

Introduction to OS projects and resources

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- What are OS projects?
- How are OS projects governed?
- Where are all the OS projects?
- Where are the women?
- What questions should be asked when choosing an OS project?
- Starting your own OS project

OS Projects are open solutions achieved through open collaborations

- From SourceForge: “[SourceForge.net](http://sourceforge.net) provides free hosting to Open Source software development projects. The essence of the Open Source development model is the rapid creation of solutions within an open, collaborative environment. Collaboration within the Open Source community (developers and end users) promotes a higher standard of quality, and helps to ensure the long-term viability of both data and applications.” (See <http://sourceforge.net/apps/trac/sourceforge/wiki/What%20is%20Open%20Source%20software>)
- From Open Source Initiative: “Open source is a development method for software that harnesses the power of distributed peer review and transparency of process.” (See <http://opensource.org/about>)
- For OSSWatch: “...open source software is software that has been released under an Open Source Initiative (OSI) certified licence.” (See OSS Watch in the UK at <http://www.oss-watch.ac.uk/resources/opensourcesoftware>)

OS Projects: Hot Topics in the News

- <http://www.infoworld.com/slideshow/94947/13-hot-new-open-source-projects-216093> (13 hot new open source projects Browser-based toolkits, add-ons to old favorites, tools programmers will love -- here are the most promising projects emerging from the open source community today By Peter Wayner, [InfoWorld](#), April 11, 2013)
- <http://www.v3.co.uk/v3-uk/news/2254899/top-10-open-source-projects> (29 March 2013)
- <http://www.pcworld.com/article/2026718/10-open-source-projects-to-watch-this-year.html> (Ten Open Source Projects to watch this year: 2012)
- Many companies are engaged in open source development these days.

Open Source Project Governance

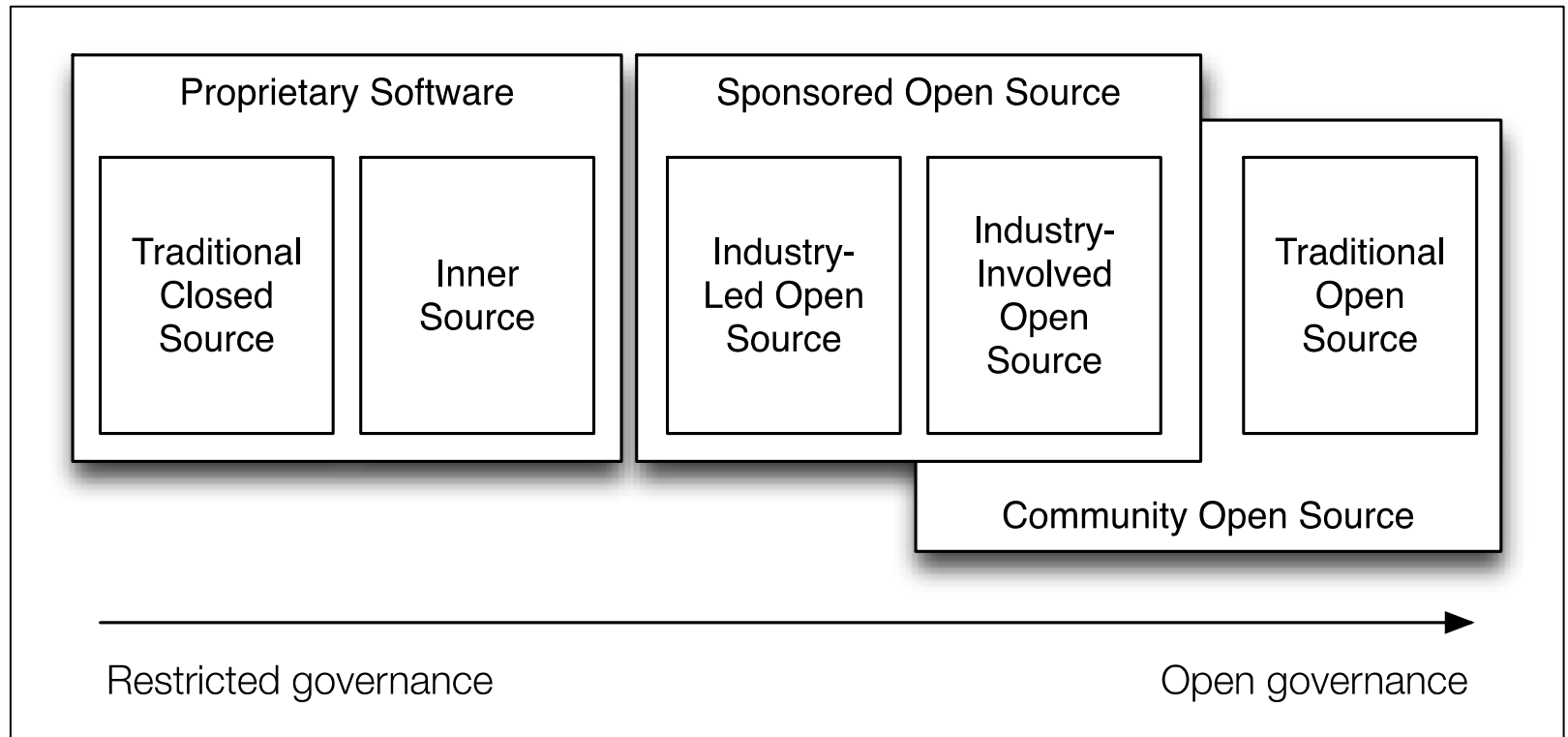


Figure 1. Continuum of governance in software projects: proprietary software (left) to Open Source Software (right) from Exploring the role of commercial stakeholders in open source software evolution, Capiluppi, Andrea; Stol, Klaas-Jan; Boldyreff, Cornelia

Where are all the OS Projects?

- GitHub (<https://github.com/>)
- SourceForge (<http://sourceforge.net/>)
- GNU Savannah (<http://savannah.gnu.org/>)
- Microsoft's CodePlex
(<http://www.codeplex.com/>)
- Google code (<https://code.google.com/>)
- Fuller data on Wikipedia (Source of the next two slides:
https://en.wikipedia.org/wiki/Comparison_of_open-source_software_hosting_facilities)

Popularity

Name	Users	Projects	Prominent projects
GitHub	3,483,289 ^[40]	?	Ruby on Rails, IronRuby, jQuery, Moodle, Diaspora, node.js, NumPy, Spring Framework
Google Code	? ^[n 8]	250,000+ ^[46]	Google Gears, Inferno, Android, Chromium
SourceForge	2,000,000+ ^[50]	230,000 ^[50]	Inkscape (download hosting), LAME, MinGW, Poedit, 7-Zip, Fluxbox, Audacity, ffdshow, LiVES
Bitbucket	170,000+ ^[33]	93,661 ^[34]	OGRE, TortoiseHg, Codeigniter, Pylons, Sphinx
Assembla	500,000 ^[28]	60,000+ ^[29]	GXUnit, Hikarunix, HippoMocks, MadSwatter, SnakeYAML
CodePlex	151,782	32,159 ^[38]	ASP.NET MVC Framework , Entity Framework, IronPython, CodeIgniter
Launchpad	1,785,318 ^[47]	30,282 ^[48]	Ubuntu, MySQL (code hosting), BlueBream (2 ASP.NET MVC Framework), Inkscape, Bazaar, CodeSaver, Enlightenment, LiVES (translations)
Gitorious	? ^[n 8]	29,760 ^[42]	Qt, MeeGo
BerliOS	52,811 ^[31]	4,863 ^[31]	aMule, avidemux, SuperTux, LinCity-NG
GNU Savannah	57,591 ^[44]	3,487 ^[44]	Most GNU projects (including Emacs), QEMU
Gna!	17,065	1,390	
Alioth	12,947 ^[27]	958 ^[27]	SANE
Tigris.org	? ^[n 8]	684	Subversion, ^[n 9] TortoiseSVN, RapidSVN
CodeHaus	?	297 ^[36]	
Name	Users	Projects	Prominent projects

Note 1: [GitHub Blog: Those are some big numbers](#) 🗝️. The number of non-forks and forks were taken from searches done in a logged on account. The number of non-forks and forks is a good estimate of total gists, since all gists, public or private, are numbered sequentially.

Name	CVS	SVN	Bazaar	Microsoft TFS	Arch	Git	Mercurial
Alioth	Yes	Yes	Yes	No	Yes	Yes	Yes
Assembla	No	Yes	No	No	No	Yes	No
BerliOS	Yes	Yes	No	No	No	Yes ^[17]	Yes ^[18]
Betavine	Yes	Yes	No	No	No	No	No
Bitbucket	No	No	No	No	No	Yes	Yes
CodeHaus	yes but deprecated ^[19]	Yes	No	No	No	Yes ^[20]	No
CodePlex	No	Yes	No	Yes	No	Yes	Yes
Deveo	No	Yes	No	No	No	Yes	Yes
Freepository	No	Yes	No	No	No	No	No
GitHub	No	yes (experimental git-svn bridge)	No	No	No	Yes	No
Gitorious	No	No	No	No	No	Yes	No
Gna!	Yes	Yes	No	No	Yes	No	No
GNU Savannah	Yes	Yes	Yes ^[21]	No	Yes	Yes	Yes
Google Code	No	Yes	No	No	No	Yes	Yes
java.net	No	Yes ^[22]	No	No	No	Yes ^[23]	Yes ^[24]
JavaForge	Yes	Yes	No	No	No	Yes	Yes
Launchpad	Import only	Import only	Yes	No	No	Import only ^[25]	Import only ^[26]
Ourproject.org	Yes	Yes	No	No	No	No	No
OW2 Consortium	Yes	Yes	No	No	No	No	No
SEUL.org	Yes	Yes	No	No	No	No	No
SourceForge	Yes	Yes	Yes	No	No	Yes	Yes
Tigris.org	Yes	Yes	No	No	No	No	No
Name	CVS	SVN	Bazaar	Microsoft TFS	Arch	Git	Mercurial

Projects, Distros, and Communities

- Many OSS projects are associated with major OSS Distribution
- Linux Distros: Debian, Fedora, Gentoo, Mageia, Mandriva Linux, openSUSE, Ubuntu, openSusa, e.g. see Debian's Developers' Corner (<http://www.debian.org/devel/>) and its specific group for women (<http://www.debian.org/women/> with its own mentoring programme at <http://www.debian.org/women/mentoring>)
- Check out the communities associated with big OSS applications: Apache, MySQL, PHP, Perl, Python, Drupal, Gnome, Joomla, KDE and many others, e.g. see Women in Drupel (<http://groups.drupal.org/women-drupal>) and article on women in Joomla (<http://magazine.joomla.org/issues/issue-apr-2103/item/1235-the-x-factor-and-women-in-tech>).
- Other communities focussed on women such as Linux Chix (<http://www.linuxchix.org/>) and Pyladies (<http://www.pyladies.com/>)
- Consider a FOSS internship (see <http://opensource.com/life/13/4/increasing-foss-participation>)
- For students, there is the Google Summer of Code (see <https://developers.google.com/open-source/soc/>) N.b. in 2012, 8% of participants were women.

What is the **participation rate** of women in StackOverflow?

Do men and women **contribute equally**?

Sara Chipps



website sarajchipp.com
location New York, NY
age 21
visits member for 4 years, 3 months
seen yesterday
stats profile views 7,281

JavaScript developer

3,903 reputation

reputation

+5 = 26 * 78

summary

answers questions tags badges favorites bounties reputation activity

72 Questions

votes activity newest

3,903 Reputation

top 9% overall

68 NHibernate.MappingException: No persister for:

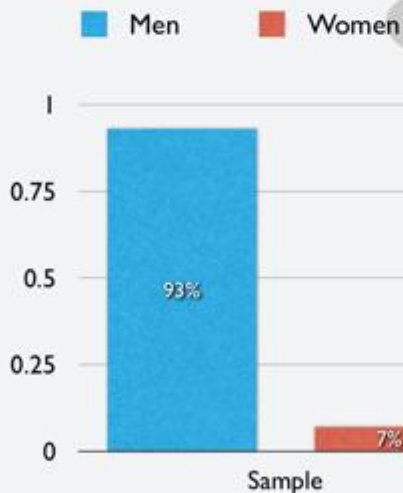
earch with SQL Server?

+5 NHibernate.MaooinoException: No persister for:

Are women underrepresented?

1-5% of open source developers are women

28% female employees with computer and mathematical occupations



Do men and women contribute equally?

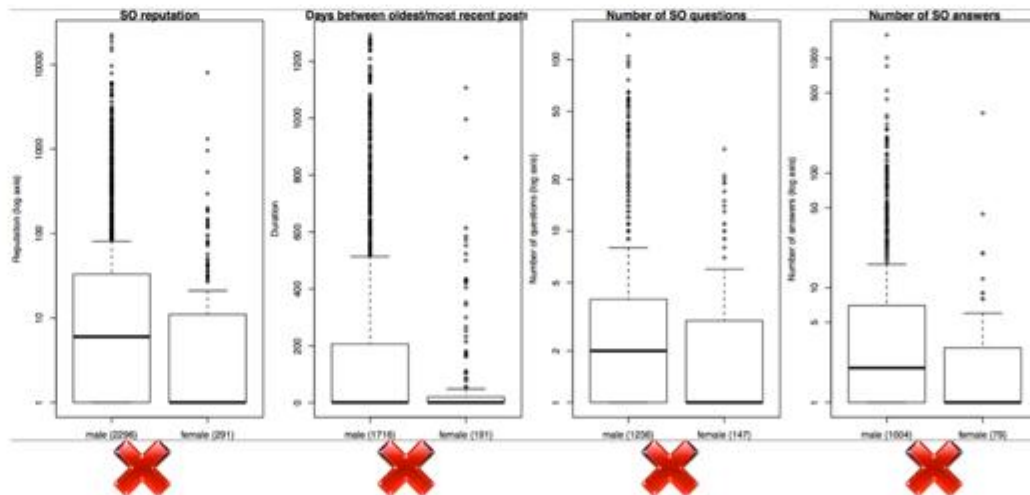


Table 1

FLOSS-US compared with other pre-2005 surveys of FLOSS developers.

Type	Online survey, website posts, emailed lists				Emailed developers			Emailed developers from single project	
Survey title	TU Berlin	FLOSS-EU	FLOSS-US	FLOSS-ASIA	BCG			Apache	Linux kernel
Reference if different from title	Robles et al. (WIDI 2001)	Ghosh et al. (2002)	David et al. (2003)	Mitsubishi (2004)	Wolf et al. (2002) and Lakhani and Wolf (2005)	Hars and Ou (2002)	Haruvy et al. (2003)	Lakhani and von Hippel (2002)	Hertel et al. (2003)
Data collection	June–August 2001	February–April 2002	January–June 2003	December 2003–January 2004	October 2001, April 2002	–	–	October 1999–February 2000	February 2000
Method	Online survey, website posts, emailed lists	Online survey, website posts, emailed lists	Online survey, website posts, emailed lists	Online survey, website posts, emailed lists	Emailed SourceForge project contributors	Emailed developers	Emailed developers	Emailed developers	Linux mailing list announcements
Usable responses (rate)	5478	2784	1588	138	684 of 1994 (34%)	79 of 389 (20%)	160 of 2000 (8%)	336 of 1709 (19.6%)	141 (hardly any developers)
Motivation questions	None	Reasons for joining FLOSS community; reasons for staying in FLOSS	Reason for developing FLOSS, reasons for specific project	Reason for developing FLOSS	Reasons for working on specific FLOSS project	Reasons for developing FLOSS	Reasons for developing FLOSS or working on specific project	None	Reasons for working on Linux community
Number of projects	–	–	1811 ^a	–	287	41 (with 25% from Linux)	More than 90	1	1
Respondents per project	–	–	0.88 ^a	–	2.38	1.93	1.78	–	–
Source	TU Berlin	FLOSS-EU	FLOSS-US	FLOSS-ASIA	BCG	Hars and Ou (2002)	Haruvy et al. (2003)	Lakhani and von Hippel (2002)	Hertel et al. (2003)
<i>Location</i>									
North America (%)	35%	13%	27%	1%	45%	–	–	–	48%
Western Europe (%)	47%	71% (EU)	53%	2%	38%	–	–	–	37% (all)
Number	–	–	6	3	6	–	5	–	–

Drilling Down to Specifics

- How are typical Open Source projects organised?
- Brief overview of user/developer roles (e.g. feedback, support, bug reporting, new feature requests, coding/fixing/updating software, creating artwork and graphics, documentation/translation).
- Introduction to development methods: agile/test-driven that are relevant to OS

A Typical OS project

- Website
- User community and groups
- Developer community and groups
- Software to download hosted or available on a forge/repository/website/distribution
- May have controlled bug reporting and handling
- May have published release cycles and plans

Roles within a typical OS project

- Roles with the user community: feedback, support, bug reporting, new feature requests, bug triage
- Developer roles: coding/fixing/updating software, i.e. development and evolution, web design and development
- Analyst roles: application domain and data analysis tasks, e.g. see <http://community.usahidi.com/>
- Artist roles: creating artwork and graphics e.g. logos,
- User Support roles: documentation/translation, help desk via irc, FAQs,
- Other roles: project management, mentoring, publicity, marketing,

Development Methods

- Agile Methods and the associated Agile Manifesto (see <http://agilemanifesto.org/>) advocate flexible working practices, involving customers, incremental release of working products, and embracing changes during development.
- Test Driven Development a.k.a. Test First Development is often associated with Agile Methods, see <http://www.agiledata.org/essays/tdd.html>
- Many OS projects are characterised by their agility but not all.
- Many large OS projects follow a review cycle before accepting contributions and have planned major releases.

Questions

- How is your chosen OS project organised?
- What are its OS Project workflows and processes?
- Who can be (and who is) involved?
- What do they do?
- How can I get started in this OS project?
- Is there a mentoring programme?

Projects Requesting Contributions

- At a recent BCS OSSG Session on Hadoop, the speaker on Apache DRILL requested contributions besides code drops on test data & test queries, use case scenarios (textual/SQL queries), and documentation (see <http://ossg.bcs.org/wp-content/uploads/BCS-Apache-Drill-mhausenblas-2013-05-01.pdf>)
- Check out the websites of OS projects that interest you.

Starting your own OS project

- Producing Open Source Software: How to Run a Successful Free Software Project, **Karl Fogel** (see <http://producingoss.com/> to download this book)
- Advice from OSS Watch on How to build an OSS Community (<http://www.oss-watch.ac.uk/resources/howtobuildcommunity>)

OS Consulting

- Consider becoming an OS consultant advising organisations on OS adoption, e.g. see <http://catalyst.net.nz/services/consulting>, <http://www.blackducksoftware.com/>, <http://www.tetrain.com/index.html>, <http://www.zaizi.com/> offering Alfresco consultancy
- Work with non-profit organisations wanting to use OS solutions, e.g. see <http://www.fossbox.org.uk/>

Join an OS Group

- BCS Open Source Specialist Group, BCS OSSG at <http://ossg.bcs.org/>
- Flossie and its discussion group mailing list at <http://www.flossie.org/>
- MzTEk learning community in technology and arts for women <http://www.mztek.org/>
- FLOSS UK, the new name of the UK Unix Users Group at <http://www.flossuk.org/>
- IFIP Working Group 2.13 on Open Source and its conference OSS, see <http://ifipwg213.org/> and <http://oss2013.case.unibz.it/>

Some Further References

- <http://www.win.tue.nl/~bvasiles/socinfo12/assets/player/KeynoteDHTMLPlayer.html#0> (slides also see paper: Gender, Representation and Online Participation: A Quantitative Study of StackOverflow at <http://bura.brunel.ac.uk/bitstream/2438/7110/2/main-6pages.pdf>)
- http://economix.fr/pdf/workshops/2010_floss/David-Shapiro_community-based-production.pdf (Community-based production of open-source software: What do we know about the developers who participate?)
- <http://ulir.ul.ie/handle/10344/2739> (Exploring the role of commercial stakeholders in open source software evolution, Capiluppi, Andrea; Stol, Klaas-Jan; Boldyreff, Cornelia)
- <http://www.oss-watch.ac.uk/> , the website of OSS Watch, the open source software advisory service in the UK.
- Books by Kent Beck