

## Europython 2011 Florence, Italy.

June, 20-26 2011



Hi everybody, thanks for coming!

Today we'll see how to create your project in Ubuntu reaching millions Ubuntu users in the world.



My name's Paolo Sammicheli, I'm an Ubuntu Member from the Italian Community.

I'm involved in several things: marketing, testing, translation and so on... and yes, I do speech a lot at conferences:)



Let's start with a good news. You don't have to take notes! Slides in PDF format with notes and links for further information are already available at this link.



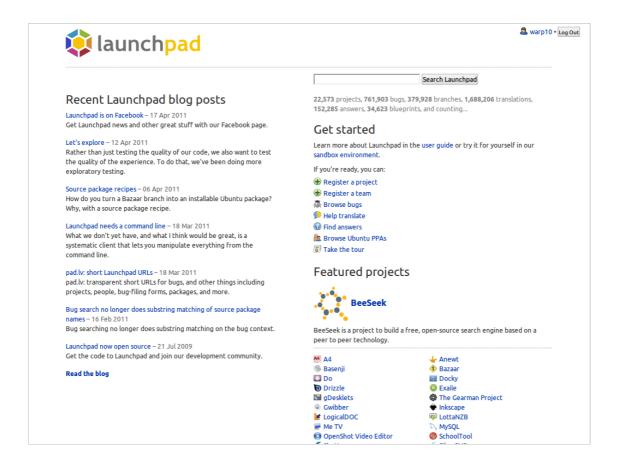
Let's start talking about LAUNCHPAD.



Wikipedia says "A launchpad is the area and facilities where rockets or spacecraft lift off."

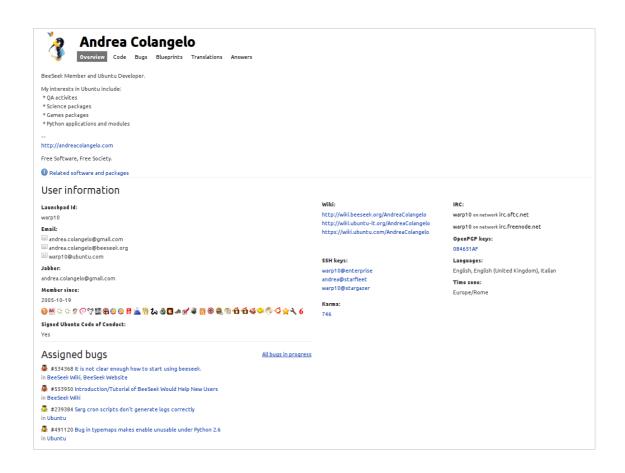
Something like this.

But we don't have to go into the space, so we'll talk about another launchpad.



This is the LAUNCHPAD we'll talk about.

It's a free software web application, created by Canonical for the Ubuntu development, available free of charge for any free software project.

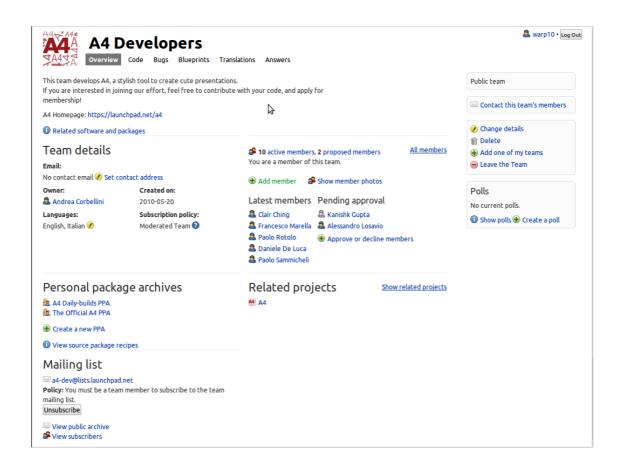


When you sign in you get a personal profile like this.

Into a personal profile you'll find all the user information (irc nick, gpg key), what he's working on, team membership, links to external wiki pages and so on.

There's also a way to contact the person with a web form if the email address has been marked hidden by that person.

In Ubuntu we have a Code of Conduct you need to sign before to join. It's hosted in this profile page with its sign.

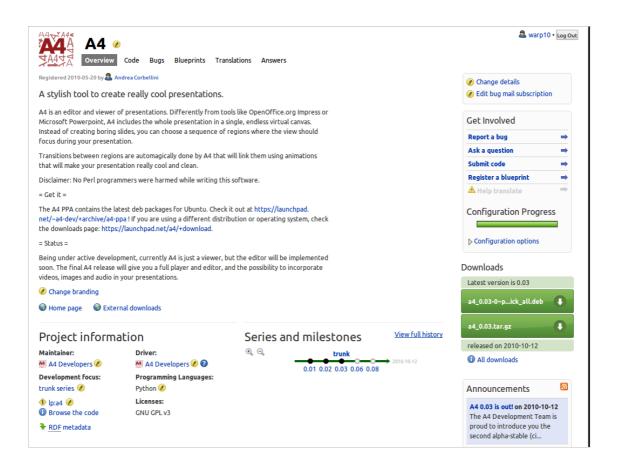


In Launchpad you can create Teams in which you can have shared resources, like the PPAs (we'll discuss later about it) and for each team, launchpad can provide a mailing list making easier to collaborate.



The most interesting thing about Launchpad is the project hosting.

You can register in Launchpad any free software project, free of charge.



This is an example of a Project Home Page on Launchpad. On the top you can see a navigation bar which shown all the Launchpad features.

Let's take a look at it.

```
echo" soption to if ($value \ sount solution value \ sount solution value \ sount solution selected";

echo" $call [$ii] \n";

$count = $data['type'] == "dropdown2")

$call = $data['number'] cho "<select name ODE HOSTING

each ($call as $c) {

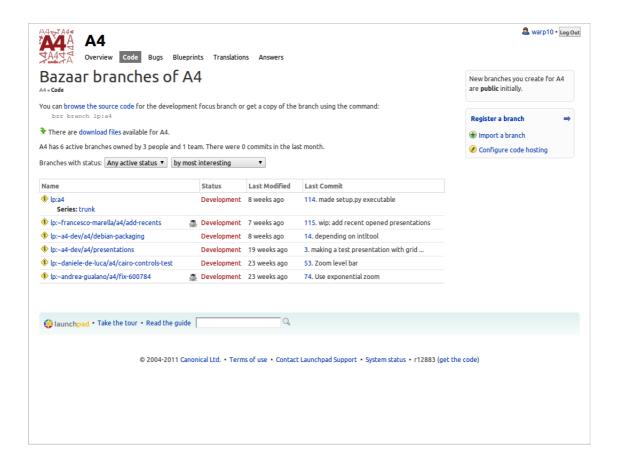
if ($value == $data['default

echo ">t \ sount sount solution value \ ""

echo " selected";

echo " selected";
```

Launchpad can keep your source code. You can use BAZAAR as revision system making easier publishing your code and get contribution from someone else.

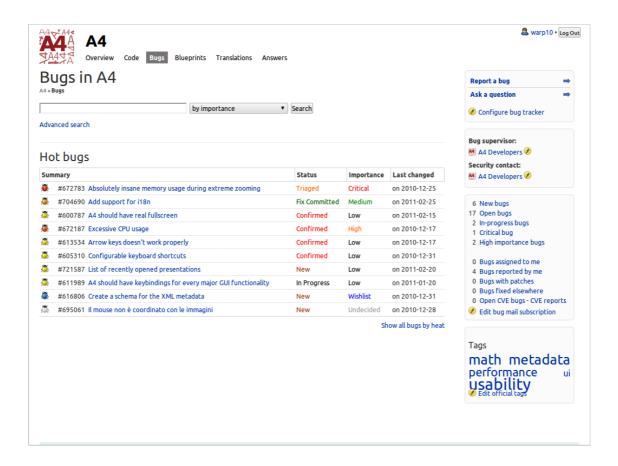


Bazaar allow you to create a personal branch of a software project, developing a patch and then send it to the original owner for inclusion. It's called "merge proposal".

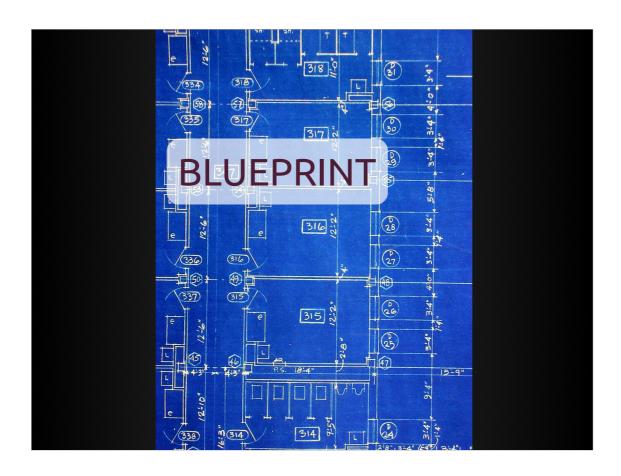
This process make easier code contribution and enable new people to get their feet wet with easy changes.



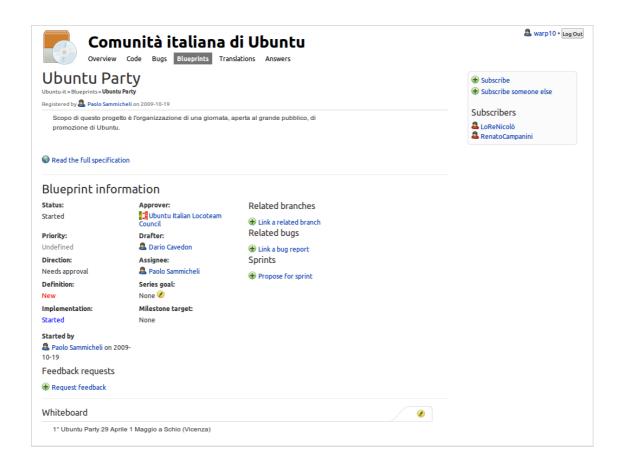
For every software project there's also a bug tracking system.



Your users can send you bug reports with launchpad and they would be notified when the problem is solved.



There's also a BLUEPRINT module for software specification. The blueprint's name comes from engineering, where the old project were drafted in a blue paper like this.

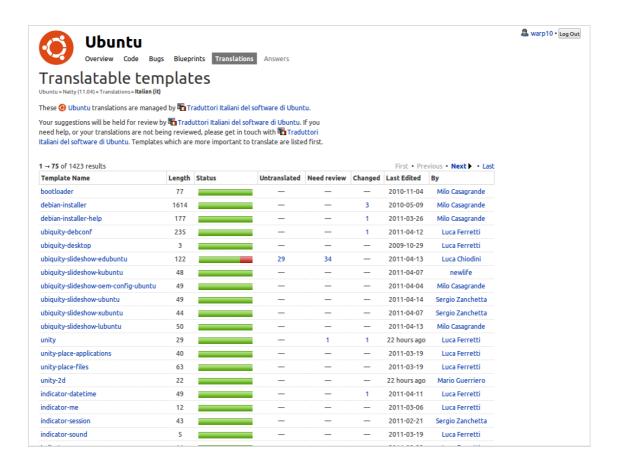


You can write software specification and tracking dependencies, progress and priority very easily.

It's a so powerful feature that you can use it also for non software projects: this is a Blueprint for organizing a conference here in Italy.



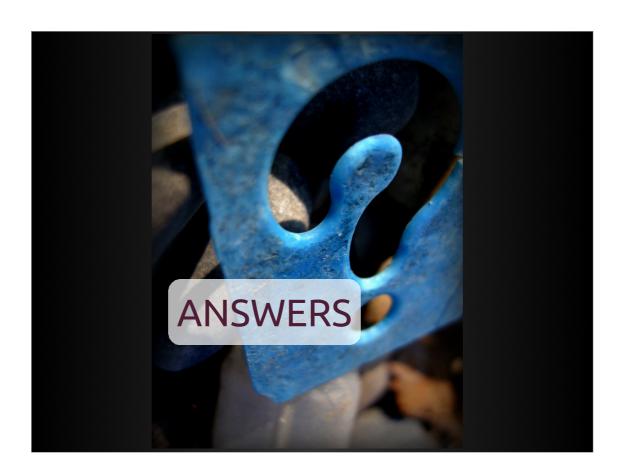
Launchpad allows your project to be translated in several languages.



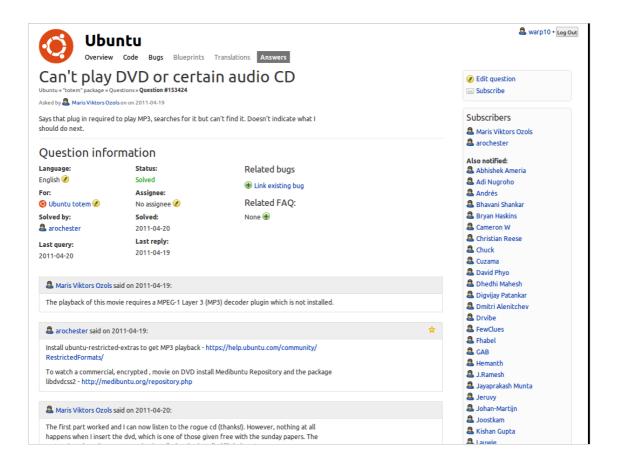
Translations can be made with the web interface or downloading and uploading po files.

You can assign the translation to structured teams or keeping it open to anyone.

For the Italian language we recommend the structured team because you will get a smooth review process for every translation producing high quality results.



Last but not least, Launchpad provides a Question and Answer system. You can use it for communicate with your users and it allows users to help each other.

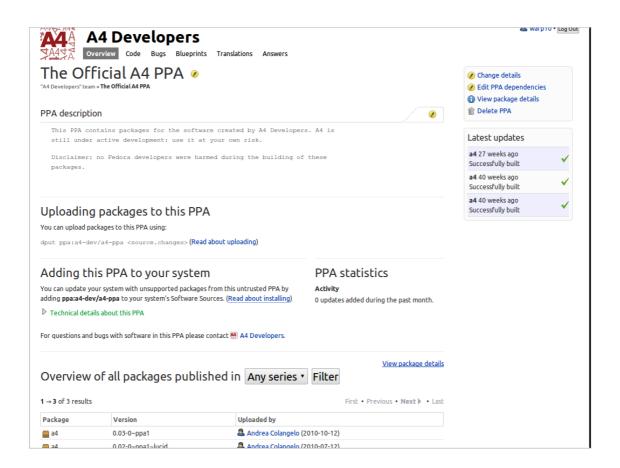


Answer has multi language support.

Users willing to help register the languages they know and the system propose to ask question in all languages supported by the volunteers.



You may already know that for installing software in Ubuntu (and in Debian) you need a DEB package.



The Launchpad module called PPA make easier for anyone to distribute his software on a package repository.



And now let's take a look to Quickly.

Quickly it's a tool, initially developed by the Ubuntu Platform Leader Rick Spencer for make easier developing a new application in Ubuntu.



A common problem for anybody who start programming in a Linux distribution is the huge choice of things.

Which language: C, C++, Vala, Python, Perl, Java o C#?

Which library? QT o GTK? Why not WxWindow?

And which IDE!?!



Quickly is organized in templates. These templates provides common choices making easier getting a consistent route for a newcomer.

What if you don't like a template? Well, you can even create your own template: <a href="http://goo.gl/ieFSk">http://goo.gl/ieFSk</a>



The first available template is called ubuntuapplication. It provides:

- Python
- GTK 2
- pygtk

(in natty it's started the transition to PyGI and in Oneiric will be ported to GTK3)

## Tools available:

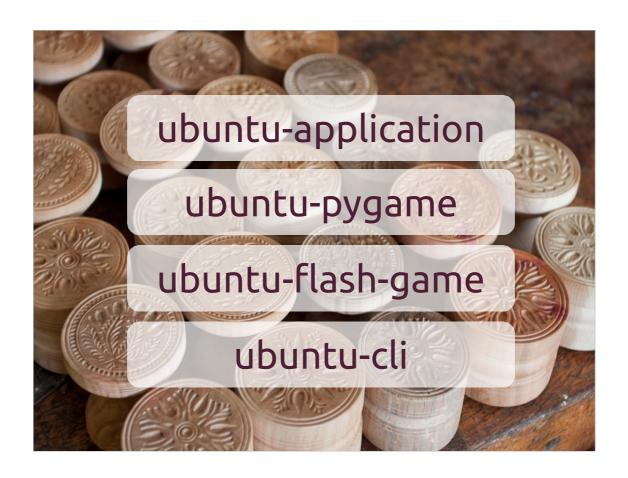
- GLADE for interfaces design
- GEDIT for coding (or you favorite text editor)



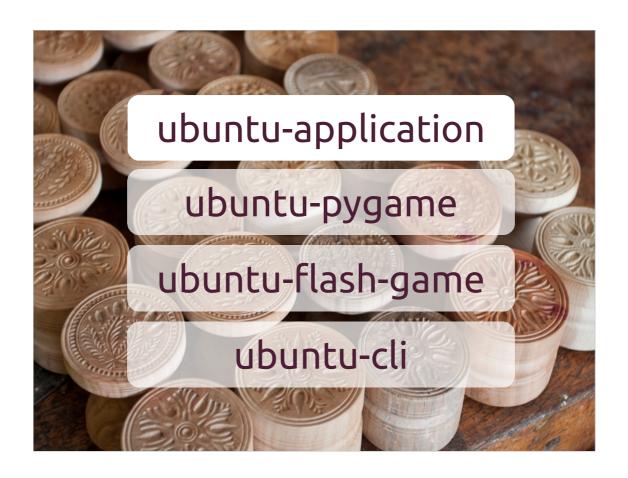
Ubuntu-pygame is a template designed for Python games.



With the last Quickly release, available in Ubuntu 11.04, there's a new template for Adobe Flash Games. In this case quickly works only like a publishing helper because all the development stuff are done into the flash tools.

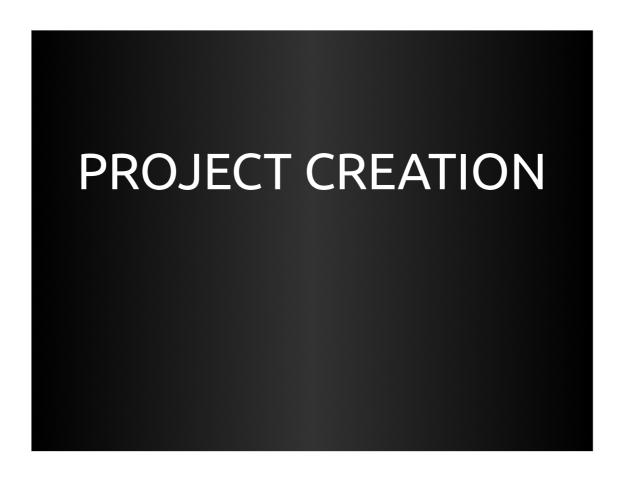


Last not least, if you don't have to design an end user graphical application you can use ubuntu-cli which provides a command line interface template.



Let's try with **ubuntu-application** template because it's the most generalized template and it's available in all quickly releases.

All the commands I will show you during this presentation are available in both Ubuntu 10.04 LTS and Ubuntu 11.04.



Let's see how to create a new project.

```
File Modifica Visualizza Terminale Aiuto

x@bwing:~/Sviluppo$ quickly create ubuntu-application florence [
```

Quickly is a command line tool, very very easy to learn. It provides a small set of directive very easy to remember. And auto-completion with "tab" key.

With the CREATE directive we select the template and we define the project name.

Being in the city of Florence, let's call it "florence".

```
File Modifica Visualizza Terminale Aiuto

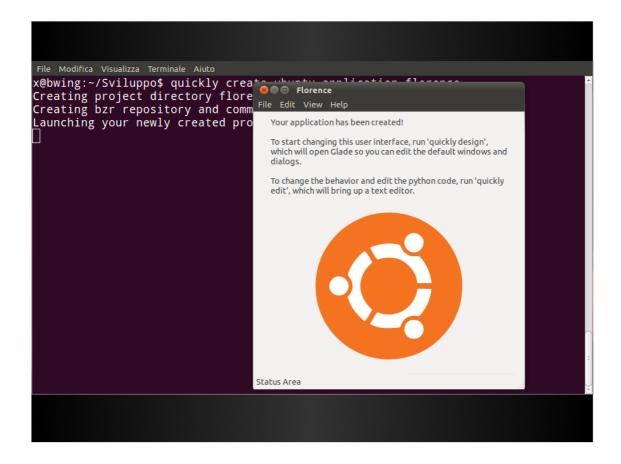
x@bwing:~/Sviluppo$ quickly create ubuntu-application florence

Creating project directory florence

Creating bzr repository and commiting

Launching your newly created project!le 0/1
```

Quickly will create the project structure, will create a local bazaar repository where to save the project and the it runs the application created.



Here is it! As you can see it's a very simple application based on a single window.

```
File Modifica Visualizza Terminale Aiuto

x@bwing:-/Sviluppo$ quickly create ubuntu-application florence
Creating project directory florence
Creating bzr repository and commiting
Launching your newly created project!le 0/1
Congrats, your new project is setup! cd /home/x/Sviluppo/florence/ to start hack
ing.

x@bwing:-/Sviluppo$ cd florence/
x@bwing:-/Sviluppo/florence$ ls
AUTHORS bin data florence florence.desktop.in setup.py setup.pyc
x@bwing:-/Sviluppo/florence$ \[ \]
```

Inside the newly created directory there's our project structure.

```
File Modifica Visualizza Terminale Aiuto

x@bwing:~/Sviluppo$ quickly create ubuntu-application florence
Creating project directory florence
Creating bzr repository and commiting
Launching your newly created project!le 0/1
Congrats, your new project is setup! cd /home/x/Sviluppo/florence/ to start hack
ing.

x@bwing:~/Sviluppo$ cd florence/
x@bwing:~/Sviluppo/florence$ ls
AUTHORS bin data florence florence.desktop.in setup.py setup.pyc
x@bwing:~/Sviluppo/florence$ vi AUTHORS 

\[ \]

\[ \]
```

First thing I suggest is to fill the AUTHORS file so you can forget about it and having fun programming. :)

Put your name, year and email in the AUTHORS file.

```
File Modifica Visualizza Terminale Aiuto

x@bwing:~/Sviluppo/florence$ quickly license GPL-3

x@bwing:~/Sviluppo/florence$ 

The state of the state
```

And then you can choose a license. In this example we'll use the GPL 3, but inside quickly you will find many open source license like the Apache-2.0, BSD, GPL-2, MIT, LGPL-2 and the LGPL3.

You can even write your own license with the option OTHER.

```
File Modifica Visualizza Terminale Aiuto

x@bwing:-/Sviluppo/florence$ quickly license GPL-3

x@bwing:-/Sviluppo/florence$ ls

AUTHORS bin COPYING data florence florence.desktop.in setup.py setup.pyc

x@bwing:-/Sviluppo/florence$ []
```

Quickly will create the COPYING file with the license text and it will modify every file in the source three with the license header.

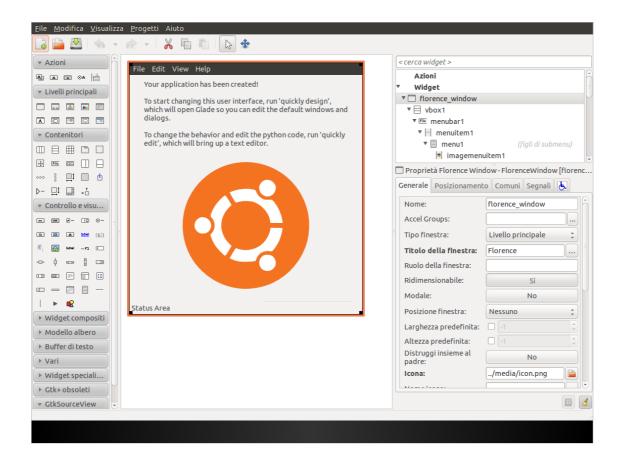
## DEVELOPMENT

Problem solved! Now let's start having fun programming!

```
File Modifica Visualizza Terminale Aluto

x@bwing:~/Sviluppo/florence$ quickly design
```

For designing the user interface you can use the command quickly design



It opens GLADE, which is the recommended GUI designer for GTK.

For our example we don't change the demo application because we're happy with it.

```
File Modifica Visualizza Terminale Aiuto

x@bwing:~/Sviluppo/florence$ quickly edit []
```

Now we have to write the Python code behind the user interface. We can use the **quickly edit** command.

```
File Modifica Visualizza Cerca Strumenti Documenti Aiuto
  Annulla Annul
  📓 florenceconfig.py 🗱 📓 AboutFlorenceDialog.py 💥 📓 helpers.py 💥 📓 PreferencesFlorenceDialog.py 💥 📓 florence 💥
        1 #!/usr/bin/python
        2 # -*- coding: utf-8 -*-
        3 ### BEGIN LICENSE
       3 ### BEGUIN LICENSE

# # Copyright (C) 2011 Paolo Sammicheli <<u>xdatap1@ubuntu.com</u>>

5 # This program is free software: you can redistribute it and/or modify it

6 # under the terms of the GNU General Public License version 3, as published
         7 # by the Free Software Foundation.
     9 # This program is distributed in the hope that it will be useful, but 10 # WITHOUT ANY WARRANTY; without even the implied warranties of 11 # MERCHANTABILITY, SATISFACTORY QUALITY, or FITNESS FOR A PARTICULAR 12 # PURPOSE. See the GNU General Public License for more details.
      14 # You should have received a copy of the GNU General Public License along
     15 # with this program. If not, see <<u>http://www.gnu.org/licenses/</u>>.
16 ### END LICENSE
     18 import sys
     19 import os
     20 import gtk
     22 import gettext
23 from gettext import gettext as
24 gettext.textdomain('florence')
     26 # optional Launchpad integration
     27 # this shouldn't crash if not found as it is simply used for bug reporting
     28 try:
                           import LaunchpadIntegration
                           launchpad_available = True
                         .
launchpad_available = False
     34 # Add project root directory (enable symlink, and trunk execution).
35 PROJECT_ROOT_DIRECTORY = os.path.abspath(
                       os.path.dirname(os.path.dirname(os.path.realpath(sys.argv[0]))))
                                                                                                                                                                                                Python ▼ Larghezza tabulazione: 4 ▼ Rg 1, Col 1
```

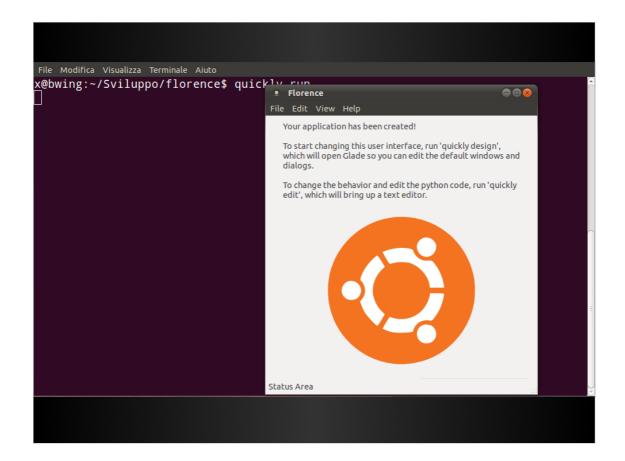
If you haven't defined your favorite text editor as default it will be open **gedit** with all source files, as you can see on the tabs.

If you want to use another text editor you can set the EDITOR environment variable.

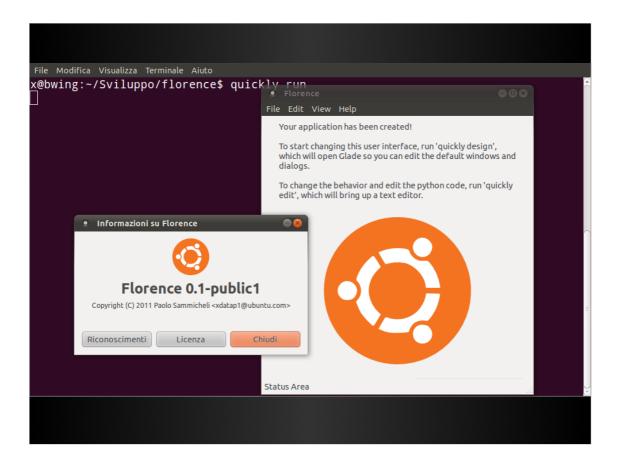
```
File Modifica Visualizza Terminale Aiuto
x@bwing:~/Sviluppo/florence$ quickly run [
```

At this point let's pretend we've made some changes in our project. To test it you can use the **quickly run** command.

All Quickly commands works in any subdirectory of your project, so you have to perform hundreds of **cd**.:)



Here we are, our demo project start again.



As you can see some part of it already works, like the about menu.

Now, as every developer you can repeat the **quickly design**, **quickly edit** e **quickly run** cycle until you're satisfied with your creature.



At some point you'll have a first working version that you want to show to someone. How to do that?

```
File Modifica Visualizza Terminale Aiuto

x@bwing:~/Sviluppo/florence$ quickly package
```

In Ubuntu, and in Debian, you will need a package .deb.

It's not an super easy process and it may scare new developers. With quickly it's an easy walk, you just need to type **quickly package**.

```
File Modifica Visualizza Terminale Aiuto

x@bwing:~/Sviluppo/florence$ quickly package
.....Ubuntu packaging created in debian/
........Ubuntu package has been successfully created in ../florence_0.1_all.d eb

x@bwing:~/Sviluppo/florence$
```

Shortly you will have your package in the directory over you project directory.

```
File Modifica Visualizza Terminale Aiuto

x@bwing:~/Sviluppo$ ls
florence florence_0.1.dsc florence_0.1_tar.gz

florence_0.1_all.deb
florence_0.1_i386.changes

x@bwing:~/Sviluppo$
```

If we take a look on that directory we'll find all the file which are the sources of our package:

- The .tar.gz with sources and packaging files under the debian/ dir
- The .dsc file with the meta-information about the source package.
- The .changes file that later it will be used for uploading it into the PPA

And we have the file named **florence\_0.1.all.deb** which is our package!

That file can be used for installing your project in someone else's PC. But this is not quite handy if you want to share your project with a lot of people.

For large scale software distribution you need a PPA. PPAs are Personal Package Archives that users can add to their configuration making possible for them installing your software through the Ubuntu Software Center.

Everything you need is to perform the quickly share command.

```
File Modifica Visualizza Terminale Aiuto

x@bwing:-/Sviluppo/florence$ quickly share

Get Launchpad Settings

Launchpad connection is ok

gpg: using PGP trust model

gpg: using PGP trust model

ppa:xdatap1:ppa does not exist. Please create it on launchpad if you want to pus

h a package to it. xdatap1 has the following ppas available:

demo - Demo PPA for presentation

pywizard - PyWizard

You can temporary choose one of them with --ppa switch or definitely by executin

g quickly configure ppa <ppa_name>.

ERROR: share command failed

Aborting

x@bwing:-/Sviluppo/florence$ |
```

In this screenshot you can see that I got and error: Quickly get connection with Launchpad ed it gave me an error because I didn't specified a PPA to use with the project. Btw it told me that I have two PPAs in my configuration: one is a small project called pywizard and the second it's called **demo** and it's what I normally use for these presentations.

```
File Modifica Visualizza Terminale Aiuto

x@bwing:~/Sviluppo/florence$ quickly share --ppa demo 

G
```

So let's publish the package in that PPA with the parameter --ppa

You can define the default PPA for the project with the command:

quickly configure ppa <nomeppa>

```
x@bwing:~/Sviluppo/florence$ quickly share --ppa demo
Get Launchpad Settings
Launchpad connection is ok
gpg: using PGP trust model
gpg: using PGP trust model
.....Ubuntu packaging created in debian/
pushing to launchpad
È necessaria una passphrase per sbloccare la chiave segreta
dell'utente: "Paolo Sammicheli (XDatap1) <paolo@sammicheli.net>"
1024-bit chiave DSA, ID 41999AEA, creata 2002-03-24
È necessaria una passphrase per sbloccare la chiave segreta
dell'utente: "Paolo Sammicheli (XDatap1) <paolo@sammicheli.net>"
1024-bit chiave DSA, ID 41999AEA, creata 2002-0<u>3-24</u>
     ........Checking signature on .changes
gpg: header dell'armatura: Hash: SHA1
gpg: header dell'armatura: Version: GnuPG v1.4.10 (GNU/Linux)
gpg: nome del file originale='
gpg: Firma eseguita in data "ven 03 giu 2011 12:49:47 CEST" usando DSA, ID chiav
 41999AEA
gpg: using PGP trust model
```

And then he starts the operations. It's asking my gpg key's passphrase for signing the file I'm uploading.

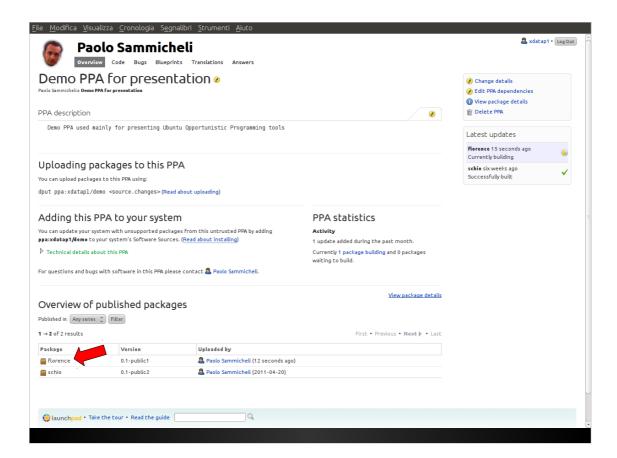
I suppose you'll have a GPG key because we ask to sign the Ubuntu Code of Conduct with it when you start contributing in Ubuntu.

If you need infos about GPG you can find more information on our wiki:

http://wiki.ubuntu.com/GPG

```
gpg: Firma eseguita in data "ven 03 giu 2011 12:49:40 CEST" usando DSA, ID chiav
e 41999AEA
gpg: using PGP trust model
gpg: Good signature from "Paolo Sammicheli (XDatap1) <paolo@sammicheli.net>"
gpg: conosciuto anche come "Paolo Sammicheli <paolo@sammiche.li>
                                conosciuto anche come "Paolo Sammicheli (XDatap1) <xdatap1@
gpg:
siena.linux.it>"
                                conosciuto anche come "Paolo Sammicheli <xdatap1@ubuntu.com
gpg:
gpg: ATTENZIONE: questa chiave non è certificata con una firma fidata!
gpg: Non ci sono indicazioni che la firma appartenga al proprietario.
Impronta digitale della chiave primaria: D278 DC5A 1AD5 AF14 BE60 B13F 1B5A 76D
F 4199 9AEA
gpg: Firma modo testo, algoritmo di digest SHA1
Good signature on ../florence_0.1-public1.dsc.
Uploading to ppa (via ftp to ppa.launchpad.net):
Uploading florence_0.1-public1.dsc: done.
Uploading florence_0.1-public1.tar.gz: done.
Uploading florence_0.1-public1_source.changes: done.
Successfully uploaded packages.
florence 0.1-public1 is building on Launchpad. Wait for half an hour and have lo
ok at https://launchpad.net/~xdatap1/+archive/demo.
x@bwing:~/Sviluppo/florence$ █
```

Then, after signing the files quickly proceed in the uploading into Launchpad where it will be built. (it's uploaded the source package, not the .deb)



After few minutes the package is available in your PPA ready for your users.



We're building a web site for Application Development, it's still work in progress, you can find it at the URL:

http://developer.ubuntu.com/



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