

Welcome!



php|tek

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<http://derickrethans.nl/talks.html>

<http://joind.in/3440>

Derick Rethans



- Dutchman living in London
- PHP development
- Author of the `mcrypt`, `input_filter`, `dbus`, `translit` and `date/time` extensions
- Author of `Xdebug`
- Contributor to the Apache Zeta Components Incubator project (formerly eZ Components)
- Freelancer doing PHP (internals) development

Development Aid
Live Debugging
Profiling

Xdebug Pimps Your Ride



Error Messages

Record and Delayed Display

xdebug_start_error_collection()
xdebug_stop_error_collection()
xdebug_get_collected_errors()

```
<?php
xdebug_start_error_collection();
?>
<html>
<body>
<div id='main'>
...
</div>
<div id='errors'>
    <?php echo xdebug_get_collected_errors(); ?>
</div>
</html>
```

Pretty Printing Variables

```
array
  0 => null
  1 => float 3.141592654
  2 =>
    array
      'dutch' =>
        object(locale)[1]
          public 'lang' => string 'nl' (length=2)
          public 'variation' => string 'abcdabcdabcdabcdabcdabcdabcd...' (length=2000)
          public 'charsets' =>
            array
              0 => string 'iso-88591' (length=9)
              1 => string 'iso-8859-15' (length=11)
          private 'mb_supported' => boolean false
          protected 'self' =>
            &object(locale)[1]
          protected 'id' => int 1
```

Options:

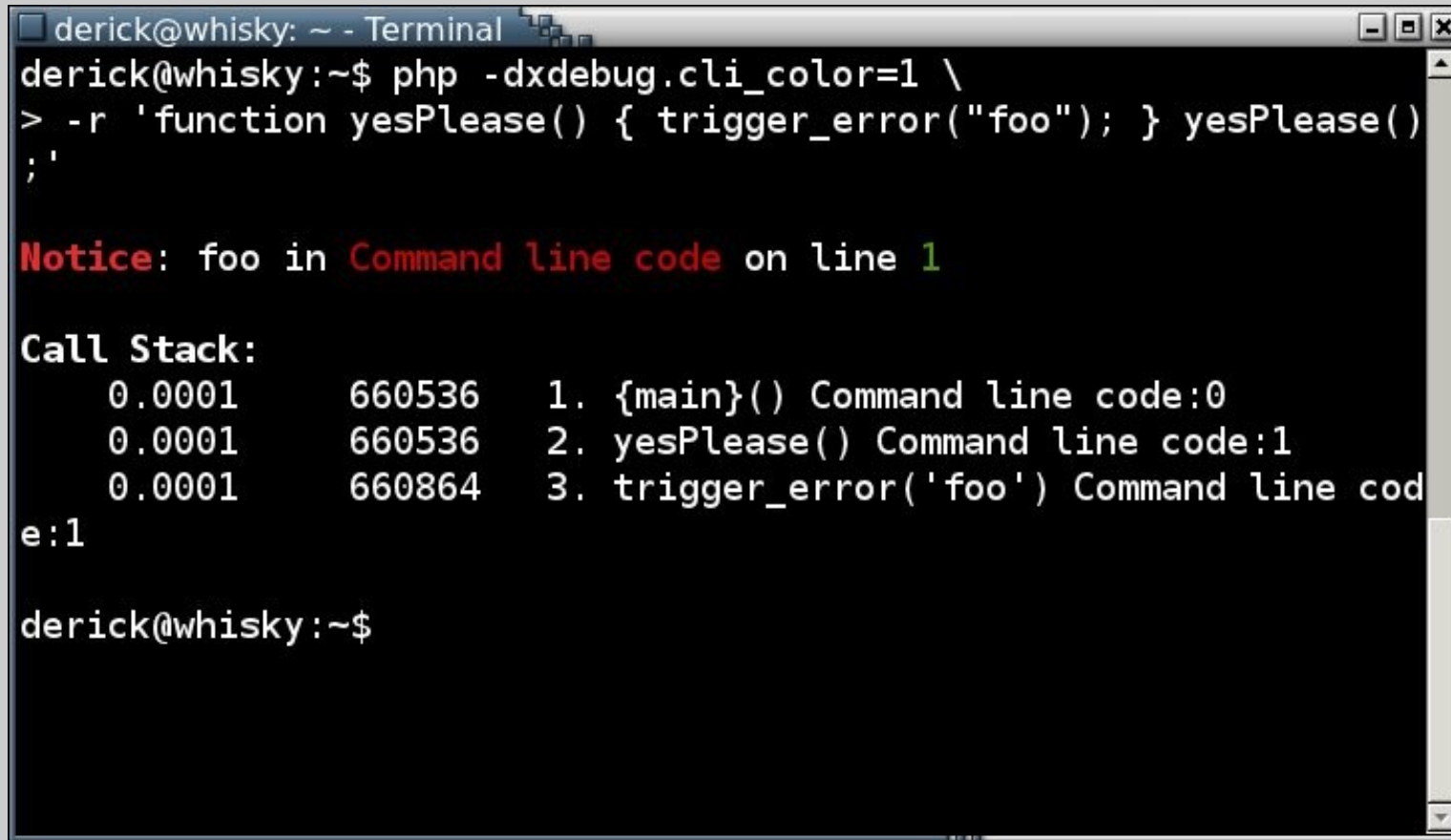
```
<?php
ini_set( 'xdebug.var_display_max_data', 25 );
ini_set( 'xdebug.var_display_max_depth', 4 );
ini_set( 'xdebug.var_display_max_children', 32 );
?>
```

Turn off in php.ini or .htaccess with:

```
xdebug.overload_var_dump = 0
```

Colours on the Command Line

new in 2.2

A terminal window titled "derick@whisky: ~ - Terminal" showing a PHP CLI command and its output. The command is `php -dxdebug.cli_color=1 \> -r 'function yesPlease() { trigger_error("foo"); } yesPlease();'`. The output shows a notice: `Notice: foo in Command line code on line 1`. Below this is a call stack with three entries: `0.0001 660536 1. {main}() Command line code:0`, `0.0001 660536 2. yesPlease() Command line code:1`, and `0.0001 660864 3. trigger_error('foo') Command line code:1`. The terminal prompt `derick@whisky:~$` is visible at the bottom.

```
derick@whisky: ~ - Terminal
derick@whisky:~$ php -dxdebug.cli_color=1 \
> -r 'function yesPlease() { trigger_error("foo"); } yesPlease()
;'

Notice: foo in Command line code on line 1

Call Stack:
 0.0001    660536    1. {main}() Command line code:0
 0.0001    660536    2. yesPlease() Command line code:1
 0.0001    660864    3. trigger_error('foo') Command line code:1
e:1

derick@whisky:~$
```

`xdebug.cli_color=1`

Scream

- PHP's @ operator hides warnings and errors
- `xdebug.scream=1` makes PHP ignore @



Recording headers

- Xdebug collects all headers being set, implicitly and explicitly
- It's very useful for testing and unit-tests
- `xdebug_get_headers()`

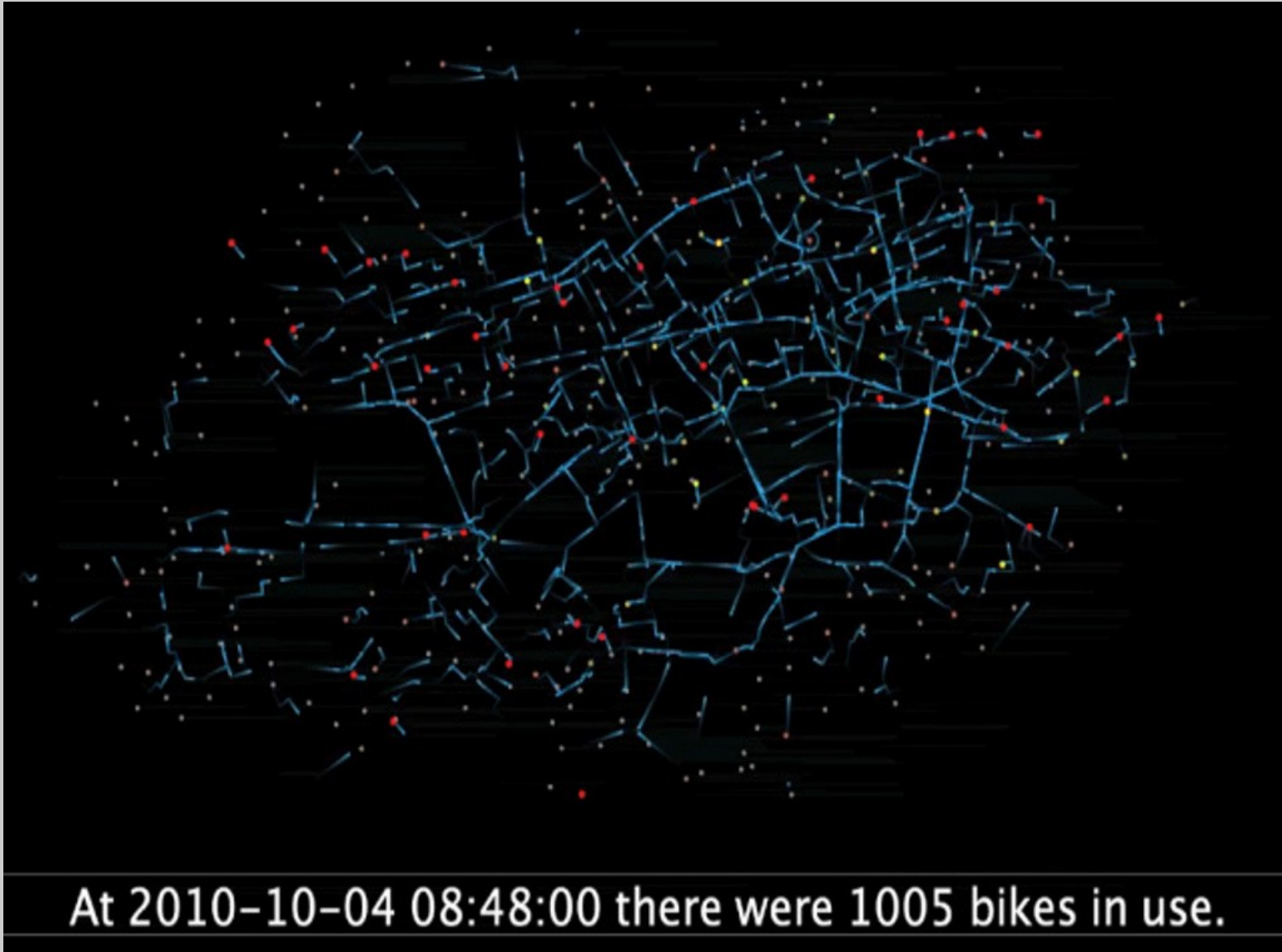
```
<?php
session_start();

setcookie( 'key', 'value', time() + 86400 );

header( "Status: 403" );

var_dump( xdebug_get_headers() );
?>
```

Tracing



Function traces

- Textual traces
- Parsable traces
- HTML traces
- Tracing only parts of an application with `xdebug_start_trace()` and `xdebug_stop_trace()`.
- Fetching the trace file name that is being used with `xdebug_get_tracefile_name()`.
- Changing how much data is shown with `xdebug.var_display_max_children`, `xdebug.var_display_max_data` and `xdebug.var_display_max_depth`.

demo

Live (Remote) Debugging



- DBGp, common Debugging protocol
- Cross-language: PHP, Python, Perl...

Clients:

- Eclipse/PDT (Java based — free)
- Komodo (Linux, Windows, Mac — commercial)
- MacGDBp (free)
- Netbeans (Java-based — free)
- PHPStorm (Java-based — commercial)
- Zend Studio for Eclipse (Eclipse-based — commercial)
- Stand-alone client (Linux (for now)):
- (and many others:)

Activating the Remote Debugger

php.ini settings:

- xdebug.remote_enable=1
- xdebug.remote_host=localhost
- xdebug.remote_port=9000

php.ini settings:

- xdebug.remote_enable=1
- xdebug.remote_host=localhost
- xdebug.remote_port=9000
- xdebug.remote_connect_back=1

On the shell:

- export XDEBUG_CONFIG="idekey=xdebugrocks"

With browser extensions:

- easy Xdebug (FireFox):
- Xdebug Helper (Chrome):
- Xdebug Toggler for Safari:
- Xdebug launcher for Opera:

www.derickrethans.nl - NetBeans IDE 6.9.1

File Edit View Navigate Source Refactor Run Debug Team Tools Window Help

<default> Search (Ctrl+I)

Proj... Files Services Start Page x test.php x index.php x

www.derickrethans.nl

- Source Files
 - cache
 - html
 - cache
 - content
 - errorhandling
 - files
 - images

index.php - Navigator

```
1 <?php
2 require 'php/config.php';
3 $url = trim( $_SERVER['REQUEST_URI'], '/' );
4 $doppler = true;
5
6 if ( $_SERVER['SERVER_NAME'] == 'www.derickrethans.nl' )
7 {
8     header( "Location: http://derickrethans.nl/$url" );
9 }
10
11 //check common thingies
12 if ( $url == '' )
13 {
14     $title = "Home";
```

Variables Call Stack Breakpoints Tasks

Name	Type	Value
Superglobals		
api	drBlogApi	
d	ezcDbHandlerSqlite	
transactionNestingLevel	integer	0
transactionErrorFlag	boolean	0
identifierQuoteChars	array	

Filters: netbeans-xdebug running 4 | 1 | INS

test.php (~dev/php/xdebug-demos/cli-debug) - ActiveState Komodo IDE 6.1 - Debugger

File Edit Code Navigation View Debug Project Tools Help

Start Page test.php x

```
4 private $priv;
5 protected $prot;
6 public $publ;
7
8 function __construct($a)
9 {
10     $this->priv = $a * 2;
11     $this->prot = $a * 2.5;
12     $this->publ = $a * M_PI;
13 }
14
15
16 function foo($a)
17 {
```

Break at /home/derick/dev/php/xdebug-demos/cli-debug/test.php, line 11.

Name	Type	Value
a	float	2.718281828459
▼ this	TheClass	
priv	float	5.4365636569181
prot	null	
publ	null	

Watch Locals Superglobals

Output Call Stack HTML

Ready ● __construct UTF-8 Ln: 11 Col: 1 PHP

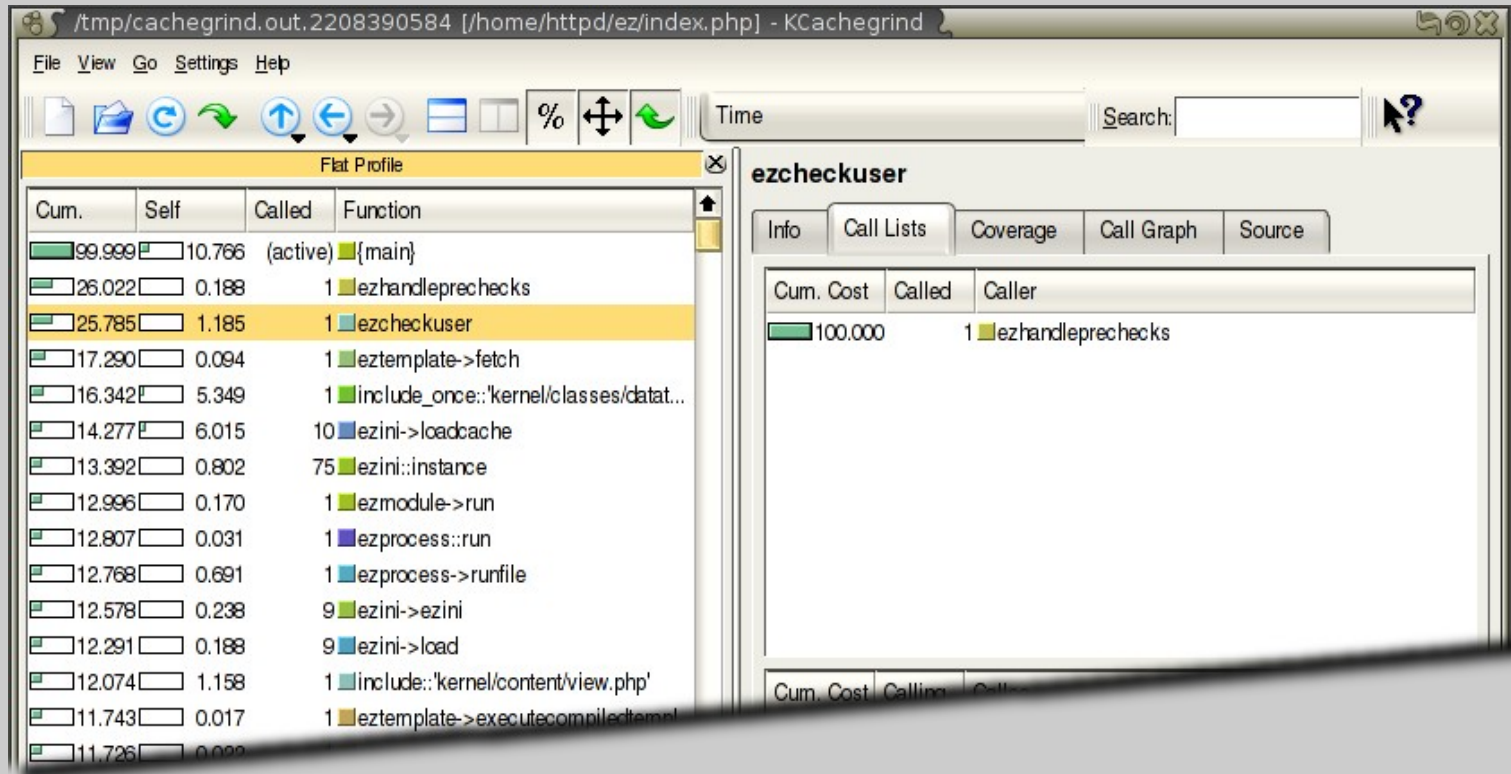
demo

Profiling



Profiling

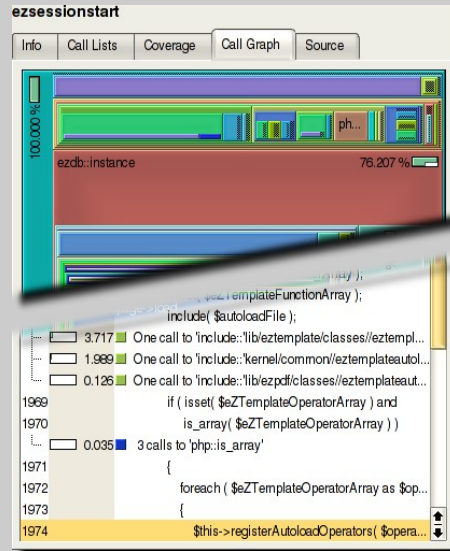
KCacheGrind's Flat Profile and Call List



```
xdebug.profiler_enable=1           ; enable profiler  
xdebug.profiler_output_dir=/tmp    ; output directory  
xdebug.profiler_output_name=cachegrind.out.%p
```

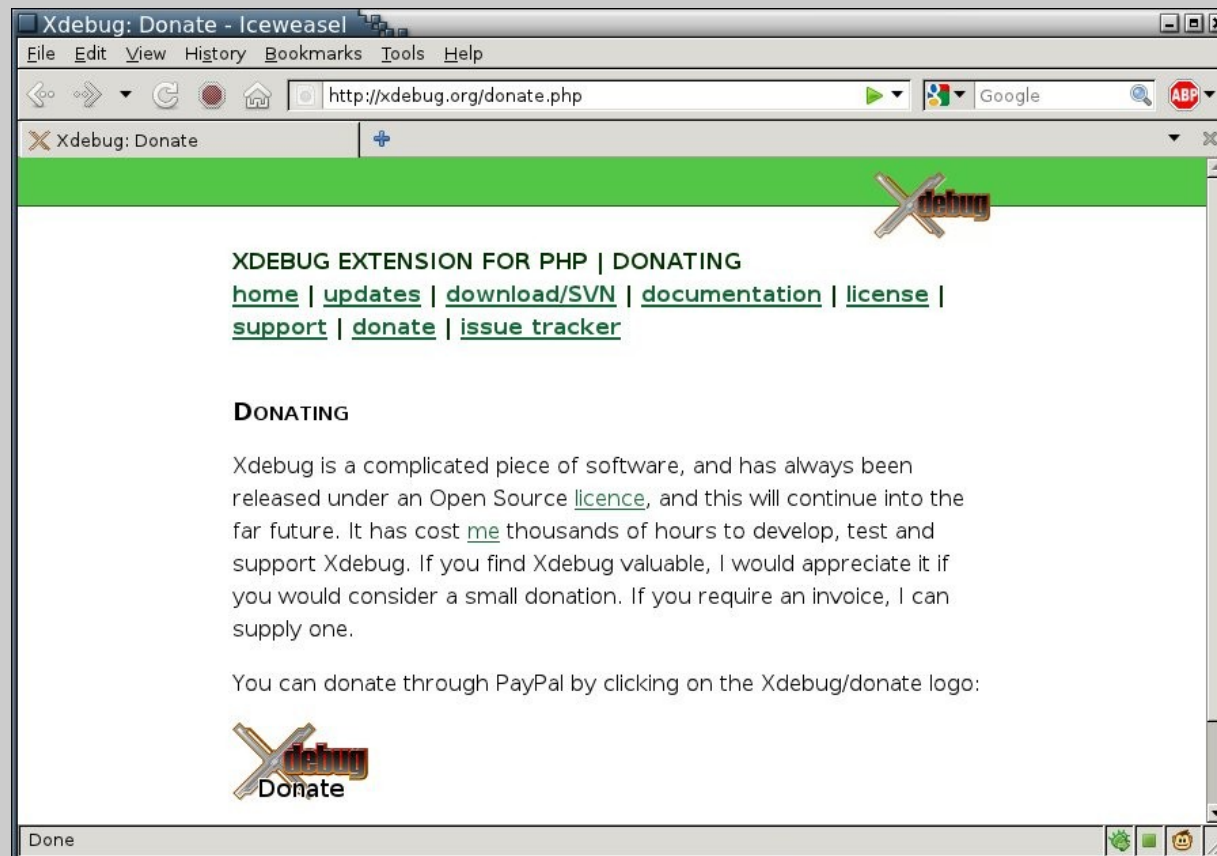
Profiling

KCacheGrind's Call Graph and Source Annotations



- Call graph
- Area shows time spend
- Stacked to show callees
- Source annotations
- Number of calls
- Total time per function

- It's Open Source and free (as in "free beer")
- Working on Xdebug takes up a lot of spare time
- I don't have a lot of spare time





- Xdebug site: <http://xdebug.org>
- Xdebug documentation:
<http://xdebug.org/docs.php>
- DBGp specification: <http://xdebug.org/docs-dbgp.php>
- Rate this talk! :-:joindin:-:
- If you like Xdebug: <http://xdebug.org/donate.php>
- These slides: <http://derickrethans.nl/talks.html>