packaging the free software web for the end user

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thoughts on debconf15
the venue is really nice
kids + families = ❤️
late night hacking means no morning briefings for you
packaging the free software web for the end user

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**problem:**
I want the web to be more distributed and federated, and less centralized
• server side applications are complicated
• requires high/boring effort from technical people
• end users can't do it at all
the free software web in Debian

- $ apt-cache search web returns | wc -l
  3657
- 92 packages ship files in /etc/apache2/
  - excluding apache itself and modules
  - several web apps don't do it (e.g. redmine)

it seems we are quite good at packaging ...
but what is packaging?
sometimes packages are not enough

- no standard
- cross-package config
- databaseS
- DNS setup
- email setup
my history with the topic
talks that moved me

- Stefano Zacchi roli (debconf'14)
- Lucas Nussbaum (fosdem'15)
- Nicholson/Webber (fosdem'15)
an email that moved me

Anthony Towns
"About the recent DD retirements"
(debian-project)
started hacking on a PoC on February 2015
presented at
MiniDebconf France
in April 2015

very useful feedback
got a GSoC 2015 slot
and an awful lot of student submissions
almost-unhealthy amount of hacking during debconf15
quiet hacklabs FTW
stopped in the middle to upgrade jquery to the latest upstream release and sort of adopt it in the middle

#730014
continued hacking ...
... and today you will see a live demo \o/
goal:
automated configuration of packaged web applications
goal (alt):
allowing everyone to have their own debian server in a secure and maintainable way
shak
self hosting application kit

https://gitlab.com/shak/shak
https://anonscm.debian.org/cgit/users/terceiro/shak.git
related projects

- Sandstorm
- Yunohost
- Bitnami (proprietary ×)

good ideas, but reinvent packaging
design: basics

- using official debian packages
- A config management layer on top
  - minimal work for good out of the box experience
  - push changes in packages
design: basics

• new abstraction: application
• one layer above packages
• one application will typically need one or more packages
design: UI

- a CLI for the so inclined (and for automated testing)
- a nice graphical UI to empower users with no technical background
design: assumptions on packages

- DTRT
  - not automating web server configuration OK-ish
- handle their own upgrades
  - dbconfig-common helps with database stuff
design: nice to have in packages

- support for multiple instances
- not being crap
Application
- path
- name
- `<input ...>`

Cookbook
- `<input ...>`

User-provided

Specifies input for UI
design: code

- Ruby (off-Rails)
- chef for config. management
- automated tests
current state
Current status: alpha

- Base system implemented
- installation/updates work
- CLI + web UI
- removing applications
  not implemented yet
available applications

- static site
- wordpress (Thiago/gsoc)
- owncloud (Thiago/gsoc)
- email (Thiago/gsoc)
https by default

- also by Thiago/gsoc
- self-signed certs for now
- looking forward to let's encrypt or other viable solutions
the future
next steps

- upload to Debian
- improve web apps policy
- integrate more packages
next steps (2)

- easy bootstrapping
  $ apt install shak
- prebuilt images
  $ debootstrap \--include=shak
next steps (3/3)

- spawn new servers in the cloud
- prebuilt images for common low-cost, low-power hardware
  - talk to FreedomBox people
how you can help
lots of work ahead!
collaborators needed
you can request your package to be added

• issues on gitlab
• debian bts
ways to help (1/2)

- usability testing
- bug reports
- documentation
- translations
ways to help (2/2)

- code of course
- code reviews
- ideas on dns/ssl/email handling
- security audits
discussion

- #debian-webapps
- debian-webapps@l.d.o

didn't ask folks there
questions ?