SS Watch	
Introducing Open Source	
Barry Cornelius	Introducing Open Source
software	
Levels of involvement	
Licences	Barry Cornelius
Intellectual Property Rights	OSS Watch
Sustainability	
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Outline

Introducing Open Source

Barry Cornelius



Levels of involvement

Licences

Intellectual Property Rights

Sustainability

Open source software

2 Levels of involvement



Intellectual Property Rights

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Open source software

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Open source software

Levels of involvement

Licences

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Sustainability

- What is open source software?
- Clearing up misunderstandings
- Reasons institutions consider open source software

- Open source is mainstream
- National policies may affect you
- Why do people work on open source?
- Open source is about community

Oss Watch What is open source software?

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Open source software

Levels of involvement

Licences

Intellectual Property Rights

Sustainability

Open source software is software for which:

- the source code is available to the end-user;
- the source code can be modified by the end-user;
- the licensing conditions are intended to facilitate continued re-use and wide availability of the software, in both commercial and non-commercial contexts;
- the cost of acquisition to the end-user is often minimal.

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Oss Watch Clearing up misunderstandings

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- Open source software
- Levels of involvement
- Licences
- Intellectual Property Rights
- Sustainability

- Another term that is often used is free software.
- 'The term free software is sometimes misunderstood: it has nothing to do with price. It is about freedom.' (Richard Stallman)
- The use of *free* is unhelpful as in English it has two meanings. French has *libre* and *gratuit*.
- 'To understand the concept, you should think of free speech, not free beer.' (Richard Stallman)
- 'Free software is often used in a political context, whereas open software is a more commerically oriented term. ... Open software is commonly used to describe the business case for free software, focusing more on the development process rather than any underlying moral requirements.' (Kim Johnson)

Oss Watch Clearing up misunderstandings (2)

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Sustainability

- Open source software may or may not cost money.
- Although open source software may be free, you should consider the total cost of ownership.
- As with proprietary software, this often bears little relation to the cost of acquiring the software.

Oss Watch Clearing up misunderstandings (3)

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Sustainability

- You don't necessarily have to run Linux: ...
- ... you can use open source software on Microsoft Windows.
- For example, TheOpenCD contains a collection of open source software that run on Microsoft Windows.
- TheOpenCD has software for tasks such as word processing, spreadsheets, presentations, e-mail, web browsing and image manipulation.

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• http://theopencd.org/



Reasons institutions consider open source software

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Sustainability

In 2003, OSS Watch performed a survey of UK HE and FE institutions.

The top three reasons given for considering open source software were:

- cost;
- interoperability;
- security.

Other reasons were:

- avoidance of lock-in;
- did not have to replace the hardware so often;
- open source is mainstream.

SS Watch Open source is mainstream

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Sustainability

- There was a *Gartner Open Source Summit* in Orlando, Florida from 7th to 9th December 2005.
- 'Open source software is increasingly sharing the spotlight with traditional solutions across a great number of markets. Indeed in many areas open source has taken center stage. ...'
- '[The speakers at this conference will focus on how] you can most effectively manage open source as an integral element of own your long term IT strategies.'

National policies may affect you

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- In October 2005, JISC released its open source policy.
- This will apply to activities funded by JISC.
- 'Copyright of software, documentation, design materials, manuals, user interface and source code must be released under an OSI-approved open source licence, unless the bid explicitly argues why this should not be the case and proposes an alternative licence.'
- http://www.jisc.ac.uk/index.cfm?name= about_policy
- The UK Government (Office of Government Commerce) has released a policy on open source.
- 'Public sector bodies should examine carefully the technical and business case for implementation of Open Source Software and the role in which OSS could play in current and future projects ...'.
- http://www.govtalk.gov.uk/policydocs/ 🛓 🔗

Dss Watch National policies may affect you (2)

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Sustainability

- The Office of the Deputy Prime Minister has established the *Open Source Academy*.
- In February 2006, they are organising a conference discussing the *transformation of service delivery*.
- 'Open Source Software is now widely recognised as an enabler in this process, whether by greater efficiency or sustainability of budget.'
- 'But all authorities face the pragmatic issues of continuous integration with proprietary systems. How can lock in be avoided? How can the best of both proprietary and Open Source be achieved?'
- http://www.promarta.co.uk/winter/

Oss Watch Why do people work on open source?

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Levels of involvement

Licences

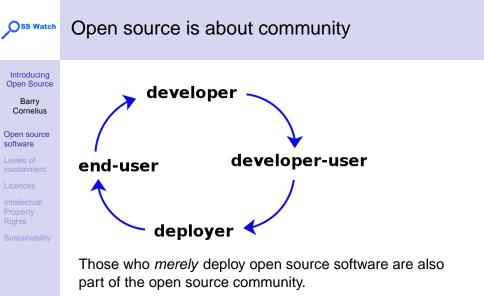
Intellectual Property Rights

Sustainability

• The desire to learn technical skills by joining an open source project is strong.

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- Typical reasons for staying in open source are:
 - improving skills: 32%
 - ideology: 31%
 - improving software: 24%
 - seeking recognition: 12%



The next presentation discusses the importance of a community in more detail.

Oss Watch Levels of involvement

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Sustainability

- Obtaining open source software
- Level 1: using OSS in your work
- Level 2: running OSS as part of your work
- Level 3: contributing to an OSS project
- Level 4: using OSS as part of your code

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Level 5: developing an OSS project

Obtaining open source software

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Levels of involvement

Licences

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Sustainability

- Many major pieces of open source software have their own web sites.
- Examples are the Apache products, the Mozilla products, MySQL.
- http://sourceforge.net/ is a repository of thousands of other open source projects.
- http://freshmeat.net/ provides announcements about new software releases.

Obtaining open source software (2)

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Sustainability

• A list of the most downloaded SourceForge projects is at http://sourceforge.net/top/topalltime. php?type=downloads

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Des Watch Level 1: using OSS in your work

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• use of Firefox and Thunderbird for a web browser and email client

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- use of tools such as GIMP, Ant, and JUnit
- use of OpenOffice
- Perl, Python and PHP scripting languages
- a Linux distribution

...

Des Watch Level 2: running OSS as part of your work

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Levels of involvement

Licences

Intellectual Property Rights

Sustainability

- Apache httpd (web server)
- Perl, Python and PHP scripting languages
- MySQL (database server)
- tomcat (web server)
- JBoss (J2EE application server)
- Hibernate (database server)
- SpamAssassin (spam detection program)

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a Linux distribution

• ...

Des Watch Level 2: running OSS as part of your work (2)

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Levels of involvement

Licences

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Sustainability

Finding support:

- The documentation for the software.
- The person at the next desk.
- Your staff: you pay them to understand this stuff.
- The web: use google to find information about your problem.
- The bookshop: any software worth using has a shelf-full of books about it.
- Training courses: lots of companies offer training.
- Consultants: pay a man in a suit (or with a ponytail) to come in and fix things.
- The people who wrote the software.

Level 3: contributing to an OSS project

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Levels of involvement

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Sustainability

- Most projects will have a mailing list or a forum where questions are asked and answered.
- You have the source code: so you could provide a bug patch or the code for an enhancement.
- Requests are often handled through tracking software.
- Or you may be able to make changes to the actual source code on the project's web site: this is usually maintained through some revision control system such as CVS.
- If you make changes to your local copy of the software, it is better to feed them back; otherwise, you will have a maintenance headache when the next release comes out.

Level 3: contributing to an OSS project (2)

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Levels of involvement

Licences

Intellectual Property Rights

Sustainability

- A typical SourceForge project is phpMyAdmin.
- It's project page is at: http:

//sourceforge.net/projects/phpmyadmin/

• Towards the bottom left of this page you will find links pointing to other pages, including those for *Bugs*, *Feature Requests*, *Public Forums*, *Mailing Lists* and *CVS Repository*.

SS Watch Level 3: contributing to an OSS project (3)

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Licences

Intellectual Property Rights

Sustainability

- The Bugs page for phpMyAdmin is at: http://sourceforge.net/tracker/?atid= 377408&group_id=23067&func= browse
- SourceForge uses a request tracker system for tracking the handling of bug reports.

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Oss Watch Level 4: using OSS as part of your code

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Levels of involvement

Licences

Intellectual Property Rights

Sustainability

- If you are developing code, you may find that some downloadable library of software is useful.
- If the licence permits, you can download it and use it with your code.
- As before, you may report bugs, request enhancements, supply code to fix bugs or make changes to the code on the web site.
- Once again, if you make changes to your local copy of the library, it is better to feed them back; otherwise, you will have a maintenance headache when the next release comes out.

Level 5: developing an OSS project

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Open source software

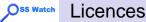
Levels of involvement

Licences

Intellectual Property Rights

Sustainability

- The final level is when you release your software as open source software.
- You provide the ability for people to download the software, to report bugs, to request enhancements, to supply patches and to provide the means for others to alter the code.
- If you do not want to provide all the supporting infrastructure yourself, your project could be hosted at SourceForge.



Introducing Open Source

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Open sourc software

Levels of involvement

Licences

Intellectua Property Rights

Sustainability

- What is open source software? (again)
- The licensing conditions for OSS
- Oriteria of the Open Source Definition
- The Open Source Definition
- The Big Five
- Does any of this impact me as a casual user/deployer?

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Licence mingling

Uss watch What is open source software? (again)

Introducing Open Source

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Open source software

Levels of involvement

Licences

Intellectual Property Rights

Sustainability

Open source software is software for which:

- the source code is available to the end-user;
- the source code can be modified by the end-user;
- the licensing conditions are intended to facilitate continued re-use and wide availability of the software, in both commercial and non-commercial contexts;
- the cost of acquisition to the end-user is often minimal.

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Oss Watch The licensing conditions for OSS

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Open sourc software

Levels of involvement

Licences

Intellectual Property Rights

Sustainability

- There is a body called the Open Source Initiative.
- http://www.opensource.org/
- This body maintains the Open Source Definition (OSD).
- This is a list of ten criteria for a licence to pass for it to be an open source licence.
- The OSI's website gives the details of 58 OSI-certified licences.
- So open source software is software released under a licence that has been certified by the Open Source Initiative.

Oss Watch The licensing conditions for OSS (2)

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Levels of involvement

Licences

Intellectual Property Rights

Sustainability

- The OSI is not a legislative body.
- Instead, its authority resides entirely in the fact that the open source community
 - recognizes it as the maintainer of the Open Source Definition (OSD);
 - is willing to participate in the OSI certification process;

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• has not set up a viable alternative.

Oss Watch Criteria of the Open Source Definition

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Levels of involvement

Licences

Intellectual Property Rights

Sustainability

- free redistribution
- source code
- derived works
- integrity of the author's source code
- no discrimination against persons or groups
- no discrimination against fields of endeavour

- distribution of licence
- licence must not be specific to a product
- licence must not restrict other software
- licence must be technology-neutral

Oss Watch The Open Source Definition

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Levels of involvement

Licences

Intellectual Property Rights

Sustainability

This is the formal text of the OSD from the Open Source Initiative:

1. Free Redistribution The license shall not restrict any party from selling or giving away the software as a component of an aggregate software distribution containing programs from several different sources. The license shall not require a royalty or other fee for such sale.

2. Source Code The program must include source code, and must allow distribution in source code as well as compiled form. ...

3. Derived Works The license must allow modifications and derived works, and must allow them to be distributed under the same terms as the license of the original software.

The Open Source Definition (2)

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Sustainability

4. Integrity of The Author's Source Code The license may restrict source-code from being distributed in modified form *only* if the license allows the distribution of "patch files" with the source code for the purpose of modifying the program at build time. ...

5. No Discrimination Against Persons or Groups The license must not discriminate against any person or group of persons.

6. No Discrimination Against Fields of Endeavor The license must not restrict anyone from making use of the program in a specific field of endeavor. ...



The Open Source Definition (3)

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Sustainability

7. Distribution of License The rights attached to the program must apply to all to whom the program is redistributed without the need for execution of an additional license by those parties.

8. License Must Not Be Specific to a Product The rights attached to the program must not depend on the program's being part of a particular software distribution. ...

9. License Must Not Restrict Other Software The license must not place restrictions on other software that is distributed along with the licensed software. ...

10. License Must Be Technology-Neutral No provision of the license may be predicated on any individual technology or style of interface.



The Big Five

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Licences

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Sustainability



OSS Watch

The Big Five (2)

Introducing **Open Source**

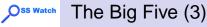
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Licences

- The licences that are most often used are:
 - The GNU General Public License
 - The GNU Lesser General Public License
 - The Modified BSD License
 - The Apache License v2
 - The Mozilla Public License
- The OSS Watch site has briefing notes on each of these licences.
- For more details, go to http:

//www.oss-watch.ac.uk/resources/ipr.xml

If you are wanting to work out which licence to use, look at these briefing notes.



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Levels of involvement

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Sustainability

• SourceForge currently has over 107000 projects. The number of uses of each licence is given at: http://sourceforge.net/softwaremap/ trove_list.php?form_cat=14



Does any of this impact me as a casual user/deployer?

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Levels of involvement

Licences

Intellectual Property Rights

Sustainability

If you stay as a pure user, no (i.e., there are no aspects of the licence that need concern you).

But if you plan to:

- redistribute software;
- integrate the software with your own systems;
- fix problems with the software;

you are bound by the licence you got with the software.

Oss Watch Licence mingling

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- Open source software
- Levels of involvement
- Licences
- Intellectua Property Rights
- Sustainability

- What happens if you produce open source software that uses more than one piece of open source software?
- It would be nice if all open source software could be combined without restriction to produce new open source software.
- Unfortunately this is not the case.
- It depends on the licences being used.
- Two licences which each meet the requirements of the Open Source Definition ...
- ... may nevertheless contain terms which make them incompatible with each other.

Oss Watch Licence mingling (2)

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Intellectual Property Rights

Sustainability

- The GNU General Public License provides an example of this.
- It mandates that software which incorporates GPL-licensed code must itself be licensed under the GPL.
- It also mandates that no additional restrictions on the rights it grants can be imposed.
- This means that GPL-licensed code can only be merged easily with other GPL-licensed code, ...
- ... or with code whose licence imposes only conditions present in the GPL.
- Clearly it is not easy to compare licences.
- The Free Software Foundation, who administer the GPL, make available a list of licences that they consider to be compatible with the GPL.

Licence mingling (3)

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Licences

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Sustainability

- The issue of licence compatibility is a complex one.
- Determining whether licences are compatible will require the help of a lawyer in all but the most simple cases.
- Programmers working on a piece of software which is to be distributed under a licence (whether open source or otherwise) need to be aware of the potential difficulties in this area before attempting to merge in open source code.
- Often the simplest way of resolving licence conflicts is to ask the code's author(s) if they would be willing to re-license their code for inclusion.
- However this approach is only really practical where the number of authors is small.

Oss Watch Intellectual Property Rights

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Levels of involvement

Licences

Intellectual Property Rights

Sustainability

Who owns the code that is being created in your project? Only the owner of the intellectual property can license it for use by others.

- Version control systems provide some of the required record-keeping automatically, as they record who made changes to the code.
- In addition, managers should record the contractual and licensing status of contributors in order to establish who owns the work.
- They should also require and store explicit agreements from copyright owners that their contributions may be licensed using the licence selected for the project.
- Where code is brought in from open source software, the details of the relevant licence should be recorded (having checked that licence mingling is allowed).



Sustainability



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Open source software

Levels of involvement

Licences

Intellectua Property Rights

Sustainability

Planning for sustainability

OSS Watch and sustainability

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Planning for sustainability

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Licences

Intellectual Property Rights

Sustainability

Planning for sustainability is just as important for open source projects as for any other project.

Before you begin, do you know whether your project will want to:

- build a developer community
- build a user community
- seek commercial exploitation
- be a demonstration project only

OSS Watch and sustainability

Introducing Open Source

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Levels of involvement

Licences

Intellectual Property Rights

Sustainability

OSS Watch's key focus for 2005-6 is sustainability.

- early 2006 JISC study: Models for sustainability in open source projects
- 10-12 April 2006 conference: Sustainability and Open Source Software Oxford

If you are interested, make a note of the date of the conference. More details later at http://www.oss-watch.ac.uk.