An experiment about personalized front-end of bugs.debian.org

E-mail archives + UDD + Simple web front-end = 🫤

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NOTE: Presentation slide is published

- This presentation slide is available via Rabbit Slide Show
  - https://slide.rabbit-shocker.org/authors/kenhys/debconf2020-online/
    "An experiment about personalized front-end of bugs.debian.org"

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Personal profile

- Debian Maintainer (@kenhys)

- Trackpoint(soft dome) and Wasa beef(Yamayoshi Wasabi Potato Chips) fan

- Working for ClearCode Inc.

ClearCode Inc.

https://www.clear-code.com/

- Free software is important in ClearCode Inc.
- We develop/support software with our free software development experiences
- We feedback our business experiences to free software

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Not talk about

- Improving bugs.debian.org (debbugs) itself
- Explaining bugs.debian.org (debbugs) internal in details

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Agenda

- Why so curious about bugs.d.o?

- The troublesome cases about bugs.d.o

- How to solve this situation?

- Demonstrate a front-end

- Conclusion

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We use bugs.d.o

https://www.debian.org/Bugs/index.en.html

About Debian   Getting Debian   Documentation   Support   Dev

debian / debian bug tracking system

Debian bug tracking system

Debian has a bug tracking system (BTS) in which we file details of
dealt with.

How to report a bug in Debian

A separate page has instructions and tips on how to report a bug

Bug tracking system documentation

- Advanced information on how to use the system
- Information on manipulating bugs by email
- Mailservers' reference card
- Ways of accessing the bug report logs
- Requesting bug reports by email

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Usage of bugs.debian.org - prerequisite

- Communicate each other by E-mail

- Change the bug status by sending E-mail
    - Send E-mail to control@bugs.d.o
    - Use control command in E-mail reply

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Why so curious about bugs.d.o?

- I've received deprecated notification bugs

  - Bug# 956770 growl-for-linux: Depends on deprecated libappindicator
  - Bug# 955899 growl-for-linux: Depends on deprecated dbus-glib

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- Bug# 956770 growl-for-linux: Depends on deprecated libappindicator
  - https://bugs.debian.org/cgi-bin/bugreport.cgi?bug=956770
  - Migrated to libayatana-indicator
    - It is easy because there are enough compatibility
    - I've fixed pkg-config target and include path

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- Bug# 955899 growl-for-linux: Depends on deprecated dbus-glib
  - https://bugs.debian.org/cgi-bin/bugreport.cgi?bug=955899
  - Migrated to GDBus
    - Use d-feet to detect interface change (Rhythmbox plugin)
    - Fixed a interface to follow GDBus API
  - Send PR to upstream https://github.com/mattn/growl-for-linux/
    - Fixed a potential Rhythmbox related bug, too

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growl-for-linux was fixed

- But...What about other packages? 🤔

What about other packages?

- libappindicator: deprecated in Debian; AppIndicator based applications, please switch to Ayatana (App)Indicator(s)
  - https://bugs.debian.org/cgi-bin/bugreport.cgi?bug=895037

- libdbus-glib-1-dev: is deprecated
  - https://bugs.debian.org/cgi-bin/bugreport.cgi?bug=895291

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libappindicator: deprecated in Debian

Debian Bug report logs - #895037
libappindicator: deprecated in Debian;
AppIndicator based applications, please switch to
Ayatana (App)Indicator(s)

Package: src:libappindicator; Maintainer for src:libappindicator is
Debian QA Group <packages@qa.debian.org>;

Reported by: Mike Gabriel <sunweaver@debian.org>
Date: Fri, 6 Apr 2018 13:09:02 UTC
Severity: serious
Tags: bullseye, sid
Fix blocked by 956779: redshift: Depends on deprecated
libappindicator, 956762: autokey-gtk: Depends on deprecated
libappindicator, 906836: lightdm-gtk-greeter: Switch to Ayatana
Indicators, 956767: fusion-icon: Depends on deprecated
libappindicator, 956765: ckb-next: Build-Depends (unnecessarily?) on
deprecated libappindicator, 956777: package-update-indicator: Depends
on deprecated libappindicator, 956769: gromit-mpx: Depends on
deprecated libappindicator, 956772: hime: Depends on deprecated
libappindicator, 956774: kylin-burner: Depends on deprecated
libappindicator, 956767: bluemon: Depends on deprecated
libappindicator, 956766: gcin: Build-Depends (unnecessarily?) on
deprecated libappindicator, 921339: Please switch to Ayatana
AppIndicator, 956770: parcellite: Depends on deprecated
libappindicator, 956775: osdlyrics: Depends on deprecated
libappindicator, 956773: indicator-sensors: Depends on deprecated
libappindicator, 956771: gvbb: Depends on deprecated libappindicator,
956782: zeal: Build-Depends (unnecessarily?) on deprecated
libappindicator, 956768: gmpc: Depends on deprecated libappindicator
Blocking fix for 895038: libindicator: deprecated in Debian, switch
to libayatana-indicator instead

- Many blocked bugs

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libdbus-glib-1-dev: is deprecated in Debian

- **Too many** blocked bugs (Need to scroll!) 😫

How to track many blocked?

- In this case, UserTags is recommended
  - https://wiki.debian.org/bugs.debian.org/usertags
  - https://udd.debian.org/cgi-bin/bts-usertags.cgi

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Does it work with libappindicator?

Tagged ayatana-appindicator by pkg-ayatana-devel@lists.alioth.debian.org

Bug	Package	Title	Other tags
#921339	src:osensor	Please switch to Ayatana Appindicator	list usertags
#936781	src:blueman	blueman: Depends on deprecated libappindicator	list usertags
#936762	src:autokey-gtk	autokey-gtk: Depends on deprecated libappindicator	list usertags
#936765	src:ckb-next	ckb-next: Build-Depends (unnecessarily?) on deprecated libappindicator	list usertags
#936786	src:gcin	gcin: Build-Depends (unnecessarily?) on deprecated libappindicator	list usertags
#936767	src:fusion-icon	fusion-icon: Depends on deprecated libappindicator	list usertags
#936768	src:gmpc	gmpc: Depends on deprecated libappindicator	list usertags
#936769	src:gromit-mpx	gromit-mpx: Depends on deprecated libappindicator	list usertags
#936771	src:gxkb	gxkb: Depends on deprecated libappindicator	list usertags
#936772	src:hime	hime: Depends on deprecated libappindicator	list usertags
#936773	src:indicator-sensors	indicator-sensors: Depends on deprecated libappindicator	list usertags
#936774	src:kylin-burner	kylin-burner: Depends on deprecated libappindicator	list usertags
#936776	src:osdlyrics	osdlyrics: Depends on deprecated libappindicator	list usertags
#936777	src:package-update-indicator	package-update-indicator: Depends on deprecated libappindicator	list usertags
#936778	src:parcellite	parcellite: Depends on deprecated libappindicator	list usertags
#936779	src:redshift	redshift: Depends on deprecated libappindicator	list usertags
#936782	src:zeal	zeal: Build-Depends (unnecessarily?) on deprecated libappindicator	list usertags

Home

- UserTag is: **ayatana-appindicator**

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Does it work with libdbus-glib1-dev?

- It is a case that UserTag is **not available**
- It should be tagged...

The troublesome cases about bugs.d.o

- UserTag is not always used

- It may be difficult to see many blocked bugs

- **How to solve this situation?**

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Use udd.debian.org!

●	○	○	modified in the last	`7` days
●	○	○	blocking bug	`895291`
○	●	○	usertag	`ayatana-appindicator` for user `pkg-ayatana-devel@lists.alioth.debian.org`

- UDD can track usertags

- UDD can track blocking bugs

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In my experience through contribution, I need

- I need easy to:
  - Track a specified bug (tagged/not tagged)
  - Find a bug that no one working on
  - Send control E-mail
  - Find affected bugs

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- I need easy to:
  - ~~Track a specified bug (tagged/not tagged)~~ **Use UDD!**
  - Find a bug that no one working on 🤔
  - Send control E-mail 🤔
  - Find affected bugs 🤔

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How to solve rest issues?

- Find a bug that no one working on 🤔
  - It's a good attitude to fix a bug

- Send control E-mail easily 🤔
  - It's a good attitude to triage a bug

- Find affected bugs 🤔
  - Remember misery bugs #932855, #965164

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- Sometimes grave/critical bug was found
  - 2019, critical, e2fsprogs 1.45.3-1 breaks initramfs-tools-core <=0.133
    - https://bugs.debian.org/cgi-bin/bugreport.cgi?bug=932855
  - 2020, grave, policykit-1: fails to install
    - https://bugs.debian.org/cgi-bin/bugreport.cgi?bug=965164

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What about existing solution?

https://wiki.debian.org/Services

- Developer Horizon - A dashboard for developers
  - http://horizon.debian.net/ **Not available**

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What about existing solution?

- Fabre - fulltext search service
  - http://fabre.debian.net Around 2005, **Discontinued**
  - Undocumented Debian "debbugs internal" written in Japanese

    - https://tokyodebian-team.pages.debian.net/pdf2005/-
      debianmeetingresume2005-fuyu.pdf

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- Debbugs Enhancement Suite
  - https://salsa.debian.org/lamby/debbugs-enhancement-suite
  - A Chrome extension to enhance using Debbugs
  - Tidy up each bug rendering, it's cool (Thanks @lolamby FYI:)

    - **...But It is a bit different what I want**

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- Debian Popularity Contest
  - http://popcon.debian.org/
  - It provides a method to collect installed packages information

- Public UDD Mirror
  - https://udd-mirror.debian.net/
  - It provides a statistical information about packages

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Starting personal project

- Concept
  - **Make "unstable life" comfortable**

    - Fix a bug (by finding a bug that no one working on)
    - Triage a bug (by sending control E-mail easily)
    - Avoid affected bugs (by finding affected important bugs)

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Starting personal project (again)

- Concept
  - Make "unstable life" comfortable

    - Fix a bug (by finding a bug that no one working on) **Count comment in bug#NNNNNN**

    - Triage a bug (by sending control E-mail easily) **Add mailto: link explicitly**

    - Avoid affected bugs (by finding affected important bugs) **Alert recent grave bugs**

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How to realize concept?

- Collect bug information regularly (E-mail archives)

- Collect Popcon data (Fix a bug with your familiar packages)

- Collect your installed packages information (popularity-contest)

- Process collected data and make it accessible!

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Collect bug information

- Get E-mail archive with rsync
  - https://salsa.debian.org/debbugs-team/debbugs
  - rsync -av rsync://bugs-mirror.debian.org/bts-spool-db/
    It requires 15GiB!

- Use *.log and *.summary

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Extract .log and .summary

- Use perl module which is used for bugs.d.o (Debbugs)
  - Debbugs::Log, Debbugs::Status, Debbugs::MIME and so on
  - *.log contains multiple raw E-mail content with control sequence
  - *.summary contains metadata of each bug

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How to parse .log

```perl
my $log = Debbugs::Log->new(log_name => $path);
my @records = $log->read_all_records();
for my $record (@records) {
  ...
  my $entity = Debbugs::MIME::parse_to_mime_entity($record);
  print "From: " . $entity->head->get("From");
  print "To: " . $entity->head->get("To");
  print "Subject: " . get_field($entity, "Subject");
  print "Date: " . $entity->head->get("Date");
}
```

How to parse .summary

```
Format-Version: 3
Submitter: Nis Martensen <nis.martensen@web.de>
Subject: libexo-helpers: starting thunderbird fails for some mailto URIs
Found-In: exo/0.12.4-1
Tags: patch
Package: libexo-helpers
Message-Id: <159439678897.3833.10774950364480956704.reportbug@siamos.nes.net>
Severity: normal
Date: 1594396982




my $summary = Debbugs::Status::read_bug(summary => $path);
print $summary->{"tags"}
```

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- UDD: UltimateDebianDatabase
  - https://wiki.debian.org/UltimateDebianDatabase
  - You can access with:
    psql –host=udd-mirror.debian.net –user=udd-mirror udd –password
  - Schema is available: https://udd.debian.org/schema/udd.html

    - Import popcon and package data

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Collect installed packages information

```
POPULARITY-CONTEST-0 TIME:1596711793 ID:XXX ARCH:amd64 POPCONVER:1.70 VENDOR:Debian
1596672000 1570622400 libgail-common /usr/lib/x86_64-linux-gnu/gtk-2.0/modules/libgail.so
1596672000 1596585600 libavcodec58 /usr/lib/x86_64-linux-gnu/libavcodec.so.58.91.100 <RECENT-CTIME>
1596672000 1586736000 libgoa-1.0-0b /usr/lib/x86_64-linux-gnu/libgoa-1.0.so.0.0.0

...
1596672000 1586217600 libzvbi0 /usr/lib/x86_64-linux-gnu/libzvbi.so.0.13.2
1596672000 1590624000 udisks2 /usr/share/locale/ja/LC_MESSAGES/udisks2.mo
END-POPULARITY-CONTEST-0 TIME:1596711817
```

- Just upload popcon file
  - /usr/sbin/popularity-contest –su-nobody

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Process collected data and make it accessible!

- Polling subscribed debian-bugs-dist@lists.debian.org

- Importing latest E-mail archives from bugs-mirror.debian.org

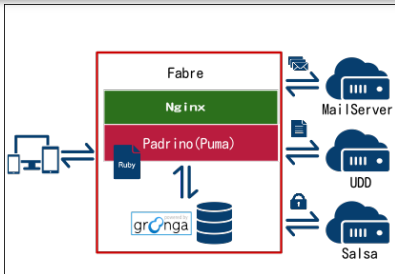- Merging metadata + Web front-end

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Prepared server specs for experiment

- Start with small VPS instance (about 3.26 USD/mo)
  - 1vCPU
  - 1GiB memory
  - 20GiB disk space
  - Max 100Mbps bandwidth

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System diagrams

Named my project as Fabre

cite: https://en.wikipedia.org/wiki/Jean-Henri_Fabre

Why Fabre?

- Fabre is "The father of modern entomology" - the study of insects(bugs)

- Just reuse previous (maybe) similar project (fabre.debian.net)

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Concept of Fabre (again)

Make "unstable life" comfortable

- Fix a bug (by finding a bug that no one working on)
- Triage a bug (by sending control E-mail easily)
- Avoid affected bugs (by checking installed packages)

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Finding a bug that no one working on

- Show each number of comments (orange background color means no one working on yet)

Sending control E-mail easily

Severity	normal	
Tags	bullseye	sid

[✉ Patch] [✉ Need moreinfo] [✉ Fixed in upstream] [✉ Pending(waiting upload)] [✉ Close]

■Show each mailto: button to control bugs

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Easy to view blocked bugs

- List blocked bugs appropriately

Finding affected important bugs

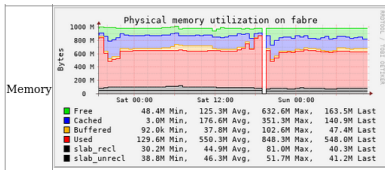# How Fabre is good enough to work?

- Now ready to DEMO

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Current status of Fabre

- Tracked bugs: about 89,000 (UDD: 90,780)
  - Archived bugs: 720,000 (UDD: 85,0331)

- Import bugs: every 1 hour

- Update affected bugs: every 1 day

- Disk usage (Database): about 1.5 GiB

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Physical memory utilization on fabre

■ Free	48.4M Min,	125.3M Avg,	632.6M Max,	163.5M Last
■ Cached	3.0M Min,	176.6M Avg,	351.3M Max,	140.9M Last
■ Buffered	92.0k Min,	37.8M Avg,	102.6M Max,	47.4M Last
■ Used	129.6M Min,	550.3M Avg,	848.3M Max,	548.0M Last
■ slab_recl	30.2M Min,	44.9M Avg,	81.0M Max,	40.3M Last
■ slab_unrecl	38.8M Min,	46.3M Avg,	51.7M Max,	41.2M Last

- Sometimes Killed by OOM, need more memory!

Conclusion

- There are plenty room of improvements to develop

- In my experiment, mashup some data sources may improve UX
  - bug report (E-mail archives)
  - UDD metadata (Popcon and package metadata)
  - installed packages list (popularity-contest)

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Any questions?

Could you speak slowly if you have a question, please?

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