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the init magazine

FOSS Nepal Community

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Editorial

Yes, The init Magazine is back!!

For all the fresh readers, let me recap the history. The init Magazine used to be published by Institute of Engineering (IOE) FOSS Community, with the first issue released in October, 2008. Things went good and altogether we had 6 issues. But you know, college life is tough and it's hard for college folks to release a quality magazine every month. The publication eventually halted.

So we thought why not bring the publication to FOSS-Nepal and revive the magazine? The former team got together (over IRC) and we decided to get the May 2010 issue out. And here we present you, the 7th issue of The init Magazine!

Despite much haste in article collection, we've received pretty decent articles. A new version of Ubuntu, Lucid Lynx, got released few days ago, so we've managed to include a brief review too. Apart from FOSS topics, we've also remained open on topics related to technology and algorithms. Hope we'll receive more articles on those area in future issues.

The init Magazine is released by the community so if you are interested in making a contribution (editing, layout, etc) we welcome you with arms wide open. Please do send us your articles, feedbacks and suggestions at theinitmag@gmail.com

Cheers,
The init Magazine Editorial Team

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Weapon of Mass Collaboration

Ruchin Singh

Bob Dylan once wrote, “The Times They Are a-Changin’”, at least with the advent of the internet the times indeed have changed. But the internet is no longer about hooking online, creating a garden community, or putting a video on You Tube. It’s mass collaboration or peer production that’s been the real head turner.

Entire world is starting to participate and collaborate. The old norms like developing and working under strict hierarchical lines of authority inside the corporate boundary is diminishing and now business thinking might be going through one of the biggest changes in the history. Now, the customers can co-create goods and services rather than simply consuming the end products for an organization.

In the past collaboration was small scale limited to friends, colleagues and family but now with the changes in technology, demographics, business, the economy and the world, people participate and collaborate like never before. Millions of people share their news, information and views in blogs that can rival any newspaper.

People from different corners of the world are now working together and sharing ideas like never before. They are working as one giant self organizing brain that can match R&D of any multi billion dollar organization. If you have studied the subject “Technology, Environment and Society”, somewhere you’ll come across a phrase “The new source of power is not money in the hands of the few but information in the hand of many.”

Many of companies have taken a liking to this phenomenon and reaping the fruits of its open source approach. An individual can now create a wide array of free and open source goods and services that anyone can use or modify. Yes, this is what Linux operating system is doing. With Linux, typically all the underlying source code can be used, freely modified, and redistributed, both commercially and non-commercially by anyone under GNU General Public License.

Other companies like InnoCentive are also utilizing this approach. InnoCentive is an "open innovation" company that takes research and development problems in a broad range of domains such as engineering, computer science, math, chemistry, life sciences, physical sciences and business and frames them as "challenge problems" for anyone to solve them. It gives cash awards for the best solutions to solvers who meet the challenge criteria.

A new blog is created every second. Facebook is on its way to half a billion users. Wikipedia has become the next Britannica. Indeed, mass collaboration is the force to be reckoned with. Mass collaboration will bring about a cultural insurrection so, powerful that it will disrupt the very fabric of our society.

This article is highly inspired by the book “Wikinomics: How mass collaboration changes everything”.

Where Go The Boats - OAuth

Dhurba Adhikari
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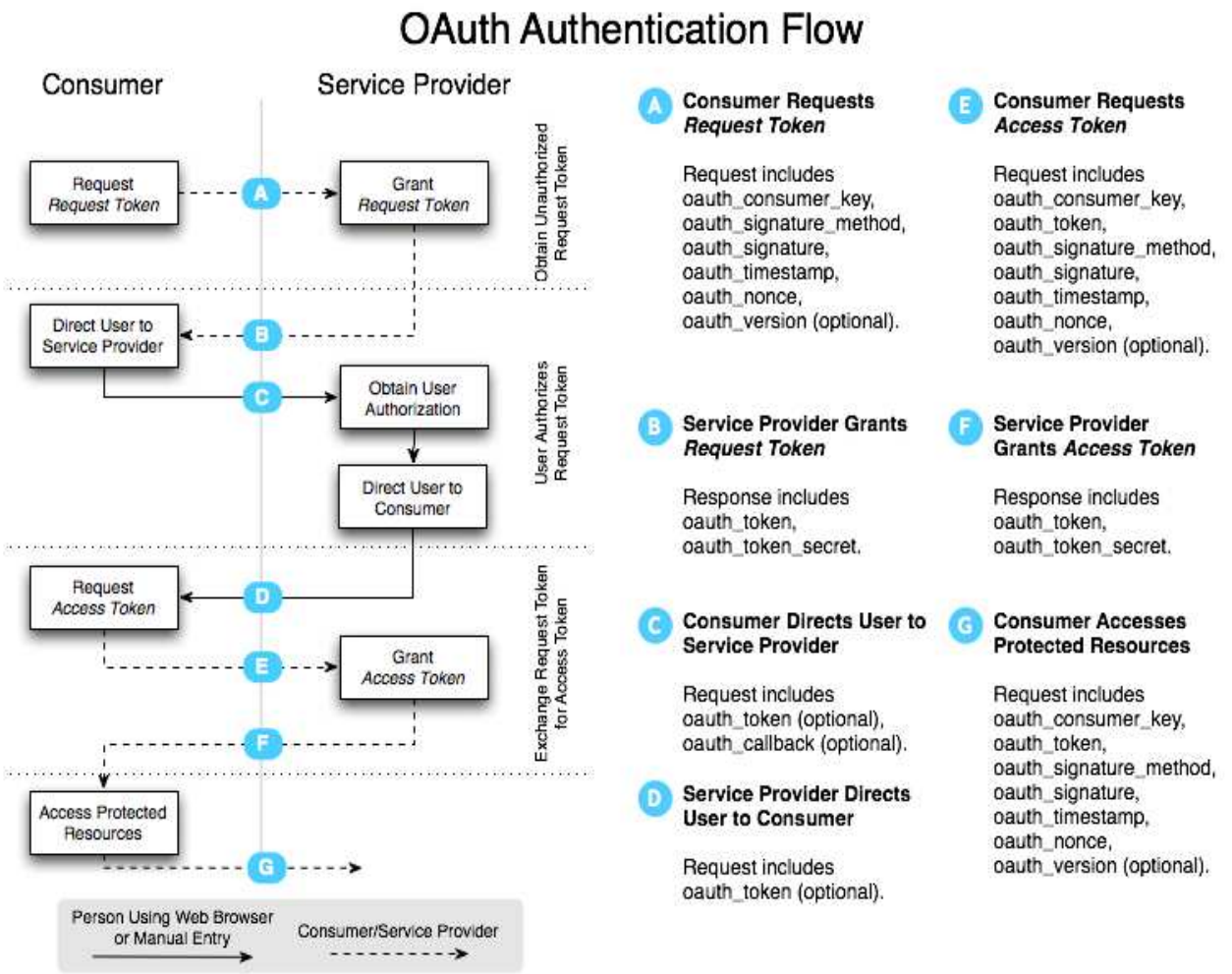
Twitter prompts "An application would like to connect to your account".... "Allow 'application' access ?" with options Deny and Allow. Facebook prompts with similar message, Google does same. What is the prompt? Where go the boats?
An open standard protocol called "OAuth" is what these 'boats' want to implement with. Twitter/Facebook/Google store a huge amount of user information and many private data that a user stores under his/her account. For example, Facebook stores photos, Google has its Calendar where user can create his/her own calendar and make plans accordingly. These prompts simply mean that some third party application wants to access the private data a user has in one of these web services.

Let us consider a web application titled for example 'TwitterSoft' which automatic retweets tweets of another users who follow his account.
Three entities are the role players in such type of communication. a) The Service Provider (eg. Twitter)
b) The Consumer Application (eg. TwitterSoft)
c) The User (eg. acpmasquerade)
OAuth is an open protocol to allow secure API authorization in a simple and standard method from desktop to web applications. It enables websites or applications (Consumers) to access "protected resources" from a web service (Service Provider) via an API, without requiring Users to disclose their Service Provider credentials to the Consumers. More generally, OAuth creates a freely-implementable and generic methodology for API authentication.
By the end of this line, the author assumes that the reader is somehow



clear on what the box, "OAuth" actually stands for.Since its clear with the major terminologies, its better to go with the Authentication Flow. If TwitterSoft wants to access some user acpmasquerade's twitter account, then its simple acpmasquerade should either provide username and password to TwitterSoft or Twittersoft should use some other methods to verify Twitter that it can use acpmasquerade's account. And the second way is what called the OAuth way. Twitter provides only these two methods till date.
Before any OAuth Authorization can happen, a Consumer Application should register with the Service Provider for a Consumer Key and Consumer Secret. Service Provider will then provide API Access EndPoints to receive access requests from the Consumer Application.

Workflow:
Please take the picture above as a reference. (No Programming Details will be discussed here,
Please see https://svn.iamcal.com/public/php/lib_oauth/lib_oauth.php for a minimal library to understand how to program Oauth)

[A] Consumer Application TwitterSoft request Service Provider Twitter with a Request Token.
- oauth_signature_method can be anyone from HMAC-SHA1, PLAINTEXT, RSA-SHA1
- oauth_nonce is just a simple 64bit random string encoded as an ASCII string in decimal format.
[B] Service Provider Grants the Request Token
save the request token vars for future
- oauth_token - required while requesting Access Token
- oauth_token_secret - required while requesting Access Token
[C] Consumer Directs User to Service Provider
- This is when you see the prompt mentioned at the beginning.
[D] Service Provider Directs User to Consumer
- After the Service Provider has authorized the User to Consumer Application with "Allow", Service Provider redirects the user back to the Consumer Application. Callback can be mentioned in earlier request.
Till now the Service Provider authorizes a Consumer Application for a particular User
[E] Consumer Requests Access Token
Access Token is what a Consumer Application requires to get the API access.
- oauth_token - the one received as Request Token (Step B)
- oauth_token_token - the one received as Request Token (Step B)
[F] Service Provider grants Access Token
Since a User has already authorized the Consumer Application, there is no hassle for the Service Provider to provide Access Token to the Consumer, provided that the Request Token matches those provided by it before User grants Authorization.
- Request Token can now be replaced with Access Token
[G] Consumer can Access Protected Resources making calls at the API EndPoint provided by the Service Provider.
- For Example http://api.twitter.com/1/ is an endpoint and statuses/update.format is an API Method to update a user's twitter status.
If any further information required, will love to discuss at my email acpmasquerade@meronepalma.com
At last, an important note to remember, from among the two methods of authentication I pointed above, from 30th June, 2010 Twitter will allow Consumer Applications to authorize via OAuth only. It means there won't be any way to store user's username and password to access

his/her information. Hence the reader must have been clear on why OAuth is required.

References

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OAuth Home - http://oauth.net
Minimal OAuth Library (PHP) https://svn.iamcal.com/public/php/lib_oauth/lib_oauth.php
OAuth Test Server/Client http://term.ie/oauth/example/
Twitter Dev Apps - http://dev.twitter.com/
Twitter Api Sandbox (Console) - http://dev.twitter.com/console

Open Technologies in Context of Nepal

Sushil Shilpakar
Research Associate, OTRC

Open Technologies have already become a global phenomena in software industry today. Although considered as a part of hobbyist and geek-culture initially, open source software and technologies have an important part in global economy today. Openness has been a part of everyday computing and has been making impacts in governmental, business, education and every other sectors imaginable.
Open technologies provide an environment for skills development that will be helpful for the economies of developing countries. This can also encourage the creation of SMEs, entrepreneurial skills and local jobs.
A particular advantage that developing countries have in adoption of open technologies over developed countries is the low learning barrier. In developed countries, many people have grown up using proprietary software and do show some resistance while unlearning those things but in developing countries, people can directly be introduced to Open source because for most of the people ICT is still a new concept.
The concept of open technology basically includes open access, open source and open standards.

Open Access:
Open access is based on principle that scholarly publications should be made freely available to libraries and end users. It helps to ensure long-term access to scholarly articles. Unlike articles that are licensed in traditional article databases, libraries and others can create local copies and repositories of these resources. Libraries, by working together to make repositories of open access literature, can ensure continued access to these scholarly publications into the distant future.
Willinsky (2003) identified nine flavors of open access. The flavors are:
1.e-print archive (authors self-archive pre- or post-prints),
2.unqualified (immediate and full open access publication of a journal,
3.dual mode (both print subscription and open access versions of a journal are offered),
4.delayed open access (open access is available after a certain period of time),
5.author fee (authors pay a fee to support open access),
6.partial open access (some articles from a journal are available via open access),
7.per-capita (open access is made available to countries based on per-capita income),
8.abstract (open access available to table of contents/abstracts, and
9.co-op (institutional members support open access journals).

Open Source:
Open source software is software that includes source code and is usually available at no charge. They provide users the freedom to use, modify, distribute the software.
Open source development has engaged communities throughout the globe but the major contributions have primarily come from developed countries. A few noteworthy open source contributions are also coming from developing countries and these are transforming the way the software have been traditionally perceived.

Open Standards:
Open Technology is not only about using open source softwares but it is also about following open standards.
Pountain (2003) defines an open standard as "a standard that is independent of any single institution or manufacturer, and to which users may propose amendments."
Three key characteristics of open standards identified by Coyle (2002) are:

1) that anyone can use the standards to develop software
2) anyone can acquire the standards for free or without a significant cost
3) the standard has been developed in a way in which anyone can participate.

When a standard has the first two of these characteristics (the ability to use the standard and to obtain it without a significant cost) it can be said to be an open standard in an utility sense. That is to say that an open standard is a standard that is not encumbered by a patent, does not require proprietary software, and can be utilized by anyone without cost. Proprietary standards can sometimes be expensive and it may be cost prohibited to purchase access to a proprietary standard if it is ever needed. Many people consider a standard to be sufficiently open as long as it is open in a utility sense. Others take this a step further and consider a standard to be open only if the process meets the criteria of being created and modified in an open process as well. An example of a standard that fits the definition of a standard that is open in utility but not in process is XHTML. In order to help develop the XHTML specification one has to be a member of W3C. In order to become a member of W3C businesses pay between $5,000 and $50,000 per year (Coyle 2002).

In Context of Nepal:
In an economically poor country like Nepal, it is quite impracticable to afford for licensed proprietary softwares. Thus, people here have been using cheap unreliable pirated softwares. This is morally incorrect and it also induces great risks on the valuable data.
In the current scenario, the best reliable option would be using Free Open Source Softwares. Unlike proprietary softwares, FOSS applications, as evident by name are free to use, modify, distribute or even sell given that the terms and conditions mentioned in the license are well preserved.
Developing countries like Nepal can benefit a lot from Open Source Software. Open source software's provide alternative to the other commercial organization's product in cheaper or even in free. In Nepal also the software commonly used are the pirated versions with many defects or reduced capability. The Open source software provides easy and customizable solution to many demands of the user. Since the software are made by the users they are more user friendly and can be modified as user demands.

Basically the reasons for government to adopt Open Source software comes down to four major points.
1.Independence
2.Cost Savings
3.Speed to Deployment
4.Greater Security

Localization:
Localization is another area countries like Nepal can benefit most from Open Source Software. Language is one of the prominent barrier while introducing IT to the rural areas. This can be largely solved by localizing the software in local language and context, which is extremely easy and well supported in Open Source Software. With open source, communities in several instances have taken up the task of localization to translate software in local languages. Localization has, thus, made it possible for non-native English (lingua franca for software to a larger extent) speakers to use software.
The larger share of the Nepalese population are either English illiterates or does not posses the proficiency of English. Language should not be barrier for a user to use computers. Thus localization can remove that barrier to larger extent. Since open source softwares are free for modifications, anybody can take the initiative and

start localizing.

Interoperability:
A closely associated concept with Open source is Open standard and is mostly implemented by open source developers. Open standards are ensuring interoperability and making it possible for people and governments avoid getting locked in some proprietary standard maintained by a single vendor. The open standards allow anyone to study them and implement hence allowing more competition. When it comes to making choice at government or national level, open standards become more important since government has to be able to maintain data for perpetual period and should not depend on standards by a particular vendor.
The use of open standards can help assure interoperability of diverse systems. Interoperability is one distinct feature offered by Open Technologies for the reason that they are based on open standards and have public releases of their implementation. Interoperability and compatibility were the reasons stated by 90% of the respondents in the FLOSSPOLS survey for selection criteria for new software purchase. The pace of innovation slows down with a lack of competition. Open technologies,
and FOSS, on the other hand, provide an environment conducive for increased competition through an emphasis on open standards and interoperability. The EU study of FOSS states that such systems potentially save industry over 36% in software R\&D investment that can result in increased profits or be more usefully spent in further innovation.

Notable Open Source Projects / Efforts in Nepal:

Help Nepal Network eLibrary
Help Nepal Network (HeNN) is a global charity run on a fully voluntary basis bringing together individuals who love Nepal together, to contribute towards health and education in the remote parts of the
country. The volunteers include people from all walks of life. The aim of the Network is to encourage Nepalis and those with an interest in Nepal, around the world to contribute and provide assistance in the
fields of health, education and emergency relief.
LTSP eLibrary is a low-cost and low-maintenance computer lab suitable for rural parts of Nepal being deployed by Help Nepal Network - Nepal (HeNN). In this system one powerful computer (usually a normal desktop computer, with slightly more memory) is used as server. Connected to this are computers having low configuration -- even Pentium 2 or Pentium 3 computers will work and no hard-disk is required. The whole system runs on Linux along with lots of educational software. Every software used is Free and Open Source.

Open Learning Exchange
Open Learning Exchange (OLE) Nepal is a Nepali not-for-profit organization working on improving quality and access in Nepal's public education system. It seeks to fulfill this mission by developing and
disseminating high quality open-source Information and Communication Technology (ICT)-based educational teaching-learning materials that are accessible and available free of cost to all.

OLE has been pioneering in the field of disseminating ICT enabled teaching-learning material with the help of One Laptop Per Child (OLPC). The whole OLPC runs on open source and the material OLE is
distributing through OLPC is also open source.

Nepalinux
NepaLinux is a localized Debian and Morphix based GNU/Linux Distribution in Nepali. It is a Free Open Source Software released under the GNU General Public License(GPL). It has been developed andreleased by Madan Puraskar Pustakalaya, Nepal under the PAN Localization Project supported by International Development Research Center (IDRC), Canada. So far three different versions of NepaLinux 1.0, 1.1, 2.0 and 3.0 have been released respectively in December 2005, October 2006, June 2007 and May 2008.

FOSS Nepal Community
FOSS Nepal Community is a team of volunteers who believe in the usage of Free/Open Source Software (FOSS). The primary objective of the community is to promote and diversify the usage of Free/Open Source Software in Nepal. The main objectives of FOSS Nepal Community is to raise awareness among general public, government bodies, private sector, civil society, educational institutions and media for expanding the scope of Information and Communication Technology (ICT) via Free and Open Source Software, to sensitize general public, government bodies, civil society and media for the implementation of e-governance by means of FOSS; the optimal solution for e-governance, advocacy for alternatives in Intellectual Property Rights (IPR) specific to ICT and to enhance the capacity of IT professionals by promoting inclusion of Free and Open Source Software in educational system and providing platform for IT professionals to make them globally salable.

Conclusion
Open Technologies have benefits outside of IT too. Several cultures and communities outside of the IT industry have successfully demonstrated the benefits and successes of using open technologies. A notable example is the online encyclopedia - Wikipedia.
In Nepal, Open Technologies user groups have been actively promoting them. Many organizations and businesses have been making their use for different purposes. However, despite the committment, little has been done by the government to harness the power and opportunities provided by Open Technologies. However, the bright prospect of Open Technologies and the economic advantages that comes along is undeniable. Open Technologies have come a long way and for developing economies it seems to be the only way to go.

References:
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-Open Technologies and Developing Economies (Bibek Paudel, Jitendra Harlkalka, Jwalanta Shrestha)

Ubuntu Lucid Lynx 10.04 Review

Jitendra Harlalka
Research Associate, OTRC

Ubuntu 10.04 LTS (Long Term Support) version, code named Lucid Lynx, has been released on April 29, 2010. Built on Kernel 2.6.32, the version brings some exciting changes. The most notable features are summarized below:

Faster boot time
The latest version makes a significant improvement in boot up as well as resume from suspend time. The version fully removes HAL to achieve this performance boost.

Significant changes in color scheme and icons
Starting Lucid release, Ubuntu has given up its signature brownish orange color scheme to adopt aubergine purple shade. It also spots a new icon set which makes the looks the desktop experience for Ubuntu users much more attractive.
Starting this version, the window controls have been shifted to the left side of the title bar as opposed to the right side in previous versions. The change might require some time to get used to. However, if you are adamant at having your controls on the right side, you can find the ways to change the window control behavior.

Consistent Notification and Indicators
Lucid adopts a more consistent approach to notification in panel/system-tray. Like their GNOME counterpart, Kubuntu also adopts better notification management through color change. The effort is towards having consistent method of notification for communication, session management, etc.

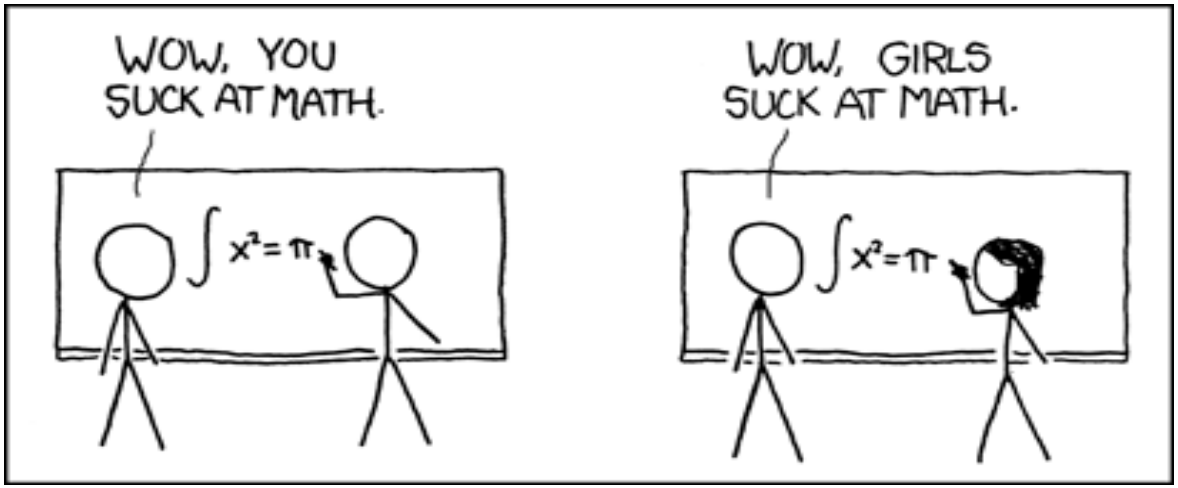
Ubuntu goes Social
Lucid makes it easy to manage your social networks right from your desktop through a MeMenu in the panel. It integrates Twitter, Facebook, identi.ca, FriendFeed and other social networks. It is built on top on Gwibber project.

nVidia support through open source driver
The version supports nVidia hardware through an open source driver, *Nouveau* by default. The open source driver is being said to be under active development. However, Ubuntu has also improved support for nVidia proprietary drivers in the version.

KDE integration for Firefox
Lucid Lynx's KDE flavor (Kubuntu) has responded to a long standing demand of users for better integration of firefox with KDE. Firefox in Kubuntu now provides native KDE file dialogs and opens files with default application choices.

Standard array of softwares
The version comes with an array of standard softwares including Openoffice 3.2, Firefox 3.6.3. For the first time, Ubuntu has included a video editor *PiTiVi* in the default installation whereas image editor GIMP has been dropped from the default installation. This version has been particularly exciting to me since it supported hot keys and sound drivers on my laptop by default which required some script hacking in previous versions. That is an indication of Ubuntu's continued effort in supporting more and more hardwares by default.
Overall, the version becomes some welcome changes that should help shed the allegation of Linux being only expert's OS. So, when you are going to install it on your system?

References:
http://www.ubuntu.com/getubuntu/releasenotes/1004overview



Get Smart With wget

Jwalanta Shrestha
Research Associate, OTRC

"The non-interactive network downloader" says the man page, but the mighty wget is more than mere downloader. Being a commandline tool, wget might look lame but the ways it can be used, it makes any other download manager look dumb.
In its simplest form, to download a file, the

```
$ wget file_to_download
```

But it's the plethora of options that make wget tool of the trade. Lets go through some of the useful and interesting uses of wget.

Download an entire website

Recursively (converts links to local context):

```
$ wget -r http://website-to-download.com
```

Use -l<n> option to select the levels to dig into.
use -np to stop traversing to parent directories.

Mirror

```
$ wget -m http://website-to-mirror.com
```

Some websites restrict such entire-website downloads. You can bypass that by,
- Using -w <n> option, which waits for <n> seconds between consecutive retrievals
- Using -U <user_agent_string> to pass the user agent string as of browser

Resuming

While downloading you can press Ctrl+c to stop the download. To resume, download the same file using -c option

```
$ wget -c file_to_download
```

Limiting download rate

```
$ wget --limit-rate=20k http://my_fav_distro.iso
```

This will limit the download speed to 20KB/s. Use m suffix for megabyte.

Downloading particular type of files only

```
$ wget -A.pdf website-with-url-links
```

This will download only files having .pdf extension from the website. To download all pdf files from the website, use -r option too.

For FTP servers, you can use wildcards like * and ?

```
$ wget ftp://someftpsite.com/files/*.pdf
```

Downloading a list of files

```
$ wget -i downloadlist.txt
```

where downloadlist.txt contains the list of urls, one per line.

To download the list of files in background and write the output log,

```
$ wget -b -c -i downloadlist.txt -o download.log
```

There are much more usage options of wget. Refer to man page for more details. Lets go onto some more fun usages of wget along with other linux tools.

Random fact generator
Grabs a random fun fact from www.randomfunfacts.com

```
$ wget randomfunfacts.com -O -
2>/dev/null | grep \<strong\> | sed
"s;^.*<i>\(.*\)</i>.*$;\1;"
```

Get a random xkcd.com comic

```
$ wget `lynx --dump
http://dynamic.xkcd.com/random/comic
/ |grep png`
```

Backup your entire cPanel hosted website

```
$ wget --http-user=YourUsername
--http-password=YourPassword
http://YourWebsiteUrl:2082/getbackup
/backup-YourWebsiteUrl-`date +"%-m-
%d-%Y"`.tar.gz
```

Replace YourUsername, YourPassword and YourWebsiteUrl for it to work.

Get your public IP address

```
$ wget -qO- whatismyip.org
```

Download all models wallpapers from cybersansar.com
Well, this is lil' kinky but WTH ;) Put the following script to a file, set it as executable and run!

```
#!/bin/bash

id=1
idlimit=2000

while [ "$id" -le $idlimit ]; do
     wget
http://www.cybersansar.com/`wget -q
-O -
http://www.cybersansar.com/wallpaper
_download.php?wid=$id | grep
'graphics/wallpaper/model' | sed
's/.jpg" /.jpg\n/' | sed
's/"graphics/\ngraphics/' | grep
'^graphics.*jpg$'`
     id=$(($id+1))
done
```

The idlimit value is ever increasing, modify it to suit your taste :P

Or alternatively, download a random one and set it as desktop wallpaper (GNOME):

```
id=$((RANDOM%2000)); wget -O
~/Pictures/cybersansar-wallpaper.jpg
http://www.cybersansar.com/`wget -q
-O -
http://www.cybersansar.com/wallpaper
_download.php?wid=$id | grep
'graphics/wallpaper/model' | sed
's/.jpg" /.jpg\n/' | sed
's/"graphics/\ngraphics/' | grep
'^graphics.*jpg$'`; gconftool-2 -t
string -s
/desktop/gnome/background/picture_fi
lename ~/Pictures/cybersansar-
wallpaper.jpg
```

Have fun wget'ting..

References:
http://www.gnu.org/software/wget/
http://www.cyberciti.biz/tips/linux-wget-your-ultimate-command-line-downloader.html
http://www.commandlinefu.com

Cleaner apache setup for PHP developers

Bibek Shrestha
Senior Engineer, YIPL

My work involves a lot of php development at work and I have to test new applications a lot of the time. The setup includes the usual LAMP stack where LAMP stands for Linux Apache MySql and Php. For ubuntu users, there are two quick options.

a) Use the xampp package.
The xampp package is a hassle free bundle of LAMP stack. It includes apache, mysql, php as well as other helpful packages like phpmyadmin, sqliteadmin, helpful start and stop scripts, ssl, etc.

The disadvantage however is the level of customization, ie, addition and removal of features. Say I want to add opcode cache for better performance or use xdebug for debugging, it is very difficult.

b) The other setup is using installing LAMP stack through the repository. I prefer this setup to the xampp way, although that means downloading significant amount of files. The benefit is that you can add or remove or configure modules related to PHP or Apache or mysql easily. Besides this, the packages in Ubuntu repository are configured properly so you just need to install the package. Not much configuration is required to get running.

The default webroot for apache is /var/www where different folders, example foldername corresponds to http://localhost/foldername. Sometimes, we might use links of the form http://localhost/applicationname/link in our application. When shifting to a production server when it should map to http://productionserver/link it however maps to http://productionserver/applicationname/link.

In this tutorial, I will give you instructions to setup a cleaner and easier development environment on a fresh Ubuntu server. At the end of the tutorial, you will be able to run web applications with http://application1.local, http://application2.local, http://application3.local. The applications can reside in any of your own home folder and symlinks will be created in /home/username/vhosts folder. Let's get started

Install apache, mysql and php

```
$ sudo apt-get install apache2
apache2-mpm-worker php5 php5-cli
php5-cgi mysql-server
```

Install required apache modules

We will install following modules
a. libapache2-mod-fcgid, runs php in fastcgi mode. This is memory efficient method of running php.
b. apache2-suexec-custom, The module let's you run your web applications under a custom user account. You do not need to do chmod 777 or chown username for the /var/www folders.

```
$ sudo apt-get install apache2-
suexec-custom libapache2-mod-fcgid
```

Now enable the modules

```
$ sudo a2enmod actions
$ sudo a2enmod fcgid
$ sudo a2enmod suexec
$ sudo a2enmod vhost_alias
$ sudo service apache restart
```

Configure VirtualHosts

Now to run any application as http://application1.local we have to setup apache configuration

Create the file /etc/apache2/sites-available/my-vhosts and replace username with your account name

```
<VirtualHost *:80>

  LogFormat "%V %h %l %u %t \"%r\"
%s %b" vcommon
  CustomLog /var/log/apache2/my-
vhosts_access.log vcommon

  SuexecUserGroup username
username

  VirtualDocumentRoot
/home/username/vhosts/%0/
  VirtualScriptAlias
/home/username/vhosts/cgi-bin/

  AddHandler php-fcgi .php
  Action php-fcgi /cgi-bin/php5.fcgi

  <Directory /home/username>
    Order Deny,Allow
    Allow from all
    Options -Indexes FollowSymLinks
ExecCGI
    AllowOverride All
  </Directory>

</VirtualHost>
```

What this does is, it redirects any domain name to /home/username/vhosts. But first you have to create this folder.

```
$ mkdir -p ~/vhosts/cgi-bin
```

You now have to setup your PHP FastCGI-Wrapper in ~/vhosts/cgi-bin/php5.fcgi

```
#!/bin/sh
exec /usr/bin/php5-cgi
```

Then you have to setup your suexec-common folder by editing file /etc/apache2/suexec/www-data

/home/bibek
public_html/cgi-bin

And finally enable your vhosts and restart apache

```
$ sudo a2ensite my-vhosts
$ sudo a2dissite default
$ sudo service apache restart
```

Add a virtual host
i like to put all my folders in /home/username/src/htdocs/projectname. So I would create a symlink of the project into the vhosts directory as

```
$ cd vhosts
$ ln -sv ~/src/htdocs/application1
application1.local
```

The /etc/hosts file need to be edited so that application1.local points to your localhost

127.0.0.1   application.local

After this, you should be able to access your website through http://application1.local. So for now on, for each new application you would just create
a. symlink in ~/vhosts folder
b. entry in /etc/hosts file

Original Article:
http://www.ruzee.com/blog/2009/01/apache-virtual-hosts-a-clean-setup-for-php-developers

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Learning to Sketch, Once Again, Processing Instead of Pens This Time !

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Remember those primary school years when you used to sketch flowers, birds and what not, then color them and then show-off it to the girl/boy with the most beautiful smile in the class ? Good ! Snap back to reality now, Just enough nostalgia is good enough :)
And enter Processing ! now you can live those dreamy times again, using code instead of pencils though ! Initiated by Ben Fry and Casey Reas, Processing(http://processing.org) is an open source programming language and environment which excels at creating graphics, images, animations and interaction.
Based on the Java Platform, it is free to download(http://processing.org/download/) and is available for GNU/Linux, Mac OS X, and Windows. Processing is under active development and is used by artists, designers, students, researchers and hobbyists as well, be it for large scale productions, prototyping and tinkering/learning.

Getting Started :
Programs written for processing is called a "sketch". The language style is similar to Java, but with few modifications and has a very easy learning curve. To get a rough idea, download the Processing environment, installation is pretty straightforward on all OS'es, and load up the Processing. What you get is something like an editor, with a few more buttons.
Paste in the code below, and hit the Run button, (which looks like a generic Play button.)

```
void setup() {
  size(400, 400);
  stroke(255);
  background(192, 64, 0);
}

void draw() {
  line(150, 25, mouseX, mouseY);
}
```

Move your mouse in the window, and Voila ! and that's your first sketch !

Now let me explain, what you just did was one of the simplest sketches. What you wrote above is the barebones of almost all of the Processing sketches. You have a setup() block which runs once, and a draw() block, which runs endless, of course until you click the Stop button.
Not impressed yet !
Well, trust me ! that was nothing close to awesome ! Processing it self has a lot of examples to check for under the File menu. Take a look around, and let me tell you they include only samples from the library bundled with Processing itself. The open source community has written a load of libraries and has done crazy stuff with this seemingly minimal too. Make sure you play around !
Remember an old Nepali Proverb - A seemingly insignificant river will wash you away ! Trust me, this is one of those. Of course, if you are interested you will hopefully check more about it ! Or maybe even drop a message if you liked it, and thought it wasn't enough !

Cheers ! And for more inspiration, do check awesome CC-Licensed sketches at www.openprocessing.org ! One of my favorites, and do check the amount of code :
[http://www.openprocessing.org/visuals/?visualID=1163]

Learn more,
[http://processing.org/]
[http://processing.org/learning/]

Get Inspired !
Solar, with lyrics by flight404
[http://vimeo.com/658158]
Metamorphosis by Glenn Marshall
[http://vimeo.com/1747316]

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