

# How to get started in Open Source!

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( Goals of the talk )  
#outline

# ( About Me )

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# How I got involved in Open Source!

# Part I. (2011)

Discovering Firefox,  
And my first contribution!



Revolutionary Web Browser

# Part II. (2012)

## IRC

**Internet Relay Chat** is an application layer protocol that facilitates transfer of messages in the form of text. The **chat** process works on a client/server model of networking.

Some popular channels : #womoz, #remo, #mdn

## Part III. (2013-2014)

Started promoting Open Source, which resulted into **“Open Source Developer Group Mumbai”**.



What is Open Source ?!?!?

*To use, share, adapt, modify  
and collaborate.*

It does not mean....

“free of cost, cheap piece of software, hardware, product or project etc.”

*#free here is #freedom not #free.*

Open Source gives you certain freedom and rights, it doesn't means you can just use it for free.

Every free Software is not Open Source.

Every Open Source Software is not free.

Some software are Open Source as well as free.

# *Open Source is not limited to Software.*

- Anything and Everything can be Open Source.
- Anything here means, anything!
- For eg :- Hardware, Cooking Recipes, Books etc.

# Open Source Beer : Free Beer



# Free Beer

- Free Beer is an *Open Source Beer*.
- "***Free as in free speech***".
- It's formula is available under *Common Creative License*.
- Common Creative License is an famous Open Source License.
- It's name is free because it grants certain *freedom* and *rights*.
- Free here does not means that you can just pick it up from some store without paying!



# Arduino : Open Source Hardware



# Why Open Source ?

- Making Linux GPL'd was definitely the best thing I ever did.- Linus Torvalds
- FOSS potentially saves industry over 36% in software R&D investment that further can result in increased profits or be more usefully spent in further innovation.
- No code is good code,there is always scope for improvement and human limit may restrict the growth of your project,so open the source.
- To make your code world class.
- Open source software projects may offer a learning opportunity those students aren't getting in school.



**Who is  
doing it?**

Name	# of Changes	% of Total Changes
Al Viro	1571	1.9%
David S. Miller	1520	1.8%
Adrian Bunk	1441	1.7%
Ralf Baechle	1346	1.6%
Andrew Morton	1222	1.5%
Andi Kleen	993	1.2%
Takashi Iwai	963	1.2%
Tejun Heo	938	1.1%
Russell King	926	1.1%
Stephen Hemminger	920	1.1%
Thomas Gleixner	754	0.9%
Patrick McHardy	740	0.9%
Ingo Molnar	735	0.9%
Trond Myklebust	664	0.8%
Neil Brown	646	0.8%
Randy Dunlap	645	0.8%
Jean Delvare	617	0.7%
Jeff Garzik	615	0.7%
Christoph Hellwig	615	0.7%
David Brownell	588	0.7%
Paul Mundt	581	0.7%
Alan Cox	571	0.7%
Jeff Dike	558	0.7%
Herbert Xu	538	0.6%
David Woodhouse	503	0.6%
Greg Kroah-Hartman	496	0.6%
Linus Torvalds	495	0.6%
Dmitry Torokhov	494	0.6%
Alan Stern	478	0.6%
Ben Dooks	477	0.6%

Table 3 – Individual kernel contributors

Company Name	# of Changes	% of Total
None	11,594	13.9%
Unknown	10,803	12.9%
Red Hat	9,351	11.2%
Novell	7,385	8.9%
IBM	6,952	8.3%
Intel	3,388	4.1%
Linux Foundation	2,160	2.6%
Consultant	2,055	2.5%
SGI	1,649	2.0%
MIPS Technologies	1,341	1.6%
Oracle	1,122	1.3%
MontaVista	1,010	1.2%
Google	965	1.1%
Linutronix	817	1.0%
HP	765	0.9%
NetApp	764	0.9%
SWsoft	762	0.9%
Renesas Technology	759	0.9%
Freescale	730	0.9%
Astaro	715	0.9%
Academia	656	0.8%
Cisco	442	0.5%
Simtec	437	0.5%
Linux Networkx	434	0.5%
QLogic	398	0.5%
Fujitsu	389	0.5%
Broadcom	385	0.5%
Analog Devices	358	0.4%
Mandriva	329	0.4%
Mellanox	294	0.4%
Snapgear	285	0.3%

Table 4 – Companies credited toward the improvement of the kernel

Kernel Version	# of Developers	# of Known Companies
2.6.11	483	71
2.6.12	701	90
2.6.13	637	91
2.6.14	625	89
2.6.15	679	96
2.6.16	775	100
2.6.17	784	106
2.6.18	897	121
2.6.19	878	126
2.6.20	728	130
2.6.21	834	132
2.6.22	957	176
2.6.23	991	178
2.6.24	1,057	186
All	3,678	271

# Why they contribute?

- Companies like IBM, Intel, HP, etc.-- to ensure that Linux runs well on their hardware.
- Distributors like Red Hat, CentOS, Ubuntu have a clear interest in making Linux as capable as it can be.
- Companies like Sony, Nokia, & Samsung ship Linux as a component of products like video cameras, television sets, and mobile telephones.
- VMWare - built on Linux kernel.
- NVidia – Interested in Graphics business.
- Intel – Processor family interest
- Google, Facebook, Yahoo, Microsoft – Runs many Linux based servers in house.

What do I get as a student out of it?



*You get :* 😊

- Chance to interact with world class software team.
- Chance to modify or improve world class source code.
- Come out with better skills than students who only do the required class work.
- Learn from professionals.
- Build your resume stronger.
- Learn project management.
- Learn ins and out of Source code.

# How to Get Started!

- Choose your area of Network.
- Do your homework – mailing list, wiki, code repository; things done in the past, things discussed on mailing list.
- “Be familiar with coding style, contribution practices, community email etiquette, and copyright assignment practices for the project you are contributing to.”
- “Don't be discouraged by strong personalities in the community and try to understand other people's perspectives.”
- Most of all, Have fun! 😊

# Contd...

- Reviewing code -- any competent developer appreciates more eyes on the code.
- ASK questions!
- Documentation as a comments inside source code.
- Don't forget to understand licensing.

Can Open Source be used as  
Business Model?  
( any idea! )

Yes, it can be used. In fact, its been used by some of the biggies.

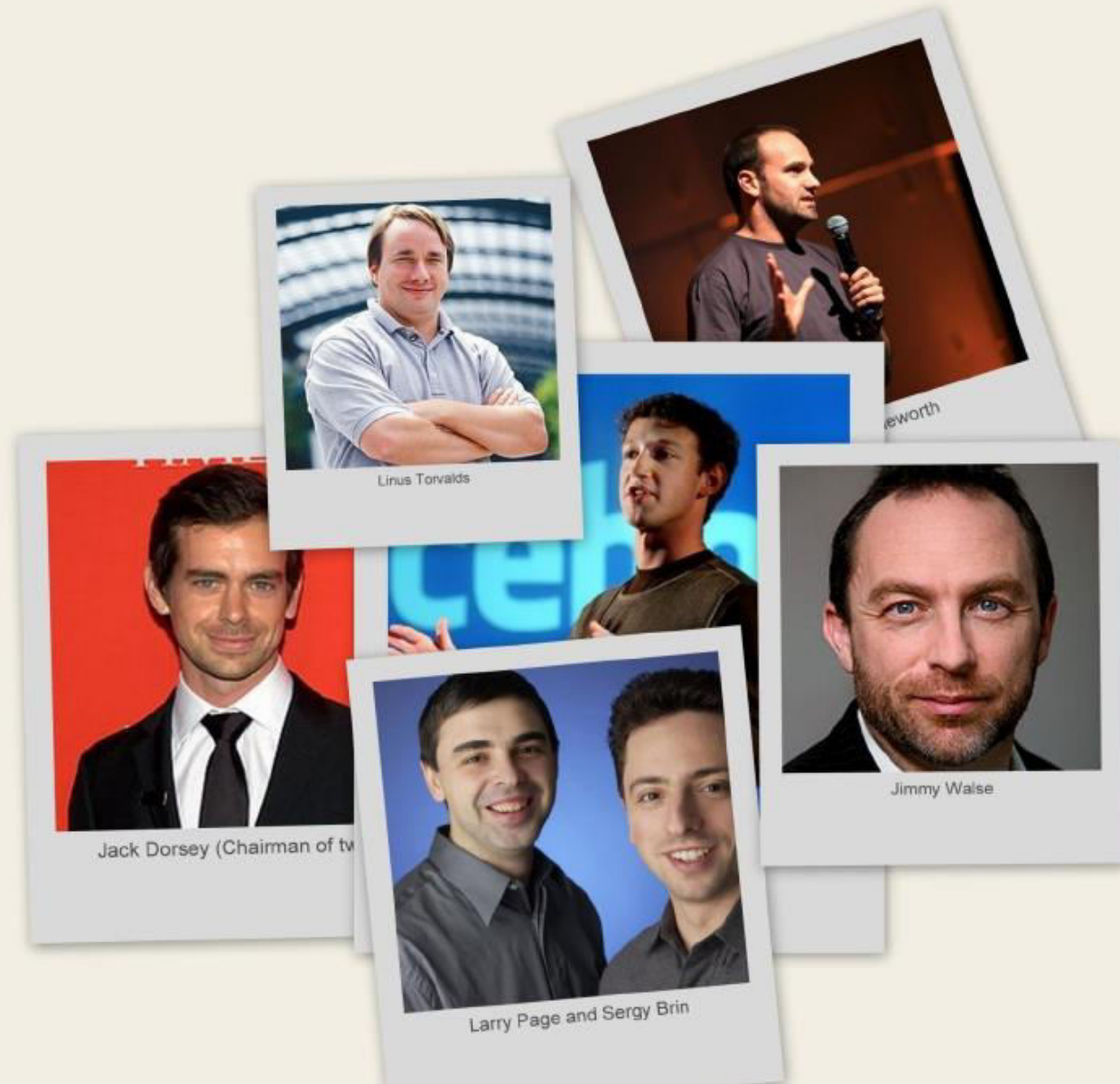


# *Business Models :*

- Open source product's can be sold and used commercially.
- Donations?
- SaaS? IaaS?
- Though there are FOSS apps around developed by big companies, Open source does not always means free of cost.
- You can charge/sell your software along with source code.
- You can distribute it free and charge for Support.
- **Important:** First understand the Licensing in depth and then go with business.

*Few eg :-*

- Canonical Ltd. offers Ubuntu for free, while they sell commercial technical support contracts.
- Mozilla Foundation have a partnership with Google and other companies which provides revenue for inclusion of search engines in Mozilla Firefox.
- MySQL is offered for free, but with the enterprise version includes support and additional features.
- Red Hat offers the Fedora for free through the Fedora Project, while selling Red Hat Enterprise Linux (RHEL).
- Oracle offers OpenOffice.org for free, while selling StarOffice.



Prodigies?



# Examples contd...

- Zend Technologies offers Zend Server CE and Zend Framework for free, but sells Zend Server with support and additional features.
- Wikipedia – Runs on donations. Sharing what we know for free.
- KQInfotech's ZFS port to Linux
- Infibeam?

# So do you...

- ..use good quality FOSS every day?
- ..like the freedom and openness of the Internet?
- ..think that Internet content should remain free?
- ..share stuff with your friends for free?

But

- Did you know that all (a lot) of this stuff is based on...

## Open Source!

# Opportunities in India...?

- Ever growing market.
- Indian government is going to create business opportunity worth billions of dollars. (Yes, I am serious :P)
- Web 2.0 or 3.0 – ever growing online business. Semantic Web is the next big thing.
- With players like Mozilla, Web is becoming more and more open day by day.
- Education.
- Services. Hosted Services.

# HotTech Trends Today (Off course with the help of Open Source tools)

- Android
- Chrome OS (Google)
- Python (the next java 😊 )
- Amazon cloud solutions
- Virtualization
- Drop Box

# What are the ways to contribute?

- Coding :- Write codes
- Localization :- Act of Localizing.
- Bugs :- Fix and report bugs.
- Documentation :- Write Reports and Documents to support the product.
- Testing and Quality Assurance :- Test the product and help enhancing the quality.
- Visual Design :- Design the product.
- Evangelism :- Promote the product or project.

# Different Open Source Projects

There are thousands of Open Source Projects available, out of which some of the most famous projects are :

- *Fedora Project*
- *Mozilla Project*
- *Ubuntu*
- *Wikipedia*
- *Chromium OS*
- *Android*
- *KDE*

- *Gnome*
- *Drupal*
- *Arduino*
- *Apache*
- *Moodle*
- *Joomla*
- *Python*
- *Speed Dreams*
- *Wordpress*

- Well, that's definitely not all as the open source world is a vast one. Here is a list of open source project repositories where you can find work on many small and big open source projects looking for help:-

- Github
- SourceForge
- Google Code
- Bitbucket
- CodePlex
- Open Hatch
- Gamedev



# Linux Kernel

- Choose an area of the kernel of your interest.
- Do your homework -- mailing list(s), a wiki, code repository; things done in the past, things discussed on mailing list.
- "Be familiar with coding style, contribution practices, community email etiquette, and copyright assignment practices for the project you are contributing to."
- Don't be discouraged by strong personalities in the community and try to understand other people's perspectives."
- Testing kernel for different QA tests.
- Reviewing code -- any competent developer appreciates more eyes on the code.

- Documentation as a comments inside source code
- Submitting patches.
- And you know what? It never ends ...

“And most of all, Have fun!” 😊

# Linux Kernel useful links-

## *Mailing List :-*

- The Linux Kernel Archives
- The Linux kernel mailing list archive
- Subscriptions

<http://kernel.org/>  
<https://lkml.org/>  
<http://www.tux.org/lkml/>

## *Other important links*

- Linux foundation
- Linux kernel interactive map
- Kernel documentation
- Linux Kernel Newbie's

<http://www.linuxfoundation.org/>  
[http://wwwma.elinkxu.net/kernel\\_map](http://wwwma.elinkxu.net/kernel_map)  
<http://kernel.org/doc/>  
<http://kernelnewbies.org/>

# Ubuntu

## Development

- Write and package new software or fix bugs in existing software. Your technical skills can make a real difference.

## Design

- Put your creativity to work by improving the look and feel of Ubuntu. Help design graphics, backgrounds or themes for the next release.

## Bug\_squad

- Help make Ubuntu even better by working with bug reports to ensure they're clear, complete and easy to reproduce. Anyone can help!

## Documentation

- Help produce official documentation, share the solution to a problem ,or check, proof and test other documents for accuracy.

# Ubuntu contd...

## **Support**

- Share your technical know-how with other users by joining email and discussion lists or Internet relay chat (IRC) channels.

## **Testing**

- Ubuntu releases new versions every six months so we need lots of testers who can report or confirm problems.

## **Ubuntu\_Brainstorm**

- Everyone can participate in the Brainstorm website. It's full of ideas on how to improve Ubuntu.
- <http://brainstorm.ubuntu.com/>

# Wikipedia-

- Among top five most visited website.
- Runs on donations and contributions from around world.
- Everyone should contribute because it's cool to share your knowledge.
- And it's a lot of fun.
- Most friendly open source project!
- Helps you to become good at writing world class articles.

How to ?

- Create an account
- Learn some basic markup syntax and go. It's that simple.

What can be contributed ?

- Articles, Images, Audio, modifications to existing articles.
- Participate in talk pages, it's a lot of fun.

# Chromium OS

- An open-source operating system built on top of linux kernel.
- Built on concept of cloud for people who spend most time on the web.
- Anybody can download the build,read/review the source code,modify and submit it back. <http://www.chromium.org/chromium-os>
- Chromium OS Developer Guide
- <http://www.chromium.org/chromium-os/developer-guide>
- A best place to participate in next big thing!



# Mozilla

- Mozilla foundation hosts many cool and successful projects.
- Firefox is one of the most downloaded software on earth.

## Contribution opportunities:

- Localization
- Testing and Quality Assurance
- Coding
- Visual Design

<http://www.mozilla.org/contribute/>

# Fedora

- Fedora Easy Fix Page : All the easy fixes you can get started with  
Link - <http://fedoraproject.org/easyfix/>
- Fedora Infrastructure repositories contain some easy fixes. Look for the *EasyFix* label in the repository issues section.  
Link - <https://github.com/fedora-infra>

# KDE

- If you want to start contributing to KDE, look out for the **Junior Jobs** tag. Like each organization KDE too contains a section on how to get started with the KDE projects.
- Getting Started - <http://techbase.kde.org/Contribute>
- Building a KDE Application - [http://techbase.kde.org/Getting\\_Started/Build](http://techbase.kde.org/Getting_Started/Build)
- KDE Guide for a new contributor - <http://flossmanuals.net/kde-guide/>
- IRC - #kde-devel on Freenode
- Mailing List - <https://mail.kde.org/mailman/listinfo/kde-devel>

# OpenStack

- OpenStack is also a great project to start with. The OpenStack project is divided into various components: Swift, Glance, Nova, Horizon, Keystone.
- OpenStack Wiki Main page- [https://wiki.openstack.org/wiki/Main\\_Page](https://wiki.openstack.org/wiki/Main_Page)
- Each Component page contains the link to repository, bug tracker(Launchpad), Documentation etc. OpenStack call their beginner bugs as "**Low Hanging Fruit**".
- Getting Started - [https://wiki.openstack.org/wiki/How\\_To\\_Contribute](https://wiki.openstack.org/wiki/How_To_Contribute)
- If you are a developer - [https://wiki.openstack.org/wiki/How\\_To\\_Contribute#If\\_you.27re\\_a\\_developer](https://wiki.openstack.org/wiki/How_To_Contribute#If_you.27re_a_developer)
- Documentation - [docs.openstack.org](https://docs.openstack.org)
- IRC - #openstack-101, #openstack on Freenode

# Apache

- Apache maintains quite a number of projects.
- Lists a catalog of more than 140 projects in which one can start contributing.

Link - [project.apache.org](http://project.apache.org)

- The New Comers section is an easy read on how to get started in Apache,

Link - <http://community.apache.org/newcomers/index.html>

- Getting Involved with Apache Software Foundation

Link - <http://www.apache.org/foundation/getinvolved.html>

# Python

- To start with contributing with Python, just head over to the **Developer's Guide** (<http://docs.python.org/devguide/> ).
- It starts with cloning the repository in your system then goes on to tell how can you check for the easy fixes.
- The developer guide mentions that how can you start with making documentation fixes, then move up to fix small bugs. Once you get acquainted you can start taking up easy bugs.
- READ: <http://docs.python.org/devguide/fixingissues.html>
- Issue Tracker: <http://bugs.python.org/>
- Easy Issues: <http://goo.gl/NzJuDp>

- Once you start contributing, you start interacting to people via IRC, mailing lists.
- Go through the etiquette an organization follows.
- In general roll your eyes through this presentation to get a brief of it.

Link -

*<http://www.shakthimaan.com/downloads/glv/presentations/mailling-list-etiquette.pdf>*

*Some cool internship and  
fellowship projects*



# Shuttleworth Foundation | Year Fellowship Program

- <http://www.shuttleworthfoundation.org/funding/fellowship-programme/>
- Does not have strictly defined areas of funding.

Suggested areas :-

- Communication and Analytical Skills in Education
- Intellectual Property Rights
- Open and Collaborative Educational Resources
- Telecommunications
- Open Philanthropy
- Open Science

work from where you are!

# Internship at the FSF

<http://www.fsf.org/volunteer/internships>

- FSF sponsors the GNU project
- Chance to work with team who writes gcc,gdb,emacs and many cool projects.
- Work remotely.
- Unpaid but value of experience counts.

# Google Summer of Code

- Offers student developers stipends to write code for various open source software projects.
  - accepted students are paired with a mentor[s] from the participating projects, thus gaining exposure to real-world software development scenarios and the opportunity for employment in areas related to their academic pursuits.
  - more source code is created and released for the use and benefit of all.
- 
- <http://code.google.com/soc/>
  - <http://code.google.com/opensource/>

## Quote :-

*You shouldn't become an artist so you can be famous, but because there's art inside of you that will kill you if you don't let it out. You shouldn't found a startup to make money, but because it's your life's work. And you shouldn't hack on open source projects because someone told you that your GitHub profile is your new resume, but because you want to code socially.*

# Open Source Developer Group Mumbai

- **Community of Open Source promoters**, who are helping students to get into Open Source.
- We do lot of stuff.
- Open Source Boot Camp, Open Talks (Tech Talks ), Developer Conference, Meetups , Hackathons and Appathons and many more.
- We also provide guidance in Projects (Yes, projects has to be Open Source).
- And the best part is, **What ever we do, we do it for free!**
- Attend all out events for free. Yes, **FREE, FREE, FREE.**

# Get involved in OSDGM

## (Open Source Developer Group Mumbai)

*What can I do:-*

- Core Team Member - Work with us
- Volunteer - Volunteer for us.
- Speaker - Speak for us.
- Work from Home – You can also get involved or work for OSDGM from your place.
- Designer – Graphic Designer/ Motion Designer.

Procedure :-

- Well, there is no procedure.
- Yes, no interviews, nothing. If you are interested, that's more than enough.

Talk to us :-

- We do stuff for free. Organize any of our event at your college.
- Email :- [osdgmumbai@gmail.com](mailto:osdgmumbai@gmail.com)
- Facebook Page - <https://www.facebook.com/OpenSourceDevGroup>
- Website :- Coming Soon! 😊



Fork my slides here :-

[https://speakerdeck.com/pradeep\\_sinngh/how-to-get-started-in-open-source](https://speakerdeck.com/pradeep_sinngh/how-to-get-started-in-open-source)

- Thanks, that's all from my side. 😊
- Still not clear about Open Source? Feel free to reach me.

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