



Fedora packaging and tools

Presented by
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Fedora Packager

About me



- Fedora Packager
- Fedora Ambassador
- Package maintainer for Fedora Zhongwen User Group Repo

Today's Topics



- Brief introduction for RPM packaging
- Fedora packaging guideline and tricks
- Tools and infrastructure
- How a package get into Fedora

Brief Introduction for RPM Packaging

Brief intro for RPM packaging



- RPM development tooling
 - At least rpmddevtools and rpmbuild
- Compilers, of course
- Source tarball, SPEC file
- patches(if needed)

Brief intro for RPM packaging



- `$ tree -L 1 ~/rpmbuild`
- `/home/zsun/rpmbuild`
- `|— BUILD #` where source code builds
- `|— BUILDROOT # %install` copy file here
- `|— RPMS`
- `|— SOURCES`
- `|— SPECS`
- `|— SRPMS`

Example: danmaQ



- %global icondir %[_datadir]/icons/hicolor
- Name: danmaq
- Version: 0.2.3.1
- Release: 3%{?dist}
- Summary: A small Qt program to play danmaku on any screen
- License: GPLv3
- URL: <https://github.com/TUNA/danmaQ>
- Source0: [%{url}/archive/v%{version}/danmaQ-v%{version}.tar.gz](https://github.com/TUNA/danmaQ/archive/v%{version}/danmaQ-v%{version}.tar.gz)
- BuildRequires: qt5-qt11extras-devel qt5-qtbase-devel qt5-devel cmake desktop-file-utils

Example: danmaQ



- %description
- DanmaQ is a small client side Qt program to play danmaku on any screen.
- %prep
- %setup -q -n danmaQ-%{version}
- %build
- mkdir build && cd build
- %cmake ..
- make

Example: danmaQ



- %install
- # install
- pushd build
- %make_install
- install -Dm0644 src/resource/danmaQ.desktop %{buildroot}%
{_datadir}/applications/danmaQ.desktop
- install -Dm0644 src/resource/danmaQ.png %{buildroot}%
{_datadir}/pixmaps/danmaQ.png
- # <snip>

Example: danmaQ



- %check
- desktop-file-validate %{buildroot}%
 {_datadir}/applications/danmaQ.desktop
- %post
- /bin/touch --no-create %{_datadir}/icons/scalable &>/dev/null ||:
- %postun
- if [\$1 -eq 0]; then
- /bin/touch --no-create %{_datadir}/icons/scalable &>/dev/null ||:
- /usr/bin/gtk-update-icon-cache %{_datadir}/icons/scalable
 &>/dev/null ||:
- fi

Example: danmaQ



- %posttrans
- /usr/bin/gtk-update-icon-cache %{_datadir}/icons/scalable &>/dev/null | |:
- %files
- %doc README.md
- %license LICENSE
- %{_bindir}/danmaQ
- %{_mandir}/man1/danmaQ.1.gz
- %{_datadir}/pixmaps/*
- %{_datadir}/icons/hicolor/*/apps/*
- %{_datadir}/applications/danmaQ.desktop

Example: danmaQ



- %changelog
- * Wed Feb 07 2018 Fedora Release Engineering <releng@fedoraproject.org> - 0.2.3.1-3
- - Rebuilt for https://fedoraproject.org/wiki/Fedora_28_Mass_Rebuild

- Ref: <https://src.fedoraproject.org/rpms/danmaq>

Fedora packaging guideline and tricks

Packaging guidelines



- <https://fedoraproject.org/wiki/Packaging:Guidelines>
- Detailed information.
- Long but should read!
 - Especially naming and versioning

Tricks



- Forge-hosted projects can be easier
 - https://fedoraproject.org/wiki/Forge-hosted_projects_packaging_automation
 - Simplify URL handling and %setup

Tricks



- Various macros to simplify packaging
 - `%post local`
 - `%systemd_post %{name}-local@.service`

 - `%preun local`
 - `%systemd_preun %{name}-local@.service`

 - `%postun local`
 - `%systemd_postun_with_restart %{name}-local@.service`

Tools and infrastructure

Packaging tools



- rpmdevtools
 - A collection of commands for preparing rpm SPECs, directory structure etc.
- spectool
 - Download the source package for the given SPEC file.

Packaging tools



- rpmbuild
 - The main tool to build rpm package from SPEC.
- mock
 - build SRPMs in a chroot.
- rpmlint
 - Check common problems in rpm packages, such as typo, improper usage of things

Packaging tools



- ddiskit
 - Tool for Red Hat Enterprise Linux Driver Update Disk creation

Infrastructure



- Fedora Account System
 - To register an account for all Fedora services (currently except Red Hat Bugzilla)
 - <https://admin.fedoraproject.org/accounts>
- Dist Git
 - Where you can find spec files and Fedora specific patches
 - <https://src.fedoraproject.org>

Infrastructure



- Koji
 - Where official Fedora package built
 - <https://koji.fedoraproject.org/>
- Copr
 - Copr is an easy-to-use automatic build system providing a package repository as its output. No special FAS group required.
 - <https://copr.fedorainfracloud.org/>

Infrastructure



- Bodhi
 - The Fedora update system, maintaining package release process and errata.
 - <https://bodhi.fedoraproject.org/>
- Fedora packages
 - Where you can find detailed package info using the website.
 - <https://apps.fedoraproject.org/packages/>

Infrastructure



- Anitya

- Monitor upstream releases based on your configuration.
- Can be used for non-Fedora RPM repos.
- <https://release-monitoring.org/>

- Koschei

- Koschei is a service for scratch-rebuilding RPM packages in Fedora Koji instance when their build-dependencies change or after some time elapse.
- <https://apps.fedoraproject.org/koschei/>

Infrastructure



- Red Hat Bugzilla
 - Where bug reports can be filed.
 - <https://bugzilla.redhat.com/>

And commands



- `fedora-packager-setup`
 - To configure your local system with proper certs etc.
- `fedpkg`
 - The main command a Fedora Packager uses
 - Clone from / push to Dist Git, local build, upload tarballs, make scratch build and official build, file Bodhi updates.

And commands



- koji
 - The command line tool for Koji.
- copr / copr-cli
 - The command line tool for build and edit package on Copr
- bodhi
 - The command line tool for updating Bodhi updates

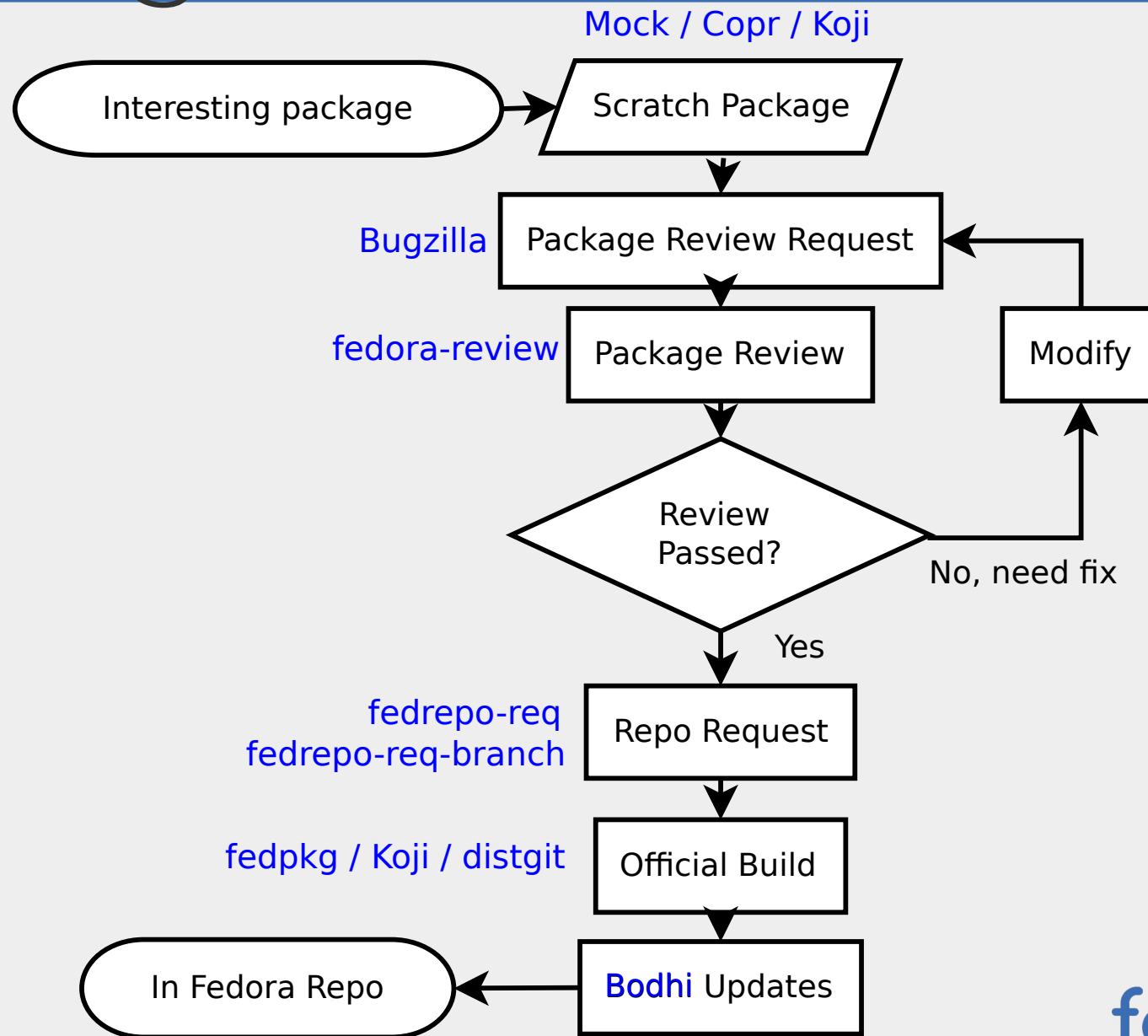
And commands



- `fedora-review`
 - Tool to assist Fedora package review process
- `fedrepo-req` / `fedrepo-req-branch`
 - File request for dist git repo
- `bugzilla`
 - The command line tool for bugzilla

How a package get
into Fedora

Packages into Fedora



References



- <https://doc.fedoraproject.org/quick-docs/en-US/creating-rpm-packages.html>
- https://fedoraproject.org/wiki/Forge-hosted_projects_packaging_automation

This slide



- This slide is available as
 - <https://zsun.fedorapeople.org/pub/slides/Fedora-packaging-and-tools-2018.pdf>



Questions?



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