Opyum:
offline package management with Yum

-- Debarshi Ray

What is it?

- An offline package manager for Fedora.

- Meant for users who can not use conventional package management tools as they do not have a network connection.

  – Common scenario in India.

- Can be used to install or update packages on a "standalone" system.

The past and the present.

- Started in April as part of Google Summer Code 2007, under the Fedora Project.

- Inspired by Baishampayan Ghose's work for Ubuntu last year.

- Latest version, ie. 0.0.3, is available for F-7, F-8 and Rawhide.
  - # yum install opyum

How do we do it?

- From where do we get the packages?

  – Any Yum repository.

- How do we get them?

  – Using a "connected" Fedora system.

- Err... dependencies?

  – Profiles make it possible.

- How do we install or update?

  – Yum-Packs.

Terminologies

- "Standalone" system
  - Can not access Yum repositories.
  - Network connection is absent; or costly and slow.
- "Connected" system
  - Can access Yum repositories.
  - Cheap and fast network connection is present.

Terminologies (contd.)

- Profiles
  - Meta-data about packages installed in the system.
  - Need to be exported and imported.
  - Uncompressed tarballs.
- Yum-Packs
  - Contain all packages needed to complete a transaction.
  - Uncompressed tarballs.

Design decisions

- Written in Python.
    - Language of choice for Fedora.
    - Easy to learn, read and write.
- Uses Yum and RPM as back-ends.
- Keeps as close to Pirut as possible.
    - Re-usability of code and UI.
    - Pirut is well-maintained and sees frequent bug-fixes.
    - Pirut + profiles + Yum-Packs = Opyum
- Not a plugin. It is a separate program.

What *you* can be...

- Designer
  - Inkscape, GIMP, Glade, Gazpacho, PyGtk, etc..
  - Design graphical user interfaces.
- Developer
  - Python, PyGtk, Autoconf/Automake, familiarity with package management systems, Git, Bugzilla, etc..
  - Implement features and fix bugs.
- Translator
  - Language translation skills, diff, PO, Transifex, etc..
  - Translate Opyum into your favourite language.

Immediate TODO
(stable-0.0.x branch)

- **Internationalization and localization.**
  - Easiest of them all. :-)
  - Most of the code supports i18n.
  - Localize Opyum-specific strings.
- *Required:*
  - *Translators, Developers*

Immediate TODO
(stable-0.0.x branch)

- Support for Fedora DVD/CDs.

  - Fedora DVD/CDs are the only repositories a "standalone" system can directly access.

  - Needs work on Pirut.

- *Required:*

  - *Developers, Designers*

Immediate TODO
(stable-0.0.x branch)

- **Make it multi-threaded.**
  - Current UI seems to freeze while fetching package information, resolving dependencies, downloading packages, exporting or importing profiles, etc..
  - Most common complaint against Pirut too.
  - Needs improvements in both Opyum and Pirut.
  - Look at Yumex for possible solutions.
- *Required:*
  - *Developers*

Future TODO
(master branch)

- **Migrate to PackageKit.**
  - Obvious advantages.
  - Re-write existing tools using the PackageKit API.
  - Introduce a new PackageKit-based CLI.
  - May require work on PackageKit too.
- *Required:*
  - *Developers, Designers*

Future TODO
(master branch)

- Improve profile management.

  - Profiles should be usable across different architectures, releases, and derivatives.

  - Can we have smaller profiles?

- *Required:*

  - *Developers*

Ambitious TODO

- Creating Yum-Packs on MS Windows.
  - Most Internet cafes have Windows systems.
  - Python is available for Windows.
  - Resolving dependencies can be a blocker.
  - Can portions of Yum and/or RPM be ported?
- *Required:*
  - *Developers*

Developer Foo

- Project page
    - https://hosted.fedoraproject.org/projects/opyum/
    - https://fedoraproject.org/wiki/DebarshiRay/Opyum
- Mailing list
    - fedora-devel-list@redhat.com
- Source code:
    - git clone git://git.fedoraproject.org/git/hosted/opyum

Want to *join*?

Drop me an email at
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...and let all hell break loose. ;-)

Questions?