an interest in excluding future competitors”. Software patent laws give them the tools to do that.

The threat is particularly significant for Free Software because proprietary software companies can sue new Free Software projects claiming infringement on their patents. Because many of these projects are started by volunteers, they have no revenue stream let alone a legal budget. Large commercial enterprises understand this and will be able to

75 “[Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity](#)” by Lawrence Lessig. The Penguin Press 2004. ISBN 1594200068.

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start frivolous lawsuits in the knowledge that the mere threat of litigation will shut down a Free Software project that lacks a legal department.

This will have a chilling effect on innovation and may well cost the USA its lead in software development in the future.

For now, Free Software developers do have some allies. When the BBC began developing the Dirac video software they made a legal team part of their contribution to the project. Its lawyers are ensuring that no patents exist on the software techniques that Dirac uses, as well as patenting those new techniques that Dirac creates. It will then place the patents in the public domain so that they are available for others to use without fear of litigation. For GNU/Linux litigation, IBM, Novell and other companies are making their lawyers available to defend the operating system in the courts.

However, it is a sad day when the innovation that comes from small teams starting up depends on the patronage of large companies for legal defence.

That is where governments such as that of Poland come in. In December 2004 it successfully campaigned to remove the “Software Patent Directive” from the European Union's legislative agenda. In other words, citizens and companies of the European Union were spared the dangers of software patents and they have Poland to thank for this (www.thankpoland.info).

Of course, the Polish government did not make this decision by itself. It was advised by activists, citizens and companies that this would be the best course of action for Poland's interest. Nor was Poland's the only government that was of this opinion. In the European Union and around the world, governments are making the necessary investments. The

national governments of Venezuela, Brazil, India, China, South Korea, Japan and others are all responding to their citizens' needs and supporting Free Software.

The end of the beginning or the beginning of the end?

All of these developments allow me to end on a happy note. I hope that you have enjoyed this book and that you found it useful. As I mentioned in the introduction: if reading this book can save enough money to employ one more nurse or one more teacher, or to allow one more start-up to succeed financially, then my job is done.

Above all, I hope that you learnt enough about Free Software to demand more freedom in how you use computer technology in your life. And I hope that you will share what you learnt with your family, friends and colleagues. We will all be winners when the principles and practice of Free Software spread through society.

Further resources

- Mozilla Foundation – www.mozilla.org
- Open Source Applications Foundation – www.osafoundation.org
- Free Software Foundation – www.gnu.org
- Veterans Health Information Systems and Technology Architecture (VistA) – www.worldvista.org
- Lawrence Lessig – www.lessig.org
- [“Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity”](#) by

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Lawrence Lessig. The Penguin Press 2004. ISBN
1594200068.

- Free Culture website – www.free-culture.cc
- Thank Poland – www.thankpoland.info

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