

Giving Back

Contributing to Debian and the New Maintainer Process



Christine Spang
January 16th, 2007
The SIPB, Massachusetts Institute of Technology

Session 2: Building Debian Packages

- what we'll talk about:
 - Debianizing a package from scratch
 - tools to help you be anal^W^W^Wmake your package awesome
 - uploading your package to the archive
 - it's a system, not a collection of packages
 - other ways to become a package maintainer

Getting Started

- packages we'll be using:
 - build-essential, dh-make, devscripts, pbuilder, (optionally) cowdancer, lintian, linda
- package we'll be debianizing:
 - wget

<http://skoll.mit.edu/~spang/gnomeattacks-0.3.tar.gz>

Due Process

- file an ITP (Intent To Package) bug
 - prevents duplication of work
 - make sure there's not already an ITP bug filed!
 - <http://bugs.debian.org/wnpp>
- then you can begin working on the package

Getting Setup

- download the source
- unpack it
- rename the source .tar.gz to .orig.tar.gz
- hyphens before version should be changed to an underscore
 - e.g. `mv gnomeattacks-0.3.tar.gz
gnomeattacks_0.3.orig.tar.gz`
 - this is very important! Debian tools will get angry at you if you don't do this.
 - create the .tar.gz if there isn't one or if it's in a different format
 - debian-specific vs. source/diff packages

Checking the License

- all packages in main must be DFSG free
 - http://www.debian.org/social_contract
 - GPL, BSD, MIT licenses are good
 - there are still problems with current Creative Commons licenses, afaik
 - well, you *could* ask debian-legal...

Creating debian/

- run `dh_make` in the upstream source dir
- creates a skeleton `debian/`
 - a lot of it you won't need, just delete unneeded files
 - rename files you ARE keeping
- required files:
 - control, copyright, changelog, rules

debian/control

- contains meta-data for generated source and binary packages
- sections: admin, base, devel, doc, libs, mail, net, x11, etc.
- priorities: Required, Important, Standard, Optional, Extra

final debian/control

Source: gnomeattacks

Section: games

Priority: extra

Maintainer: Christine Spang <spang@mit.edu>

Build-Depends: debhelper (>= 5), autotools-dev, libgnomeui-dev

Standards-Version: 3.7.2

Package: gnomeattacks

Architecture: any

Depends: \${shlibs:Depends}, \${misc:Depends}

Description: simple city bombing game

Gnome Attacks is a really really evil^Wawesome game where you bomb cities into oblivion in order to make a flat surface for your rapidly-losing-height spaceship to land.

debian/changelog

- notes of everything that's changed in a new version
- closes bugs automatically!
- easily managed with dch (from devscripts)

final debian/changelog

gnomeattacks (0.3-1) unstable; urgency=low

- * Initial release (Closes: #345246)
- * Added manpage.
- * Fixed such-and-such bug in upstream source.

-- Christine Spang <spang@mit.edu> Tue, 16
Jan 2007 13:58:41 -0500

debian/copyright

- contains license information
 - very important to get right
- must contain the complete license unless it's GPL / LGPL, BSD, or Artistic
 - pointer to license in /usr/share/common-licenses

final debian/copyright

This package was debianized by Christine Spang <spang@mit.edu> on Tue, 16 Jan 2007 13:58:41 -0500.

It was downloaded from <http://gnomeattacks.sourceforge.net/>

Upstream Author: Andy Balaam <axis3x3@users.sourceforge.net>

Copyright: (C) 2003 by Andy Balaam

License: GPL, see `/usr/share/common-licenses/GPL'

The Debian packaging is (C) 2007, Christine Spang <spang@mit.edu> and is licensed under the GPL, see `/usr/share/common-licenses/GPL'.

debian/rules

- essentially a makefile containing certain targets
 - build, binary, binary-arch, binary-indep, clean
 - debian/rules build should compile the software
 - debian/rules binary should create the package
 - debian/rules clean cleans up after
 - should be able to be run separately
 - usually uses some sort of packaging helper
 - debhelper!
 - it follows policy, which will help you do the same
- single binary packages are easy, multi-binary and libraries make it exponentially more complicated

final debian/rules

- it's long, we'll look at this in a shell...

Other Files in debian/

- gnomeattacks.6
 - renamed from manpage.1
 - see Branden Robinson's presentation on writing manpages
 - <http://people.debian.org/~branden/talks/wtfm/wtfm.pdf>
- watch
 - used by uscan, uupdate to find new releases
 - can be run by e.g. cron
- menu
 - debian menu system generates menus for all window managers
 - well, gnome/kde do their own freedesktop thing. but menu-xdg makes the debian menu accessible for that.

More Other Files in debian/

- `dirs`
 - used by `dh_installdirs` to create directories in your install directory
- `docs`
 - used by `dh_installdocs`
- `<package>.install`
 - installs listed files into the temp directory

Building the Package

- use dpkg-buildpackage, pbuilder, or cowbuilder
- dpkg-buildpackage -us -uc -rfakeroot works well at first to find simple mistakes
- make sure to build with pbuilder before uploading to check build-deps

Testing, Testing, Testing

- testing tools:
 - lintian
 - linda
 - piuparts
 - debdiff
 - zless! for your .diff.gz
 - dpkg-deb -c is useful for looking at the contents of your .deb
- install it and make sure it works properly!

Uploading Your Package

- a real Debian Developer must upload for you
- ask:
 - debian-mentors
 - maintainers of related packages
 - a developer you know

Alternative Packaging Helpers

- CDBS (Common Debian Build System)
 - convenient, people have a love/hate relationship here
- yada
 - generates debian/rules for you
 - does anybody actually use this?

It's Not Just About Your Package

- other things to keep in mind:
 - quality! be anal!
 - follow standards:
 - FHS
 - Debian Policy
 - Linux Standard Base
 - Integrate your package with the rest of the Debian system as much as possible.
 - You're allowed to talk to other people. Really. Not kidding.

Other Ways to Become a Package Maintainer

- taking Ubuntu packages and maintaining them for Debian
 - check them over
 - change maintainer
- adopt an orphaned package
 - <http://www.debian.org/devel/wnpp/orphaned>
 - http://www.debian.org/devel/wnpp/rfa_bypackage
 - follow rules for adopting
 - <http://www.debian.org/doc/developers-reference/ch-p>
 - Debian Weekly News lists newly-orphaned packages

Thanks To:

- Lars Wirzenus
 - borrowed some things from his “Debian packaging school” slides