INSTALL GPS on MAC OS X

1) Install of the integrated development environment GPS

Binaries for GPS Mac PPC aren't included in GPL 2009 release.
They can be either built from source code (see next paragraph) or
downloaded from Source Forge (what we are going to do in this paragraph).

Download the following file on Mac desktop:
. GPS GPL PPC : "gnat-jvm-gps-gpl-2009-43-powerpc-apple-darwin8.11.0-
bin.tgz",
from Source Forge "http://sourceforge.net/projects/gnuada/files/GNAT_GPL
%20Mac%20OS%20X/2009-tiger-ppc".
GNAT native PPC and JVM compilers are included.

Lauch Terminal from admin and type the following commands:

```
$ cd /usr/local
$ tar xzf ~/Desktop/gnat-jvm-gps-gpl-2009-43-powerpc-apple-
darwin8.11.0-bin.tgz
```

GPS, native and JVM GNAT compilers are installed in directory:
/usr/local/gnat-2009

Included version Python 2.3 in Mac OS 10.4 is not built properly.
Python is an interpreted, interactive object-oriented programming
language suitable (amongst other uses) for distributed application
development, scripting, numeric computing and system testing. Python
is often compared to Tcl, Perl, Java, JavaScript, Visual Basic or
Scheme.
Python is used for GPS plugin scripts.
Download Python-2.5.2.tgz for GNAT GPL 2009 Darwin on Mac desktop
from https://libre.adacore.com :

```
$ cd
$ tar xjvf ~/Desktop/Python-2.5.2.tgz
$ cd Python-2.5.2
$ ./configure
$ OLD_PATH=$PATH
$ PATH=/usr/bin:$PATH # for GCC made in AppleLand
$ make
$ sudo make install
$ PATH=$OLD_PATH
```

For a common usage, type the following commands:
$ echo 'PATH=/usr/local/gnat-2009/bin:$PATH' >> ~/.profile
$ echo 'PATH=/usr/local/gnat-2009/bin:$PATH' >> ~/.bashrc

For a temporary usage, type the following command each time:
$ export PATH=/usr/local/gnat-2009/bin:$PATH

Documentation is available in HTML and PDF format in
/usr/local/gnat-2009/share/doc/gps:

$ open /usr/local/gnat-2009/share/doc/gps/html/index.html
$ open /usr/local/gnat-2009/share/doc/gps/pdf/gps.pdf

Examples are available in:
/usr/local/gnat-2009/share/examples/gps/

2) Building GPS
Binaries for GPS Mac PPC aren't included in GPL 2009 release.
We are going to build them from source code.
The following steps were made on Mac OS X 10.4.11 PPC with GNAT GPL 2009.
GNAT Ada compiler must have been installed before (see on Blady).
Software description come from native description on corresponding web site.
Take care of every software licence.

GPS, the GNAT Programming Studio, is a cutting-edge Free Software IDE that streamlines the interaction between developers and their software.

Download GNAT GPL 2009 Darwin source codes on desktop from https://libre.adacore.com:
    atk-1.24.0.tar.gz
    cairo-1.8.4.tar.gz
    fontconfig-2.6.0.tar.gz
    freetype-2.3.7.tar.gz
    gettext-0.17.tar.gz
    glib-2.18.2.tar.gz
    gps-4.3.2-src.tgz
    gtk+-2.14.5.tar.gz
    gtkada-gpl-for-gps-4.3.2-src.tgz
    jpegsrc.v6b.tar.gz
    libiconv-1.13.tar.gz
    libpng-1.2.8.tar.gz
    pango-1.22.3.tar.gz
    pixman-0.12.0.tar.gz

```
pkg-config-0.20.tar.gz
pycairo-1.4.12.tar.gz
pygobject-2.14.2.tar.gz
pygtk-2.12.1.tar.gz
Python-2.5.2.tgz
xmlada-gpl-for-gps-4.3.2-src.tgz
zlib-1.2.3.tar.gz
```

Lauch X11 xterm and configure environnement variables:

```
$ PATH=/usr/local/bin:$PATH
$ PKG_CONFIG_PATH=/usr/local/lib/pkgconfig:/usr/lib/pkgconfig
$ sudo ln -s /bin/echo /usr/local/bin/gtkdoc-rebase # workaround
```

1.1) Pkg-config

Pkg-config is a helper tool used when compiling applications and libraries. It helps you insert the correct compiler options on the command line

```
$ cd
$ tar xzfv ~/Desktop/pkg-config-0.20.tar.gz
$ cd pkg-config-0.20
$ ./configure
$ make
$ sudo make install
$ pkg-config --list-all
```

1.2) GTKADA

GtkAda is an Ada95 graphical toolkit based on Gtk+, providing the complete set of Gtk+ widgets using the Object-Oriented features of this language.

1.2.1) GTK+

Gtk+ is a wonderful graphic toolkit written in C for X-Window and Win32 that was originally developed as the basis for the gimp.

a) JPEG

IJG is an informal group that writes and distributes a widely used free library for JPEG image compression.

```
$ cd
$ tar xzfv ~/Desktop/jpegsrc.v6b.tar.gz
$ cd jpeg-6b
$ ./configure
$ make
$ sudo make install
```

b) PNG

Libpng is the official PNG reference library. It supports almost all PNG features, is extensible, and has been extensively tested for over 13 years.

b.1) ZLIB

Zlib is a general purpose data compression library.

```
$ cd
$ tar xzfv ~/Desktop/zlib-1.2.3.tar.gz
$ cd zlib-1.2.3
$ ./configure
$ make
$ sudo make install
```

b.2) PNG

Libpng is the official PNG reference library. It supports almost all PNG features, is extensible, and has been extensively tested for over 13 years.

```
$ cd
$ tar xzfv ~/Desktop/libpng-1.2.8.tar.gz
$ cd libpng-1.2.8
$ cp scripts/makefile.darwin makefile
# Modify makefile:
$ vi makefile
/ZLIB
XnXnPnnPZZ
$ make
$ sudo make install
```

c) GLIB

GLib is the low-level core library that forms the basis for projects such as GTK+ and GNOME.

c.1) ICONV

The iconv program converts text from one encoding to another encoding.

```
$ cd
$ tar xzfv ~/Desktop/libiconv-1.13.tar.gz
$ cd libiconv-1.13
$ ./configure
$ make
$ sudo make install
```

c.2) GETTEXT

The goal of gettext library was to give a unique interface to message handling functions. It is interesting for authors or maintainers of other packages or programs which they want to see internationalized.

```
$ cd
$ tar xzfv ~/Desktop/gettext-0.17.tar.gz
$ cd gettext-0.17
$ ./configure
$ make
$ sudo make install
```

c.3) GLIB

GLib is the low-level core library that forms the basis for projects such as GTK+ and GNOME.

```
$ cd
$ tar xzfv ~/Desktop/glib-2.18.2.tar.gz
$ cd glib-2.18.2
$ ./configure
$ make
$ sudo make install
```

d) ATK

Accessibility Toolkit

```
$ cd
$ tar xzfv ~/Desktop/atk-1.24.0.tar.gz
$ cd atk-1.24.0
$ ./configure
$ make
$ sudo make install
```

e) Cairo

Cairo is a 2D graphics library with support for multiple output devices. Currently supported output targets include the X Window System, win32, and image buffers, as well as PDF, PostScript, and SVG file output. Experimental backends include OpenGL (through glitz), Quartz, XCB, BeOS, OS/2, and DirectFB.

e1) Freetype

FreeType 2 is a software font engine that is designed to be small, efficient, highly customizable, and portable while capable of producing high-quality output (glyph images). It can be used in graphics libraries, display servers, font conversion tools, text image generation tools, and many other products as well.

```
$ cd
$ tar xzfv ~/Desktop/freetype-2.3.7.tar.gz
$ cd freetype-2.3.7
$ ./configure
$ make
$ sudo make install
```

e2) Pixman
Pixman is a library that provides low-level pixel manipulation
features such as image compositing and trapezoid rasterization.

```
$ cd
$ tar xzvf ~/Desktop/pixman-0.12.0.tar.gz
$ cd pixman-0.12.0
$ ./configure
$ make
$ sudo make install
```

e3) Fontconfig
A font configuration and customization library.

```
$ cd
$ tar xzfv ~/Desktop/fontconfig-2.6.0
$ cd fontconfig-2.6.0
$ ./configure
$ make
$ sudo make install
```

e4) Cairo
Cairo is a 2D graphics library with support for multiple output
devices. Currently supported output targets include the X Window
System, win32, and image buffers, as well as PDF, PostScript, and SVG file
output.

```
$ cd
$ tar xzfv ~/Desktop/cairo-1.8.4.tar.gz
$ cd cairo-1.8.4
$ ./configure
$ make
$ sudo make install
```

f) Pango
Pango is a library for layout and rendering of text, with an emphasis
on internationalization.
(Must be built after Cairo !!!!!)

```
$ cd
$ tar xzfv ~/Desktop/pango-1.22.3.tar.gz
$ cd pango-1.22.3
$ ./configure
$ OLD_PATH=$PATH
$ PATH=/usr/bin:$PATH      # for objective-c compiler
$ make
$ sudo make install
$ PATH=$OLD_PATH
```

g) GTK+
Gtk+ is a wonderful graphic toolkit written in C for X-Window and Win32
that was originally developed as the basis for the gimp.

```
$ cd
$ tar xzfv ~/Desktop/gtk+-2.14.5.tar.gz
$ cd gtk+-2.14.5
$ ./configure --without-libjasper
$ make
$ sudo make install
```

1.2.2) GtkAda
GtkAda is an Ada95 graphical toolkit based on Gtk+, providing the complete
set of Gtk+ widgets using the Object-Oriented features of this language.

```
$ cd
$ tar xzfv ~/Desktop/gtkada-gpl-for-gps-4.3.2-src.tgz
$ cd GtkAda--2.12.0
$ ./configure
$ make
$ sudo make install
```

1.3) XmlAda
XML/Ada: A XML parser for Ada95

```
$ cd
$ tar xzfv ~/Desktop/xmlada-gpl-for-gps-4.3.2-src.tgz
$ cd xmlada-3.1w
$ ./configure --disable-shared
$ make
$ sudo make install
```

1.4) Python

Python is an interpreted, interactive object-oriented programming language suitable (amongst other uses) for distributed application development, scripting, numeric computing and system testing. Python is often compared to Tcl, Perl, Java, JavaScript, Visual Basic or Scheme.
(Included version Python 2.3 in Mac OS 10.4 is not built properly)

```
$ cd
$ tar xjvf ~/Desktop/Python-2.5.2.tgz
$ cd Python-2.5.2
$ ./configure
$ OLD_PATH=$PATH
$ PATH=/usr/bin:$PATH # for GCC made in AppleLand
$ make
$ sudo make install
$ PATH=$OLD_PATH
```

1.5) PYGTK

These modules allow you to use gtk in Python programs.

1.5.1) PYGOBJECT

Bindings for the GObject, to be used in Python.

```
$ cd
$ tar xjvf ~/Desktop/pygobject-2.14.2.tar.gz
$ cd pygobject-2.14.2
$ ./configure
$ make
$ sudo make install
```

1.5.2) PYCAIRO

Python bindings for cairo.

```
$ cd
$ tar xjvf ~/Desktop/pycairo-1.4.12.tar.gz
$ cd pycairo-1.4.12
$ ./configure
$ make
$ sudo make install
```

1.5.3) PYGTK
These modules allow you to use gtk in Python programs.

```
$ cd
$ tar xjvf ~/Desktop/pygtk-2.12.1.tar.gz
$ cd pygtk-2.12.1
$ ./configure
$ make
$ sudo make install
```

1.6) GPS
GPS, the GNAT Programming Studio, is a cutting-edge Free Software IDE that streamlines the interaction between developers and their software.

```
$ cd
$ tar xzfv ~/Desktop/gps-4.3.2-src.tgz
$ cd gps-4.3.2
$ export GPR_PROJECT_PATH=/usr/local/lib/gnat
$ ./configure --prefix=/usr/local/gnat-2009 # same directory as GNAT
# Modify makefile:
$ vi Makefile
/gawk
xZZ
$ make
$ sudo make install
```

3) First step with GPS
Open XTerm in X11 application:

```
$ export PYTHONHOME=/usr/local
$ gps
```

English user may read the includes documentation, see in Help menu.
French user may read first steps with GPS on Blady.

Pascal Pignard, August-September 2009.
http://blady.pagesperso-orange.fr