WordCamp San Diego 2012 themeshaper.com/busters

Lance Willett
Theme Wrangler, Automattic
WordPress.com

Hi! I'm Lance Willett. And I love themes.

Lance Willett
Theme Wrangler, Automattic
WordPress.com

I love themes so much that the word is literally in my job title I work for Automattic launching themes on WordPress.com This is what I work on all day, every day I'm honored and excited to be here to share with you

themeshaper.com/busters

Here's a link to download these slides, and view links I mention in the talk

I love themes

Themes are awesome! Everyone loves themes
They are super important within the WP ecosystem
For many people who use WP their theme is their site
This is important stuff

I break themes

I break themes because I want them to be the best they can be Keys to successful theme breaking: examples, tools, process

Break your theme

Breaking themes for fun?! Crazy talk. Busting your WordPress theme – on purpose – can be both fun and useful. The process is a crucial part of building sites with WordPress, whether it's for a client project, a personal blog, or releasing an awesome new theme to the world.

As theme developers we should work hard to break our themes

Breaker, buster, tester

Break = push it to extremes to simulate real world usage.

Testing is often considered a dirty word. That's why I prefer to considered a dirty word.

Testing is often considered a dirty word. That's why I prefer to call it breaking. It's more fun!

we either have no time to do it, or we think it's boring and tedious. Breaking stuff should be fun and something we are excited to dig into

Anyone can write a how-to. Not everyone thinks to write a why.

http://www.zeldman.com/2011/06/03/one-blog-post-is-worth-a-thousand-portfolio-pieces/

I'm going to assume a basic knowledge of WP and theming, that you've put together a theme or two
The experiences I'm sharing today and my point of view are just as applicable to anyone looking for the perfect-fit theme
You can test a theme just the same whether you're building it or using someone else's theme

Break your theme to make it better

The why: taking time to test and break will make the end result better

Why do you have to be a nonconformist like everybody else?

—James Thurber

Y U NO TEST?

Y U NO BREAK STUF?!

—Theme Buster

Y U NO BREAK STUF?



Don't be that guy Shirker!

http://www.flickr.com/photos/lance_mountain/3928027390/in/set-72157594534839900

How I break themes

I believe it's good to have a process Even if it's just a post-it note on your monitor or a hand-written list Improve it each time you work on a theme, and share your experiences with others Here's mine



Codex Codex tools: Log in

Theme Development

Languages: English • 日本語 • 한국어 • Português do Brasil • Русский • ไทย • 中文(简体) • 中文(繁體) • (Add your language)

This article is about developing WordPress Themes. If you wish to learn more about how to install and use Themes, review Using Themes. This topic differs from Using Themes because it discusses the technical aspects of writing code to build your own Themes rather than how to activate Themes or where to obtain new Themes.

Why WordPress Themes

WordPress Themes are files that work together to create the design and functionality of a WordPress site. Each Theme may be different, offering many choices for site owners to instantly change their website look.

You may wish to develop WordPress Themes for your own use, for a client project or to submit to the WordPress Theme Directory. Why else should you build a WordPress Theme?

- To create a unique look for your WordPress site.
- To take advantage of templates, template tags, and the WordPress Loop to generate different website results and looks.
- To provide alternative templates for specific site features, such as category pages and search result pages.
- To quickly switch between two site layouts, or to take advantage of a Theme or

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- 1 Why WordPress Themes
- 2 Theme Development Standards
 - 2.1 Anatomy of a Theme
 - 2.1.1 Child Themes
 - 2.2 Theme Stylesheet
 - 2.2.1 Stylesheet Guidelines
 - 2.3 Functions File
 - 2.4 Template Files
 - 2.4.1 Template Files List
 - 2.4.2 Basic Templates
 - 2.4.3 Custom Page Templates
 - 2.4.4 Query-based Template Files
 - 2.4.5 Defining Custom Templates
 - 2.4.6 Including Template Files
 - 2.4.7 Referencing Files From a Template
 - 2.4.8 Plugin API Hooks
 - 2.4.9 Untrusted Data
 - 2.4.10 Translation / i18n Support
 - 2.4.11 Theme Classes

It's on the Codex, on the Theme Development page http://codex.wordpress.org/Theme Development

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Theme Testing Process

- Fix PHP and WordPress errors. Add the following debug setting to your wp-config.php file to see deprecated function calls
 and other WordPress-related errors: define('WP_DEBUG', true);. See Deprecated Functions Hook for more information.
- Check template files against Template File Checklist (see above).
- 3. Do a run-through using the Theme Unit Test.
- Validate HTML and CSS. See Validating a Website.
- Check for JavaScript errors.
- 6. Test in all your target browsers. For example, IE7, IE8, IE9, Safari, Chrome, Opera, and Firefox.
- 7. Clean up any extraneous comments, debug settings, or TODO items.
- 8. See Theme Review if you are publicly releasing the Theme by submitting it to the Themes Directory.

Resources and References

Code Standards

- Know Your Sources
- WordPress Coding Standards
- CSS Coding Standards

Theme Design

Site Design and Layout

CSS

- CSS
- CSS Shorthand
- WordPress Generated Classes

Templates

- Stepping Into Templates
- Templates
- Template Hierarchy
- Template Tags
- The Loop

Codex theme testing checklist But ... let's make it even simpler

http://codex.wordpress.org/ Theme_Development#Theme_Testing_Process

Visual Code

Much of these tips and tricks apply to plugin and themes Themes have a much richer visual component, though So requires a double whammy: code quality, visual quality

- 1. Visual
- 2. Code
- 3. Beer

Forgot one!

Part 1

Visual quality

Visual testing http://codex.wordpress.org/Theme_Unit_Test

Codex

Codex tools: Log in

Theme Unit Test

Languages: English · 日本語 · (Add your language)

VORDPRESS.ORG

(Last Edited: 2011-11-21)

This step in Theme testing correlates to a WordPress export (WXR) file that you can import into a WordPress installation to test your Theme. To be clear, this is only one step in testing your Theme. See Theme testing for a full guide.

Setup

Test Environment Setup

- 1. Download test data: https://wpcom-themes.svn.automattic.com/demo/testdata.2011-01-17.xml
- Import test data into your WordPress install. Do this by going to Tools ->
- Read How To Join WPTRT, and follow all test-environment setup instructions

WordPress Settings

Adjust WordPress settings as follows:

- Settings -> General: set the Site Title to something fairly long, and set the Tagline to something even longer. These settings will facilitate testing how the Theme handles these values.
- Settings -> Reading: set "Blog pages show at most" to 5. This setting will

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- 1 Setup
 - 1.1 Test Environment Setup
 - 1.2 WordPress Settings
- 2 Template Hierarchy Index Pages
- 3 Static Front Page
- 4 404 Page
- 5 Search Results Page
- 6 Blog Posts Index Page
 - 6.1 Scheduled Post
 - 6.2 Draft Post
 - 6.3 Layout Test
 - 6.4 Readability Test
 - 6.5 Post Format Tests (All)
 - 6.6 Post Format Test: Gallery

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Help

One item to highlight on that list is the Theme Unit Test My process is pushing the theme to extremes to simulate real usage I have to remember I can only test so much As some point I have to share it and see how it goes

Post With Long Title

Long Post Title with long non-breaking string: If you say it loud enough, you'll always sound precocious;

Supercalifragilisticexpialidocious!

- Test title line height
- Look for potential overflow issues if the theme has a small title area

This Post Has No Body

Post displays properly and should not impact the layout.

(no title)

- Post displays properly.
- A link to the singular view of the post is recommended to be displayed. Making the post date a permalink (see Twenty Ten for an example) is a great solution.

Many Categories / Many Tags

- Theme incorporates both the "Tag" and "Category" taxonomies in some manner
- Category links work correctly.
- Categories display properly without adversely impacting design.
- Tag links work correctly.
- Tags display properly without adversely impacting design.

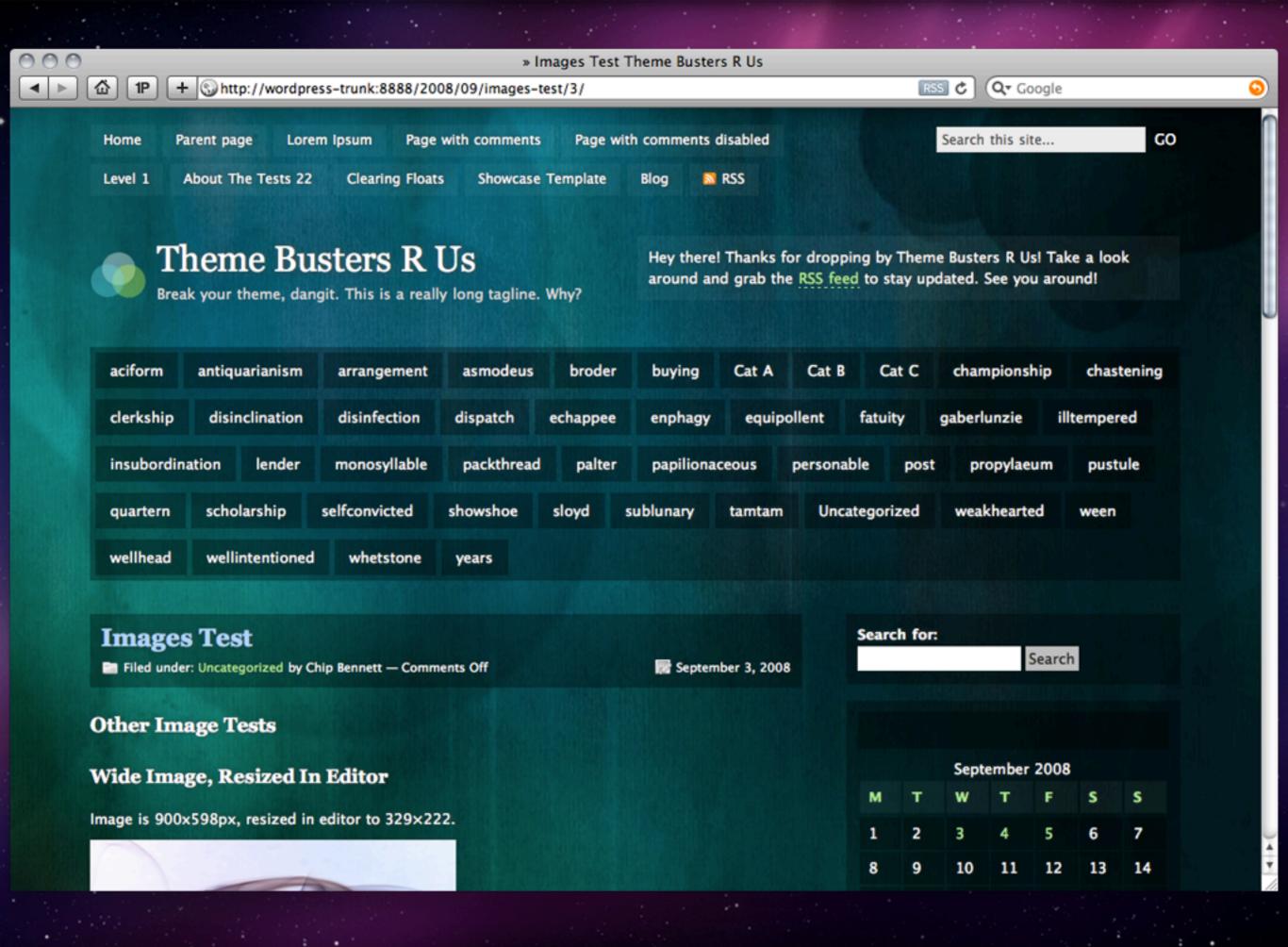
Protected Test With Secret Password

- Password input form displays properly.
- When correct password (secret) is entered, the post and comments are displayed.

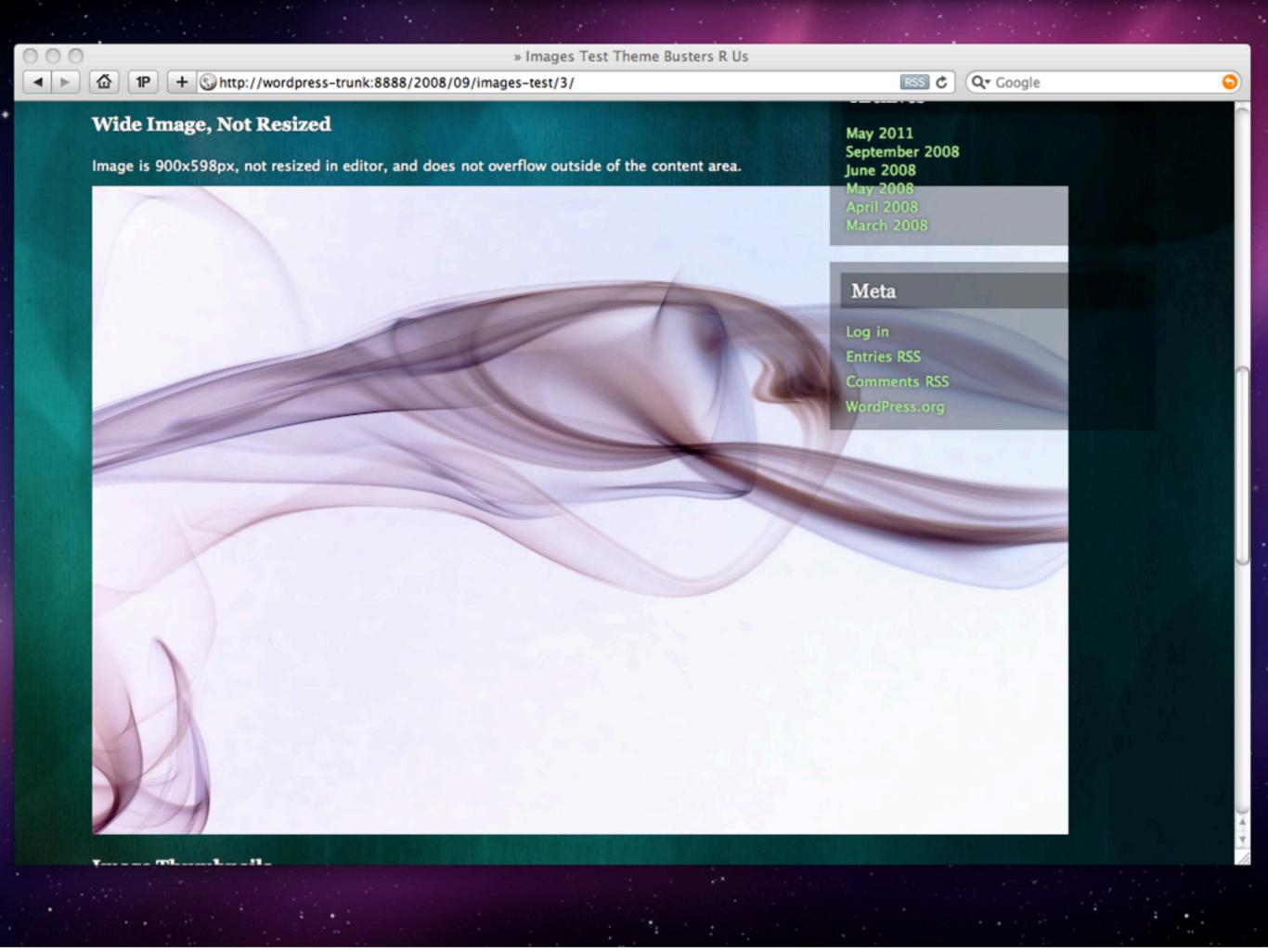
Comment Test

- Comments are displayed correctly.
- · Threaded comments display correctly.
- Comment pagination displays correctly.
- Author comment is styled (as appropriate).
- User avatars are displayed properly.

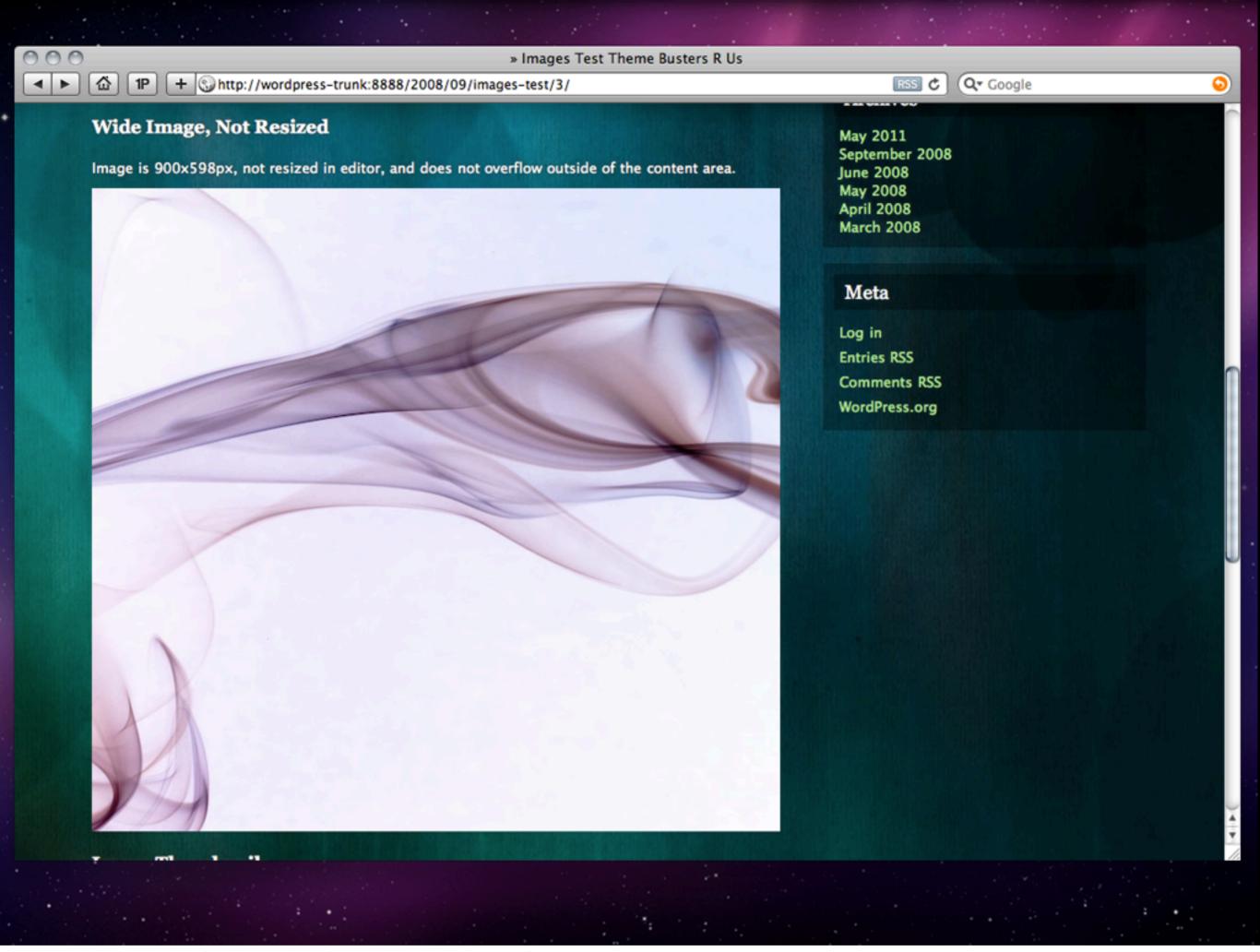
Each one of these visual tests corresponds with posts or pages in the test data



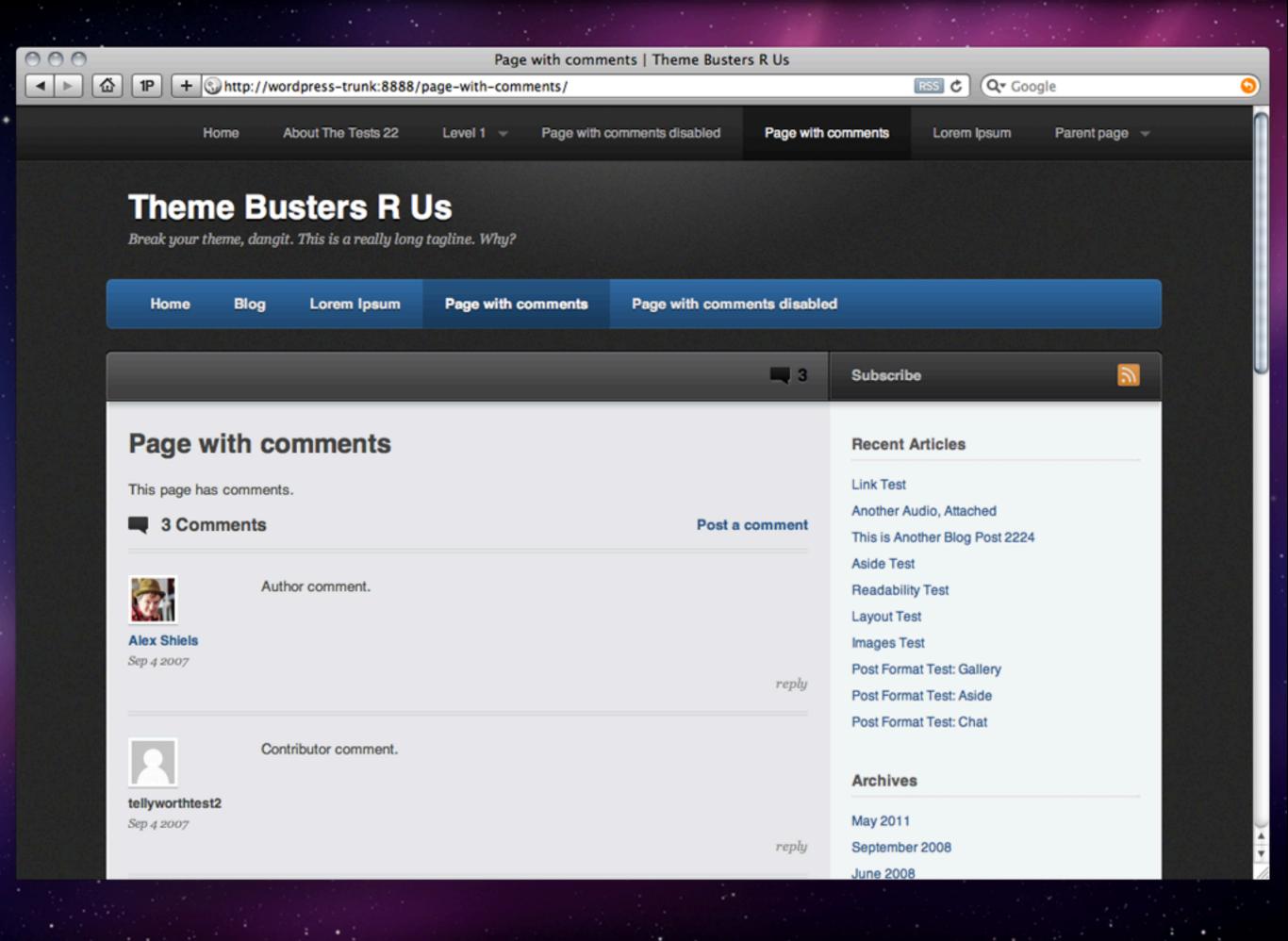
Motion, a theme I launched on WP.com It's now in our top 10 most popular Example 1: Huge images http://theme.wordpress.com/themes/motion/



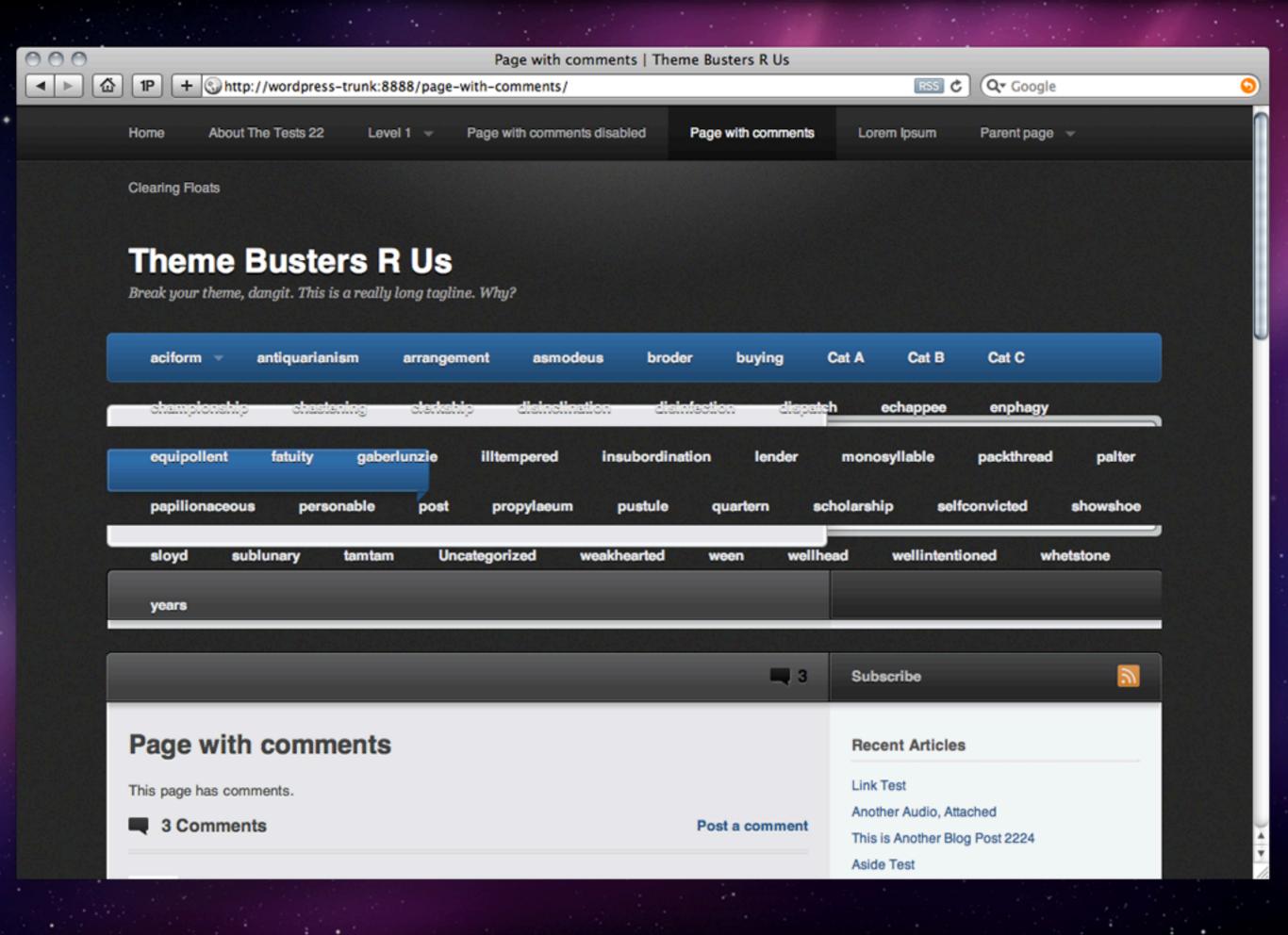
Full-size images uploaded, do they fit in the main content?



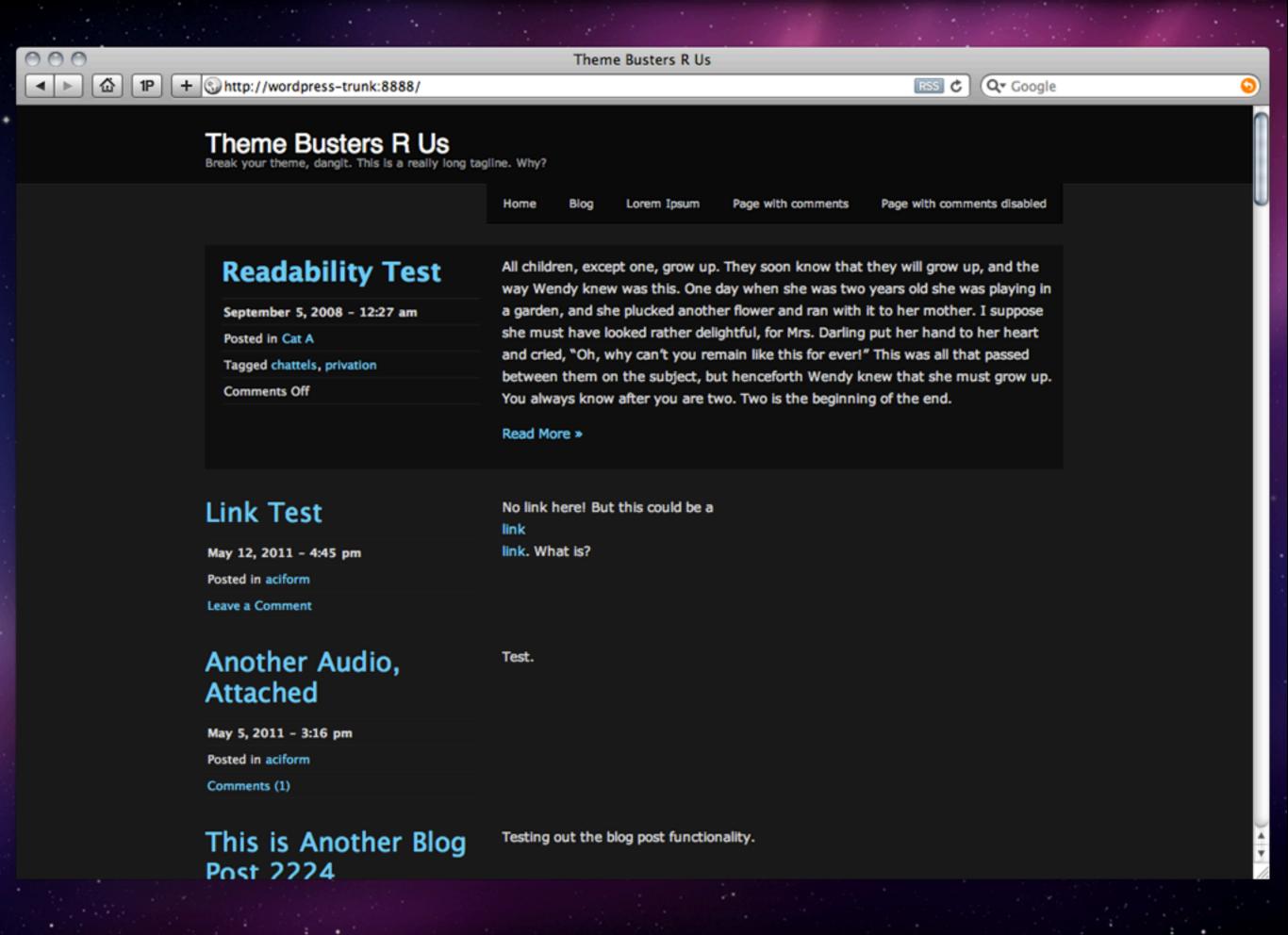
HTML attribute adjustments by users Maybe pasting in an image URL from Flickr or somewhere else



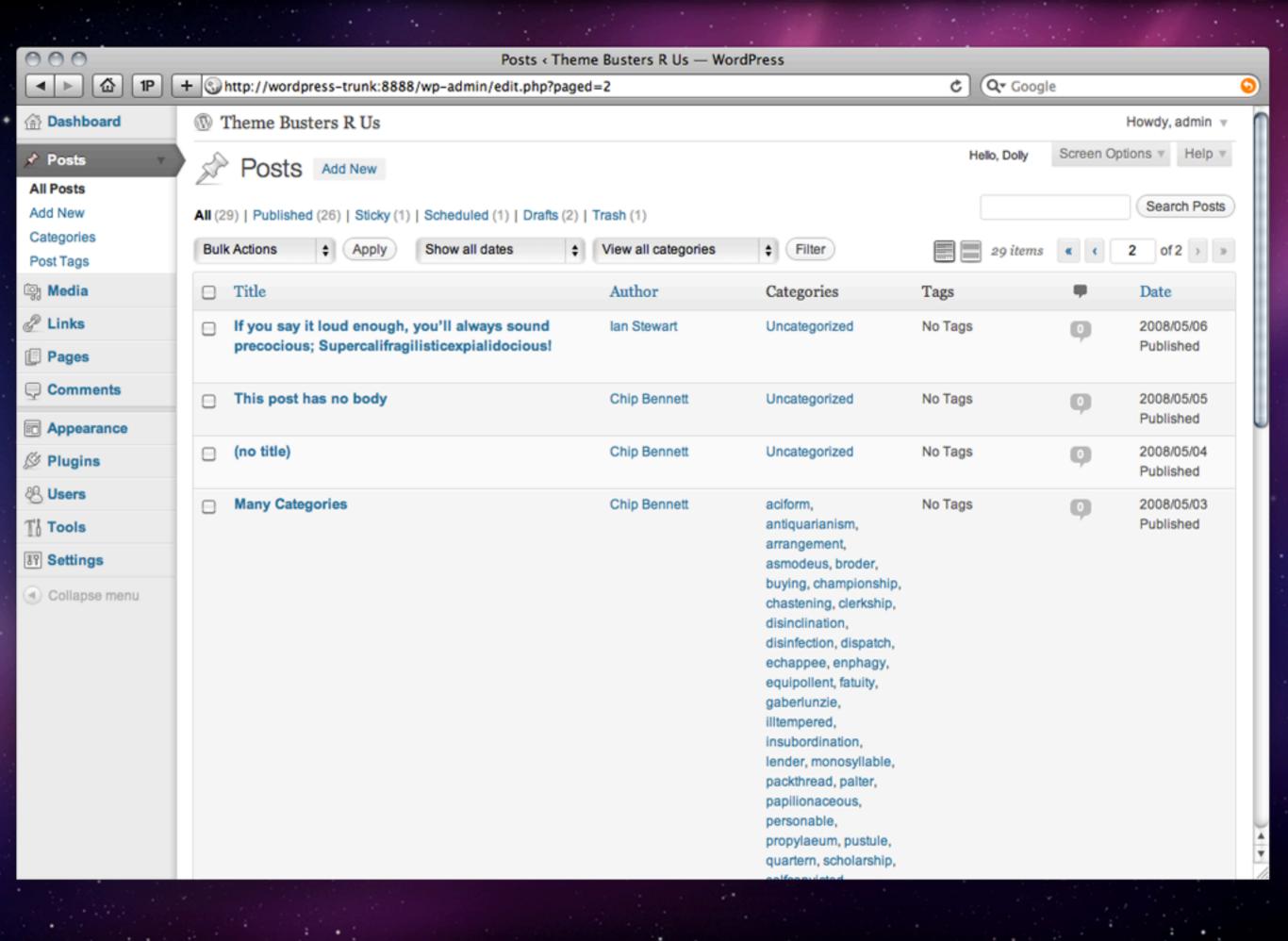
This is Traction, a cool theme for The Theme Foundry http://thethemefoundry.com/traction/



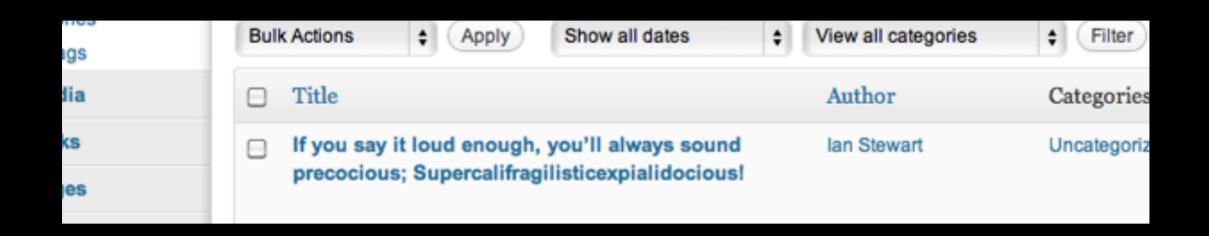
Example 2: Too many menu items
This can happen when you use a custom menu
or if your site has a lot of pages



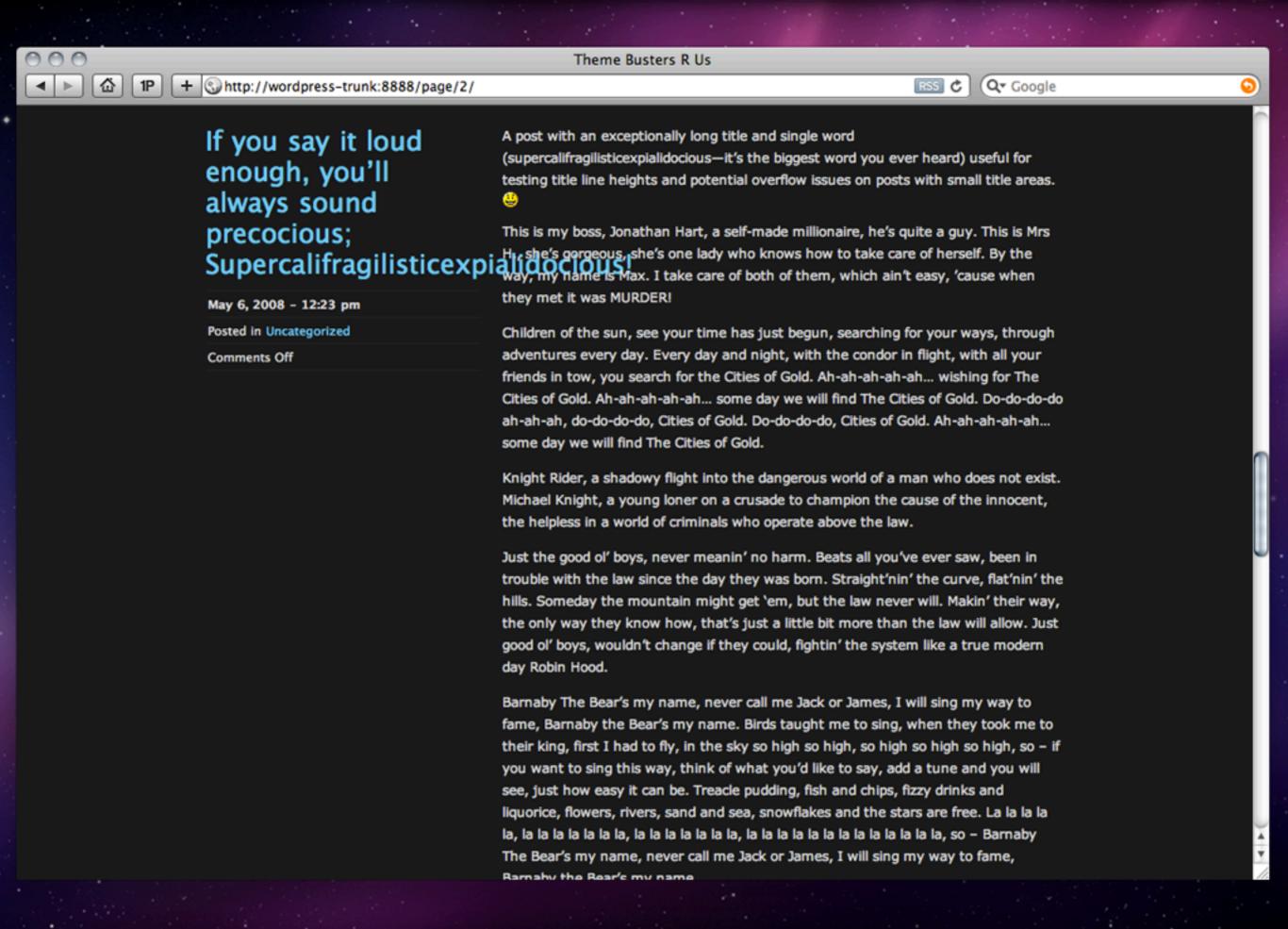
Example 3: Super long titles
This is ChaosTheory, a theme developed for WP.com
That I recently revamped and released to WP.org
http://wordpress.org/extend/themes/chaos-theory/



Super long title!

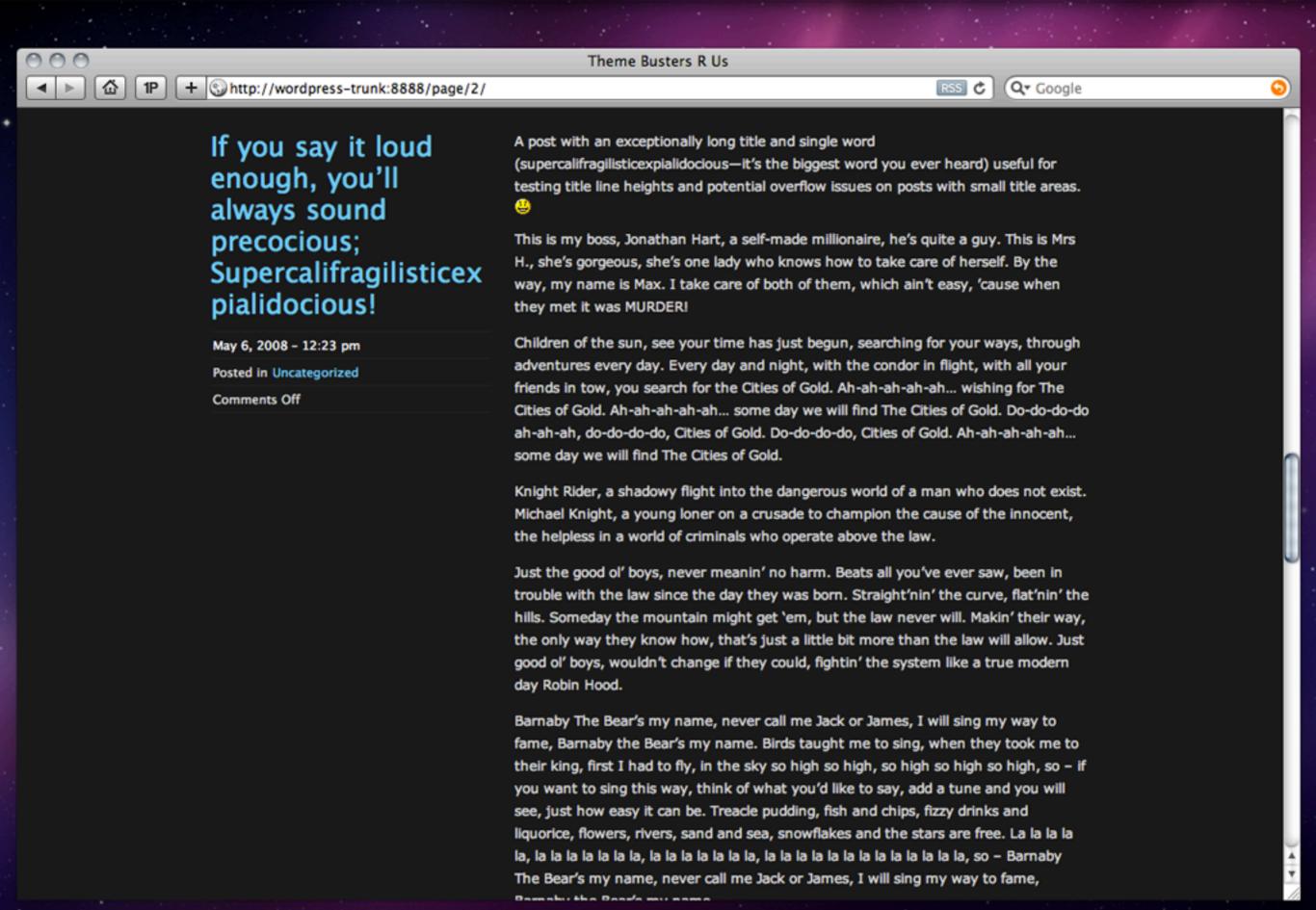


If you say it fast enough ...



In this case someone may type the title like sentence

- 1. can the theme gracefully handle long titles? (layout stable)
- 2. does the title look good if it's wrapped to two lines (line-height)



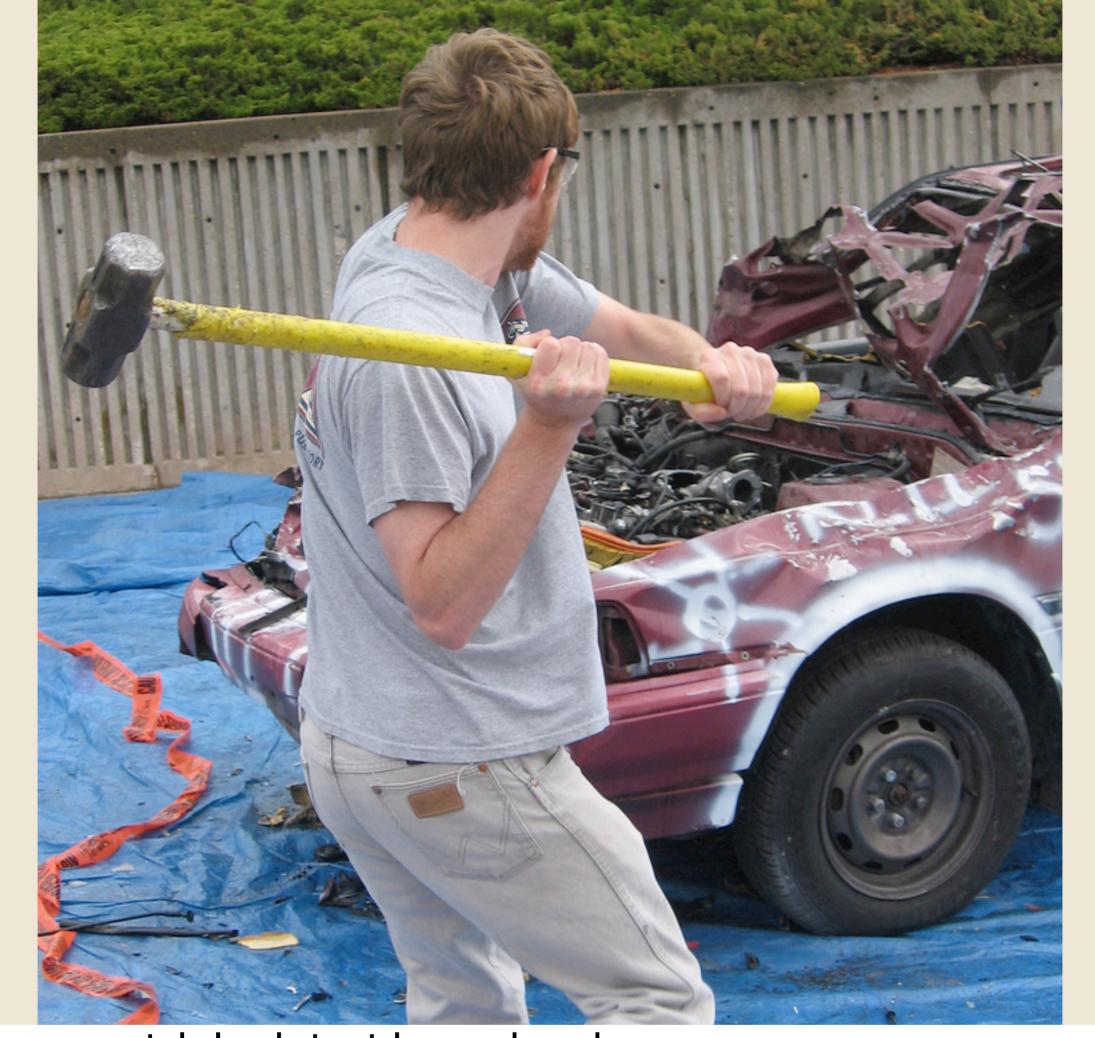
Better:)

Content

What do these example have in common?

The theme breakage comes not from bugs in the code, or the server environment

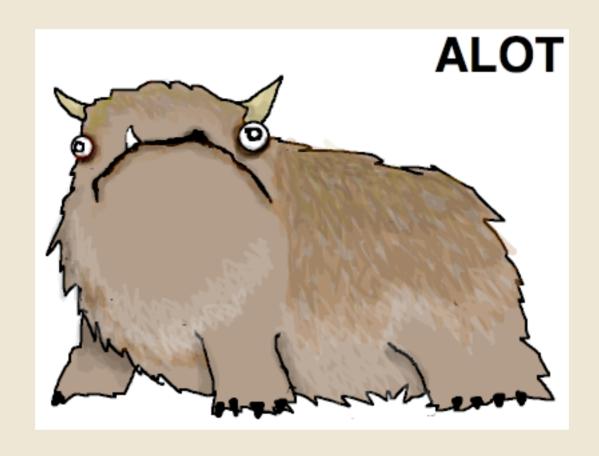
No, it's content that's entered into WP that the theme has trouble displaying



Give you a quick look inside my head Don't worry it's safe This is what I picture when I'm breaking themes Car bashing is fun!

Content = Hammer

Content is my hammer
Images of all shapes and sizes
Crazy long posts
Make huge galleries
Add as much data and content as you can. The more the better.



Variety
Quantity
Use real content if you can
Real content means you can break things more spectacularly

Part 2

Code quality

Use WP_DEBUG

Nuff said It's like turning on a light, you start seeing the creepy, crawly things

```
/*Php
/**

* For developers: WordPress debugging mode.

* Change this to true to enable the display of notices during development.

* It is strongly recommended that plugin and theme developers use WP_DEBUG

* in their development environments.

*/

define( 'WP_DEBUG', true );

define( 'WP_DEBUG_LOG', true );

define( 'WP_DEBUG_DISPLAY', false ); // change to true if Debug Bar is off

define( 'SCRIPT_DEBUG', true );
```

In your wp-config.php file

http://codex.wordpress.org/Editing_wp-config.php#Debug

Essential plugins

Activate these plugins when you're testing locally Not recommended for production use, unless you know how to set it up correctly





Showcase Themes

Username

Plugins

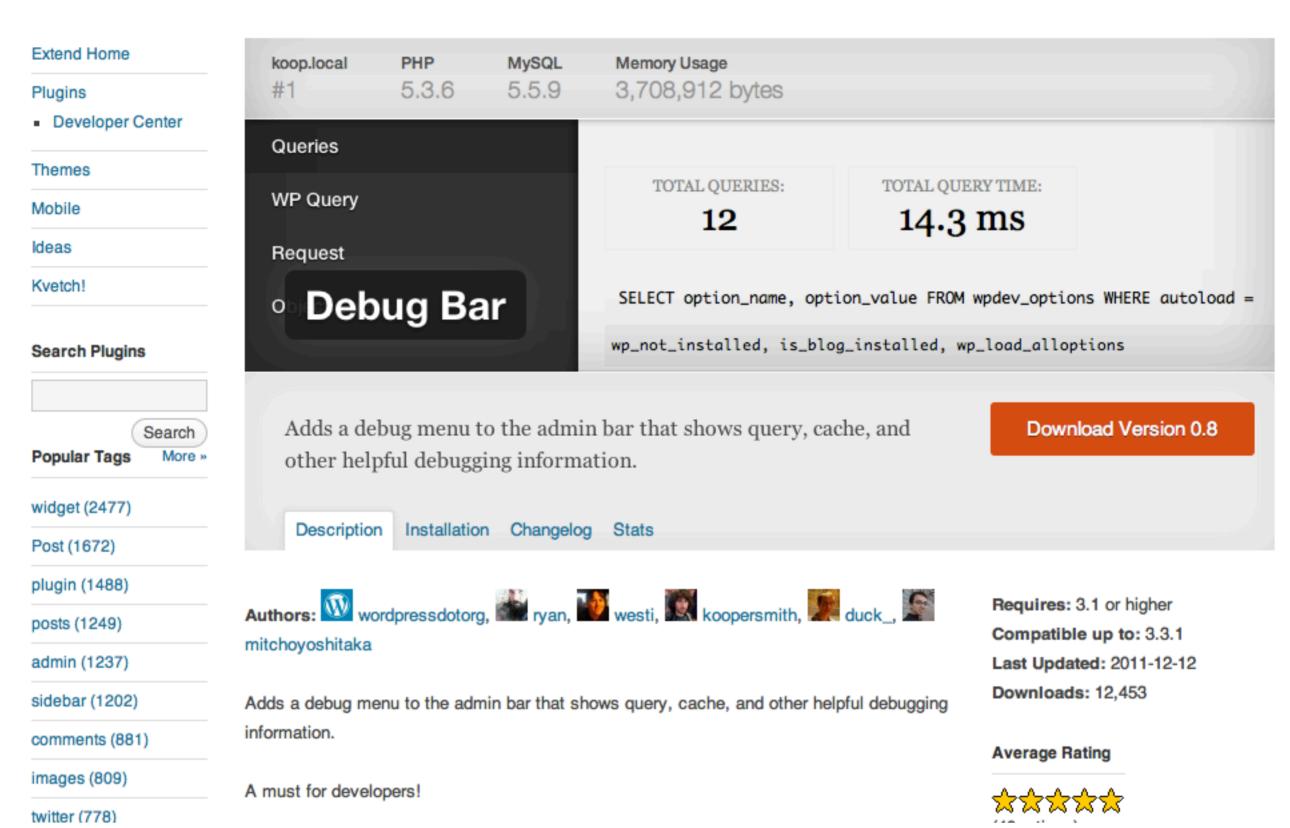
Mobile About Docs Blog Forums Hosting

Password

Download

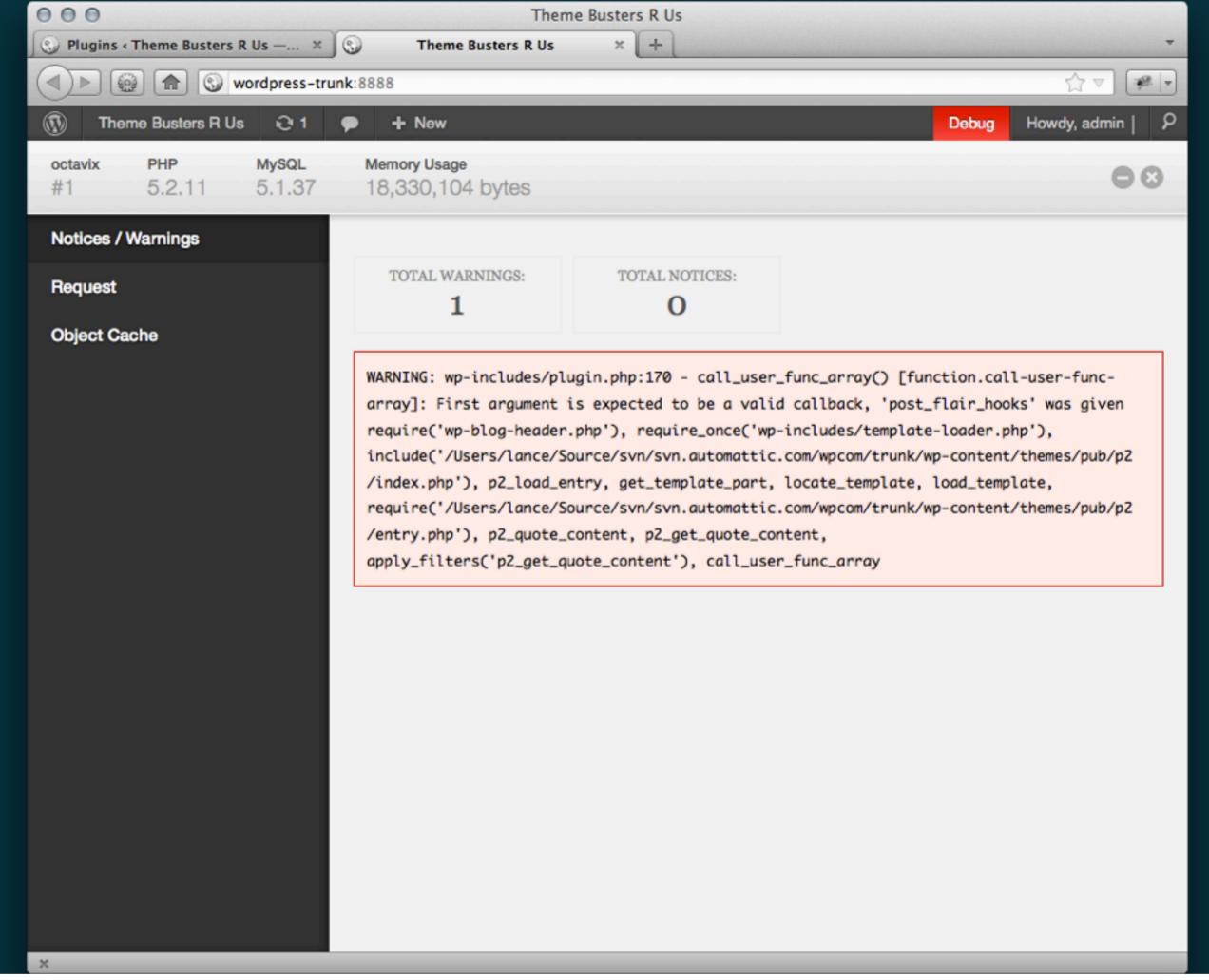
Log in) (forgot?) or Register

Plugin Directory



Debug Bar

http://wordpress.org/extend/plugins/debug-bar/



Example of Debug Bar in action



Showcase Themes

Mobile About Docs Blog Forums Hosting

Plugins

Download

Plugin Directory

twitter (778)

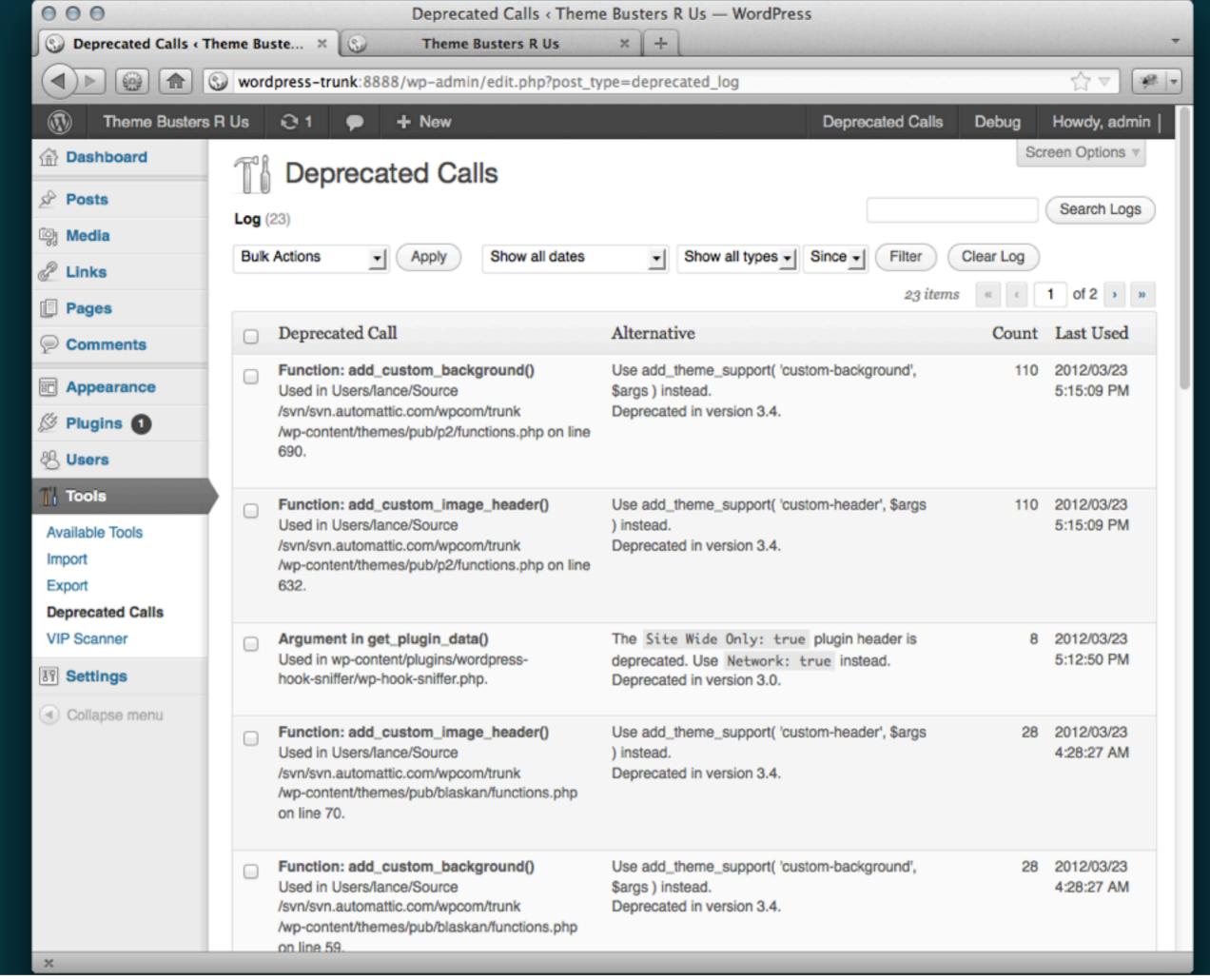
Username

Password

Log in) (forgot?) or Register

Log Deprecated Notices Extend Home Plugins Developer Center Logs the usage of deprecated files, functions, and function arguments, Download Version 0.2 Themes and identifies where the deprecated functionality is being used. Mobile Installation Screenshots Other Notes ldeas Description Kvetch! Requires: 3.0 or higher Search Plugins Compatible up to: 3.4-alpha Last Updated: 2011-2-9 This plugin logs the usage of deprecated files, functions, and function arguments. It Downloads: 4,454 identifies where the deprecated functionality is being used and offers the alternative if Search available. **Popular Tags** More » Average Rating widget (2477) This is a plugin for developers. WP_DEBUG is not needed, though its general usage is strongly recommended. Deprecated notices normally exposed by WP_DEBUG will be Post (1672) (23 ratings) logged instead. plugin (1488) FYI Other Versions » posts (1249) This plugin also logs incorrect function usage, which WordPress started reporting in 3.1. Subversion Repository » admin (1237) Please report any bugs to plugins at andrewnacin.com, or find me in IRC #wordpress-dev or sidebar (1202) Forums Posts @nacin on Twitter. Development Log comments (881) This is young software. It works, but there's a lot left on the todo (check out the Other images (809) Notes tab). Have an idea? Let me know. Compatibility

Log Deprecated Notices wordpress.org/extend/plugins/log-deprecated-notices/



Example of Log Deprecated Notices in action



Log in) (forgot?) or Register

Go



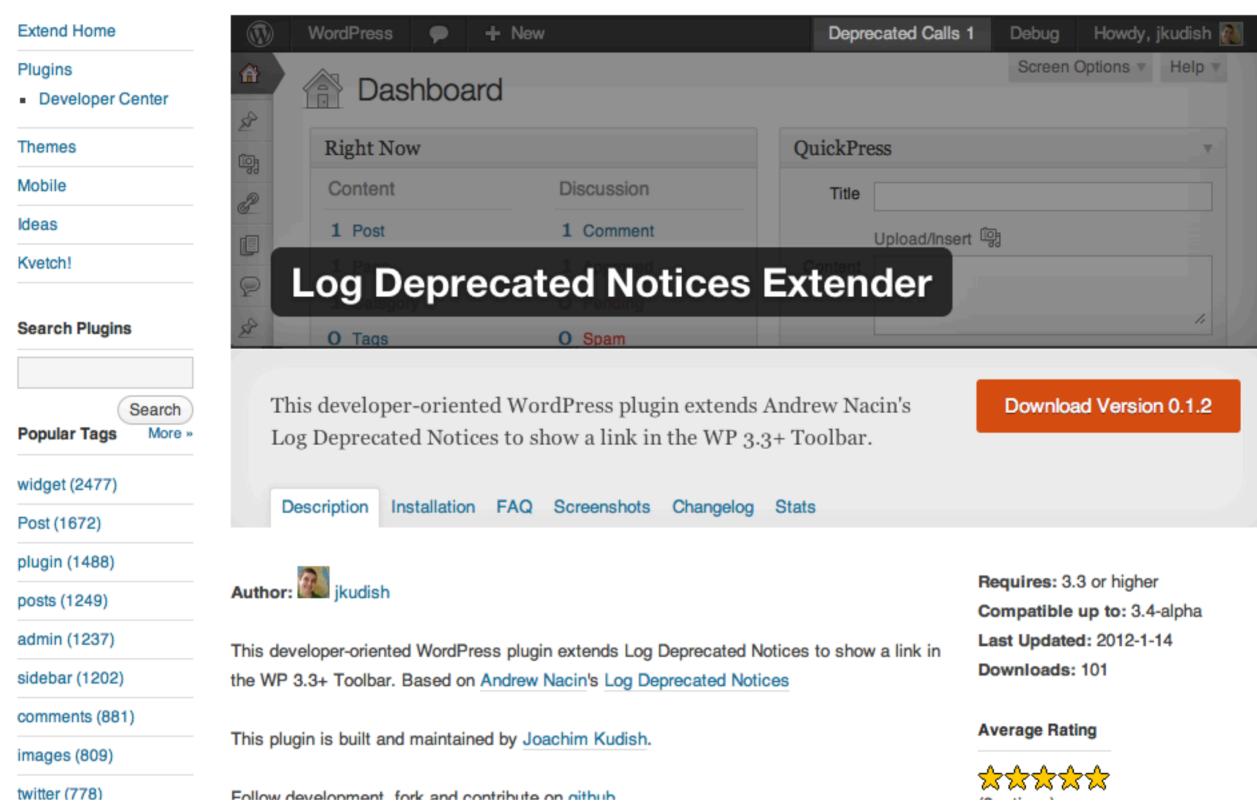
ORDPRESS.ORG

Home Showcase Themes Plugins Mobile About Docs Blog Forums Hosting Download

Username

Password

Plugin Directory



Log Deprecated Notices Extender, by Joey Kudish (speaking next) wordpress.org/extend/plugins/log-deprecated-notices-extender/

20110805.1

Compatibility



Showcase Themes

Username

Plugins

Mobile About Docs Blog Forums Hosting

Password

Log in) (forgot?) or Register

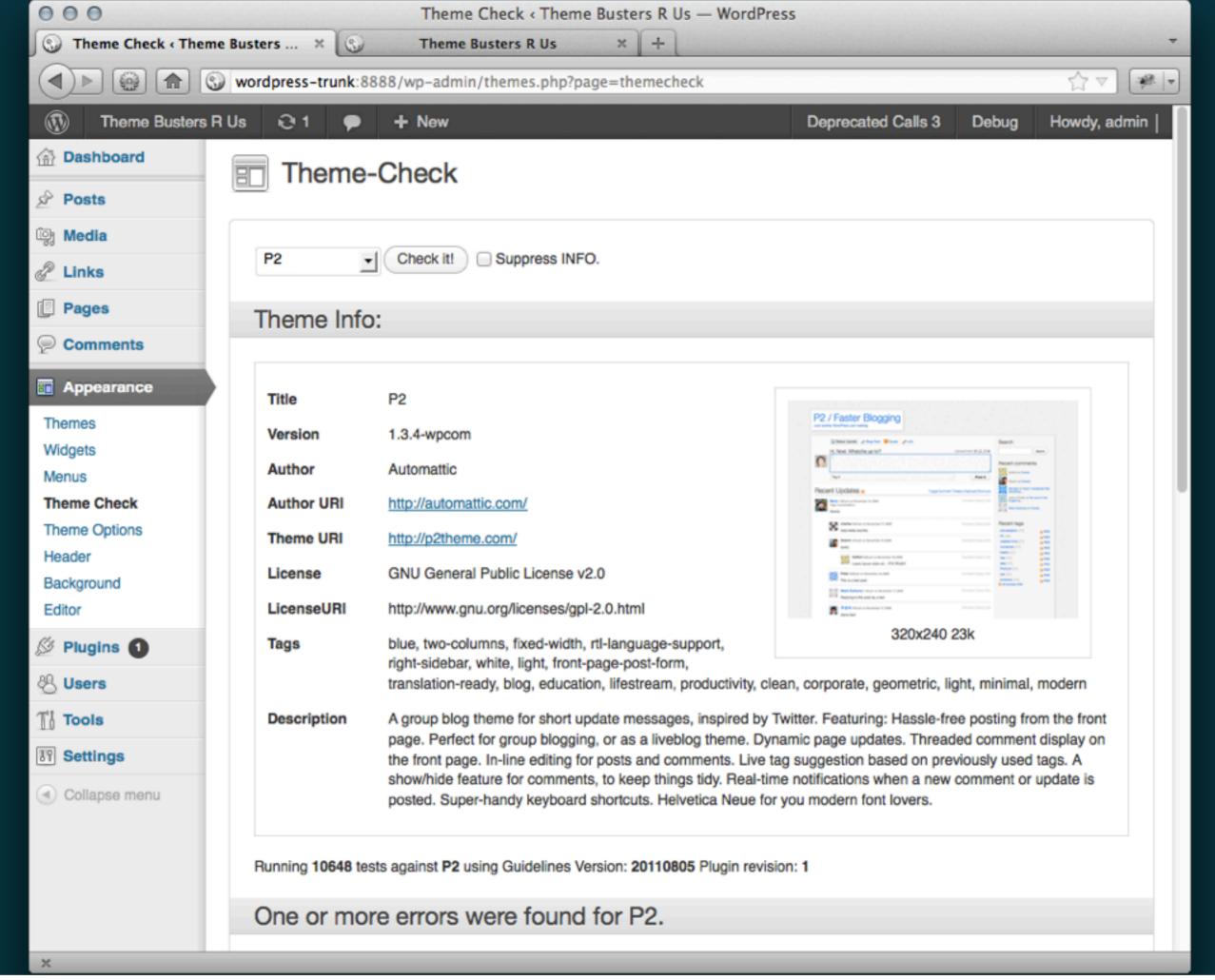
Download

Plugin Directory

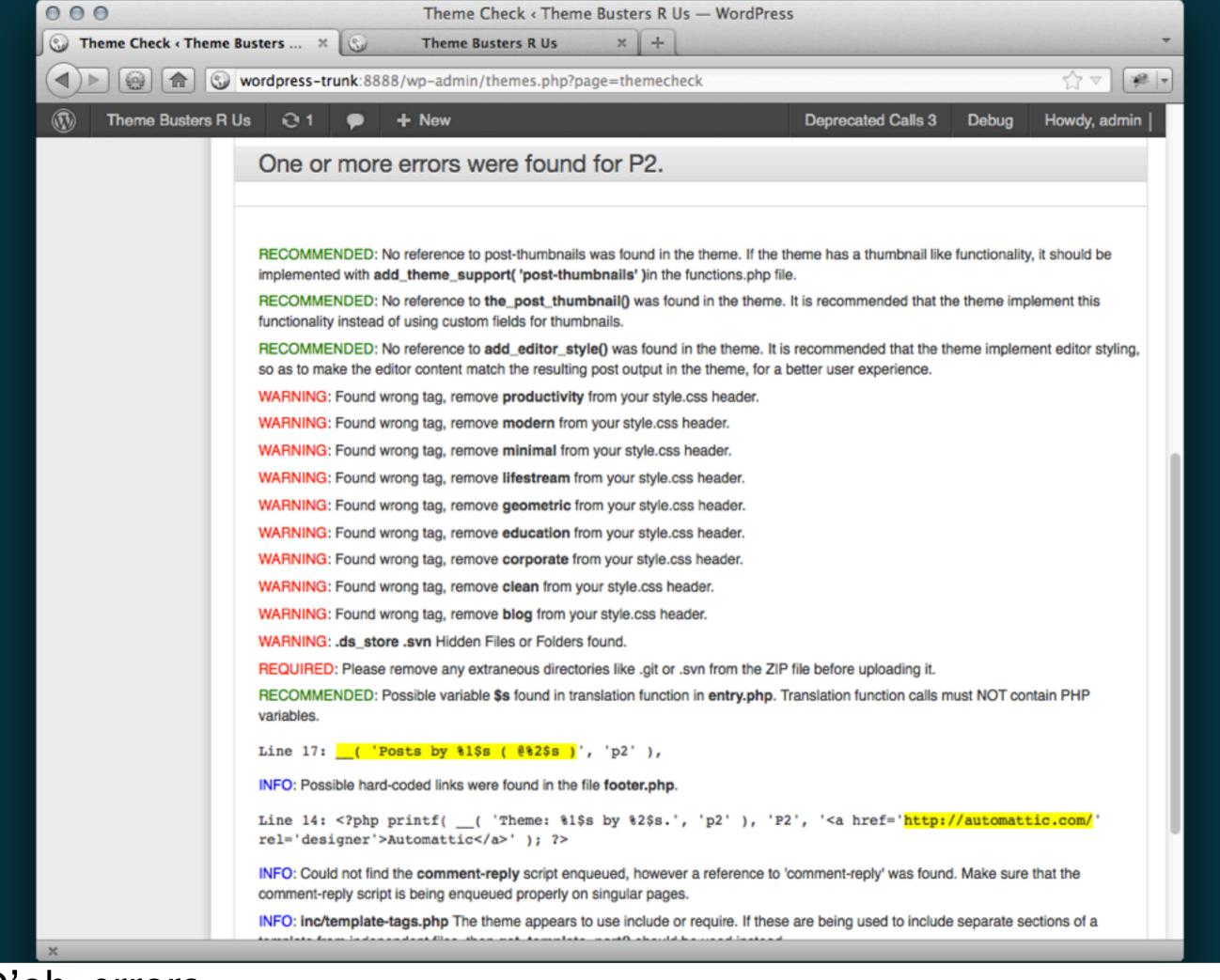
twitter (778)

Theme-Check Extend Home Plugins Developer Center A simple and easy way to test your theme for all the latest WordPress Download Version Themes standards and practices. A great theme development tool! Mobile ldeas Description FAQ Other Notes Changelog Kvetch! Authors: pross, Otto42 Requires: 3.0 or higher Search Plugins Compatible up to: 3.2.1 Last Updated: 2011-8-5 The theme check plugin is an easy way to test your theme and make sure it's up to spec Downloads: 39,120 with the latest theme review standards. With it, you can run all the same automated testing Search tools on your theme that WordPress.org uses for theme submissions. Popular Tags More » Average Rating widget (2477) The tests are run through a simple admin menu and all results are displayed at once. This is very handy for theme developers, or anybody looking to make sure that their theme Post (1672) (49 ratings) supports the latest WordPress theme standards and practices. plugin (1488) FYI posts (1249) Other Versions » Tags: check, checker, guideline, review, template, test, theme, tool, upload, uploader, wordpress, Subversion Repository » admin (1237) wordpress.org sidebar (1202) Torums Posts comments (881) Development Log images (809)

Theme-Check wordpress.org/extend/plugins/theme-check/

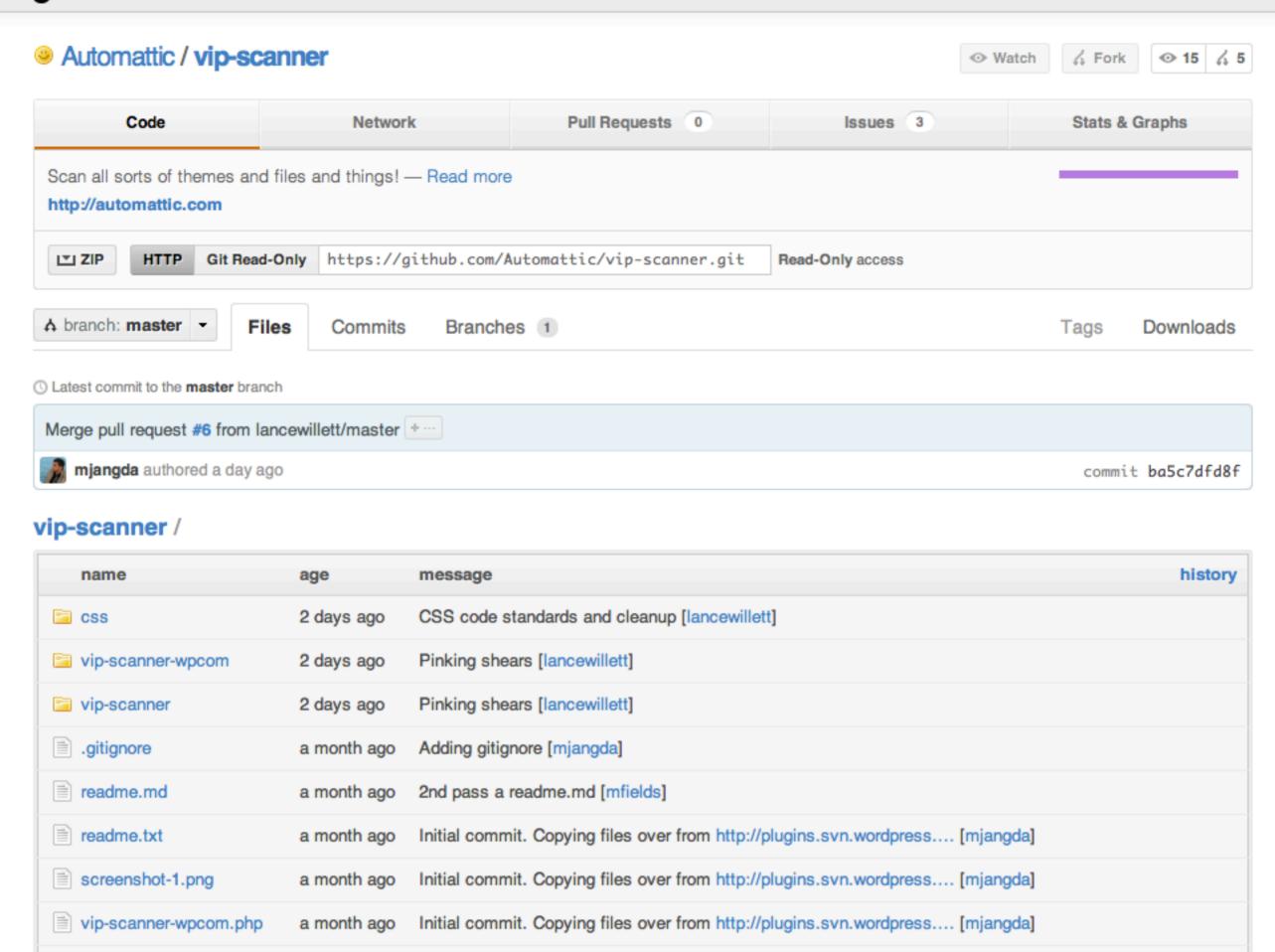


Running Theme-Check on the P2 theme



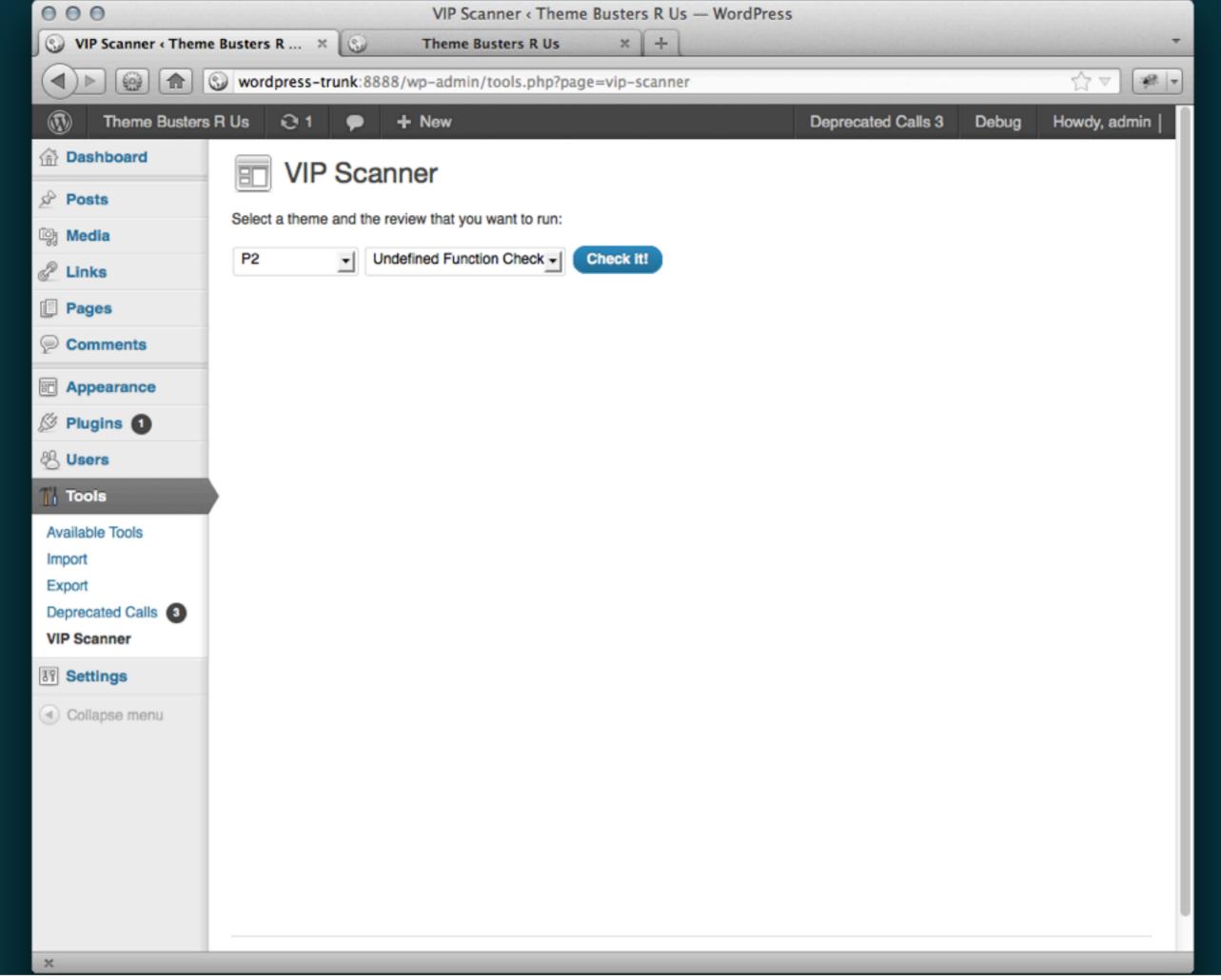
D'oh, errors Well, not too bad But you see the example of the output from Theme-Check

github Signup and Pricing Explore GitHub Features Blog Login

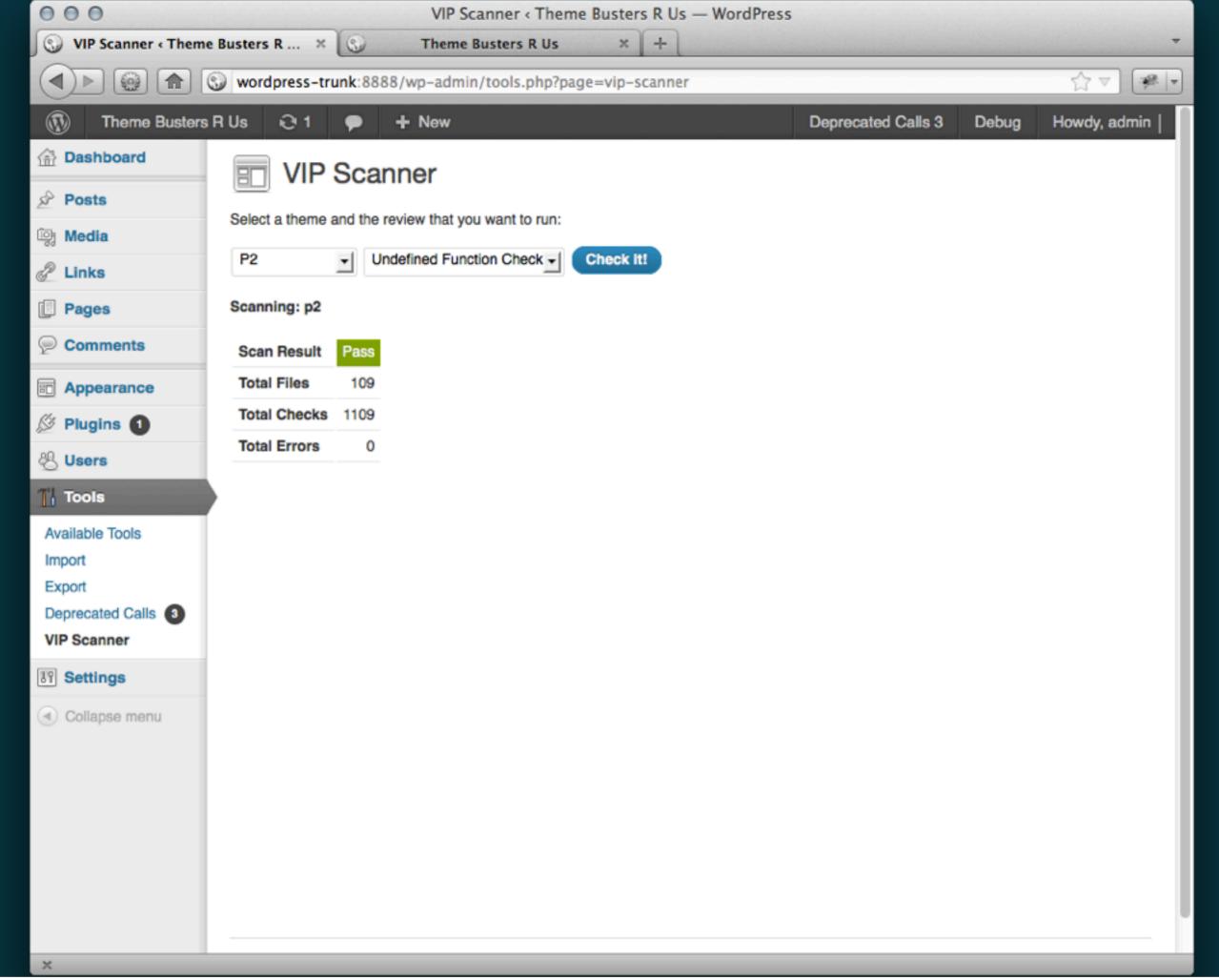


Add datastamn to CSS andualla ramova dahur var dumn/ usa wn gat the

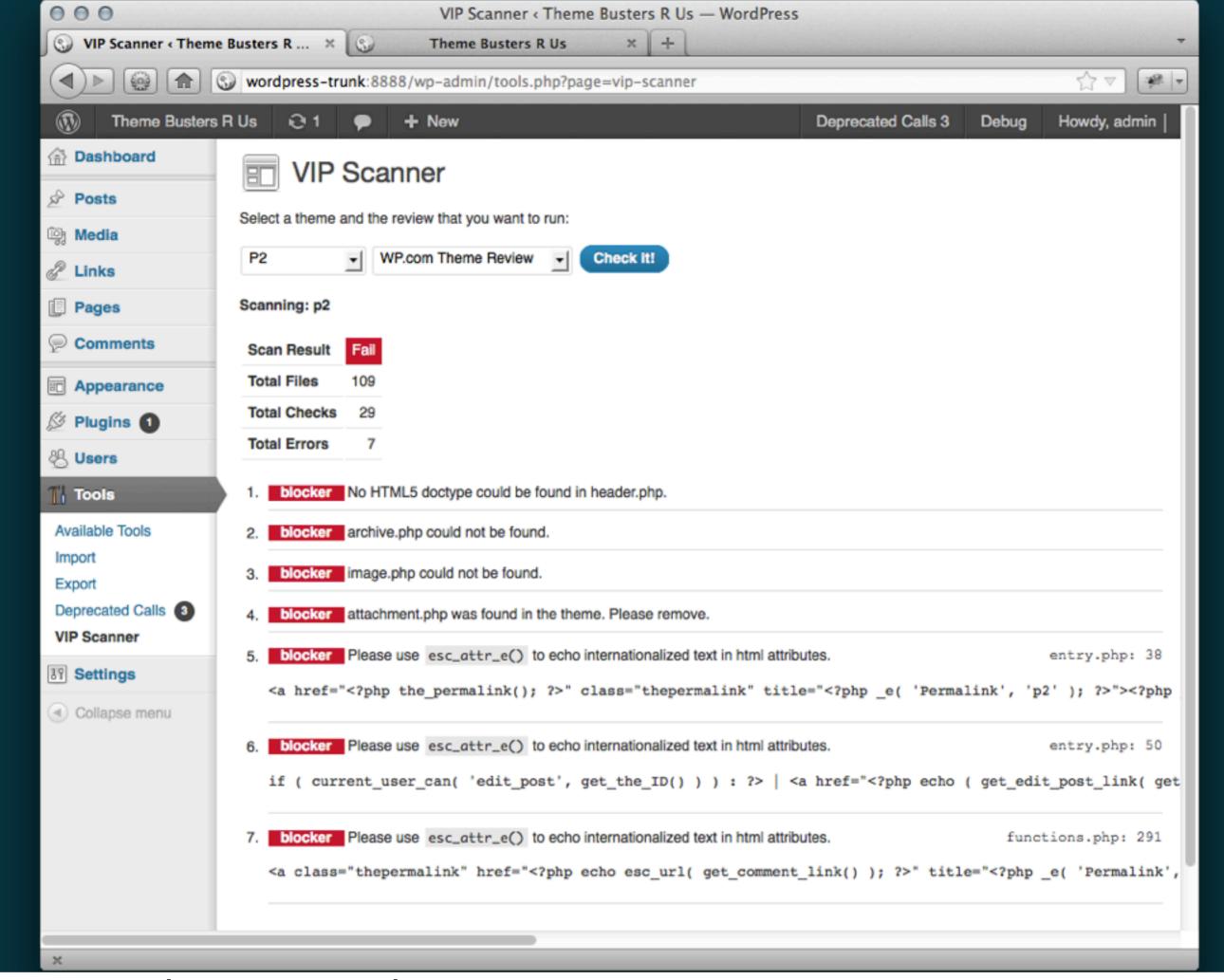
VIP scanner from Automattic github.com/Automattic/vip-scanner



This is what the VIP scanner looks like in wp-admin, Tools menu



Running an Undefined Functions check Pass!



Running the WP.com theme review FAIL! :)

Example of the error results

My process

Here's how I do my a theme review, aka breaking a theme

My process

Run Theme-Check and VIP scanner

Look at each file line by line

Watch for database queries, option calls, post meta

Make fixes ... look again

Check Debug Bar and deprecated notices
Looking at the database queries, see if anything is unexpected
Test with dummy data to catch obvious things
Make fixes, look at it again ...

My process

Templates: Theme_Development checklist

Visual: Theme_Unit_Test checklist

Test with *real* data

Check for HTML, CSS, JS errors

- 1. Do a visual check -- only after the code is stable, major bugs are fixed
- 2. Check templates against the Theme_Development checklist on Codex, take notes
- 3. Run through Theme Unit Test, take notes —— with *real data* (not just dummy data)
- 4. Look through theme files again
- 5. Checking for CSS, HTML, JS, PHP errors

PHP syntax

```
find . -type f -name \*.php -exec php -l {} \;
```

```
I save it as a shell alias for `phpe`
To run it quickly inside a theme directory
alias phpe='find . -type f -name \*.php -exec php -I {} \;'
```

```
000
                                           ↑ lance — screen — Solarized Dark ansi — 118×35
No syntax errors detected in ./inc/list-creator.php
No syntax errors detected in ./inc/mentions.php
No syntax errors detected in ./inc/options-page.php
No syntax errors detected in ./inc/search.php
No syntax errors detected in ./inc/template-tags.php
No syntax errors detected in ./inc/terms-in-comments.php
No syntax errors detected in ./inc/utils.php
No syntax errors detected in ./inc/widgets/recent-comments.php
No syntax errors detected in ./inc/widgets/recent-tags.php
No syntax errors detected in ./index.php
No syntax errors detected in ./page.php
No syntax errors detected in ./post-form.php
No syntax errors detected in ./search.php
No syntax errors detected in ./sidebar.php
No syntax errors detected in ./single.php
No syntax errors detected in ./tag.php
octavix:p2 lance$ phpe
```

Sample output of the PHP syntax check

MOAR debugging

http://wordpress.tv/2011/09/02/andrew-nacin-debugging-in-wordpress/

http://nacin.com/2010/04/23/5-ways-to-debug-wordpress/

More debugging From WCSF 2011

http://wordpress.tv/2011/09/02/andrew-nacin-debugging-in-wordpress/

http://nacin.com/2010/04/23/5-ways-to-debug-wordpress/

Debugging is breaking

Philosophy of debugging I think of debugging in two ways

Bugs

1. Looking for bugs, like ants or cockroaches How do you find them? Turn on the light

Diamonds

2. A more positive, lucrative style of debugging Digging for gold. "I dug up a diamond"



This is not stock photo, this is a real picture My wife took on a trip to Arkansas to the Crater of Diamonds State Park

This is NOT the usual way to look for diamonds ... but it was really fun to watch :)

http://www.flickr.com/photos/lance_mountain/454665204/in/set-72157594534839900

Get down and dirty

You just might find a several million \$ stone that's been hiding there all along

No one finds a bug by looking in the dark.

Only when you get down and dirty do you dig up diamonds.

-Fake Koans R Us

I offer you two fake koans, that I made up just for this talk

- No one finds a bug by looking in the dark
- Only when you get down and dirty do you dig up diamonds

- 1. Visual
- 2. Code
- 3. Debugging
- 4. Beer

The basic elements of theme breaking

This is actually a much-needed position in our community right now Especially for themes

It's also a great way to learn advanced WP development since you'll be teaching best practices

Code drunk, debug sober.

—(! Hemingway)

I think this is the perfect thought to leave you with Had Hemingway been a coder, not a writer ... Have no fear, break your theme, and have fun Thank you!

Theme Busters R Us

Lance Willett WordCamp San Diego 2012

@simpledream
http://simpledream.net/

Slides: themeshaper.com/busters/

Let's talk afterward in the hallway, at lunch, and at the dev day tomorrow

Grab the slides here: