

Pessimism, Entitlement, and other virtues of a successful debugging approach

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JOINERY

☆ (No subject)

▶ publi@redhat.com (April 14 2016 9:16 PM)



OMG, that didn't work. I tried the new feature and I can't do anything.

Can you fix it please, thanks!!

--

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**Debugging starts in
3... 2... 1...**

Your presenter

Who: Allen Shaw

What: Makes things happen at **JOINERY**:
CRM solutions, data migrations, multi-
platform integrations

Where: @JoineryHQ
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Related talks

“Debugging Techniques for Drupal (and Other Web Applications)” -- Robert Ristroph:

<https://www.texascamp.org/sessions>

“Step Into Debugging” -- Gary Hockin

<http://lonestarphp.com/sessions>

Debugging is hard

“As soon as we started programming, we found to our surprise that it wasn't as easy to get programs right as we had thought. Debugging had to be discovered. I can remember the exact instant when I realized that a large part of my life from then on was going to be spent in finding mistakes in my own programs.”

--Maurice Wilkes, 1949, developing
the first stored program computer

Debugging is important

- As a skill, it is distinct from developing; but it's a skill that can be learned with practice.
- As a developer, you're probably doing it more than you realize.
- It can be hard to estimate, but this too can be learned.

Story time

Act 1

Disappearing nodes!

Act 2

Can't save new content!

Act 3

I can't masquerade!

Act 4

Newsletter emails
aren't going out!

Well, that sucked.

- wasted effort
- wasted time

- loss of stakeholder confidence
- frustration and stress

- no social life
- my kids don't know me
- my dog hates me

Appropriate responses

Appropriate responses



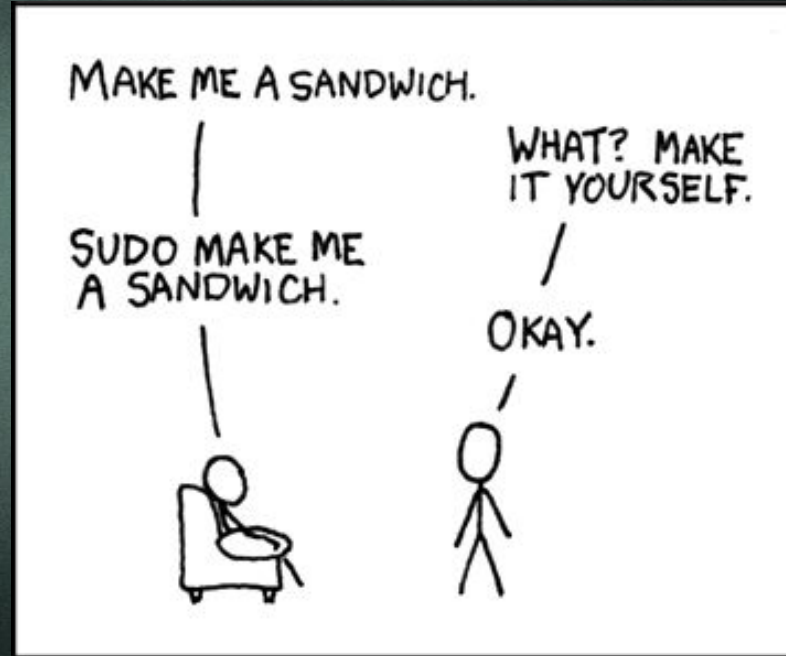
1. Skepticism

Appropriate responses



2. Finger-pointing

Appropriate responses



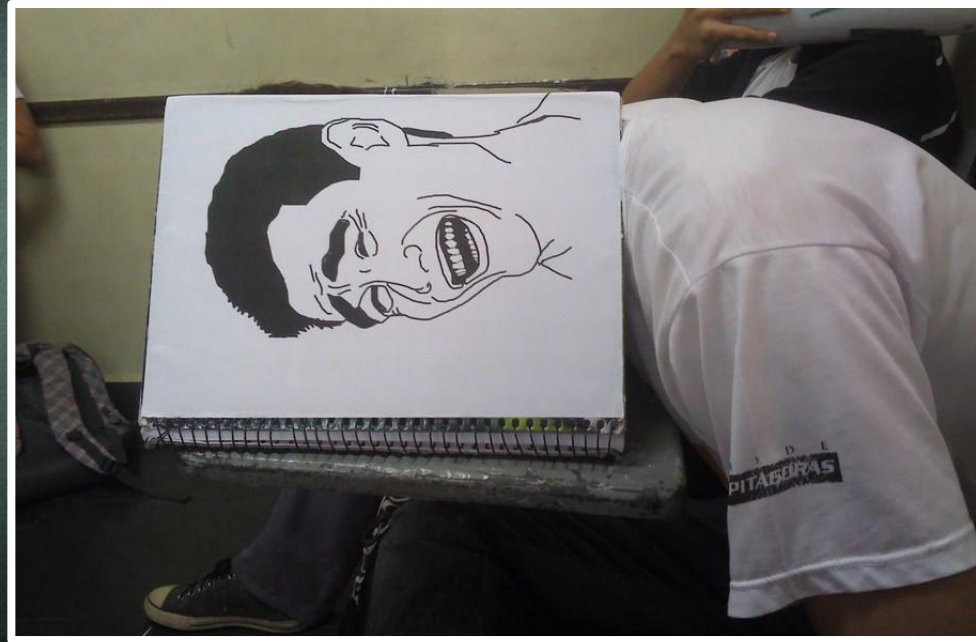
3. Entitlement

Appropriate responses



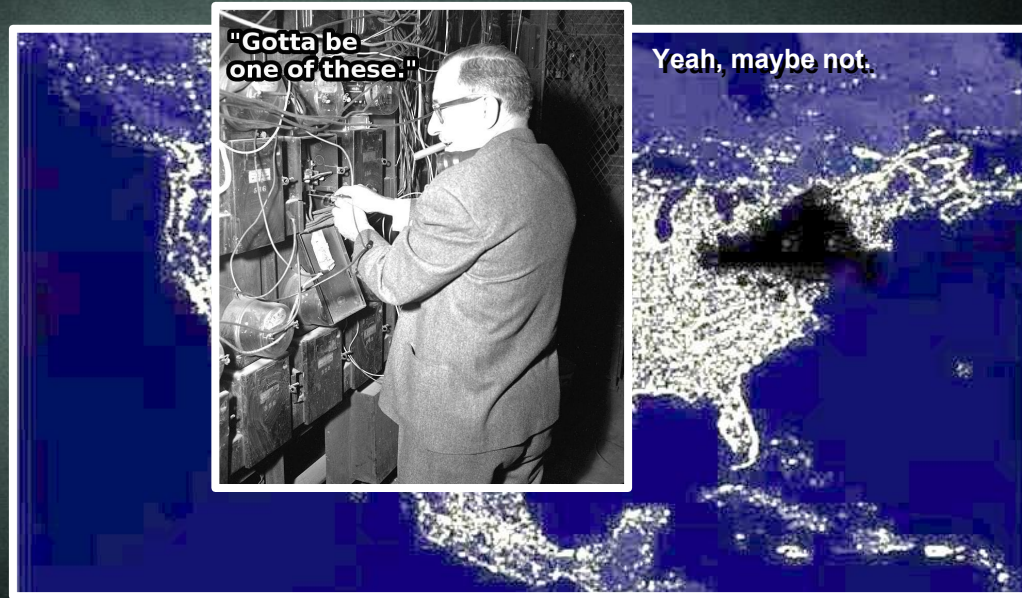
4. Impatience

Appropriate responses



5. Laziness

Appropriate responses



6. Pessimism

Appropriate responses



7. Ruthlessness

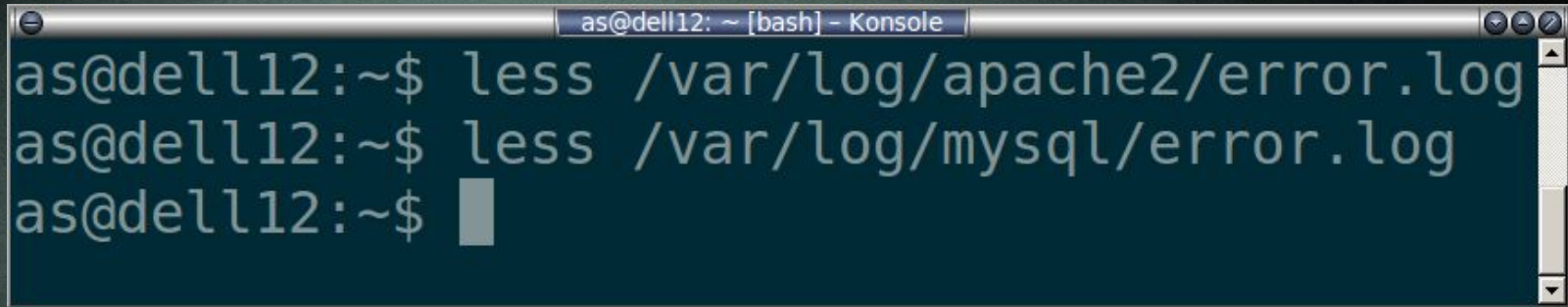
Appropriate responses



8. More skepticism

Tools

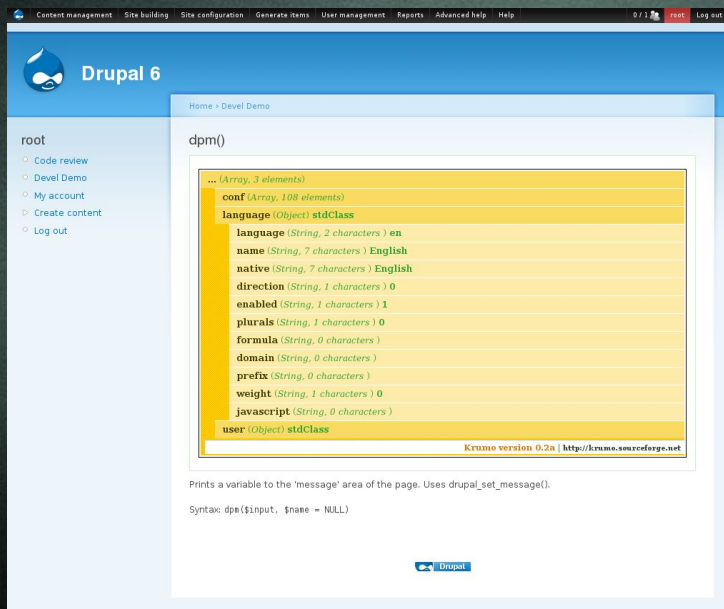
Logs

A terminal window titled "as@dell12: ~ [bash] - Konsole" with a dark green background. It shows three lines of text: "as@dell12:~\$ less /var/log/apache2/error.log", "as@dell12:~\$ less /var/log/mysql/error.log", and "as@dell12:~\$" followed by a cursor. The terminal has standard window controls on the right side.

```
as@dell12:~$ less /var/log/apache2/error.log
as@dell12:~$ less /var/log/mysql/error.log
as@dell12:~$ █
```

- http: apache / nginx
- database: mysql / postgresql

Devel module (Drupal)



The screenshot shows the Drupal 6 Devel module interface. The top navigation bar includes links for Content management, Site building, Site configuration, Generate items, User management, Reports, Advanced help, and Help. The user is logged in as 'root'. The main content area displays the output of the `dpm()` function, which is a variable dump of the `language` object. The dump shows the following properties and values:

```
... (Array, 3 elements)
conf (Array, 108 elements)
language (Object) stdClass
  language (String, 2 characters ) en
  name (String, 7 characters ) English
  native (String, 7 characters ) English
  direction (String, 1 characters ) 0
  enabled (String, 1 characters ) 1
  plurals (String, 1 characters ) 0
  formula (String, 0 characters )
  domain (String, 0 characters )
  prefix (String, 0 characters )
  weight (String, 1 characters ) 0
  javascript (String, 0 characters )
  user (Object) stdClass
```

Below the dump, there is a description: "Prints a variable to the 'message' area of the page. Uses drupal_set_message()." and the syntax: "Syntax: dpm(\$input, \$name = NULL)".

<http://drupal.org/project/devel>

- Easily examine variables.
- Limit output via Drupal permissions.

Firebug



<http://getfirebug.com>

- Analyze DOM and network calls, analyze and execute JavaScript, all within the browser.
- Similar features available natively in Google Chrome.

FirePHP

```
<?php  
  
FB::log('Log message');  
FB::info('Info message');  
FB::warn('Warn message');  
FB::error('Error message');  
  
?>
```



<http://firephp.org>

Send debugging messages to Firebug from PHP.

A good IDE helps.

Quickly navigate through unfamiliar code.



NetBeans



***Flame me:
@TwoMice***

A good IDE helps.

Quickly navigate through code.

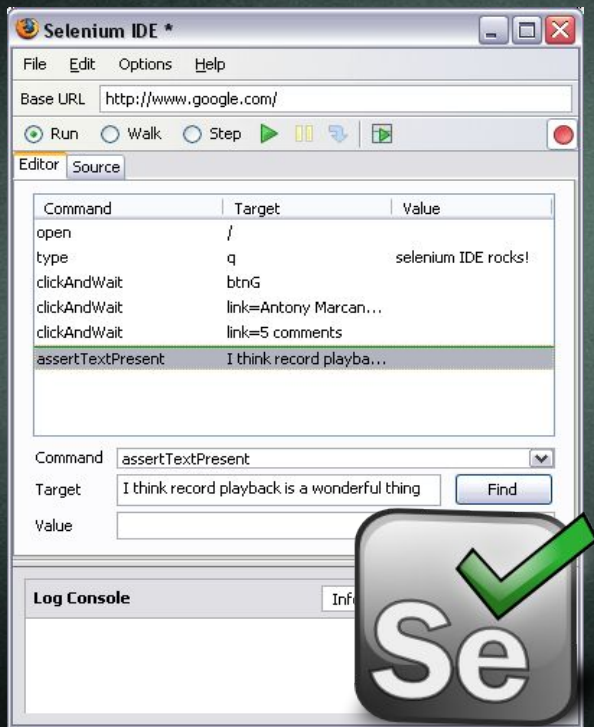
Bonus!

xdebug with IDE for
step debugging

me:

TwoMice

Selenium



<http://seleniumhq.org>

- Script the browser to perform the steps necessary to replicate a bug.
- Write regression tests to ensure bugs stay gone.

Git

<http://git-scm.com>



- New branch for debugging
- Roll back as needed
- New branch for each iteration of debugging attempts.
- ``git diff`` to see what you've changed.

- Bonus if your code is already in git:
 `ogit bisect`
 `ogit blame`

Questions so far?

Live debugging:
“I Can’t Upload This Image!”

Hit me up: @JoineryHQ
allen@JoineryHQ.com

Thank you!