packaging the free software web for the end user

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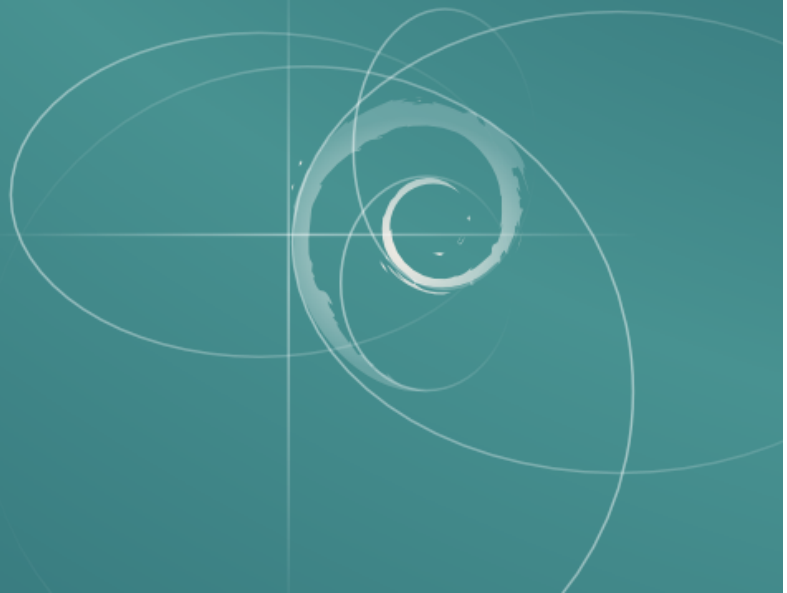
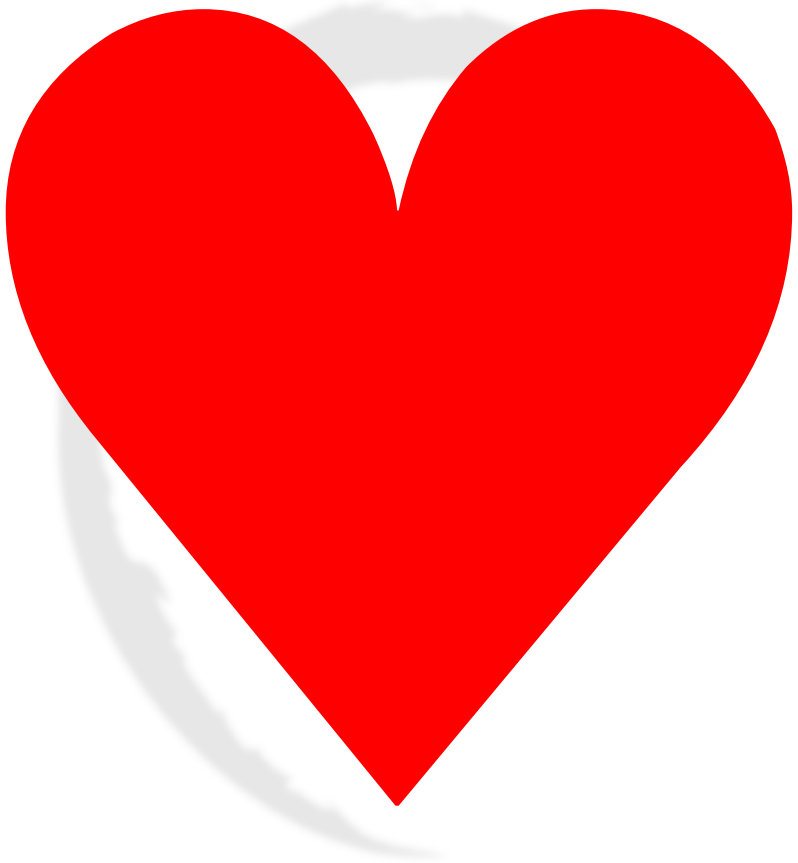
thoughts on debconf15





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 the 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`)

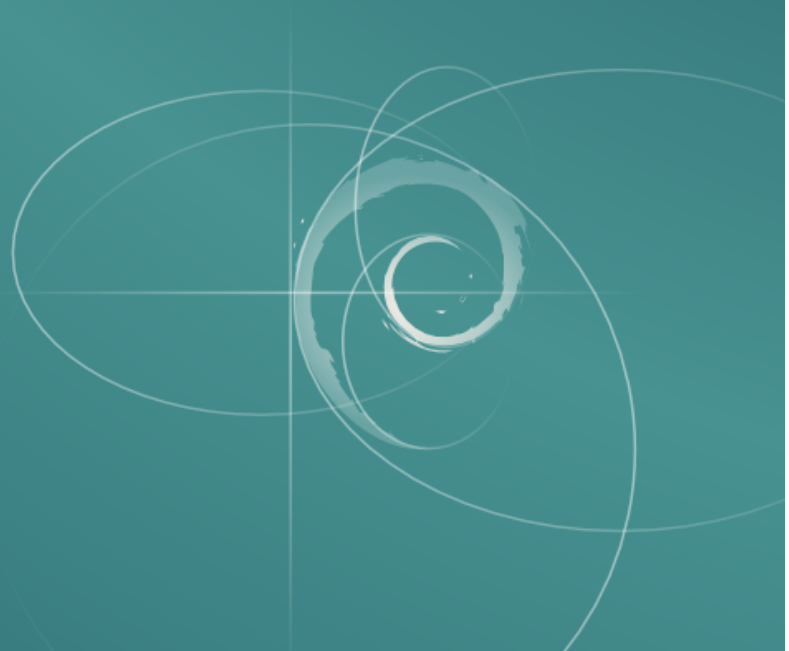
it seems we are quite good at packaging ...

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 Zacchiroli (debconf14)
- 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

GSoC 2015

Thiago Ribeiro
Software Engineering, UnB

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

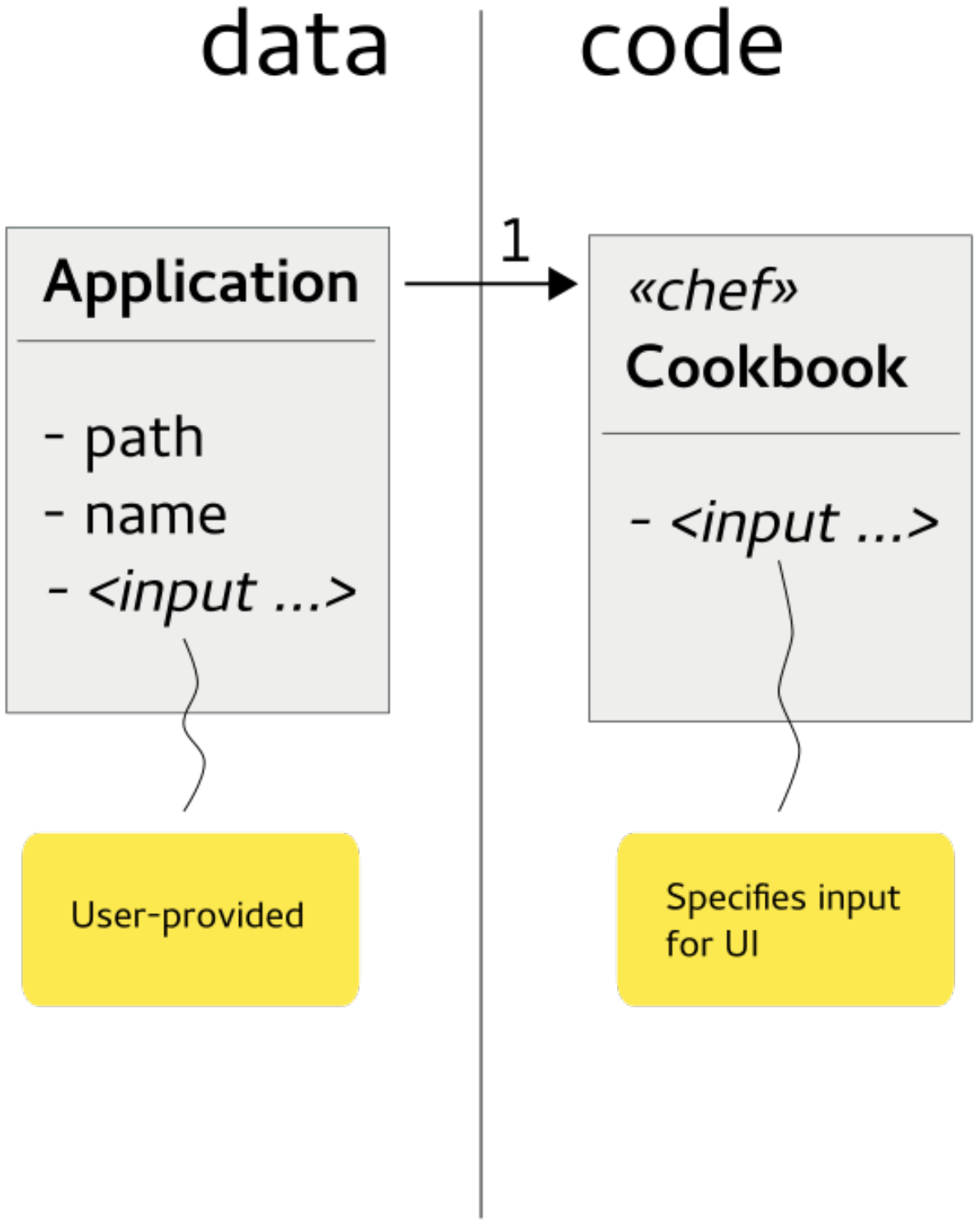
- a CLI for the so inclined (and for automated testing)
- a nice graphical UI to empower users with no technical background

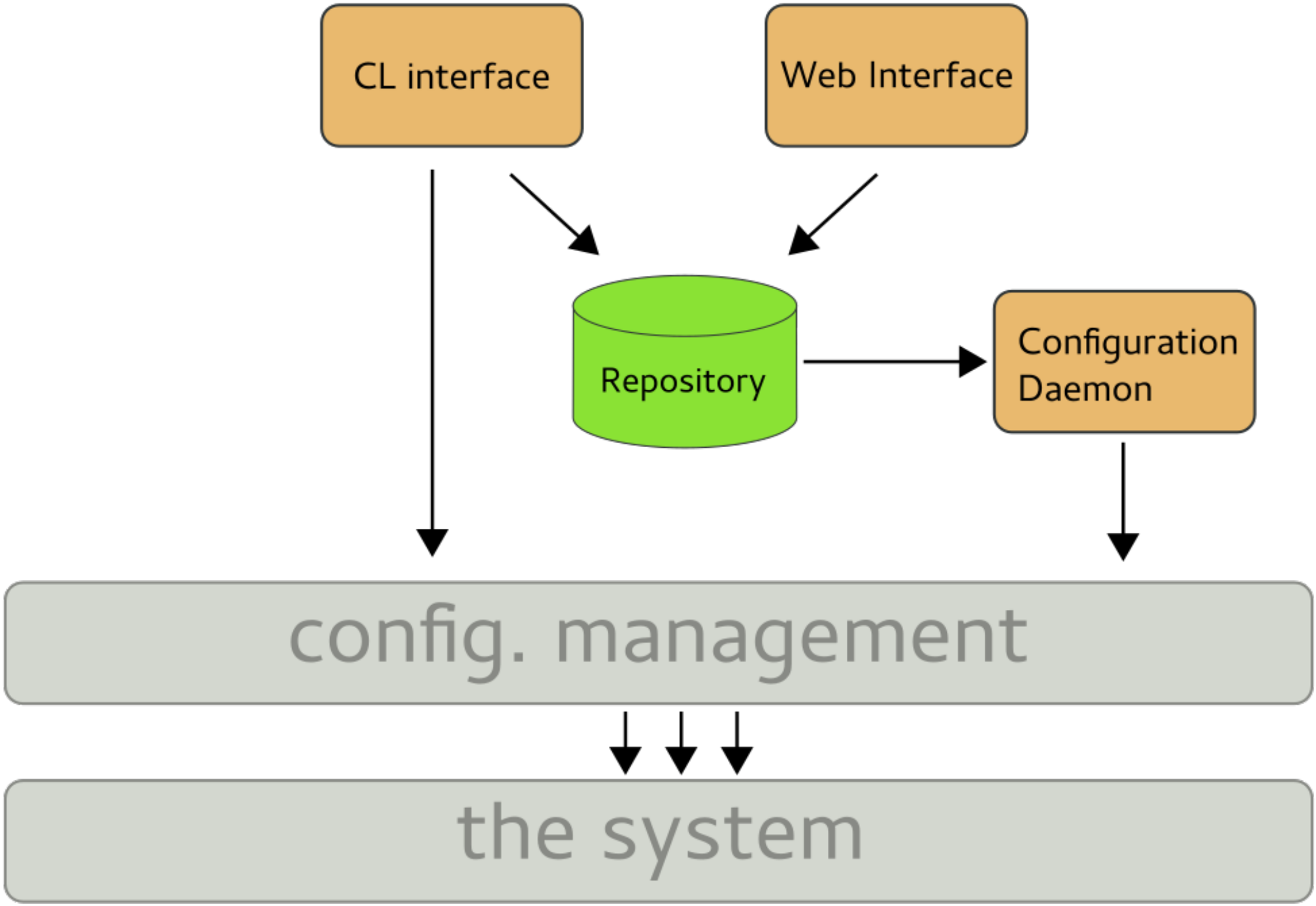
design: asssumptions on packages

- 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

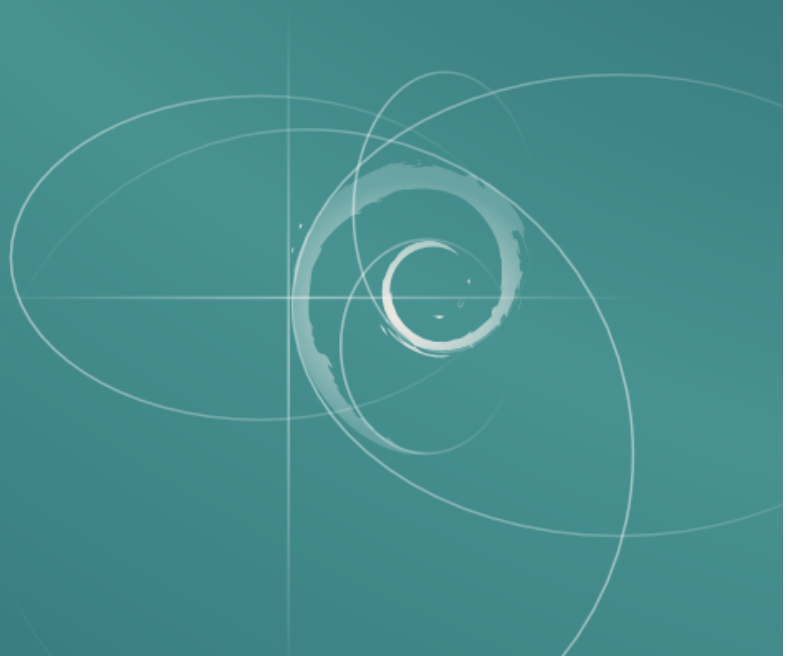

data
code
Application
- path
- name
- <input ...>
1
«chef»
Cookbook
- <input ...>
User-provided
Specifies input
for UI


CL interface
Web Interface
Repository
Configuration Daemon
config. management
the system

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

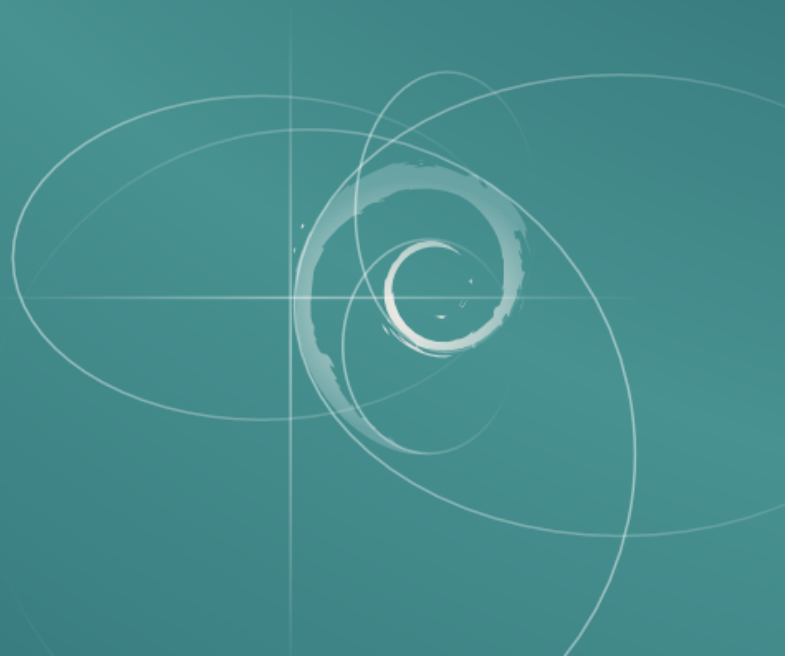
- static site
- wordpress (Thiago/gsoc)
- owncloud (Thiago/gsoc)
- email (Thiago/gsoc)

https by default

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

demo!

the future



next steps

- upload to Debian
- improve web apps policy
- integrate more packages

next steps (2)

- easy bootstrapping

```
$ apt install shak
```

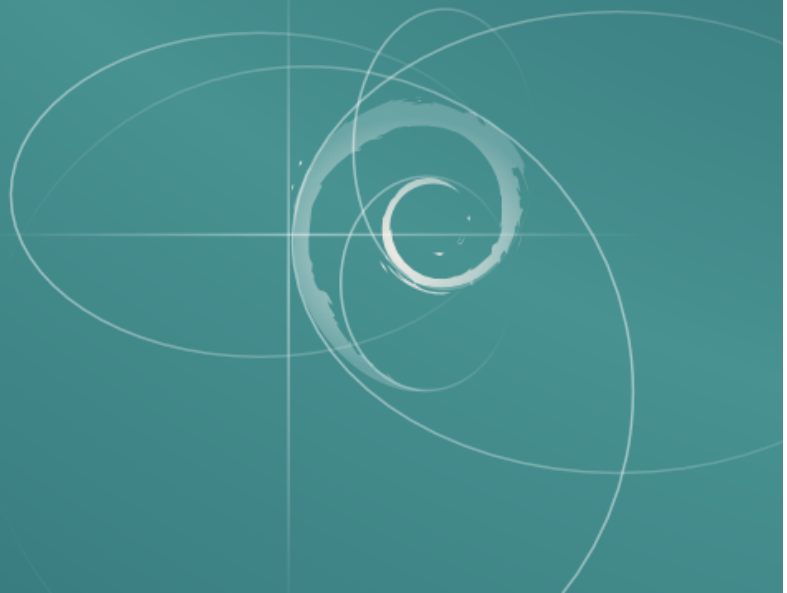
- prebuilt images

```
$ 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 ?