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# **arielvb's notes**

***Release 1.0***

**@arielvb**

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This are my notes, they help me to remember things. Most of my notes are about software development.  
Use the searchbox to find what you are looking for! Or take a look to the top sections:



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## Applications

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### 1.1 Firefox

#### 1.1.1 Pàgines especials

No totes les opcions de Firefox estan accessibles des de les opcions dels menus. Algunes només es pot accedir escrivint una adreça concreta a la barra de navegació i algunes de les opcions del menu tenen un accés també des de aquesta:

- *about:home* la pàgina definida com predeterminada.
- *about:addons* per accedir a la finestra de complements.
- *about:memory* informació sobre la gestió de memòria.
- *about:support* informació sobre la configuració tècnica del navegador.
- *about:config* consulta i modificació de paràmetres configurables del navegador i complements.

#### 1.1.2 Ubuntu - Instal·lació des de els repositoris de Mozilla

1. Afegir repositori i instal·lar firefox:

```
sudo add-apt-repository ppa:mozillateam/firefox-stable
sudo apt-get update
sudo apt-get upgrade
```

2. Instal·lar paquet d'idioma català, canviar *ca* per *es* si es vol castellà:

```
sudo apt-get install firefox-locale-ca
```

3. Arrancar Firefox i escriure a la barra de navegació:

```
about:addons
```

4. Clicar a l'icona d'eines i triar l'opció *Check for updates / Comprova si hi ha actualitzacions*

5. Reiniciar Firefox.

#### 1.1.3 Complementos

Url: **about:addons**

Llista de complements interessants:

**Firebug** Per a tots aquells que creen webs i aquells que fan web-scraping:)

**Web Developer** barra d'eines per desenvolupadors, permet desactivar la memòria cau del navegador, javascript...

**Pearl Crescent Page Saver** permet desar pàgina sencera, o la part visible, com imatge.

**JSONView** visualitza les respostes JSON en colors i amb format directament al navegador [by laura.p]

**httpsEveryWhere** activa la navegació per https a una serie de llocs web on no ho està de forma predefinida.

**adblock plus** bloqueja els anuncis de les pàgines web. Per que una navegació sense publicitat no té preu.

### 1.1.4 Modify about:home search engine

Modify the key **search-engine** in the chromeappstore.sqlite inside your profile.

Default value in firefox-beta 17 is:

```
> sqlite3 chromeappstore.sqlite "SELECT * FROM webappsstore2 WHERE key='search-engine';"  
emoh.:moz-safe-about|search-engine|{"name":"Google","searchUrl":"https://www.google.com/search?q=_se
```

To set duckduckgo as search engine:

```
sqlite3 chromeappstore.sqlite 'UPDATE webappsstore2 SET value=\'{"name":"DuckDuckGo","searchUrl":"ht
```

The easy way, in the about:home page, paste in the url field:

```
javascript:{localStorage["search-engine"]="{"name\\":\\"Google\\",\\"searchUrl\\":\\"http://www.google.com
```

### 1.1.5 References

- <http://support.mozilla.org/ca/questions/779082> (2012-10-28)

## 1.2 LibreOffice

LibreOffice is a free and open source office suite, developed by The Document Foundation. It is descended from OpenOffice.org, from which it was forked in 2010. – Wikipedia

### 1.2.1 Command line

- Create pdf from all the odt of the current dir:

```
lowriter --headless --convert-to pdf *.odt
```

#### Advanced command line tools

**unoconv** is a command line tool to convert LibreOffice documents



## 1.2.2 References

- <https://en.wikipedia.org/wiki/Libreoffice>
- [https://help.libreoffice.org/Common/Starting\\_the\\_Software\\_With\\_Parameters](https://help.libreoffice.org/Common/Starting_the_Software_With_Parameters)
- <http://rocreguant.com/como-instalar-un-nuevo-diccionariocorrector-para-libreoffice-en-ubuntu/270/>
- <http://www.computercorrect.com/2011/desktop-applications/openoffice-org/custom-fill-colors-in-openoffice-org/>

## 1.3 Virtualbox

Virtualbox is a virtualization software, it's opensource and is available under a GPLv2. You can download it for free at <https://www.virtualbox.org/wiki/Downloads>

### 1.3.1 Obtain images

You can manually install lot of OS. But if you want to start very fast [VirtualBoxImages](#) offers ready to launch images, some are free others not.

Free VDI's are available at <http://virtualboximages.com/Free.VirtualBox.VDI.Downloads>.

### 1.3.2 Tunning

#### SSH

To connect to guest using ssh, it's needed to configure the port redirection at the virtualbox image. You can do using the commandline or the gui.

Using the commandline (when the image is stopped):

```
VBoxManage modifyvm "VM name" --natpf1 "ssh,tcp,,2222,,22"
```

Using the gui:

Machine > Settings > Network > Port forwarding > Insert new Rule (+)

And fill the table with (4th column is empty, see picture):

```
ssh | tcp | 127.0.0.1 |      | 22
```

### 1.3.3 API

Virtualbox has an *API* or *SDK* for developers, see *SDK Programmin Guide* at [https://www.virtualbox.org/wiki/Technical\\_documentation](https://www.virtualbox.org/wiki/Technical_documentation)

The API can't be used with Python, Java, C++, C or Visualbasic. The following example shows how to retrieve the name of the existing machines:

```
import vboxapi
man = vboxapi.VirtualBoxManager(None, None)
[i.name for i in man.getArray(man.vbox, "machines")]
```

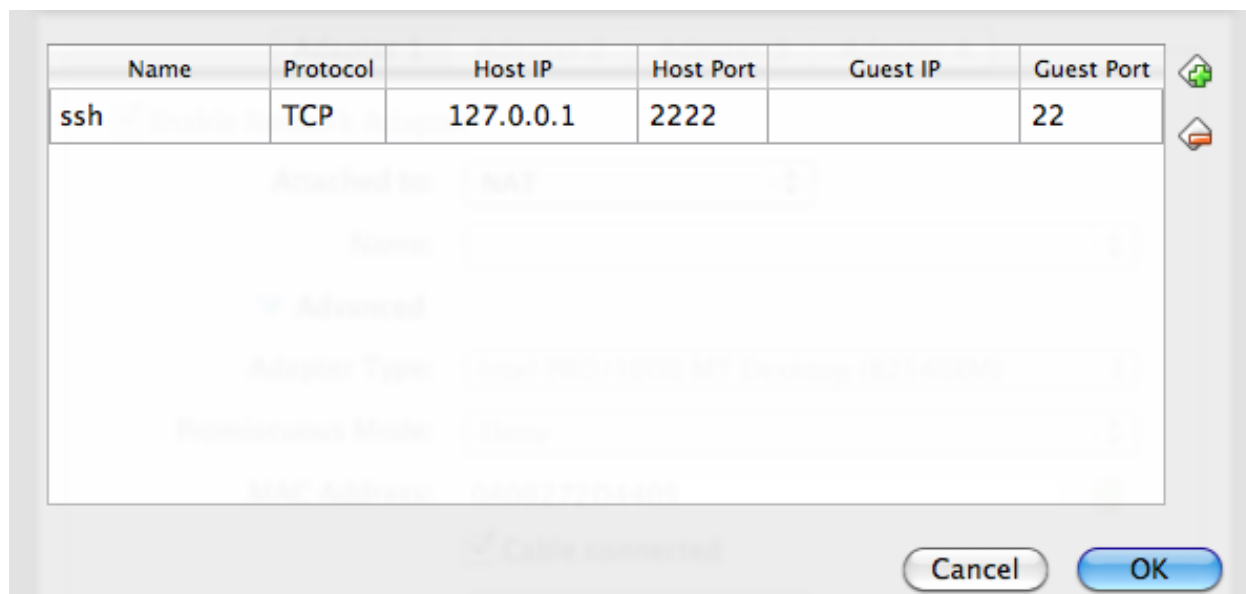


Figure 1.1: SSH forwarding

---

## Command line

---

### 2.1 Colorize

The command line with colors looks so pretty!

#### 2.1.1 grep

Use the argument *-color*:

```
grep --color=auto
```

The options are:

- auto: doesn't colorize if the output is a pipe.
- always
- never

#### 2.1.2 less / more

Use the argument *-R* (or *-r*):

```
more -r
```

Example colorize grep output:

```
rgrep --color=auto TODO . | more -r
```

#### 2.1.3 pygmentize

pygmentize colorizes the input allowing different lexers:

```
pygmentize [-l lexer] [file]
```

The lexer will be autodected, but if not some of the lexers are:

- rst: reStructuredText
- html
- python

## 2.2 Ripping DVD with FFMPEG

### 2.2.1 Concatenate files

With ffmpeg, you can concatenate video/audio files, for example if you want to concat a DVD movie in a single file:

```
ffmpeg -i concat:VTS_01_0.VOB\|VTS_01_1.VOB\|VTS_01_2.VOB\|VTS_01_3.VOB -vcodec libxvid -qscale 0 ~/r
```

Or if you want a single track with some of your favorites songs:

```
ffmpeg -i concat:song1.mp3\|song2.mp3 -c copy songs.mp3
```

### 2.2.2 Rotate video

Execute:

```
ffmpeg -i 2015-01-01\ 00.*mp4 -vf "transpose=1" out.mp4
```

For the transpose parameter you can pass:

0 = 90CounterClockwise and Vertical Flip (default) 1 = 90Clockwise 2 = 90CounterClockwise 3 = 90Clockwise and Vertical Flip

### 2.2.3 Tips

List available codecs:

```
ffmpeg -codecs
```

### 2.2.4 References

- <http://stackoverflow.com/questions/3377300/what-are-all-codecs-supported-by-ffmpeg>
- <http://blog.desdelinux.net/howtorippear-o-copiar-un-dvd-a-mano-con-cat-y-ffmpeg/> [spanish]
- <http://stackoverflow.com/questions/3937387/rotating-videos-with-ffmpeg>

## 2.3 Imagemagick

### 2.3.1 Creating tiles

Basic usage:

```
convert FILE -crop geometry tiles_%d.jpg
```

Recomend usage for jpg files, tile + remove exif information:

```
convert FILE -crop geometry -strip tiles_%d.jpg
```

Recovering a copped image, (doesn't work with jpg tiles):

```
convert tiles_*.gif -mosaic recover.gif
```

## 2.3.2 Creating gifs

```
convert -delay 20 -loop 0 -resize 800x522 *.jpg ../grup.gif
```

## 2.3.3 Slicing images

Slice and image in 3:

```
convert -crop 34%x100% +repage beach.jpg beach_%d.jpg
```

# 2.4 SoX - Sound eXchange

SoX the sound utility!

**Website** <http://sox.sourceforge.net/>

**Category** audio, convert, cmd, nogui

## 2.4.1 Installation

---

**Note:** SoX by default doesn't have mp3 encoding support, to prevent legal issues with the *mp3* patents. Some third party packages/libraries permits you bypass that problem.

---

### Linux

First check if [SoX](#) is available on your packagemanager, and check if that version is up to date, if the version is too old; consider download [SoX](#) from [their website](#) and build it from source.

### Ubuntu 12.04

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#### Note:

**To install sox quick with mp3 support run:** `sudo apt-get install sox libsox-fmt-mp3`

If you want to install SoX only or know about the extra packages continue reading.

---

1. Install using the repository version of [SoX](#):

```
sudo apt-get install sox
```

2. Enable mp3 encoder:

```
sudo apt-get install sox libsox-fmt-mp3
```

## Mac OS X

SoX can be installed using homebrew, first check the build options with:

```
brew info sox
```

The different options extend the default behaviour with some extra encoders (conversion formats), check the end of this section to know what are the different options.

To build without extensions (without mp3, ogg conversion):

```
brew install sox
```

One of the extra encoders is provided by *libvorbis*, offering encoding file as ogg, to install this encoder you must have not installed SoX and run:

```
brew install sox --with-libvorbis
```

### 2.4.2 Usage

SoX is really easy to use, if you know how to use a commandline program. Take a look to the next examples, and you will discover some of the features of SoX.

1. Play an audio file:

```
play filename
```

2. Convert an mp3 to ogg (the output format is autodected using the new file extension):

```
sox filename newfile.ogg
```

3. Concatenate two or more audio files:

```
sox filename1.wav filename2.wav filename3.wav file1to3.wav
```

### Advanced usage

1. Create spectrogram:

```
sox casa.mp3 -n spectrogram
```

2. Tuning spectrogram example params:

```
sox casa.mp3 -n spectrogram -Y 130 -l - casa_spec.png
```

3. Reverse sound track:

```
sox casa.mp3 reverse asac.mp3
```

### 2.4.3 Some interesting resources

- Sox Documentation: <http://sox.sourceforge.net/sox.html>
- Building sox with mp3 support on Mac: <http://ggkarman.de/tech/building-sox-with-mp3-support-on-osx/>

## 2.5 Vi/vim

**Go to line, Ctrl+C::** :[linenumber]

**Go to character (very usefull to debug Python unicode errors)::** :goto [charnumber]





## 3.1 Apache

Notes about Apache Web Server.

### 3.1.1 htaccess: Tips

..note:

This notes are in Spanish

#### Redirigir http a https

Requisito: modRewrite

Crear un fichero .htaccess y introducir el siguiente bloque de reglas:

```
RewriteEngine On
RewriteCond %{HTTP:X-Forwarded-SSL} !on
RewriteRule ^(.*)$ https://%{HTTP_HOST}%{REQUEST_URI} [R,L]
```

#### Proteger con usuario y contraseña

Requisito:

AuthUserFile [RUTA AL FICHERO DE AUTENTIFICACIÓN] AuthName “[TEXTO IDENTIFICATIVO SITIO]”  
AuthType Basic require valid-user

**Warning:** La ruta del fichero de autenticación ha de ser absoluta

### 3.1.2 mcrypt for Mac and PHP

**Website** <http://mcrypt.sourceforge.net/>

**Tags** software, mac, php, magento

Mac OS comes with Apache and PHP installed, but maybe you need some extensions that doesn't come with the default installation.

If you need *mcrypt* you have to options [reinstall PHP on Mac OS X](#) installation with a new version using *homebrew* or install only the extensions you need.

---

**Note:** This instructions are for Mac OS X 10.6

---

## Requeriments

- XCode

## Installing mcrypt

To install the mcrypt extension for PHP, first you need to install mcrypt and once installed you need to compile the extension for your PHP version.

The installation mcrypt, you need to compile the source code or install it with *homebrew*:

```
brew install mcrypt
```

**Warning:** If the default formula doesn't work you can try with a diferent one, check out the section [Custom brew formula](#).

The next step is build the PHP extension for your PHP version. First you need to know the PHP version of your Mac:

```
php -v
```

And then downlad the source code of the same PHP version, in my case 5.3.15, from php.net or using the spanish mirror:

```
wget http://es1.php.net/distributions/php-5.3.15.tar.bz2
```

Extract the source code:

```
tar -xf php-5.3.15.tar.bz2
```

And go to the mcryp extension diretory:

```
cd php-5.3-15/ext/mcrypt
```

Prepare the extension to compile:

```
phpize
```

And execute the next oneliner:

```
MACOSX_DEPLOYMENT_TARGET=10.6 CFLAGS='-O3 -fno-common -arch i386 -arch x86_64' LDFLAGS='-O3 -arch i386 -arch x86_64' ./configure
```

If the oneliner ends without any error, install the extension:

```
sudo make install
```

The most probable error is related with `PHP_FE_END` or `ZEND_MOD_END`. To fix this you must edit the *ext/mcrypt/mcrypt*. and add at the beginning of the file, the definition of both:

```
#define PHP_FE_END {NULL,NULL,NULL}
#define ZEND_MOD_END {NULL,NULL,NULL,0}
```

Then you must execute the onliner and the install instruction.

Now you have everything installed, but your PHP installation doesn't know that mcrypt is available; to activate this extension you need to edit the */etc/php.ini* file adding the next line:

```
extension=mcrypt.so
```

---

**Note:** If this file doesn't exist you will find a *php.ini.default* in the same folder; create a copy of it as *php.ini*

---

And check that the extension is correctly installed:

```
php --info | grep mcrypt
```

Finally restart Apache:

```
sudo apachectl restart
```

### Custom brew formula

Replace the file */usr/local/Library/Formula/mcrypt.rb* with:

```
require 'formula'

class Mcrypt < Formula
  homepage 'http://mcrypt.sourceforge.net'
  url 'http://sourceforge.net/projects/mcrypt/files/Libmcrypt/2.5.8/libmcrypt-2.5.8.tar.gz'
  sha1 '9a426532e9087dd7737aabccff8b91abf9151a7a'

  option :universal

  def install
    ENV.universal_binary if build.universal?
    system "MACOSX_DEPLOYMENT_TARGET=10.6 CFLAGS='-O3 -fno-common -arch i386 -arch x86_64' LDFLAGS='-fno-common' make -j6"
    system "make install"
  end
end
```

### References

<http://blog.rogeriopvl.com/archives/php-mcrypt-in-snow-leopard-with-homebrew/>

### Installation log

The installation fast notes:

```
PHP_VERSION="5.3.15"
# or using bash replace
a='php -v';
PHP_VERSION=${a:4:6}
brew install mcrypt
wget http://es1.php.net/distributions/php-$PHP_VERSION.tar.bz2
```

```
tar -xf php-$PHP_VERSION.tar.bz2
cd php-$PHP_VERSION/ext/mcrypt
echo "copy next lines into ext/mcrypt/mcrypt.c"
echo "#####"
cat << EOF
#define PHP_FE_END {NULL,NULL,NULL}
#define ZEND_MOD_END {NULL,NULL,NULL,0}
EOF
echo "#####"
phpize
MACOSX_DEPLOYMENT_TARGET=10.6 CFLAGS='-O3 -fno-common -arch i386 -arch x86_64' LDFLAGS='-O3 -arch i386 -arch x86_64'
sudo echo "extension=mcrypt.so" >> /etc/php.ini

# Check if the new extension is available
php --info | grep mcrypt

# restart apache
sudo apachectl restart
```

### 3.1.3 Python for apache

#### Installation

##### Mac Os X

1. Install mod\_wsgi using *brew*:

```
brew update
brew install mod_wsgi
```

2. Edit the `/etc/apache2/http.conf` and add:

```
LoadModule wsgi_module /usr/local/Cellar/mod_wsgi/3.3/libexec/mod_wsgi.so
```

---

#### Note:

The exact path for `mod_wsgi` can be found with:: `brew list mod_wsgi`

---

#### wsgi frameworks

#### References

- <http://stackoverflow.com/questions/4341769/how-can-i-get-mod-wsgi-working-on-mac>
- Flask Deployment Documentation, [http://flask.pocoo.org/docs/deploying/mod\\_wsgi/](http://flask.pocoo.org/docs/deploying/mod_wsgi/)

mod\_proxy [http://httpd.apache.org/docs/current/mod/mod\\_proxy.html](http://httpd.apache.org/docs/current/mod/mod_proxy.html)

### 3.1.4 Proxy Server

[https://en.wikipedia.org/wiki/Proxy\\_server](https://en.wikipedia.org/wiki/Proxy_server)

## 3.2 BlackBerry

### 3.2.1 Connect via ssh [1]

If you have previously configured Eclipse to work with your Blacberry device, you can reuse the existing sshkey.

In Mac OS X you can find it at `~/Library/Research In Motion/` in other OS you can find the exact path in the Eclipse Preferences searching for *BlackBerry Plugin*.

1. Run *blackberry connect*, remenver change the executable path, password and ip before execute:

```
/Users/arkow/projects/blackberry/blackberry.tools.SDK/bin/blackberry-connect 192.168.1.34 -sshPu
```

2. Open the *ssh* connection, using *devuser* as username:

```
ssh devuser@192.168.1.34 -i bbt_id_rsa
```

### 3.2.2 References

- <http://blog.skufel.net/2012/07/how-to-access-blackberry-playbook-via-ssh/>

## 3.3 Buildout

Procès:

```
sudo pip install zc.buildout
buildout init
wget http://svn.zope.org/*checkout*/zc.buildout/trunk/bootstrap/bootstrap.py
```

### 3.3.1 URI's

- Buildout web site: <http://www.buildout.org/install.html>

## 3.4 Encodings

In a perfect world only one encoding will exist, but that will not be funny. Dealing with encodings normally is a pain, because the list of encoding formats is too long but the more common are ascii, utf-8, machintosh, windows, iso-xxxx-x.

Some encodings has reduced, or none, support to non english characters like á or ñ.

### 3.4.1 Utilities

**iconv**

**iconv** converts file from one encoding to another; is a encoding converter.

**iconv** is a comand line program, check program options with **man iconv** or **iconv --help**; or take a look to the next examples for the most common.

The first example, will convert a file in utf-8 to iso-8859-1 <sup>1</sup>:

```
iconv --from-code=UTF-8 --to-code=ISO-8859-1 file.csv > file.csv
```

## 3.5 Jenkins and Python

<https://wiki.jenkins-ci.org/display/JENKINS/ShiningPanda+Plugin> <https://docs.shiningpanda.com/builders/freestyle.html>

nosetests <http://readthedocs.org/docs/nose/en/latest/>

Tutorial: <http://www.rhonabwy.com/wp/2009/11/04/setting-up-a-python-ci-server-with-hudson/>

## 3.6 Mono

**url** <http://www.mono-project.com/>

**docs** <http://www.mono-project.com/docs/>

**api** <http://docs.go-mono.com/>

**tags** programming language, opensource, .net

Mono appeared on 2004 as a crossplatform .NET framework opensource implementation.

---

**Note:** This documents covers only C# features of Mono.

---

### 3.6.1 Building your sources with the commandline

If your sources have a *.csproj/.sln* file you can use *mdtool* to build it, if not you can compile it with *Mono C# compiler (mcs)*.

#### Using the Mono C# compiler: mcs

**url** <http://linux.die.net/man/1/mcs>

Lets suppose you have a single source *hello.cs*, with the following content:

```
using System;

class Hello {

    static void Main() {
        Console.WriteLine ("Hello, World!");
    }

}
```

You can build it running:

```
mcs example.cs
```

---

<sup>1</sup> Microsoft Excel has some issues displaying UTF-8's characters in CSV files, but not with the ISO-8859-1's encoding.

## Using MonoDevelop: mdtool

To obtain mdtool, you will have to install MonoDevelop or Xamarin Studio.

### Code analizers

Assembly analyzer: *gendarme*

After running *gendarme* on our example *hello.cs*:

```
mcs hello.cs && mono gendarme.exe hello.exe
```

We will see a listing with all the defects in our assebly, after fixing them our code will look like:

```
using System;
using System.Reflection;
using System.Runtime.InteropServices;

[assembly: CLSCompliant (true)]
[assembly: ComVisible (false)]
[assembly: AssemblyVersion ("1.0.0.0")]

static class Hello {

    static void Main() {

        Console.WriteLine ("Hello, World!");

    }
}
```

### Documenting your code

If some one else needs to use your code, you probably should to generate some documentation for your classes, methods one great tool is [Doxygen](#).

### UML

*Doxygen* can generate some basic UML diagrams, if you want the big picture you can try to use [NClass](#)

### Code coverage

[OpenCover](#)

### Reports

After running the codecoverage for your tests probably you want to create a report, you can use [ReportGenerator](#)

### Continuous integration

You can use [Jenkins](#), [SonarCube](#).

### 3.6.2 References

- Introduction to Mono - Your first Mono app
- C# compiler Command-line options
- Walkthrough: Creating an MSBuild Project File from Scratch

### 3.6.3 Extras

- Using Maven with .NET

## 3.7 PERL

Perl was originally developed by Larry Wall in 1987 as a general-purpose Unix scripting language to make report processing easier. Since then, it has undergone many changes and revisions. The latest major stable revision is 5.16, released in May 2012. Perl 6 is a complete redesign of the language, announced in 2000 and still under active development as of 2012s.

– Wikipedia 2013-02-18

### 3.7.1 API

The perl api is available online <sup>2</sup>. It has also a command line tool called **perldoc**

### 3.7.2 Packages/Modules

Packages, modules or distributions can be administrated with the package manager: **cpan**

To install a new packages:

```
cpan $packagename$
```

Or entering in the interactive mode:

```
cpan  
i $packagename$
```

### 3.7.3 Cheats

- <http://perldoc.perl.org/perlcheat.html>
- More visual (but less complete): <http://www.cheatography.com/mishin/cheat-sheets/perlcheat/>

## 3.8 PictureFlow

PictureFlow is a Coverflow widget for Qt, it was developed by Ariya.

..warning:

---

<sup>2</sup> <http://perldoc.perl.org/>



```
**Pictureflow (python) loves memory** usage.  
250 images => 1.62 GB of RAM  
50 images => 538 MB of RAM  
  
**Pictureflow (cpp) also loves memory**  
250 images => 1.39 GB of RAM  
50 images (not the same pack as in python) => 99 MB of RAM
```

### 3.8.1 Resize images

Before call pictureflow you must created a resized version of your images, or tu much memory will be allocated!

You can resize faster with imagemagick, for exemple to resize all the jpg in your folder using *bash* and *convert*:

```
for i in `ls *.jpg`; do convert -sample 512x512 $i 512_$i; done
```

This will make that PictureFlow only uses **225 MB of RAM** for 250 images.

### 3.8.2 Build

1. Donwload last version of pictureflow from the github repository of Ariya:

```
git clone https://github.com/ariya/pictureflow.git
```

1. Run go to *pyctureflow-qt/pyqt/lib* and run:

```
qmake  
make install
```

2. If *make install* doesn't copy anything, copy pictureflow lib (pictureflow.a) to:

```
/Applications/QtSDK/Desktop/Qt/4.8.1/gcc/lib
```

3. Go to pyqt folter, one level up and run (better step by step):

```
python configure.py  
make  
make install
```

4. Edit the demo.py file to add your image path, and run it with python.

### 3.8.3 Other references

PictureFlow - listing images in PyQt4 <http://www.rkblog.rk.edu.pl/w/p/pictureflow-listing-images-pyqt4/>

The Calibre plugin pictureflow.

## 3.9 Python

Notes about Python.

### 3.9.1 Python Freezers

- py2app
- pyinstaller

#### py2app

##### Phonon (qt)

Once the application is freezed, the phonon engine could'nt be initiated.

#### Pyinstaller

##### Mac

PyInstaller has some issues creating Mac Os X bundles:

- No application icon support.
- If our application uses Qt, it forgets to add the qt\_menu.nib file.

#### References

- <http://tech.xster.net/tips/deploy-pyqt-applications-on-mac-os-x-with-pyinstaller/>

### 3.9.2 ICC - Profiles

Per treballar amb perfils de color amb python cal:

1. LittleCMS
2. PIL

Com instal·lar els requisitis, s'explica a continuació.

Mac (Previament cal tenir brew instal·lat):

```
brew install lcms  
brew install pil
```

...

### 3.9.3 MySQL for Python

#### Installation

##### Mac Os X

<http://stackoverflow.com/questions/1448429/how-to-install-mysqldb-python-data-access-library-to-mysql-on-mac-os-x>

### 3.9.4 Pandas

Pandas Data Analyst library for Python.

**Website** <http://pandas.pydata.org>

**Tags** python, data, analysis

#### Installation

First install some of the required packages, using pip:

```
pip install numpy
```

Install pandas:

```
pip install pandas
```

Check that pandas has been installed correctly:

```
python -c "from pandas import *"
```

If you have an old version of python-dateutil, for example 1.5, pandas will raise an import error; you must upgrade python-dateutil:

```
pip install --upgrade python-dateutil
```

#### References

- Pandas introduction: <http://pandas.pydata.org/pandas-docs/stable/dsintro.html>
- <http://blog.yhathq.com/posts/R-and-pandas-and-what-ive-learned-about-each.html>

### 3.9.5 PyPi

PyPi is the *Python* package index, also known as Cheesechop.

#### Register an account

The website allows register an account to upload packages. You can login also login using OpenId.

#### Register a package

Once you have a package created and before upload you must register it:

```
python setup.py register
```

#### Uploading a package

To upload a package you must create a distribution, using *sdist*, *bdist*...

To upload the sdist:

```
python setup.py sdist upload
```

### The fast way

```
python setup.py register sdist upload
```

## 3.10 Sphinx

### 3.10.1 Mac Os X

#### Themes Location

For example for builtin system Python-2.6 and Sphinx-1.1.2, the theme's path is:: /Library/Python/2.6/site-packages/Sphinx-1.1.2-py2.6.egg

### 3.10.2 Themes

Some beautiful themes from various places and authors.

- Read the docs: [https://github.com/snide/sphinx\\_rtd\\_theme](https://github.com/snide/sphinx_rtd_theme)
- Sphinx Bootstrap: <https://pypi.python.org/pypi/sphinx-bootstrap-theme>

## 3.11 Webfaction

### 3.11.1 Crea lloc web

Cal crear un website: dominis (domini + www.domini), aplicacio, usuaris (opcional).

#### https

S'ha de crear tant la versió http com https (2 websites) amb la mateixa aplicació (o no) i els mateixes dominis

### 3.11.2 Crear usuari

1. Des de la web crear un usuari amb access a consola, més tard restringirem l'accès per a que només pugui accedir per ftp.
2. Crear la carpeta de l'aplicacio.
3. Afegir permisos d'execucio al directori de l'usuari principal al nou usuari:: `setfacl -m u:[usuari]:-x $HOME`
4. Afegir permisos al directori concret:: `setfacl -m u:[usuari]:-x $HOME/[directori]`

### 3.11.3 Git

**Anar a la carpeta repos de l'aplicació on està instal·lat git::** `cd webapps/gitpxc/repos`

```
git init --bare {repo}.git cd {repo}.git git config http.receivepack true
```

Editar la descripció del projecte:

```
vi description
```

Definir els autors afegir al fitxer config:

```
[gitweb]
  owner = Ariel
```

A la nostra màquina dins de la carpeta que volem afegir al repositori:

```
git init
touch README
git add README
git commit -m "First commit"
git remote add origin https://dev.arielvb.com/git/{repo}.git
git push origin master
```

### 3.11.4 mod\_wsgi i AuthUserFile

Per protegir directoris dins d'una aplicació amb mod\_wsgi cal carregar els mòduls d'Apache corresponents, ja que per defecte es carreguen.

Cal editar el fitxer `apache2/conf/http.conf` i afegir:

```
LoadModule auth_basic_module modules/mod_auth_basic.so
LoadModule authn_file_module modules/mod_authn_file.so
LoadModule authz_user_module modules/mod_authz_user.so
```

Si volem protegir totes les rutes cal afegir al bloc **directory**:

```
AuthUserFile [ruta al fitxer htpasswd]
AuthName "[Text a mostrar a la finestra de carrega]"
AuthType Basic
require valid-user
```

Si només volem protegir una part de la aplicació cal crear un nou bloc:

```
<Location [ruta]>
  AuthUserFile [ruta al fitxer htpasswd]
  AuthName "[Text a mostrar a la finestra de carrega]"
  AuthType Basic
  require valid-user
</Location>
```

### 3.11.5 Referencies

- <http://docs.webfaction.com/software/git.html>
- <http://docs.webfaction.com/software/general.html#granting-access-to-specific-users>
- [http://community.webfaction.com/questions/256/apache-basic-authentication-for-mod\\_wsgi-inc-django-applications](http://community.webfaction.com/questions/256/apache-basic-authentication-for-mod_wsgi-inc-django-applications)

- <http://flask.pocoo.org/snippets/65/>

## 3.12 wxwidgets

**Website** <http://wxwidgets.org>

### 3.12.1 Installation

#### Mac OS X

Install wxwidgets under Mac OS is really easy with **brew**; but it takes some time because homebrew compiles wxwidgets before installing the python bindings.

Once is installed you must modify the PYTHONPATH enviroment variable to point to the installation path, something like that:

```
export PYTHONPATH=/usr/local/Cellar/wxmac/2.9.4.0/lib/python2.7/site-packages/wx-2.9.4-osx_cocoa:$PYTHONPATH
```

A good place to add this line is in your ~/.bash\_profile

### 3.12.2 Python Bindings

At the of wxpython.org you will find an *example* <<http://wiki.wxpython.org/Using%20wxPython%20Demo%20Code>> to test if everithing has been installed correctly.

A full package of demos are avaible for download at: <http://wxpython.org/download.php#demo>

---

**Note:** The demo application bundle for mac, doesn't work if you have installed wxwidgets with homebrew.

---

## 4.1 Mac Os X: Command line

### 4.1.1 List of commands

Change user shell, with chsh (add or change user database information), next changes to zsh:

```
chsh -s /bin/zsh
```

### 4.1.2 Extend Command line tools

#### brew

Homebrew installs the stuff you need that Apple didn't.

—HomeBrew

See: <http://mxcl.github.com/homebrew/>

#### gettext

Install with brew:

```
brew install gettext
```

Installs the libraries and the utilities:

```
autopoint envsubst gettext gettext.sh gettextize msgattrib msgcat msgcmp msgcomm msgconv msgen ms-  
gexec msgfilter msgfmt msggrep msginit msgmerge msgunfmt msguniq ngettext recode-sr-latin xgettext
```

But doesn't add to your path! You need to modify the env. variable \$PATH:

```
vi ~/.bash_profile
```

And add to the end or modify previous declarations:

```
export PATH=${PATH}:/usr/local/opt/gettext/bin
```

## growlnotify

*growlnotify* <http://growl.info/extras.php#growlnotify> is a command line tool to display notifications from the command line with *Growl*.

For example, launch a fake notification from Disk Utility:

```
growlnotify -t "Warning" -a Disk\ Utility -m "Replace your disk!"
```

More interesting is use a custom image icon, with the *-image* parameter:

```
growlnotify -t "My App notification" --image icatpy/icat.png -m "Hello!"
```

## imagemagick

imagemagick is a image processing program; it's a group of commandline programs: convert, mogrify...

### SVG support

Install using [brew](#) and the command *-with-librsvg*:

```
brew install imagemagick --with-librsvg librsvg
```

## Inkscape

Convert svg to png using inkscape, first you must download and install Inkscape:

```
/Applications/Inkscape.app/Contents/Resources/bin/inkscape -f test.svg -e test.png
```

## 4.1.3 Remove MacOSX custom files from zip

To see the contents of a zip file:

```
unzip -l filename
```

To remove zip contents, for example everything inside `__MACOSX`:

```
zip [filename] -d __MACOSX/*
```

## 4.2 Dictionary

To create custom dictionaries you must have XCode installed in your machine.

One installed, inside the *developer extras* exists a **Dictionary Development Kit**, with this you can build your own Dictionary.

The *projects\_templates* folder has a demo of a dictionary, you can test it with:

```
make
make install
# Launch the Dictionary application
```

The dictionary *My Dictionary* will be installed in:



~/Library/Dictionaries



## 5.1 Blender

**Website** <http://blender.org>

**Tags** Software, opensource, modeling, textures, 3D, game, engine

Blender is a 3D modeling software and game engine, is opensource, and free, you can download it at their website; as a plus is multiplatform (Linux, Mac OS X, Windows)!

You will find also in the website some [short videos](#) to start with Blender; and also others [more complex](#).

### 5.1.1 To know more

- [Export to video](#)

#### Books

- <http://wiki.blender.org/index.php/Doc:2.6/Books>

#### Tutorials

- <http://blendertalkies.blogspot.com.es>
- <http://www.tutorialsforblender3d.com/>

#### Textures and Materials

A list of free (or not) websites with textures for your models.

- <http://www.cgtextures.com/>
- <http://www.imageafter.com/>
- <http://www.dougturner.net/blendersite/>
- [Open Material Repository](#) (new site under construction since 2009?)

## Scripting

- Tips and Tricks

## Others

Sintel Game (Game created with blender)

- Project Lightning - The game to show off what Blender Game Engine is capable of
- GSLS Shader Repository
- Martins Upitis's Blog

## 5.2 Gnome Shell

### 5.2.1 Launchers

To create a launcher for a custom application, you must create a .desktop file under */usr/share/applications*, *~/.local/share/applications* or *~/Desktop*

As an example the next launcher is for Blender:

```
[Desktop Entry]
Encoding=UTF-8
Name=Blender
Exec=/path/to/blender/executable
Icon=/path/to/blender/icon
Type=Application
Categories=Graphics;
```

### 5.2.2 References

- Desktop Files (Gnome): <https://developer.gnome.org/integration-guide/stable/desktop-files.html.en>
- Freedesktop Categories: <http://standards.freedesktop.org/menu-spec/latest/apa.html>

## 5.3 GPS - Tracker's and more

**Subject** GPS tracking systems and utilities

**Modified** 2015-05-04 03:14

**Date created** 2012-10-24

**Version** 1.0

**Contents**

- GPS - Tracker's and more
  - Tracking
    - \* GPS Data Master (Blackberry)
  - Visualization
    - \* Google maps
  - Utilities
    - \* gpx to kml

### 5.3.1 Tracking

#### GPS Data Master (Blackberry)

GPS Data Master is a tracking application for Blackberry devices, it's available free of charge at the [Blackberry App-Store](#).

Once enabled the logging option, every time the app is closed a file inside the documents folder is stored. The track will be stored in [GPX format](#), this format needs to be converted to kml if we want to see it in Google Maps, see [gpx to kml](#).

### 5.3.2 Visualization

#### Google maps

With Google Maps we can visualize kml files from any url or import a file to My Maps. If we want to visualize one of our files we only need to upload it to Dropbox or Google Drive and use the public link option.

The url of the kml file must be inserted in the Google Maps search box, or appended to the uri:

`https://maps.google.com/maps?q=`

More info at <http://gis.stackexchange.com/questions/235/display-a-local-file-in-google-maps>

### 5.3.3 Utilities

#### gpx to kml

This process can be done online at <http://gpx2kml.com/>, it offers useful options like stats or view in Google Maps.



tags kml, gpx, google maps, gps

## 5.4 MIDI

What is MIDI? Take a look at <https://en.wikipedia.org/wiki/Midi>

### 5.4.1 Online resources

- <http://www.classicalmidiconnection.com>
- <http://www.kunsterfuge.com/>
- <http://www.midiworld.com/> (some aren't free)
- <http://www.piano-midi.de/>

### Searcher

- <http://www.musicrobot.com/>

### 5.4.2 Configure VLC

1. Download FluidSynth version of SoundFont from <http://www.schriancollins.com/generaluser.php>.
2. Open VLC's preferences.
3. The preferences window has two display modes called Simple and All. Choose the display mode called All.
4. Go to Codecs -> Audio codecs -> FluidSynth.
5. Then select the .sf2 file with the preferences *select button*.

---

**Note:** If the FluidSynth codec is not shown in the preferences, you must need install it, take a look at the first link in the [References](#).

---

### 5.4.3 References

<http://wiki.videolan.org/Midi>