Debbugs
22 Years of Bugs

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Code and slides are here: https://dla2.us/p/debbugs2017
Goals of this talk

- Bug Statistics
- New features
- How you can help
- Answer questions/discussion
Goals of the BTS

- Reporting of Features
- Evolution of Features
- Fixing of Features
- Reducing impact of Features
Goals of the BTS

- Reporting of Bugs
- Evolution of Bugs
- Fixing of Bugs
- Reducing impact of Bugs
Bugs from the beginning of time
Bug Growth Rate

The graph illustrates the Bug Growth Rate for Jessie and Stretch. The y-axis represents the number of bugs filed per day, ranging from 60 to 800. The x-axis denotes time from 2014 to 2017.

Jessie and Stretch are highlighted on the graph, showing the trend of bug filing over the years.
Is the bug filing rate decreasing?

```r
summary(lm(log(`bugs per day`)~date,bug.growth[date > "2014-01-01 PST",]))
```

```r
## Call:
## lm(formula = log(`bugs per day`) ~ date, data = bug.growth[date >
## "2014-01-01 PST",])
## ## Residuals:
## Min 1Q Median 3Q Max
## -0.55003 -0.16770 -0.04112 0.11157 2.04406
## ## Coefficients:
## Estimate Std. Error t value Pr(>|t|)
## (Intercept) 5.139e+00 9.041e-01 5.684 3.38e-08 ***
## date -3.091e-10 6.256e-10 -0.494 0.622
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## ## Residual standard error: 0.3388 on 272 degrees of freedom
## Multiple R-squared: 0.0008968, Adjusted R-squared: -0.002776
## F-statistic: 0.2442 on 1 and 272 DF, p-value: 0.6216
```

Not significantly decreasing.
My entries into Christian’s game

Roughly 134 bugs are filed per day. The 880000th bug will be filed at 2017-10-23 12:44:13, the 900000th bug will be filed at 2018-05-01 14:47:03, and bug one million will be filed 2020-12-07 00:01:12.
Roughly 96 bugs are closed per day.
RC Bugs in the Past Year
Debbugs Box Diagram

- Mail In
  - spam
    - processall
      - service
      - process
  - cgi/
    - indexes
    - db-h
Perl Database Infrastructure

- DBIx::Class
- DBIx::Class::Schema::Loader – SQL schema to DBIx::Class
- DBIx::Class::DeploymentHandler – Upgrades of Schema
- Debbugs::DB – Debbugs SQL Module
SQL Loading

- Load bugs
  
  debbugs-loadsq1 bugs;
  debbugs-loadsq1 bugs archive;

- Load Versioning information
  
  debbugs-loadsq1 versions;
  debbugs-loadsq1 debinfo;
### Messages to bugs

```sql
SELECT count(*), c.addr FROM message_correspondent mc
JOIN correspondent c ON mc.correspondent = c.id
WHERE correspondent_type = 'from'
GROUP BY mc.correspondent, c.addr
ORDER BY count DESC LIMIT 5;
```

<table>
<thead>
<tr>
<th>count</th>
<th>addr</th>
</tr>
</thead>
<tbody>
<tr>
<td>5123</td>
<td><a href="mailto:bubulle@debian.org">bubulle@debian.org</a></td>
</tr>
<tr>
<td>4346</td>
<td><a href="mailto:joeyh@debian.org">joeyh@debian.org</a></td>
</tr>
<tr>
<td>4214</td>
<td><a href="mailto:biebl@debian.org">biebl@debian.org</a></td>
</tr>
<tr>
<td>3875</td>
<td><a href="mailto:tbm@cyrius.com">tbm@cyrius.com</a></td>
</tr>
<tr>
<td>3632</td>
<td><a href="mailto:ftpmaster@ftp-master.debian.org">ftpmaster@ftp-master.debian.org</a></td>
</tr>
</tbody>
</table>
Single-message correspondents

```
SELECT count(*) FROM
(SELECT count(*), c.addr
FROM message_correspondent mc
JOIN correspondent c ON
mc.correspondent = c.id
WHERE correspondent_type = 'from'
GROUP BY mc.correspondent, c.addr
HAVING count(*) = 1) AS foo;
```

count
-----
30215
More fun queries

```sql
SELECT count(*), t.tag
FROM bug b
JOIN bug_tag bt ON b.id=bt.bug
JOIN tag t ON bt.tag=t.id
GROUP by bt.tag, t.tag
ORDER by count DESC LIMIT 5;
```

count  |      tag
--------+----------------
141184  |  patch
42288   |  upstream
39466   |   sid
33640   |   l10n
Status caching “working”

```sql
SELECT count(*), status
FROM bug_status_cache bsc
JOIN suite s ON bsc.suite = s.id
WHERE s.suite_name = 'unstable'
GROUP by status;
```

<table>
<thead>
<tr>
<th>count</th>
<th>status</th>
</tr>
</thead>
<tbody>
<tr>
<td>514488</td>
<td>fixed</td>
</tr>
<tr>
<td>234155</td>
<td>absent</td>
</tr>
<tr>
<td>3923</td>
<td>found</td>
</tr>
</tbody>
</table>
Work Still needed for SQL

- Integration into CGI (*bugreport.cgi* and *pkgreport.cgi*)
- Database loading/update is slow in some cases
- Some corrupted bugs have been exposed by the loading (167851 and 280931); likely others
- Testing (Mainly of queries)
- Deployment
New Changes

- Format-flowed messages are wrapped
- https links everywhere
- etag caching support everywhere
- a11y (accessibility, ☢️) tag
- newcomer (スターク) tag
- Usercategories now selectable
  (Categorize/order using)
7 tasks seeking contributors

- Documentation of Usercategories
- Implementation of rss feeds for packages and bugs
- CGI options on pkgreport.cgi for usertags et al. #536378)
- Documentation of multiple-package reassign and when it or affects should be used
- Documentation for local-debbugs configuration file (behaves like bts select)
Getting started on these tasks

- **Upstream branches:** [http://bugs.debian.org/debbugs-source/](http://bugs.debian.org/debbugs-source/)
- **Checked out branches are also available at** [http://bugs.debian.org/debbugs-source/master](http://bugs.debian.org/debbugs-source/master) and [http://bugs.debian.org/debbugs-source/debian](http://bugs.debian.org/debbugs-source/debian)
- **My branches:** [http://git.donarmstrong.com/debbugs.git](http://git.donarmstrong.com/debbugs.git)
- Mailing list debian-debbugs@lists.debian.org
- IRC #debbugs or #debian-bugs on irc.debian.org; I’m dondelelcaro
Using `local-debbugs` to work on these tasks

```
  git clone \
    https://bugs.debian.org/debbugs-source/debbugs.git
  cd debbugs
  # get some bugs
  perl -I. ./bin/local-debbugs --mirror
  # start a web daemon
  perl -I. ./bin/local-debbugs --daemon
  # show some of my bugs (use your own search here)
  perl -I. ./bin/local-debbugs --search bugs.debian.org
  # stop the daemon
  perl -I. ./bin/local-debbugs --stop
  # hack and repeat
  perl -I. ./bin/local-debbugs --daemon
  perl -I. ./bin/local-debbugs --show 614351
```
The Debugs Team

- Current team
  - Don Armstrong
  - Blars Blarson
  - Colin Watson

- Emeritus Developers
  - Steiner Gunderson
  - Adam Heath
  - Josip Rodin
  - Anthony Towns

- You!
YOUR GENETIC TEST RESULTS ARE BACK. APPARENTLY YOU'RE PART OF AN UNBROKEN LINEAGE STRETCHING BACK BILLIONS OF YEARS TO THE EARLY EARTH!