

functional
package management

with **GNU Guix**

for developers & power users

**Package managers
are really useful.**

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are really useful.**

But they can be so frustrating!

Old software
Version conflicts
Suspenseful upgrades
The only way is forward
Changes affect all users

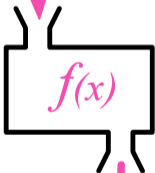
because package managers are
imperative & stateful

big binary bundles?

big binary bundles
are indistinguishable from
giving up

Functional packaging

headers
sources
build tools
libraries
...



```
cabba9e-emacs-24.5/  
├ bin  
├   └ emacs  
├ lib  
├   └ ...
```


Functional packaging

Same inputs?
Same output!

```
cabba9e-emacs-24.5/
```

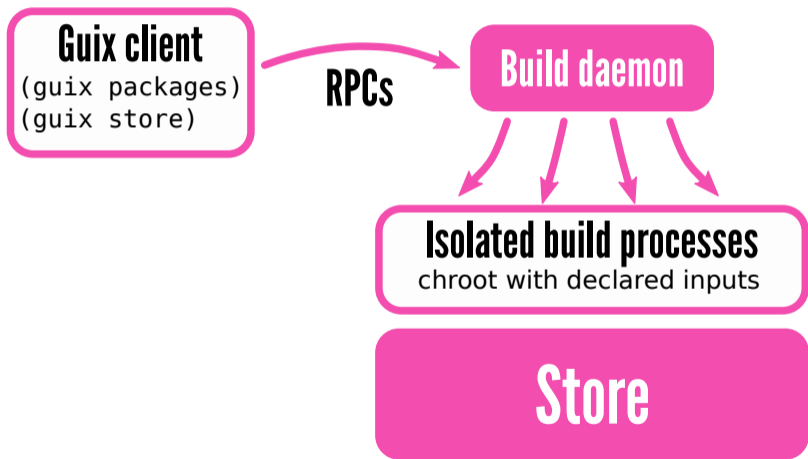
```
| bin  
|  └─ emacs  
├─ lib  
└─ ...
```

Different inputs?
Different outputs.

```
dedbeef-emacs-24.5/
```

```
| bin  
|  └─ emacs  
├─ lib  
└─ ...
```

GNU Guix



/home/rekado/.guix-profile

/var/guix/...

guix-profile

42

/gnu/store

hscq14x...-profile

bin

samtools

bowtie2

rhrdst11m...-samtools-1.2

bin

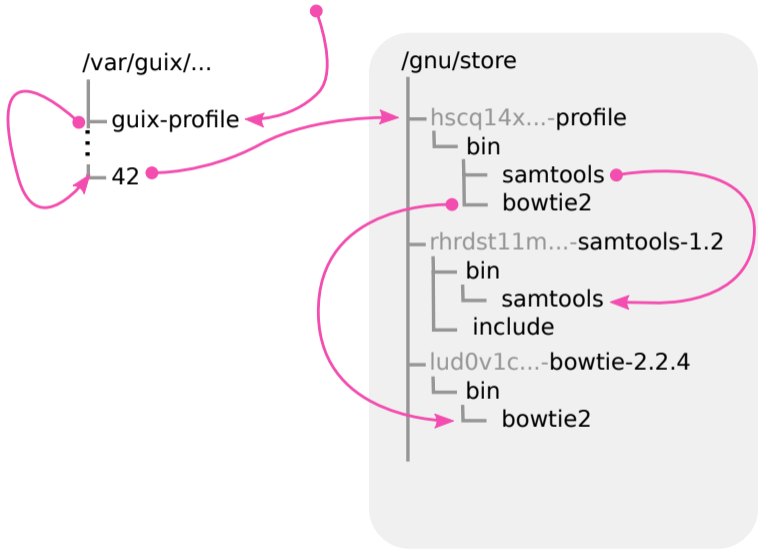
samtools

include

lud0v1c...-bowtie-2.2.4

bin

bowtie2



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guix-profile

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└─ samtools

└─ include

z3braf1sh...-profile

└─ bin

└─ samtools

```
(define glpk
  (package
    (name "glpk")
    (version "4.57")
    (source
      (origin
        (method url-fetch)
        (uri (string-append "mirror://gnu/glpk/glpk-"
                             version ".tar.gz"))
        (sha256 (base32 "0p17jjlixd2..."))))
    (build-system gnu-build-system)
    (inputs
      `(("gmp" ,gmp)))
    (arguments
      `(:configure-flags '("--with-gmp")))
    (home-page "http://www.gnu.org/software/glpk/")
    (synopsis "GNU Linear Programming Kit")
    (description
      "GLPK is a C library for solving large-scale linear
      programming (LP), mixed integer programming (MIP), and
      other related problems ...")
    (license gpl3+)))
```

Learn more!

#guix on irc.freenode.net

<http://gnu.org/s/guix>

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