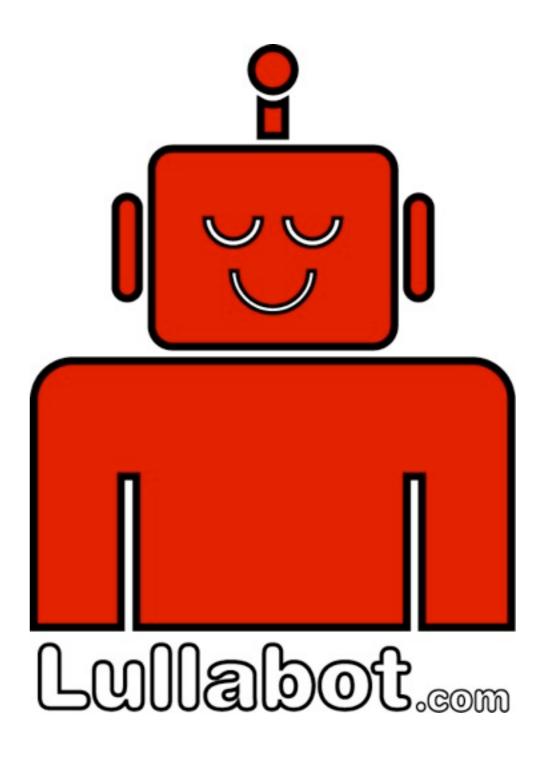
Drupal 7

Angela "webchick" Byron, Drupalcon DC March 4, 2009

About Me

- Started Drupal in 2005 as Google Summer of Code student
- Obsessed with everything Drupal (especially getting new people involved!)
- Using Drupal co-author, Drupal Association board member, Drupal 7 maintainer
- Work at Lullabot doing consulting and education



Agenda

- What happens during release?
- What's done so far?
- What's in the future?
- How can you help?
- Questions?

Mom, where does Drupal come from?

A tour of the Drupal release cycle.



Step I: Release the current version!

Step 1: Release the current version!



Drupal 6

Step 1: Release the current version!

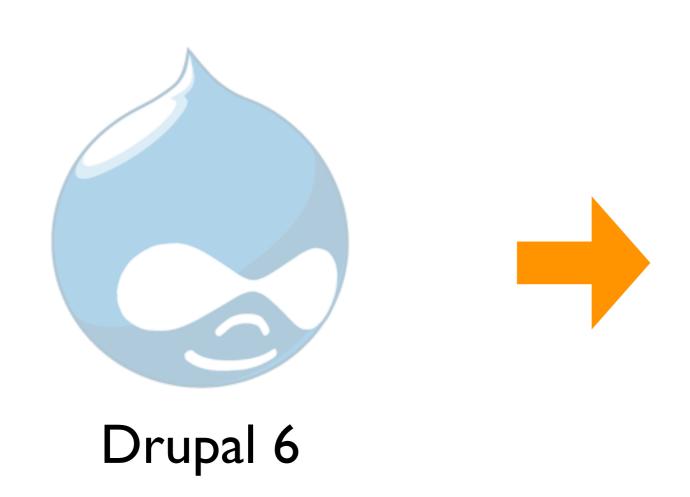


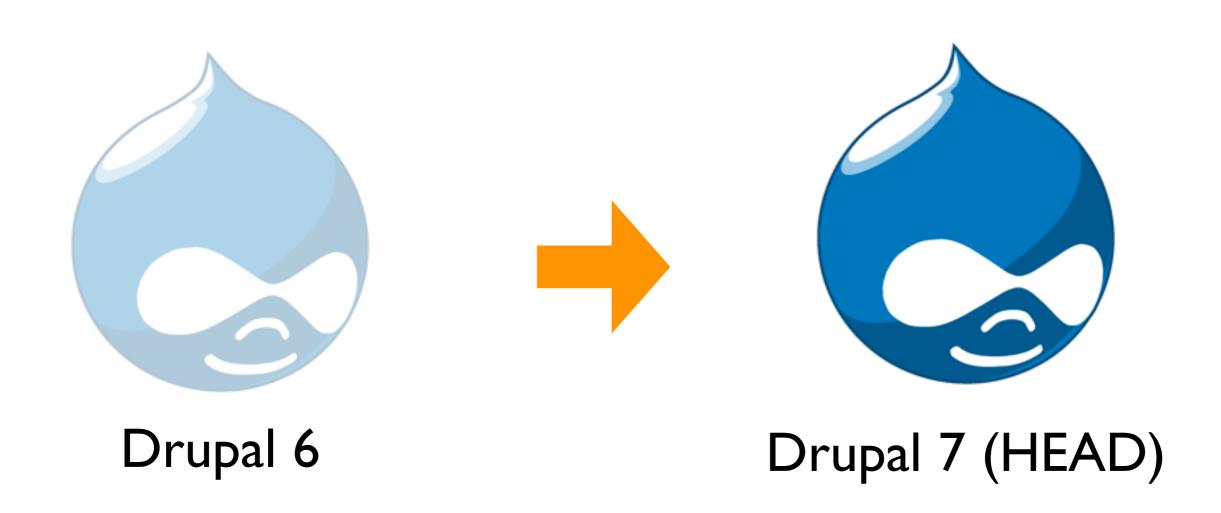






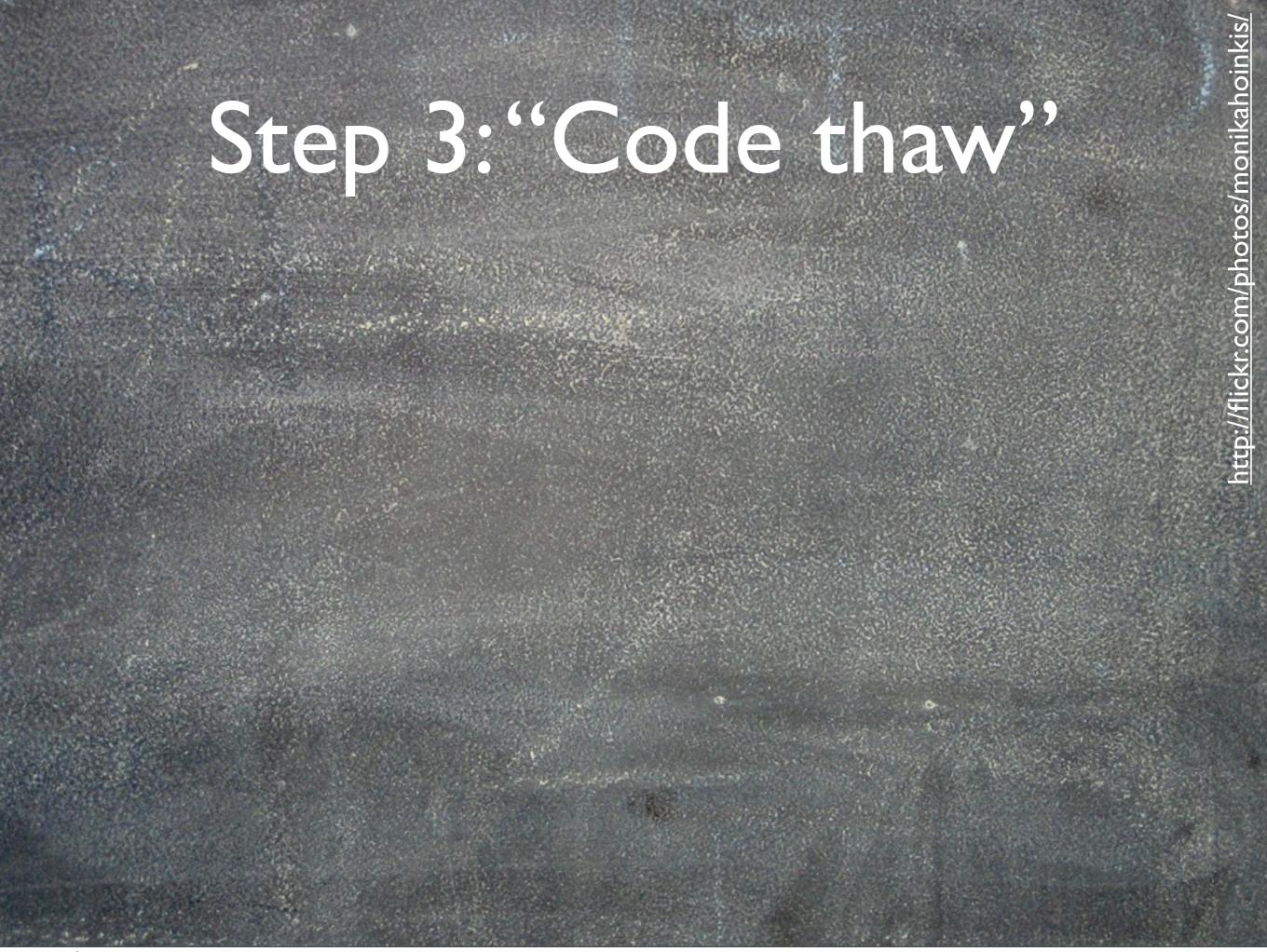
Drupal 6











Fix things that have always annoyed you.

Fix things that have always annoyed you.

Add features that take Drupal to the next level.

Fix things that have always annoyed you.

Add features that take Drupal to the next level.

Integrate useful contributed modules.

Fix things that have always annoyed you.

Add features that take Drupal to the next level.

Integrate useful contributed modules.

World domination!









Alpha / Beta / RC

Step 5: GOTO Step I

Step 5: GOTO Step I



Drupal 7

Step 5: GOTO Step I





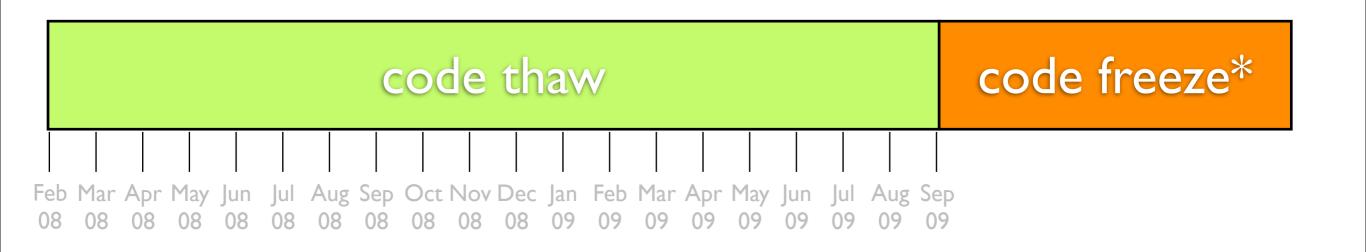
Step 6: Port all your modules.;)

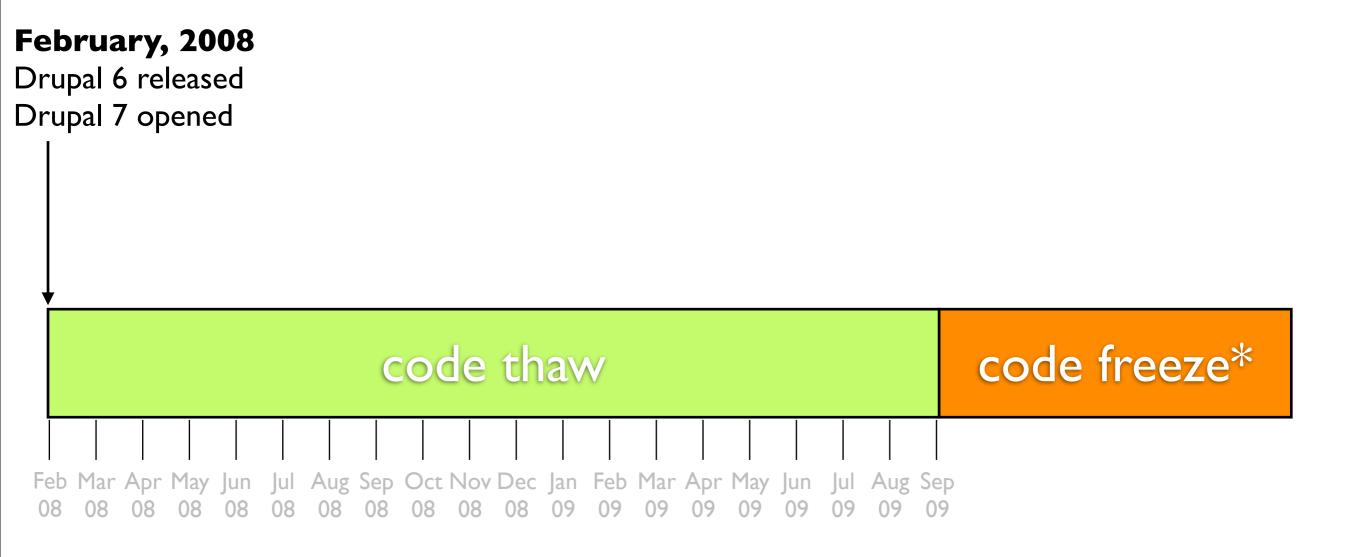


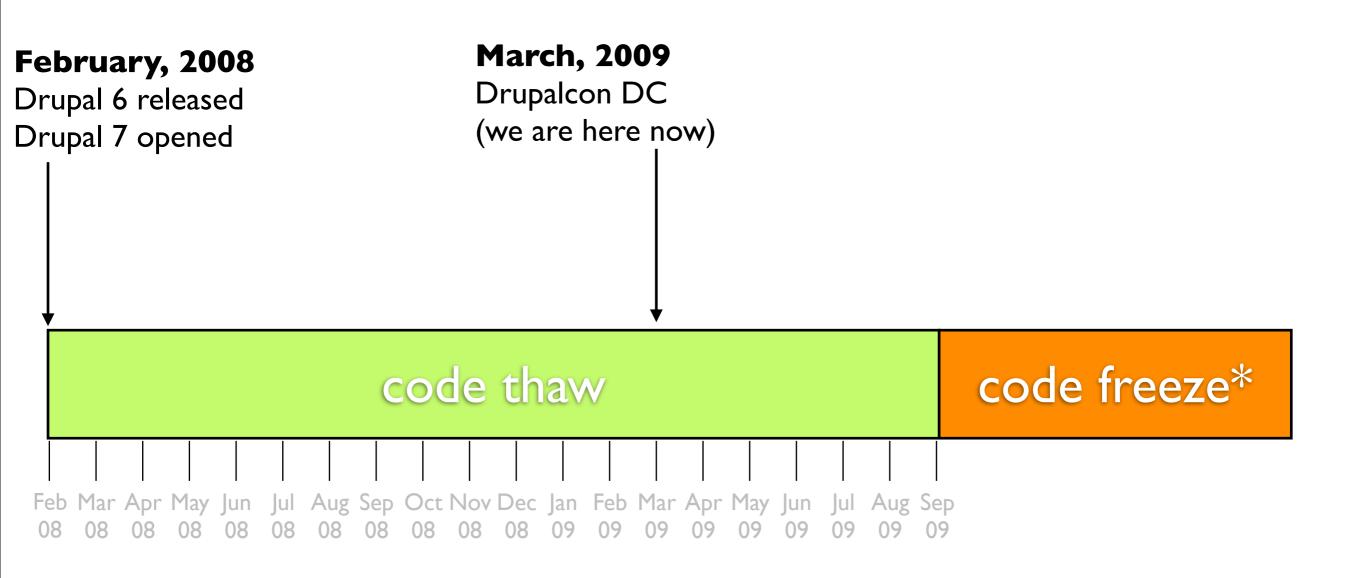


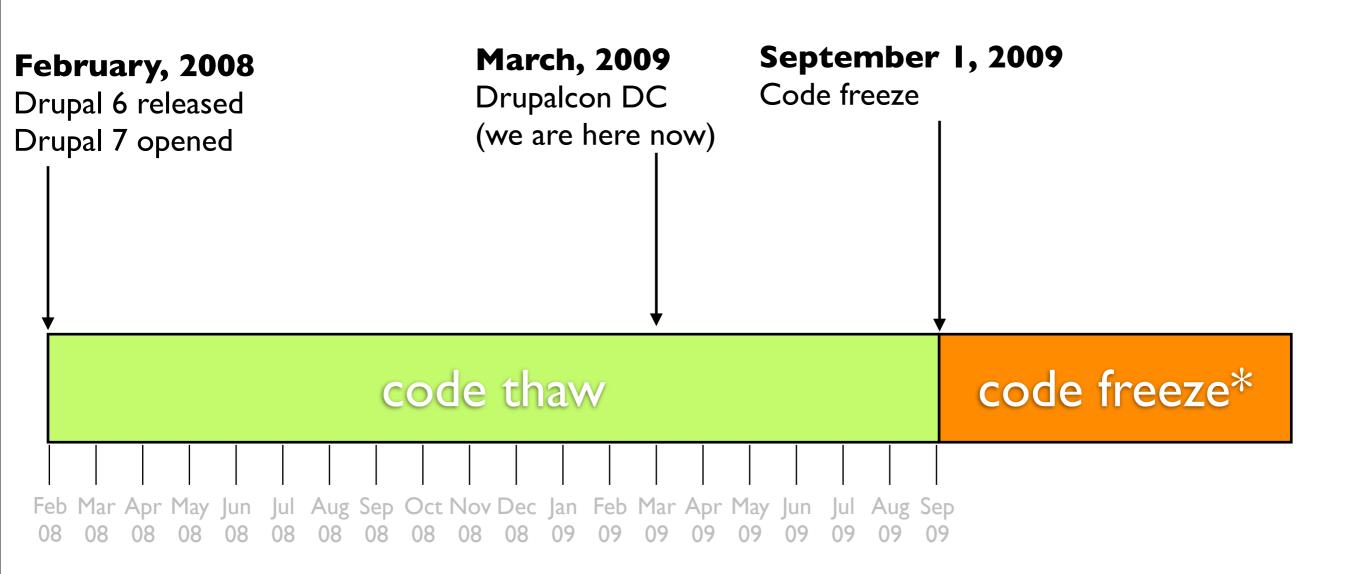
code thaw

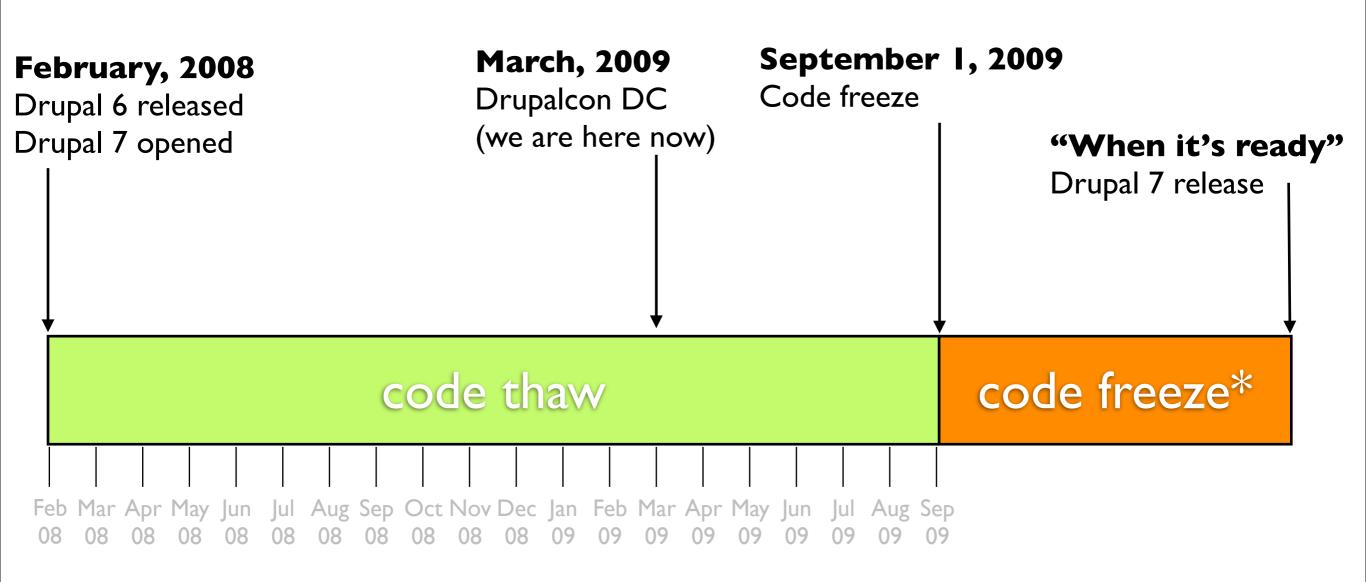
code freeze*

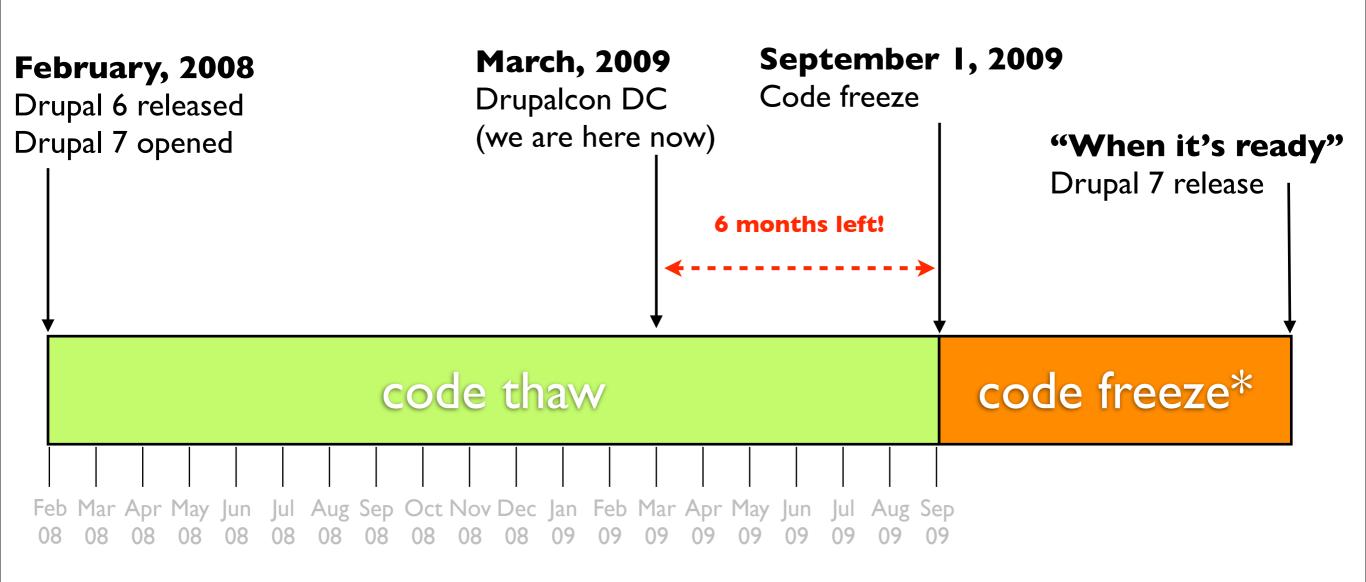












When is "When it's ready"?

When is "When it's ready"?

Contributor links

- Queues
 - My issues
 - 320 Pending bugs (D7)
 - 257 Critical issues (D7)
 - 1330 Patch queue (D7)
 - 131 Patches to review (D7)
- Patch spotlight
 - Current Drupal core initiatives
- Play patch bingo!
 - Drupal core
 - Contributions
- Play bug bingo!
 - Drupal core
 - Contributions
- Mailing list archives
- · Drupal.org webmasters
- · Drupal.org server administrators
- Web links
 - Planet Drupal
 - Drupal talk
 - Drupal dojo

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When is "When it's ready"?

When this number becomes zero.

Contributor links

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Should I start building sites on Drupal 7?

Should I start building sites on Drupal 7?





* Sense of adventure required.;)

Will \$feature be in Drupal 7?

Will \$feature be in Drupal 7?

DEPENIDS.

Drupal is a...

Drupal is a...

DO-OCRACY

Drupal is a...

DO-OCRACY

The work that gets done is the work that people like you (yes, **you!**) actually do! :)

"Core maintainers"



Dries Buytaert Drupal project lead



Neil Drumm Drupal 5 maintainer



Gábor Hojtsy Drupal 6 maintainer



Angela Byron
Drupal 7 maintainer

"Core maintainers"

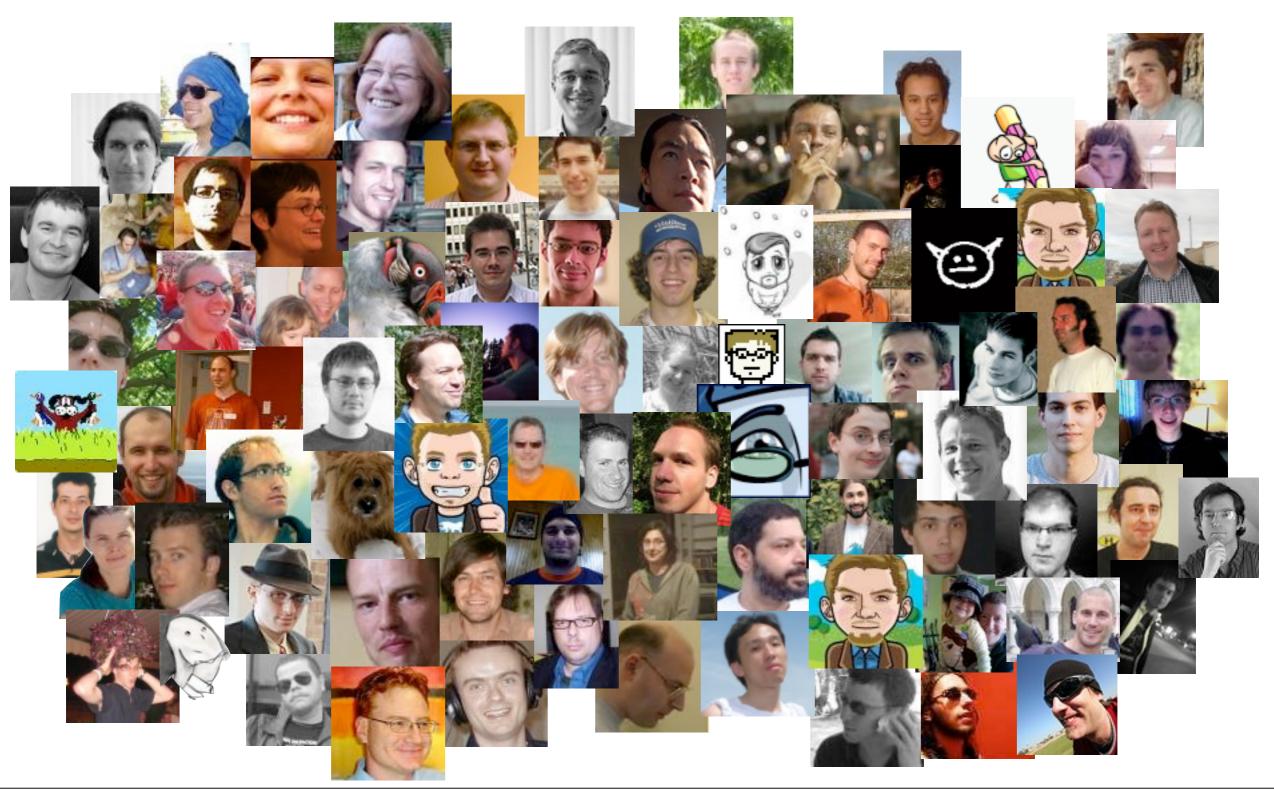


The people who do the actual work.;) hswong3i

Over 300 contributors to 1,000+ patches so far!

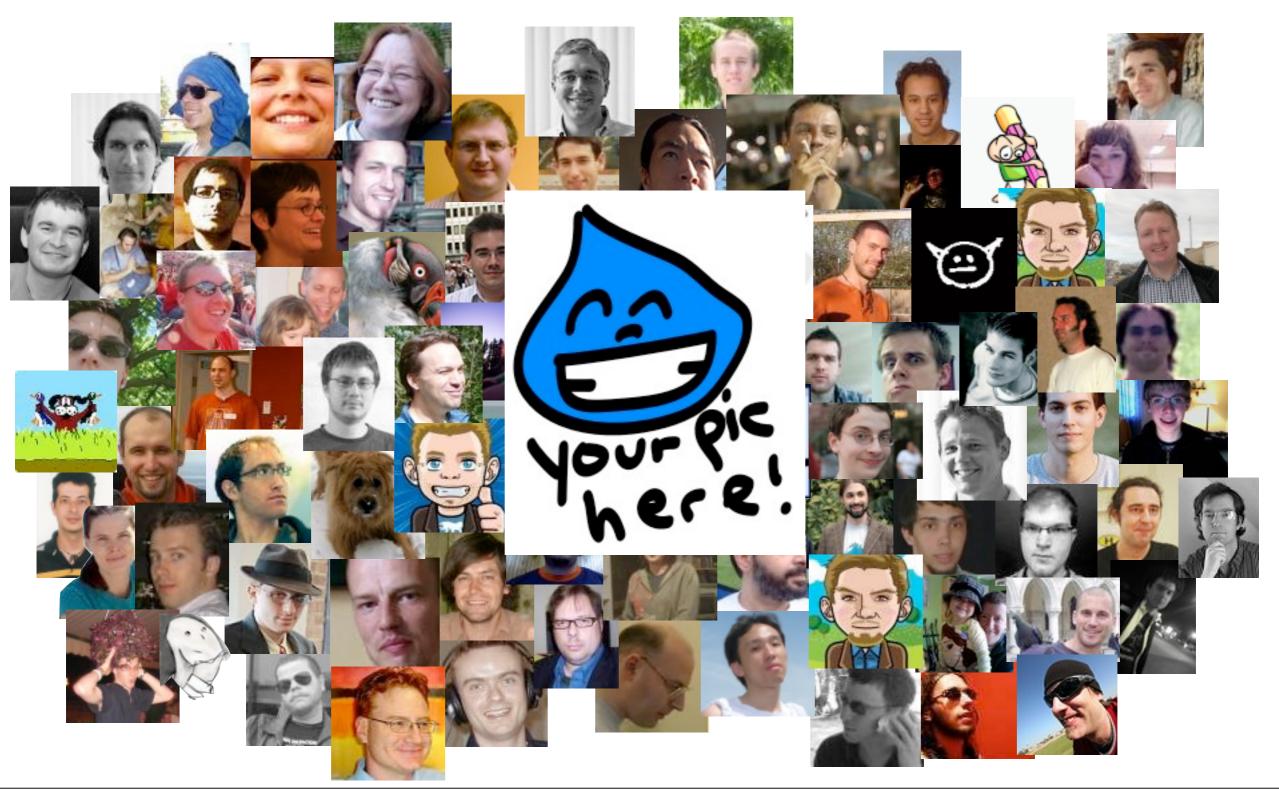
(some of)

Team Drupal 7



(some of)

Team Drupal 7



Help wanted!

Community Initiatives

- Documentation projects
- Drupal core improvements
 - Accessibility
 - Database API
 - Documentation
 - DrupalWTFs
 - Field API
 - File system
 - Form API
 - Image handling
 - Internationalization
 - JavaScript
 - Performance
 - Search
 - Testing
 - Theming
 - User Experience
- Upgrade drupal.org from Drupal 5 to 6
- Implement the redesign for Drupal.org

- Support forums
- View other handbooks
- Suggest documentation improvements
- Join the doc team

Handbook license

Drupal core improvements

Outline Edit View

Revisions

Last modified: February 19, 2009 - 21:45

Help us test changes in Drupal core! This page will feature important core initiatives that need developers, testers, and reviewers. You can help with this important task even if you don't know how to code.

How do I start?

Your first order of business is to get a development environment up and running. Next, you should read the instructions on how to

test out patches and how to review them. If you're a developer type, read up on creating patches. If you've read these instructions and are still scratching your head, drop by #drupal and someone would be happy to help you!

Where do I jump in?

Choose an area of interest below, or add one of your own if you have a Drupal "itch" you'd like to help scratch!

- Accessibility
- Database API

Getting http://drupal.org/community-initiatives/drupal-cor

- Field API
- Sprint Day on Saturday!
- Image handling
- Internationalization

webchick

Issues

Drupal 7.x

Patch Spotlight

- My account
- My projects
- Create content
- Recent posts
- Feed aggregator
- Administer
- Log out

Contributor links

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What's new in Drupal 7?

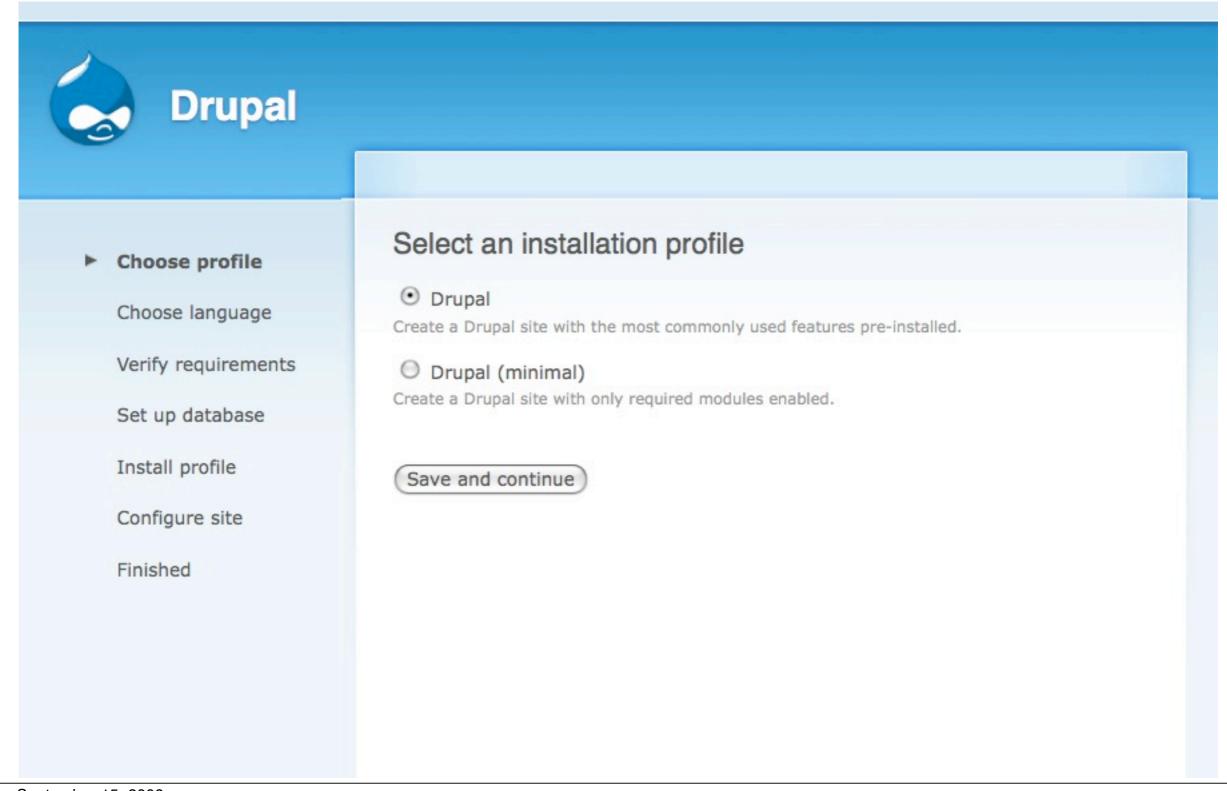
So far, anyway...

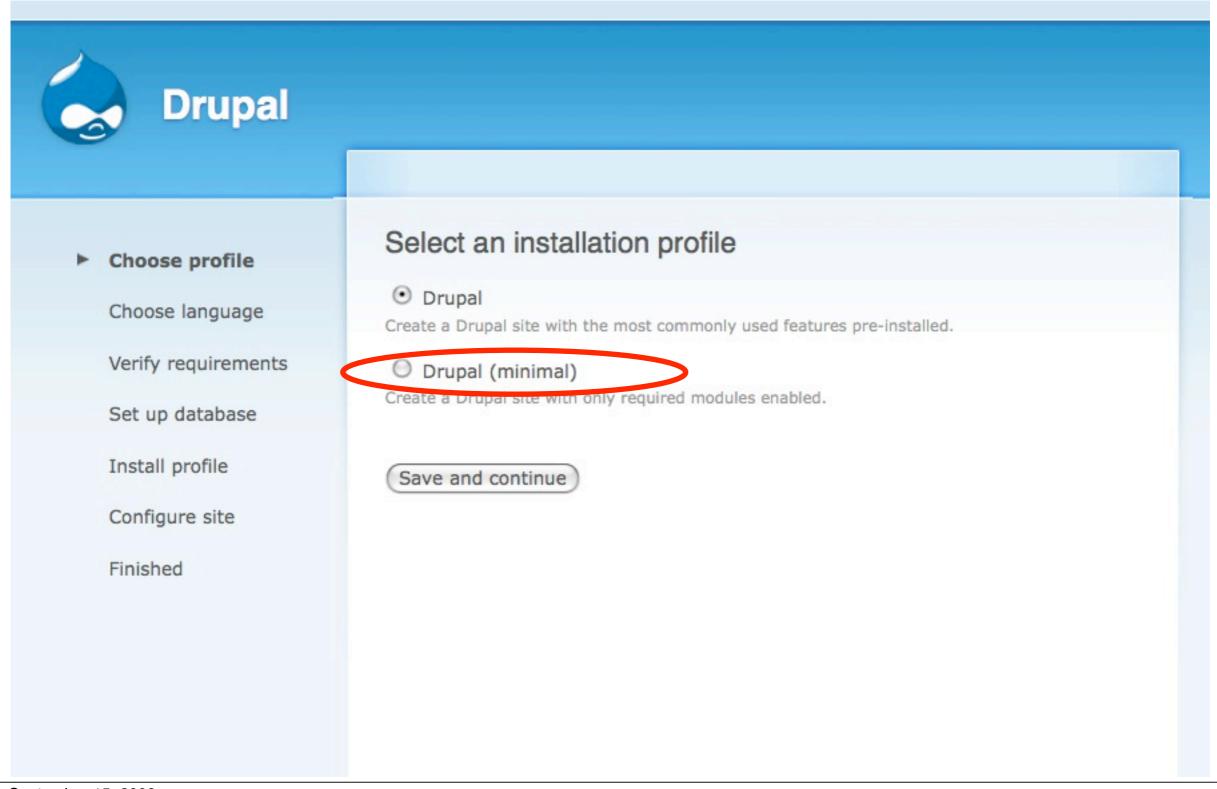
Changes for site builders

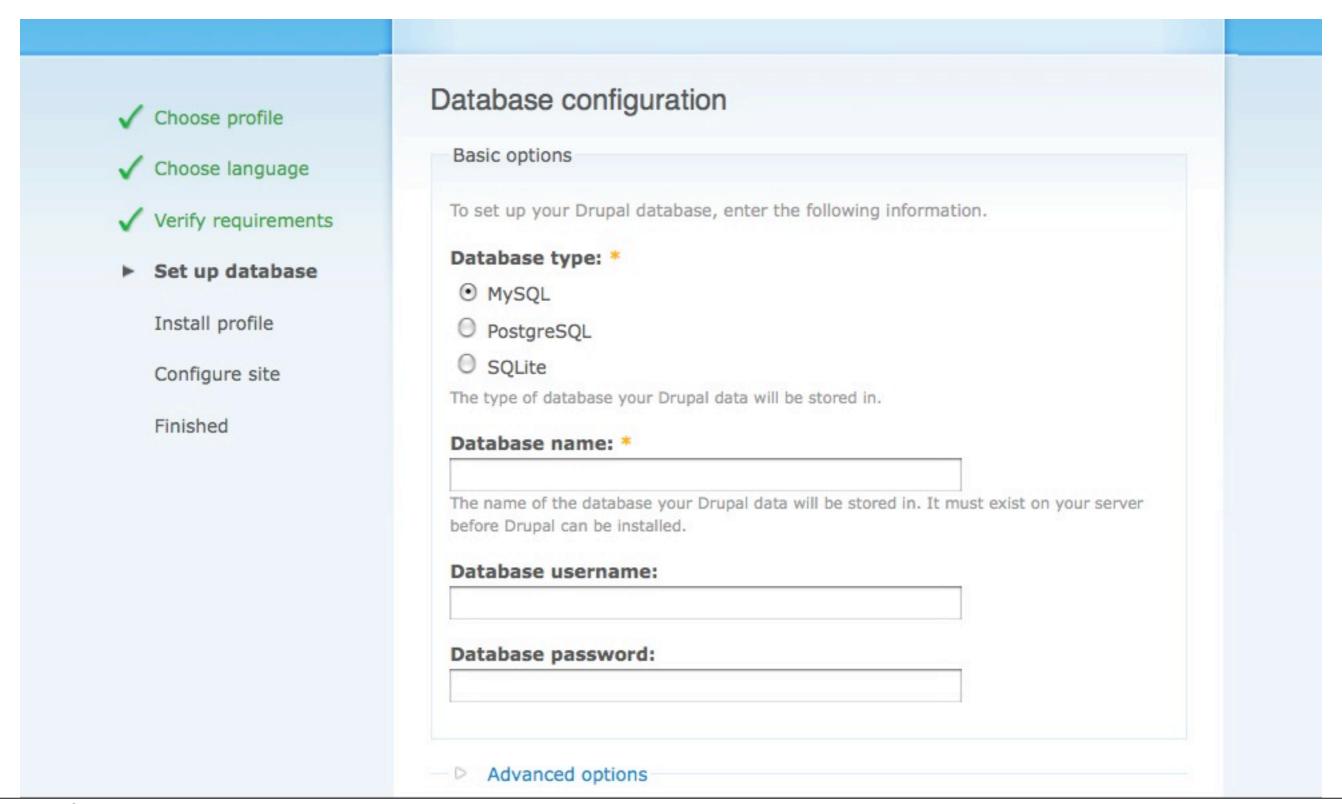


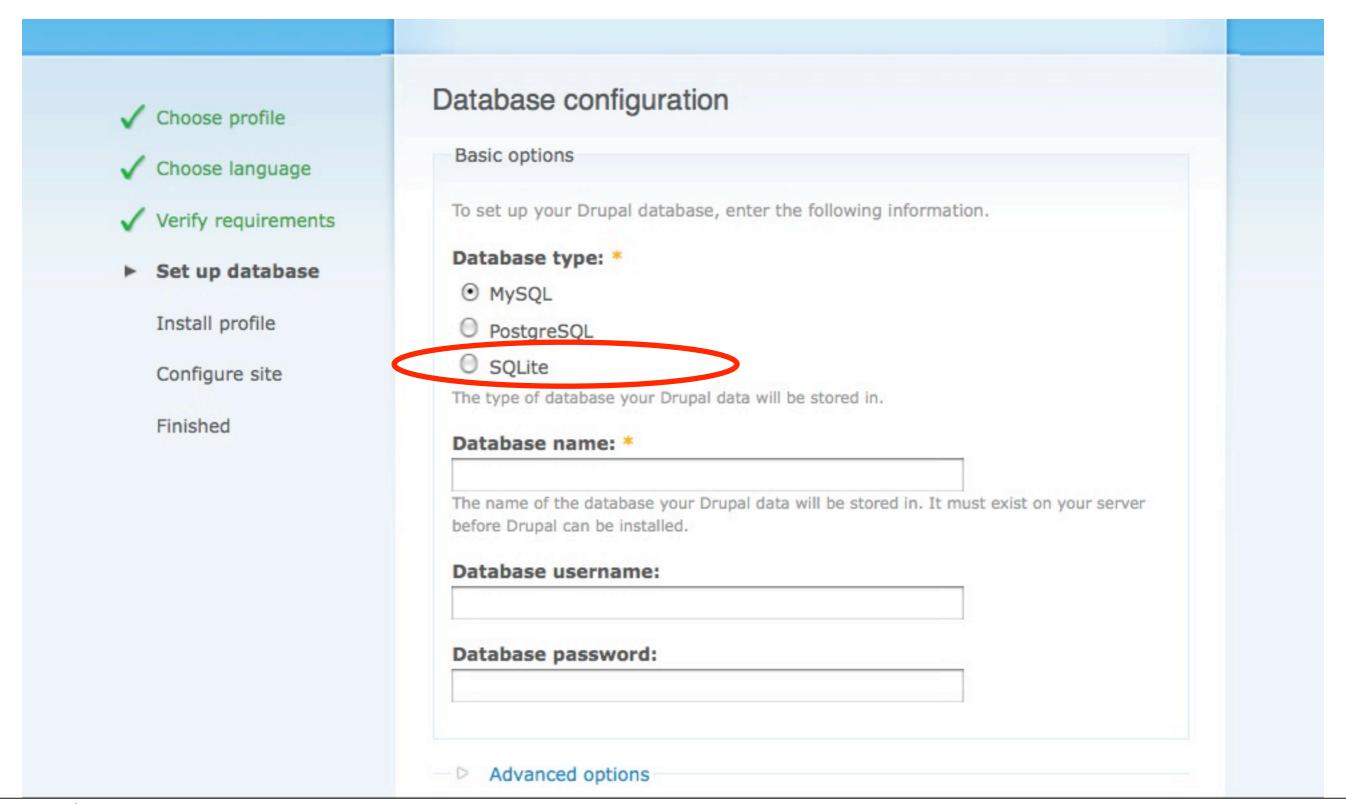
New Minimum Requirements



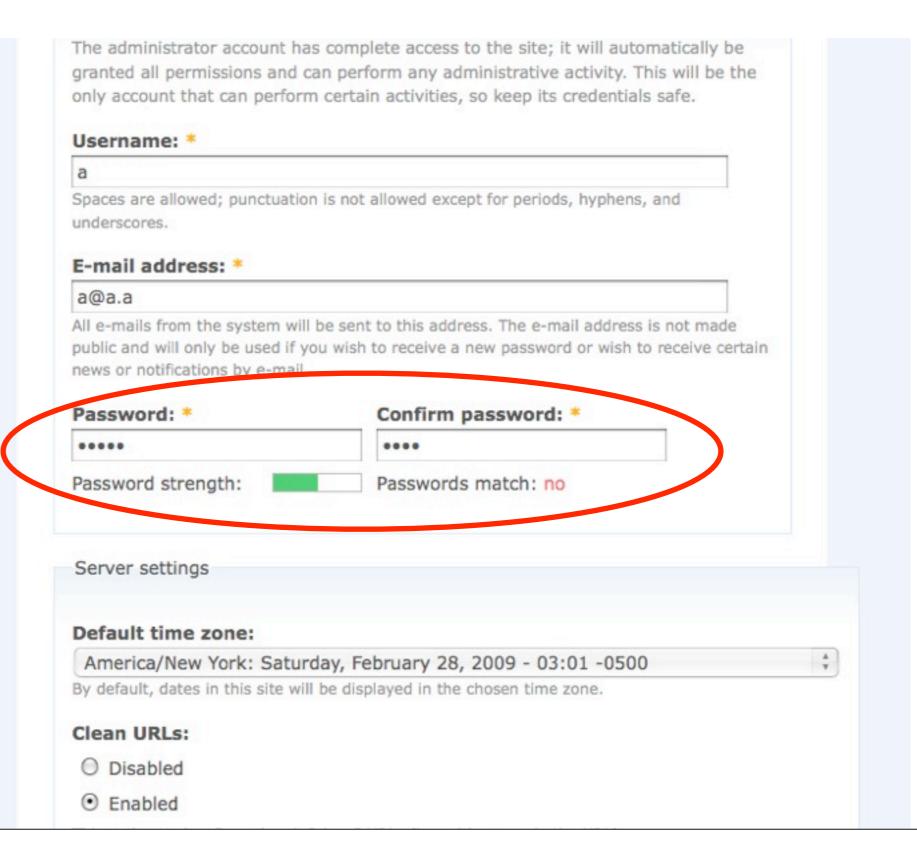


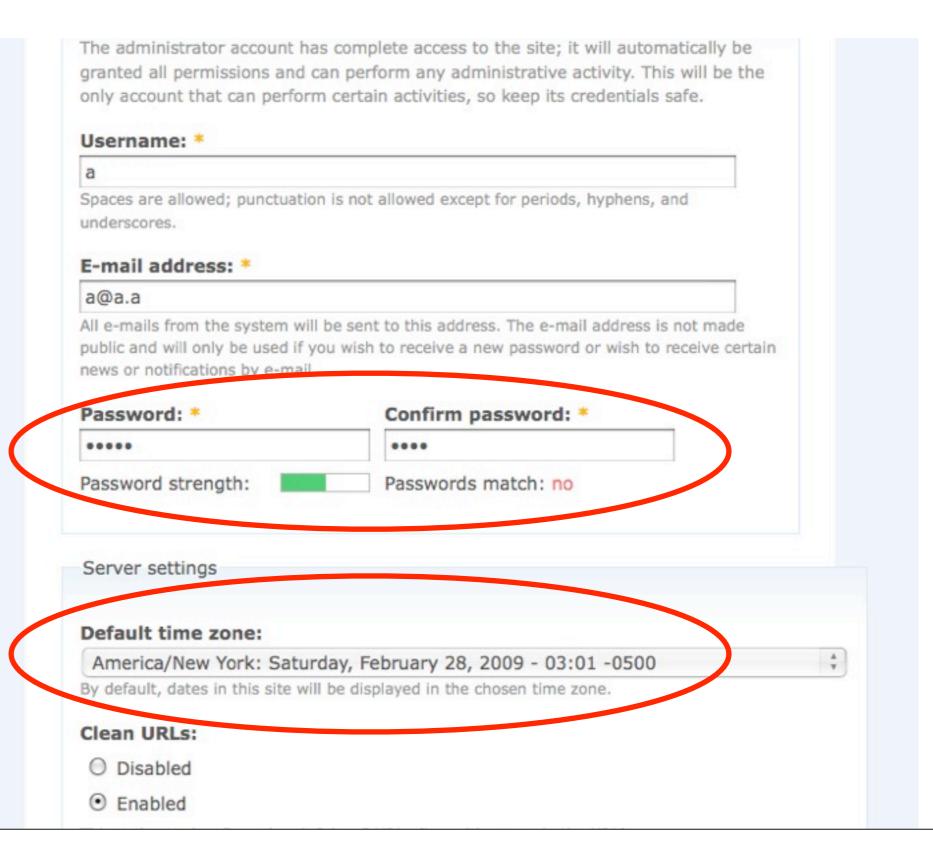


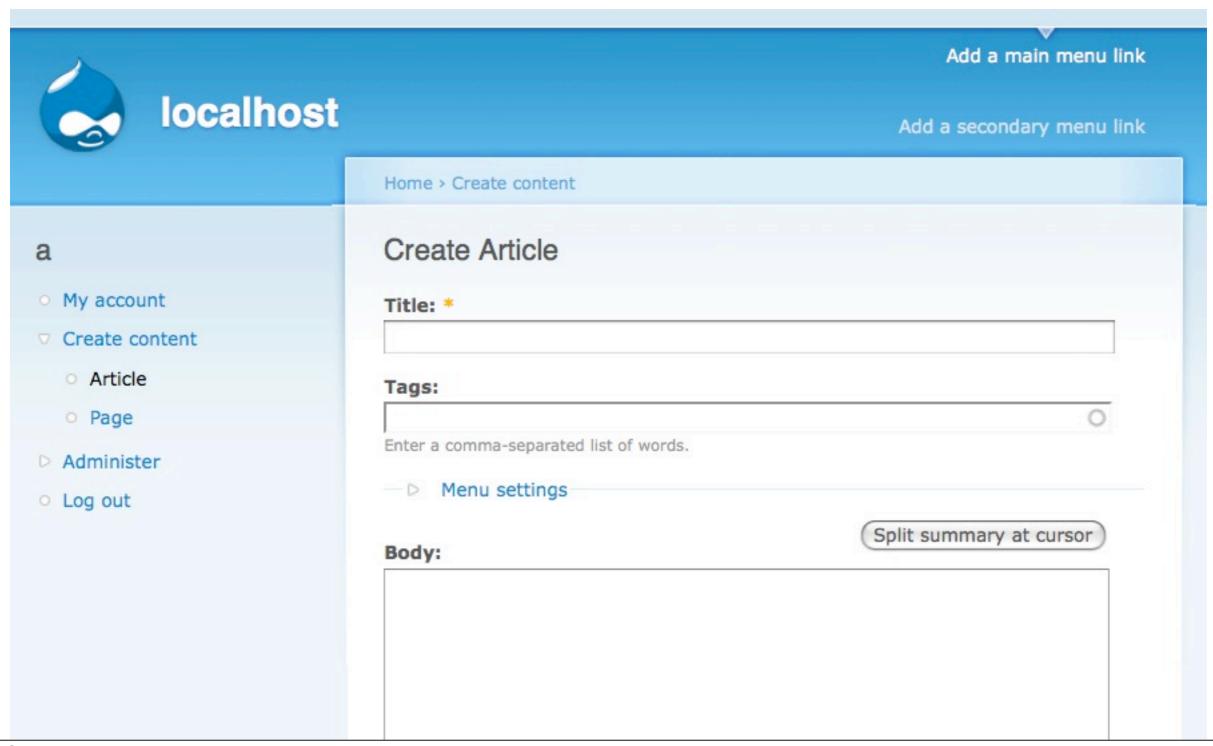


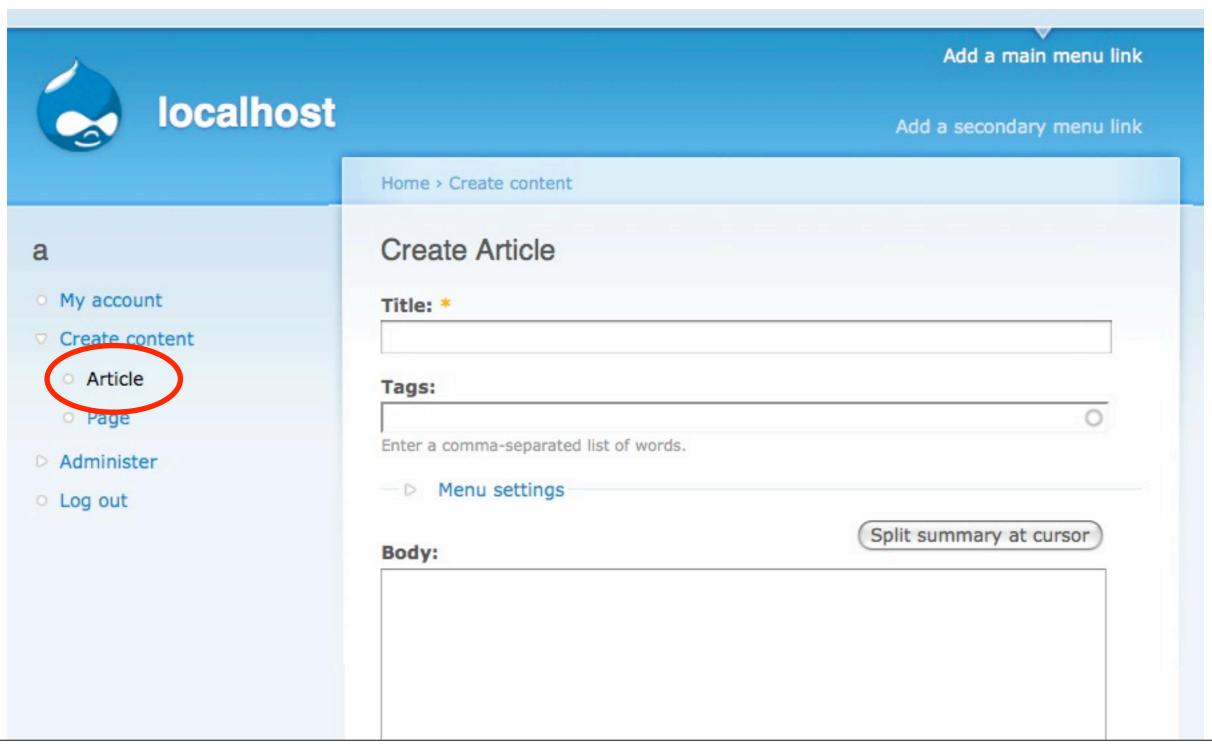


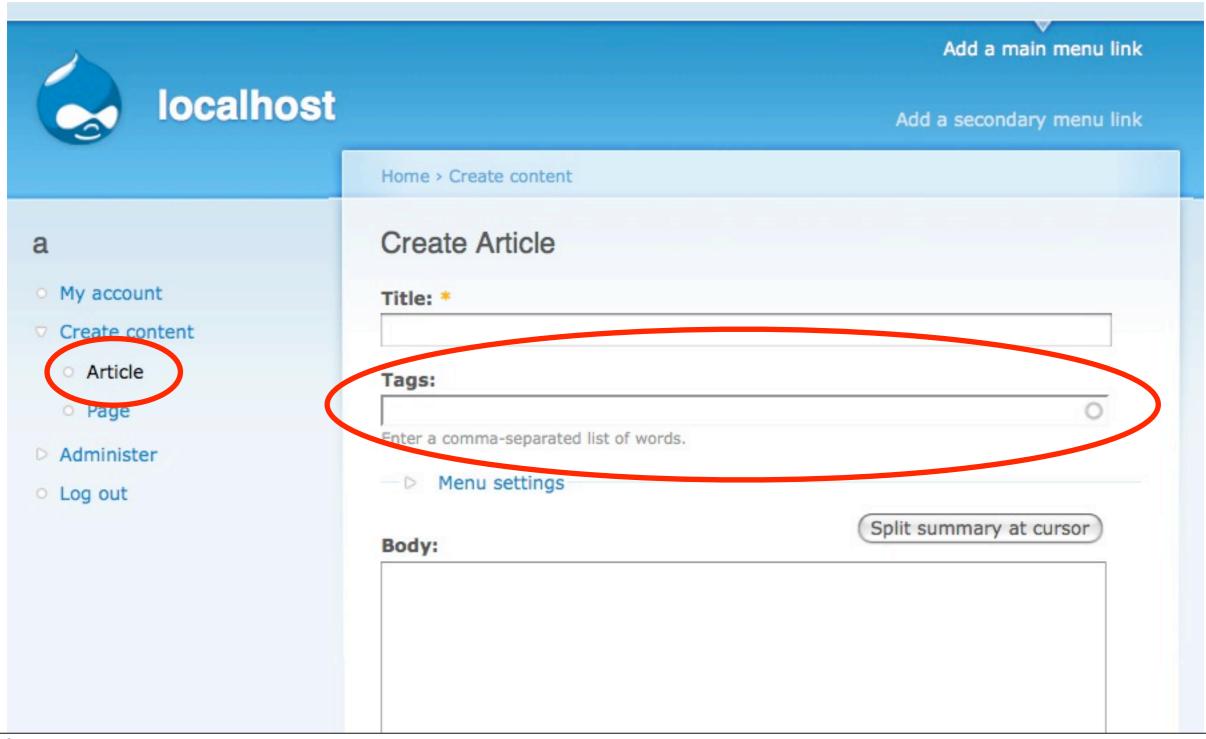
a	
	on is not allowed except for periods, hyphens, and
E-mail address: *	
a@a.a	
public and will only be used if	you wish to receive a new password or wish to receive certain
news or notifications by e-ma	
news or notifications by e-ma	Confirm password: *
Password: *	Confirm password: *
Password: *	Confirm password: *
Password: * Password strength: Server settings	Confirm password: *
Password: * Password strength: Server settings Default time zone:	Confirm password: *

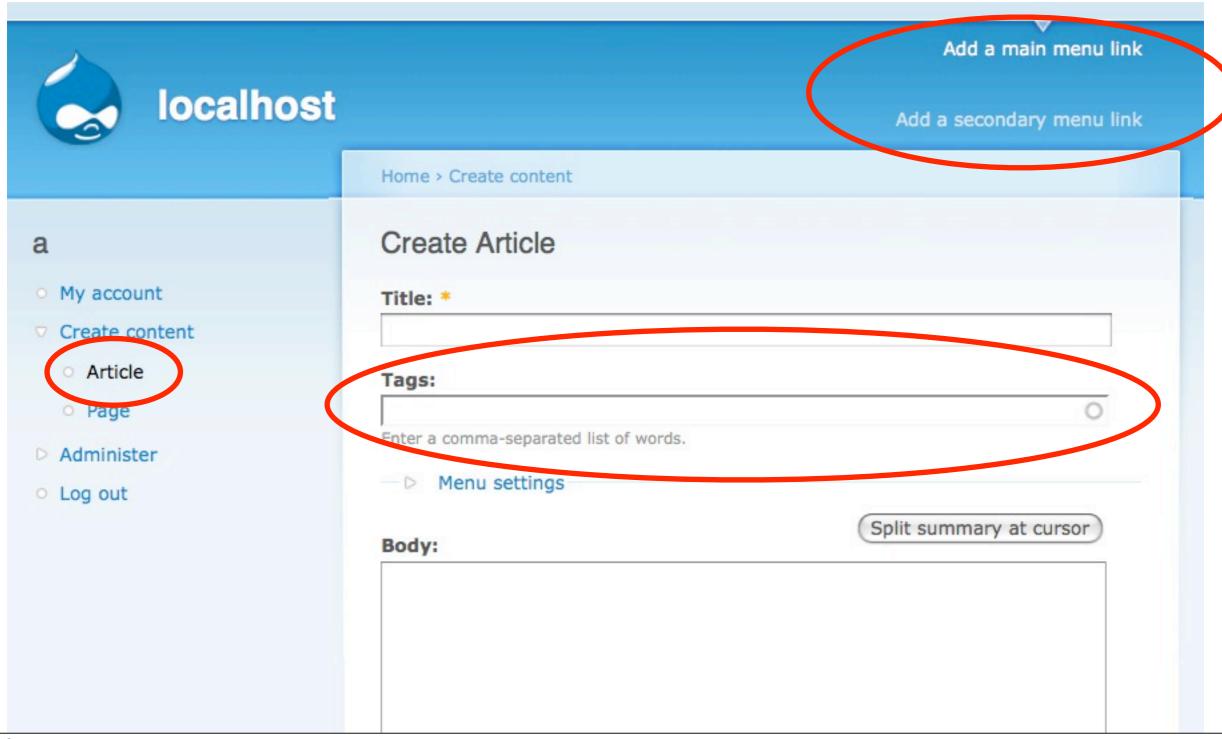












Permission screen

Permission	anonymous user	authenticated user
Create new Article content.		
Edit own Article content Edit Article content created by the user.		
Edit any Article content Edit any Article content, regardless of its author.		
Delete own Article content Delete Article content created by the user.		
Delete any Article content Delete any Article content, regardless of its author.		
Create Page content Create new Page content.		
Edit own Page content Edit Page content created by the user.		
Edit any Page content Edit any Page content, regardless of its author.		
Delete own Page content Delete Page content created by the user.		
Delete any Page content Delete any Page content, regardless of its author.		

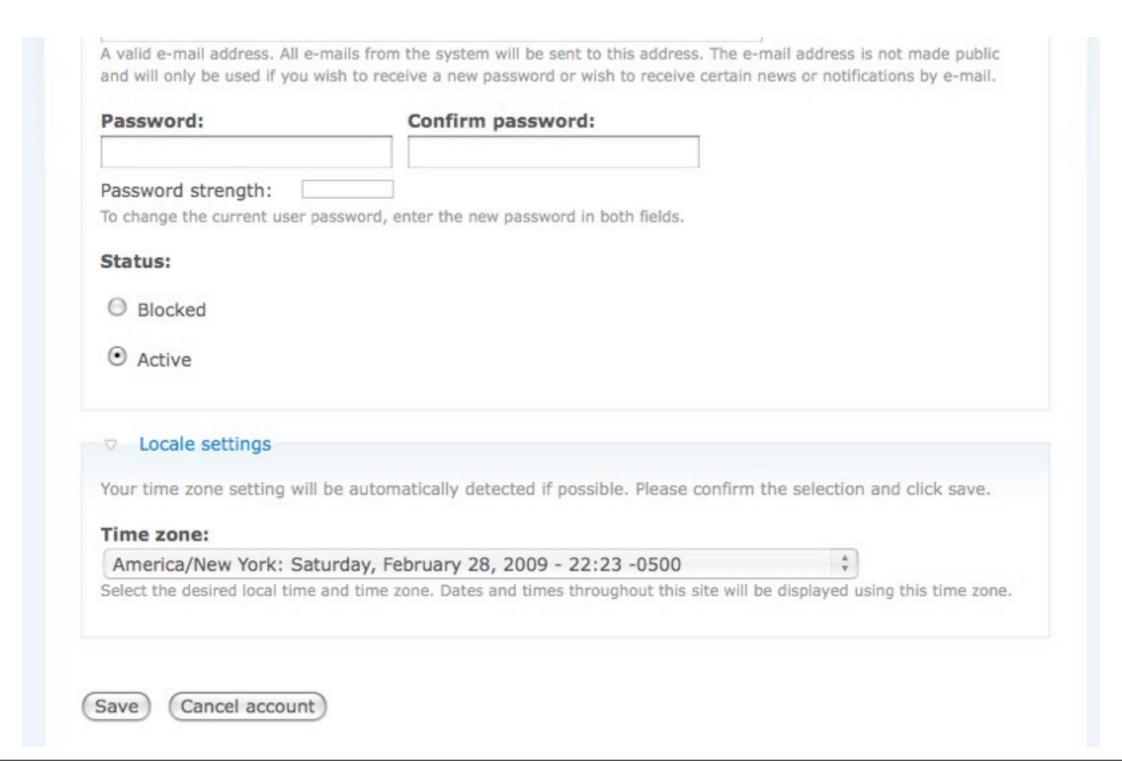
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Delete any Article content Delete any Article content, regardless of its author.		
Create Page content Create new Page content.		
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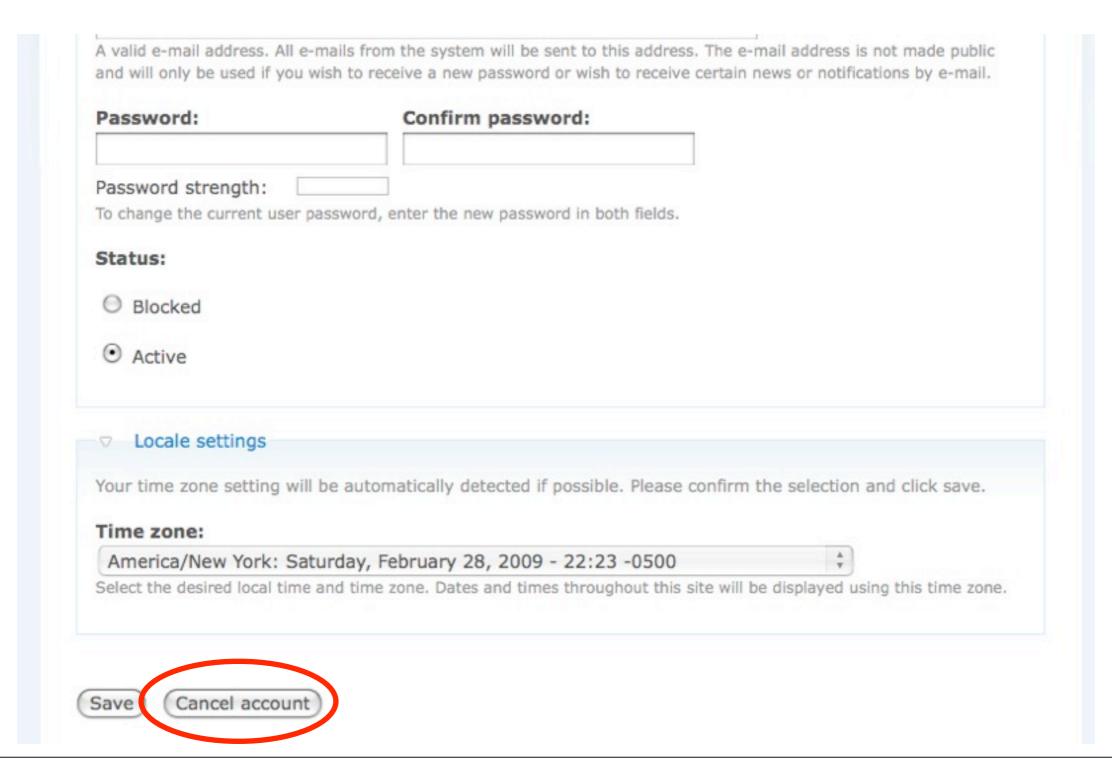
Permission screen

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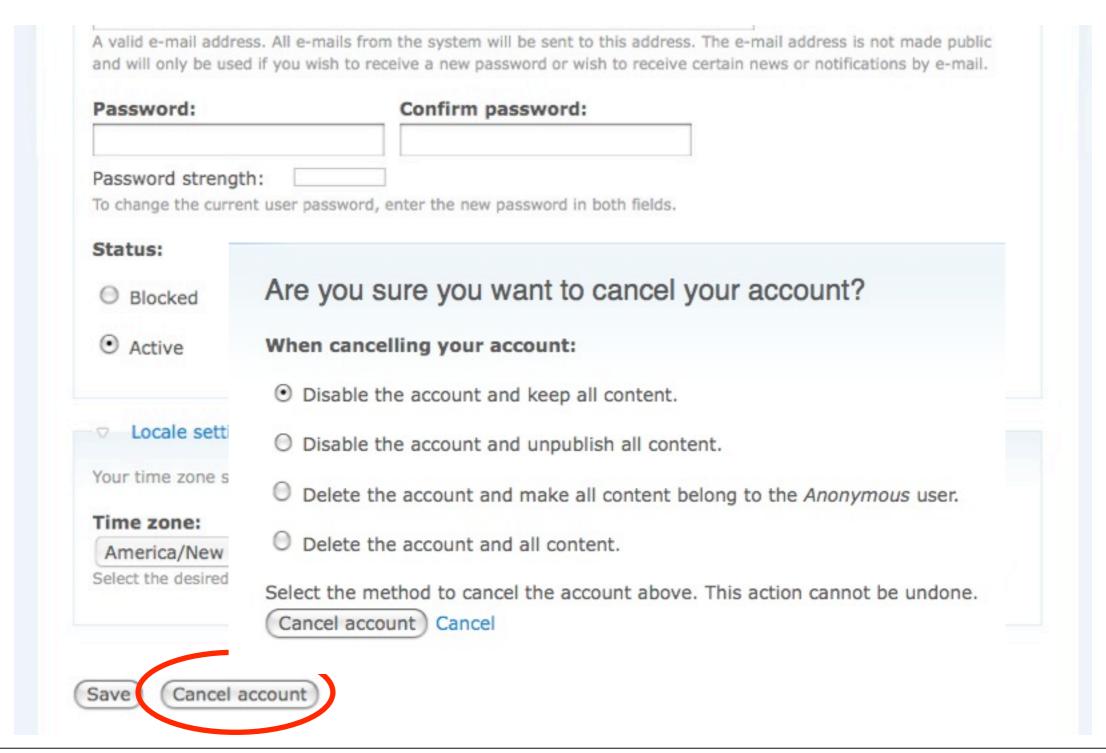
Users can cancel own accounts



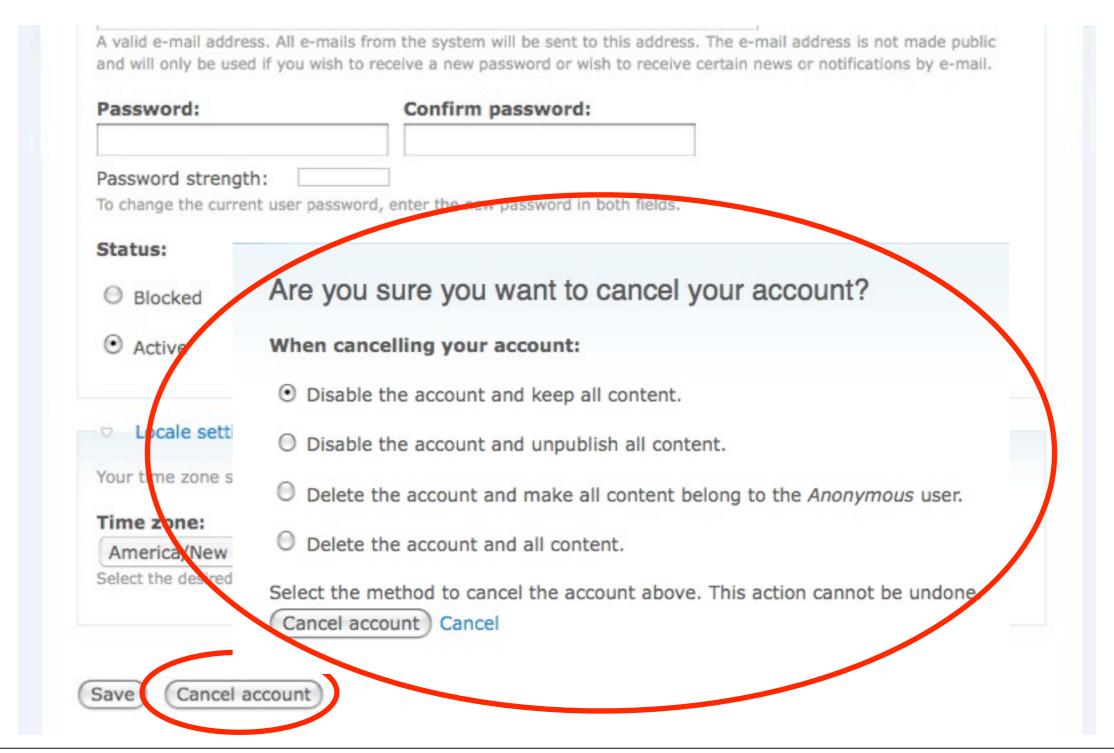
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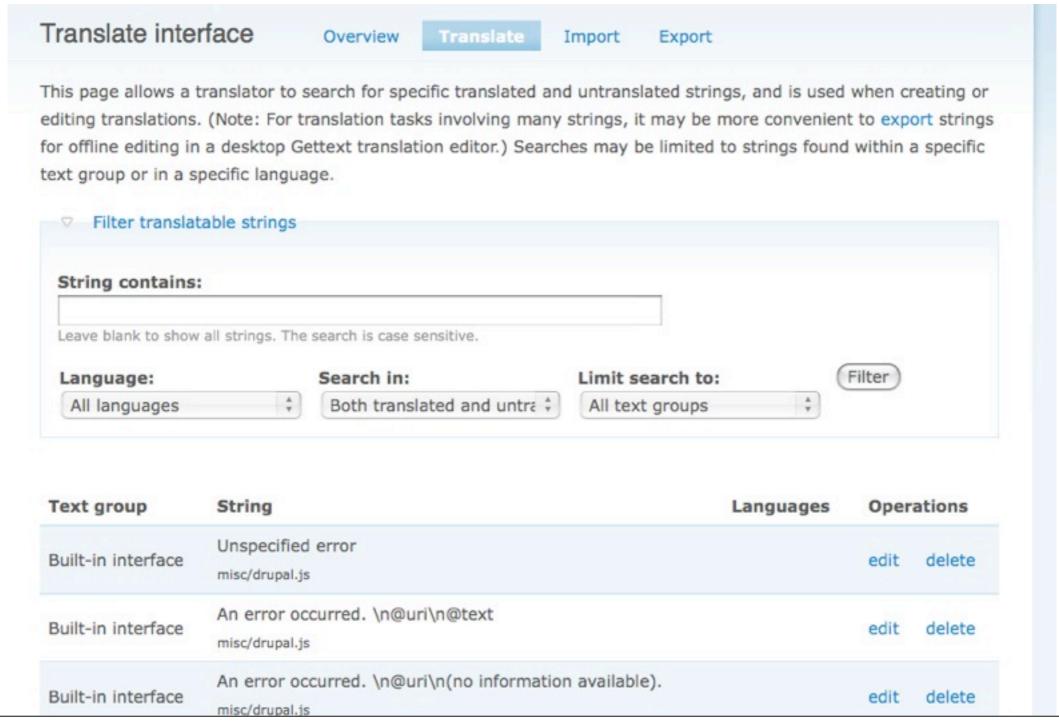
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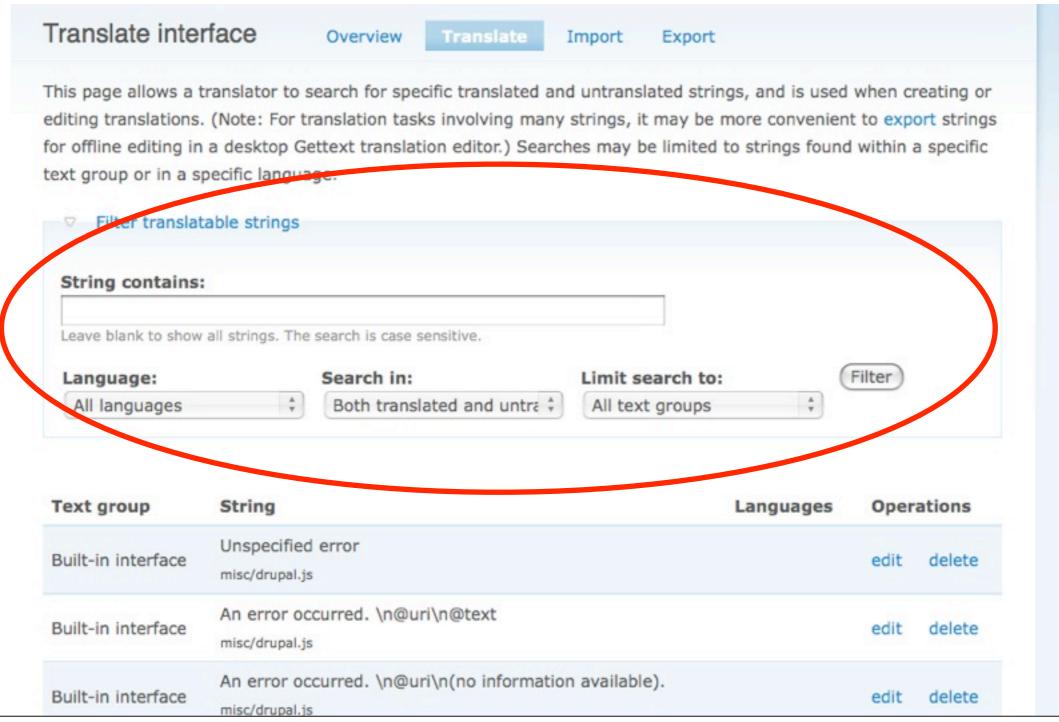
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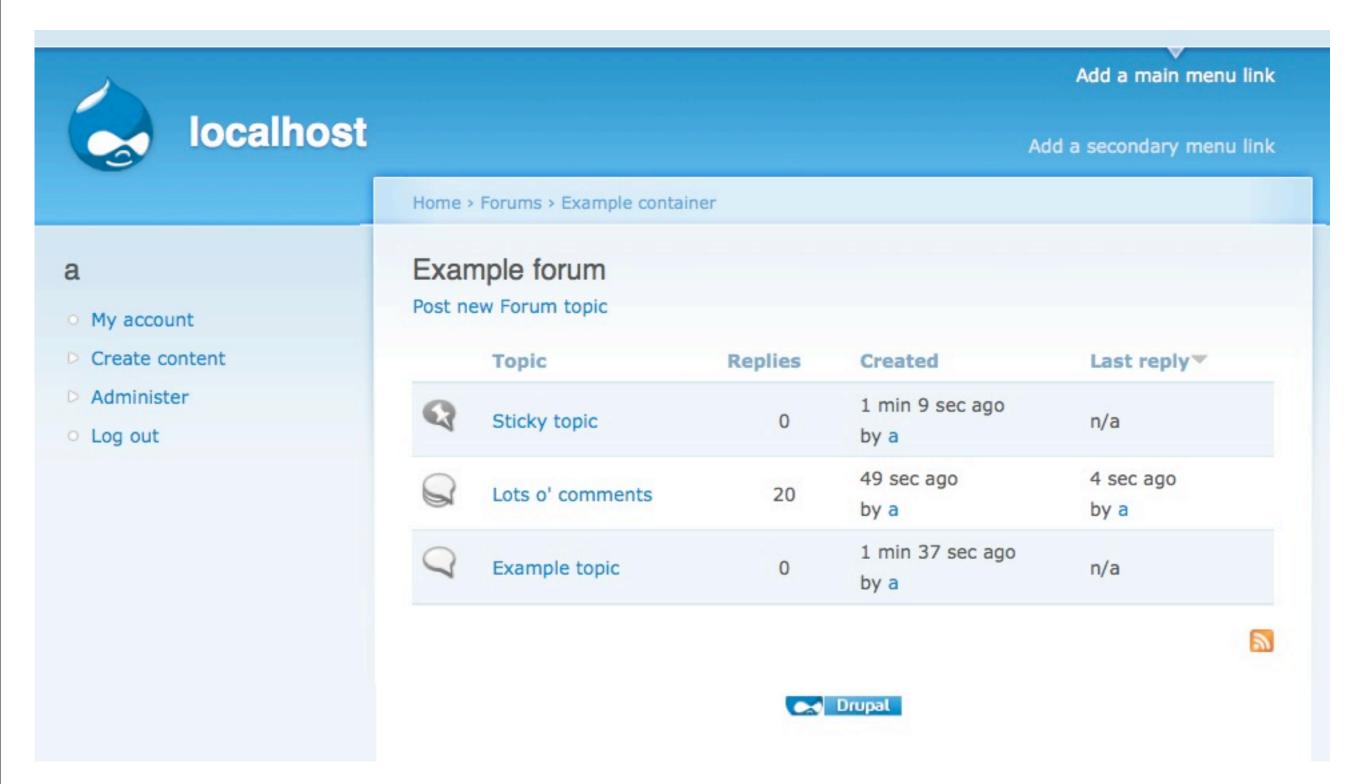
Improved Translation Interface



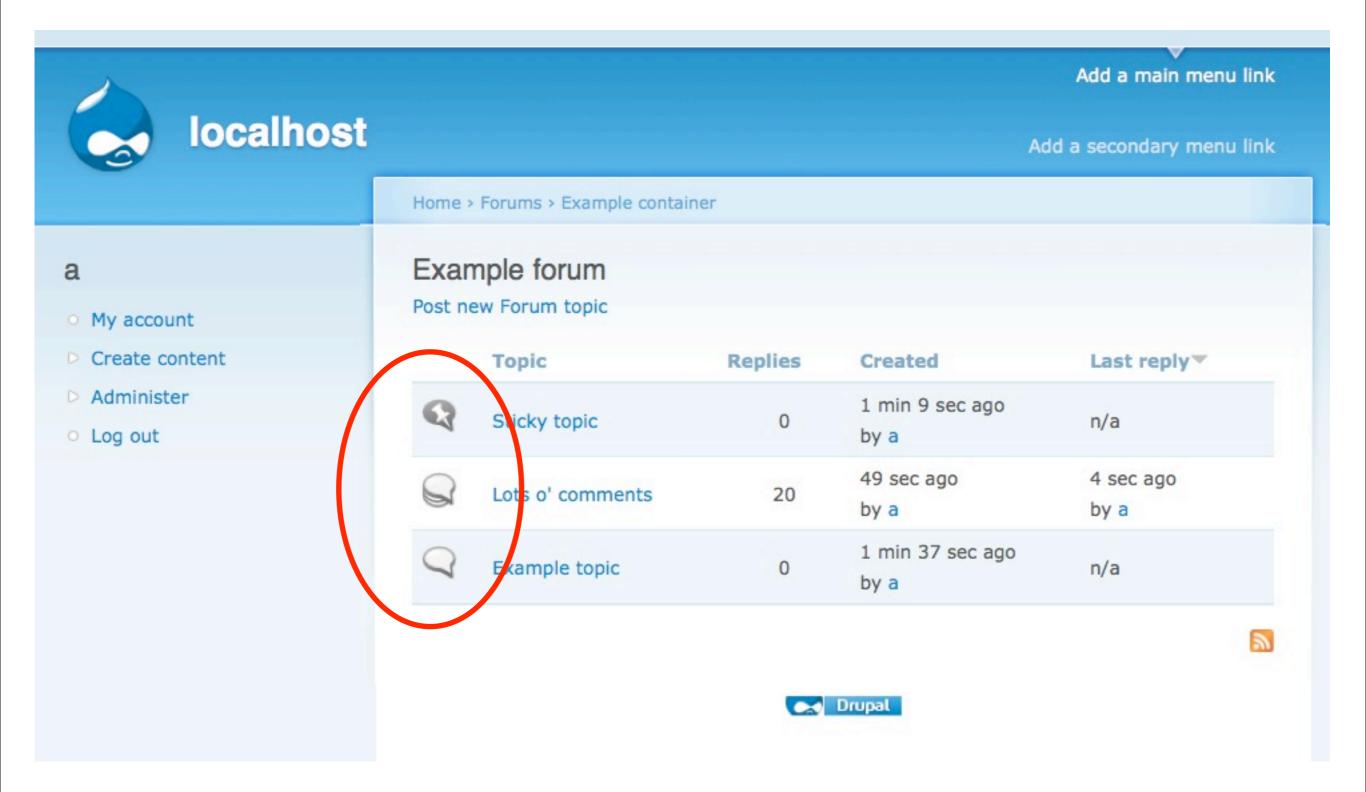
Improved Translation Interface



Forums



Forums



a

- My account
- Create content
- □ Administer
 - Content management
 - Site building
 - Blocks
 - Content types
 - Menus
 - Modules
 - Testing
 - Themes
 - Site configuration
 - User management
 - Reports
 - Help
- Log out

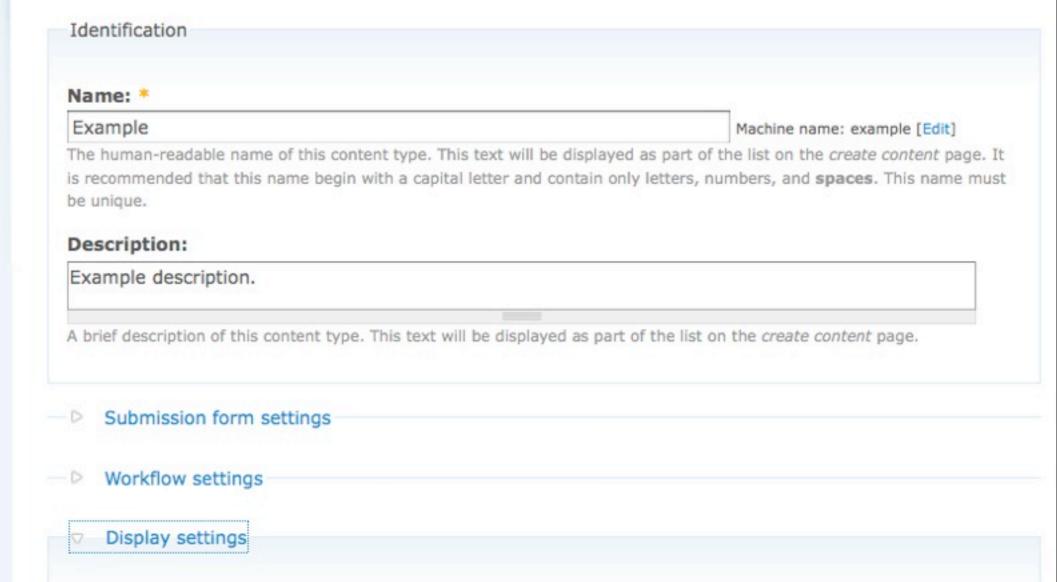
Content types

Display post information

List

Add content type

To create a new content type, enter the human-readable name, the machine-readable name, and all other relevant fields that are on this page. Once created, users of your site will be able to create posts that are instances of this content type.



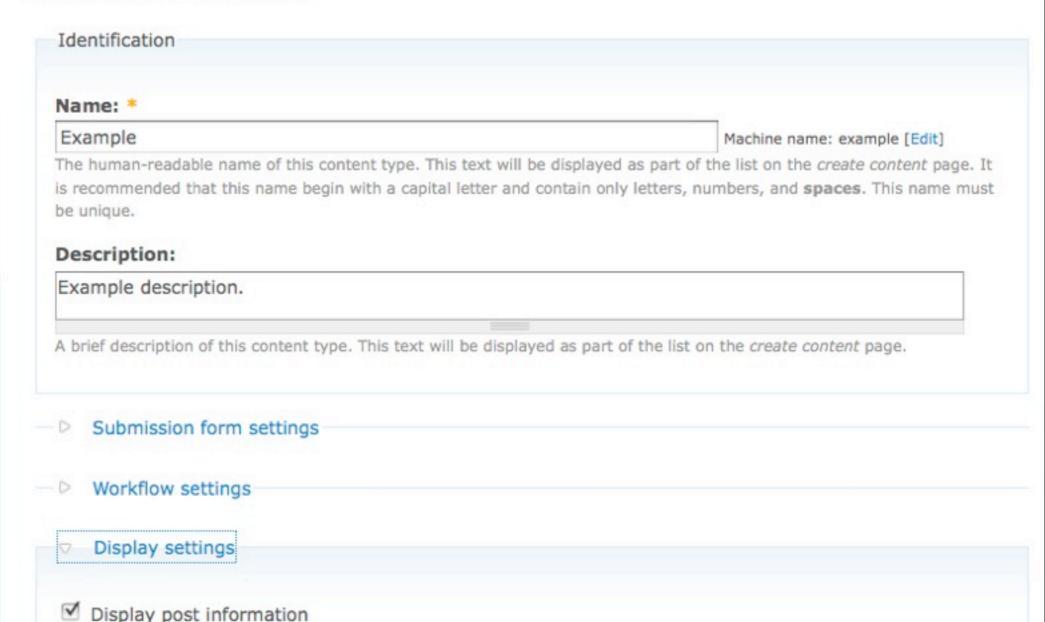
a My account Create content □ Administer Content management Site building Blocks Content types Menus

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Content types

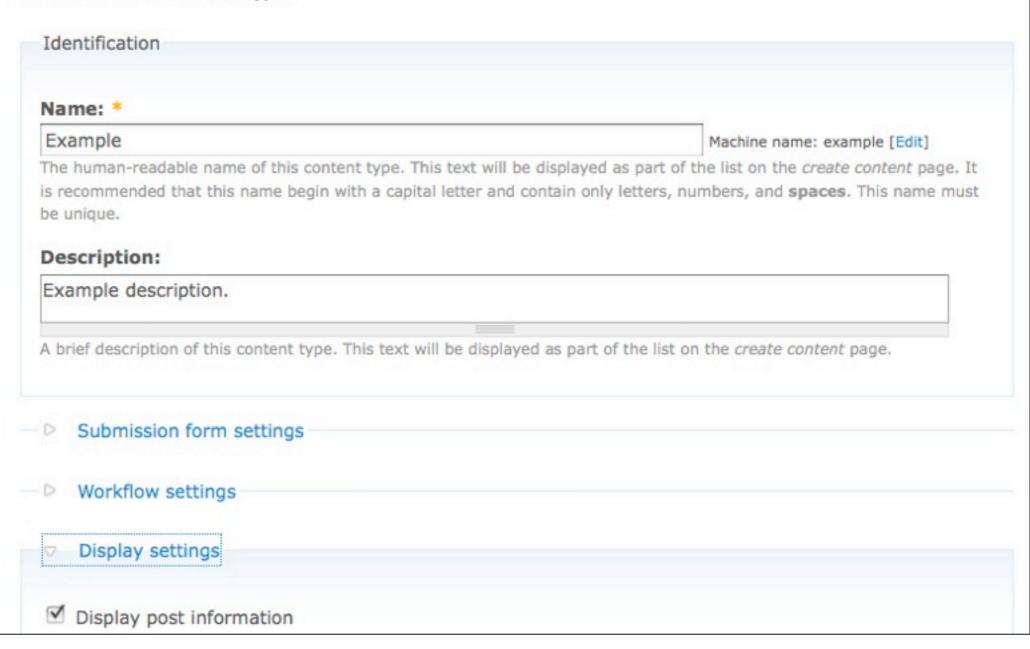
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a My account Create content □ Administer Content management Site building Blocks Content types Menus Modules Testing Themes Site configuration User management Reports Help Log out

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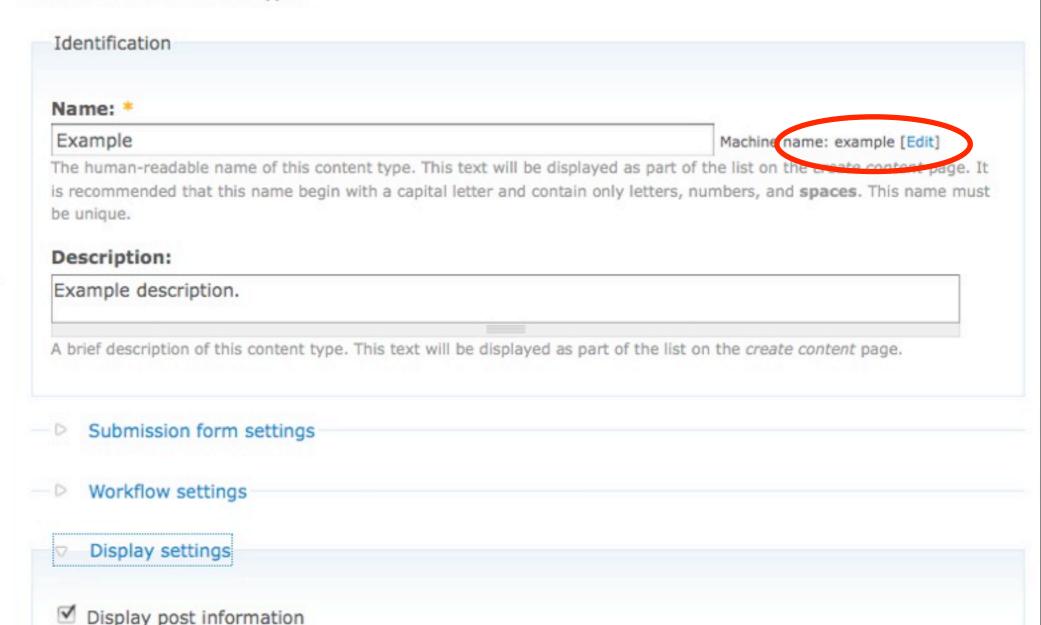
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a o My

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∇ Site building

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Name: * Example The human-readable name of this content type. This text will be displayed as part of the list on the coate content page. It is recommended that this name begin with a capital letter and contain only letters, numbers, and spaces. This name must be unique. Description: Example description. A brief description of this content type. This text will be displayed as part of the list on the create content page.

Submission form settings

Workflow settings

Display settings

☑ Display post information

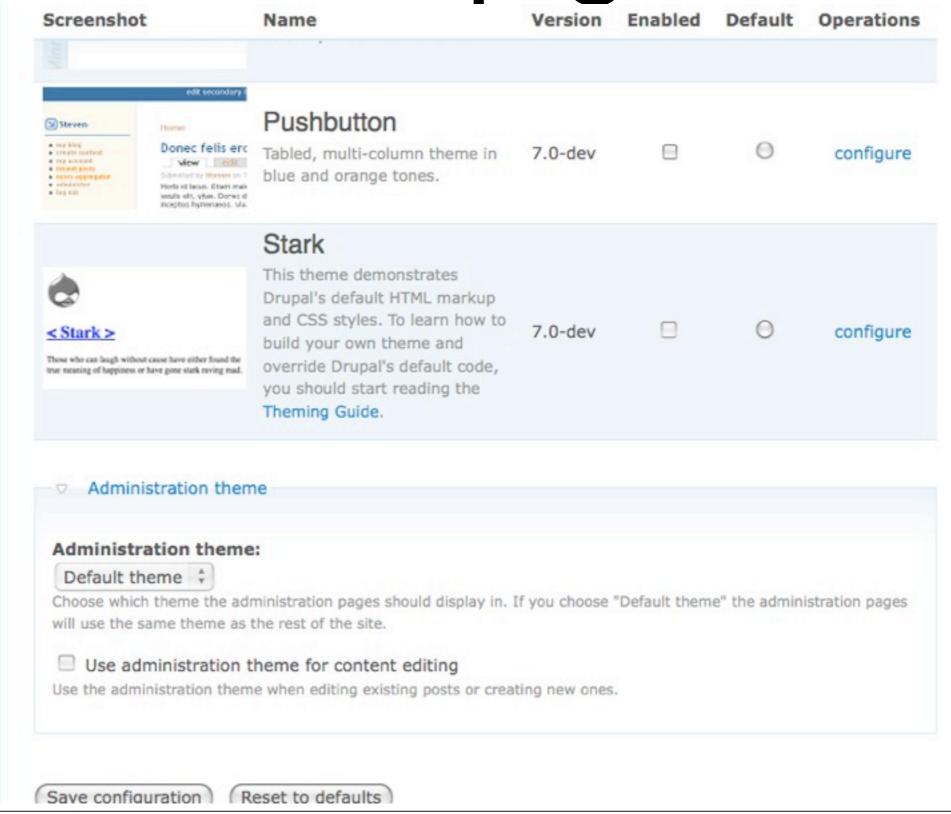
Enabled	Name	Version	Description
	OpenID	/.u-aev	Allows users to log into your site using OpenID.
	Path	7.0-dev	Allows users to rename URLs.
	PHP filter	7.0-dev	Allows embedded PHP code/snippets to be evaluated.
	Poll	7.0-dev	Allows your site to capture votes on different topics in the form of multiple choice questions.
	Profile	7.0-dev	Supports configurable user profiles.
	Search	7.0-dev	Enables site-wide keyword searching.
✓	SimpleTest	7.0-dev	Provides a framework for unit and functional testing.
	Statistics	7.0-dev	Logs access statistics for your site.
	Syslog	7.0-dev	Logs and records system events to syslog.
⋖	Taxonomy	7.0-dev	Enables the categorization of content. Required by: Forum (disabled)
	Tracker	7.0-dev	Enables tracking of recent posts for users. Requires: Comment (enabled)
	Trigger	7.0-dev	Enables actions to be fired on certain system events, such as when new content is created.
	Update status	7.0-dev	Checks the status of available updates for Drupal and your installed modules and themes.
	Upload	7.0-dev	Allows users to upload and attach files to content.

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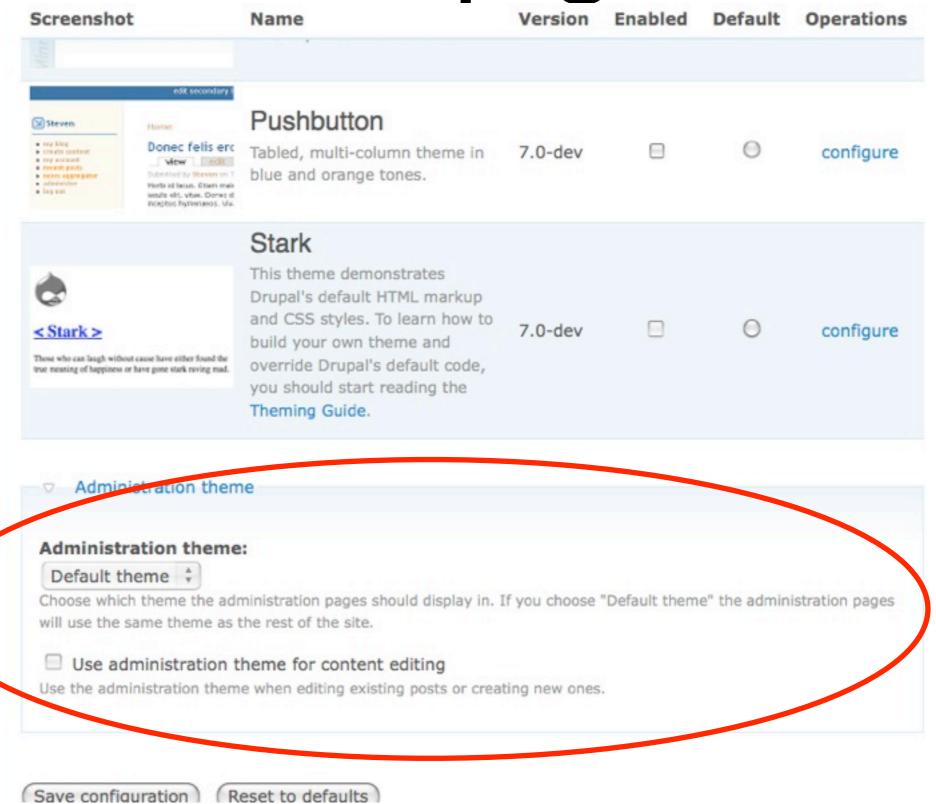
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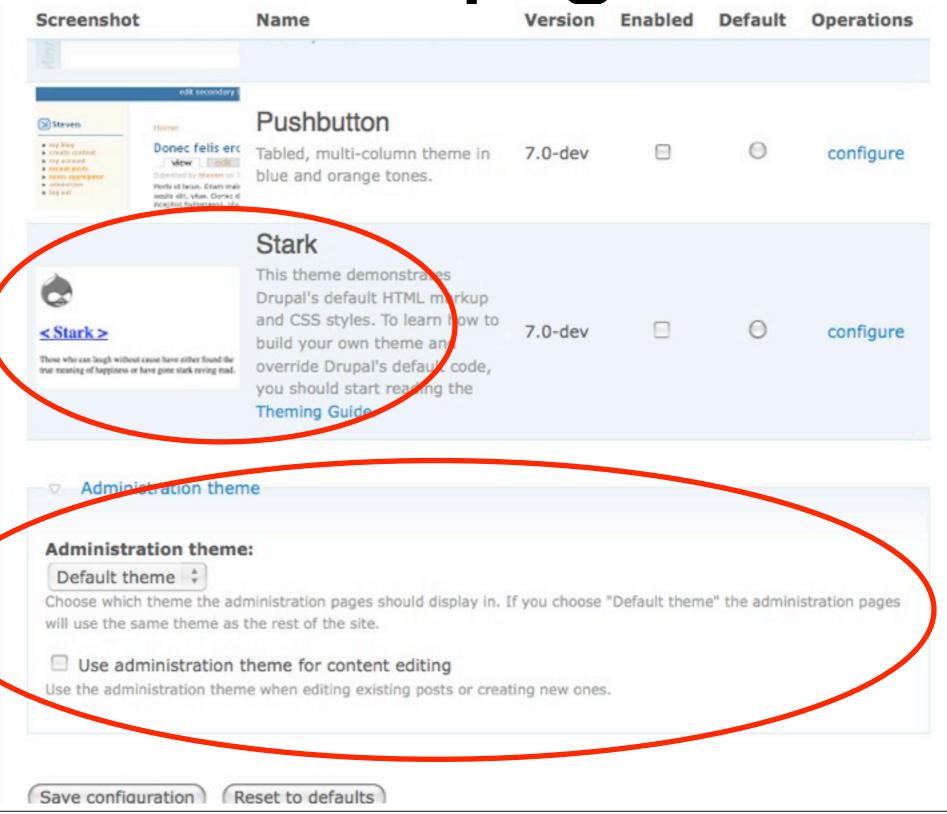
Themes page



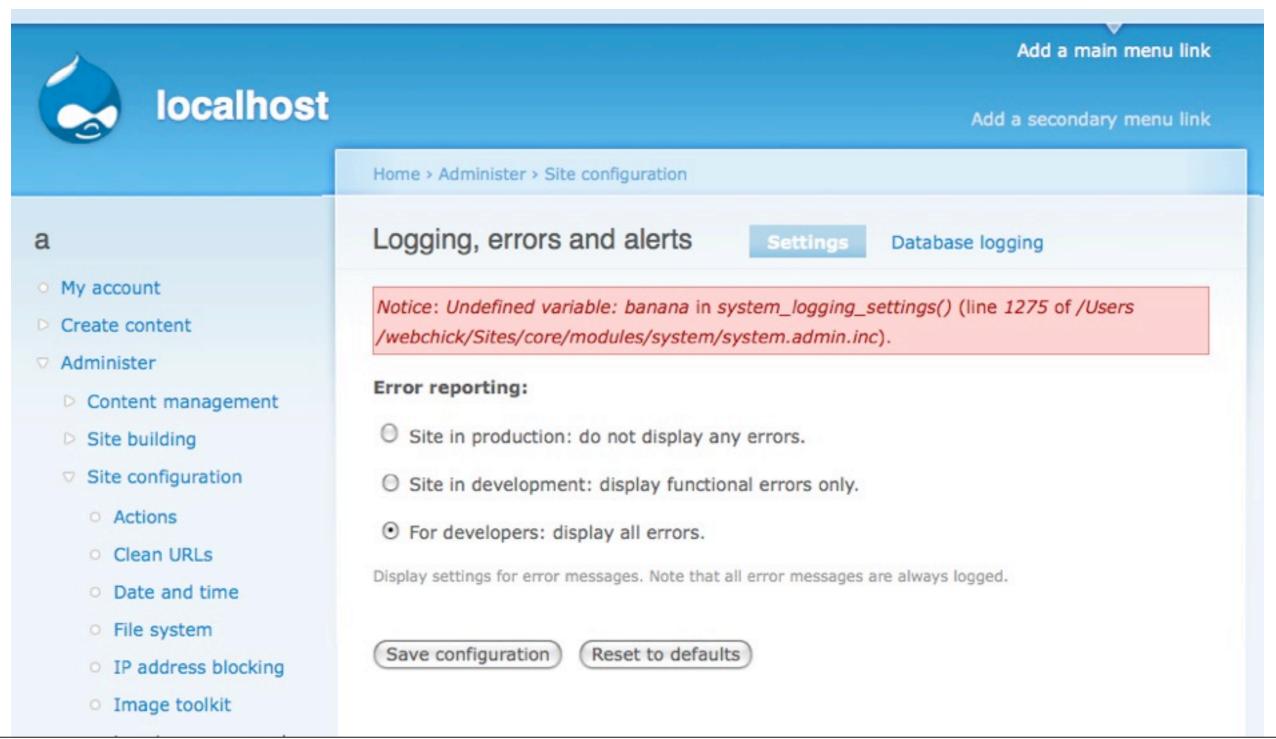
Themes page



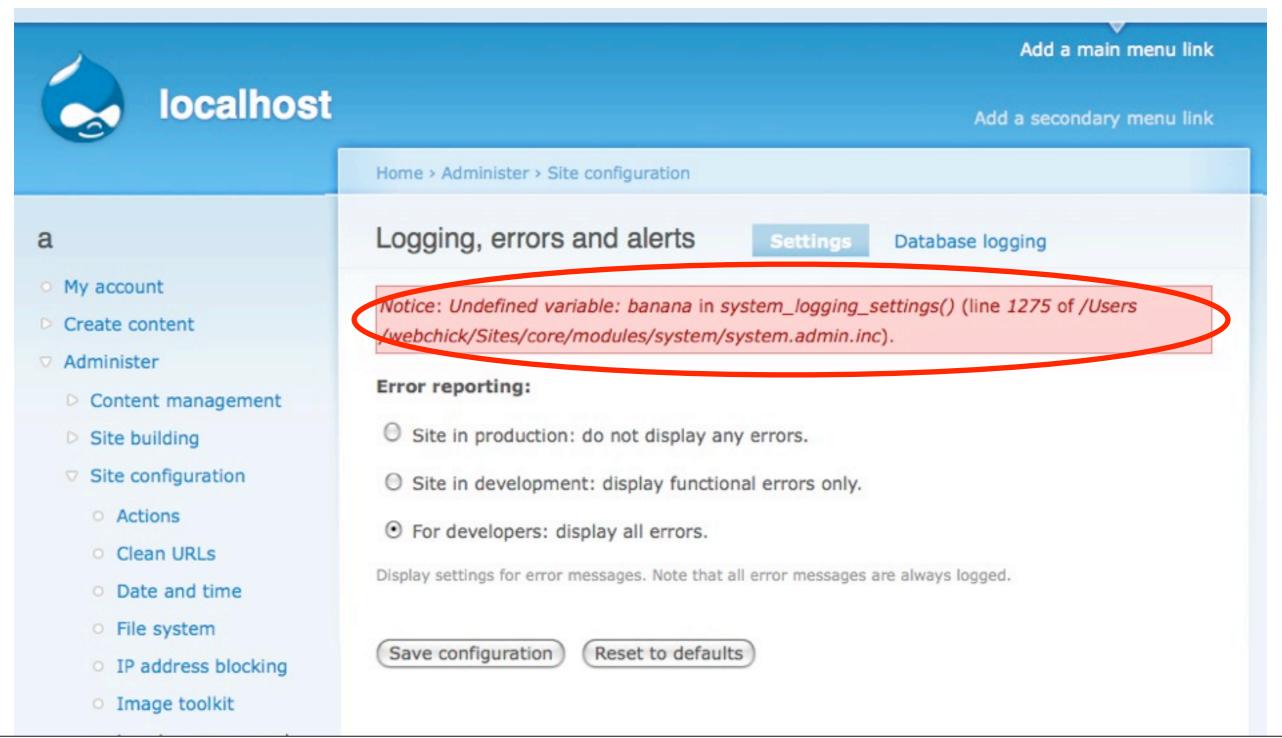
Themes page



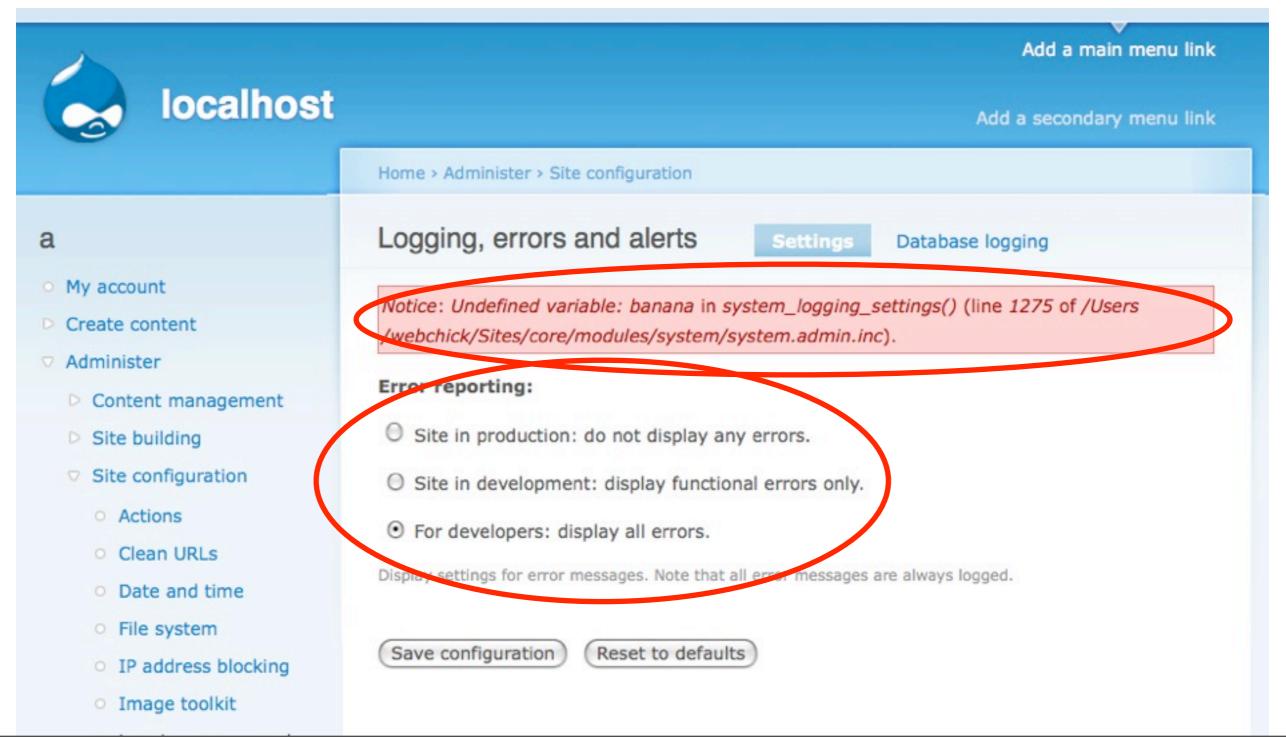
Configurable Error Reporting



Configurable Error Reporting



Configurable Error Reporting



What's next for usability?

- Vastly improved Help system
- Clearer separation of admin vs. user tasks
- Filter system improvements
- Mark Boulton Design to help re-design Drupal 7
- Fixing issues found in University of Baltimore usability study (Designers, come and join us!)

Sign me up!

- http://drupal.org/community-initiatives/ drupal-core/usability
- http://groups.drupal.org/usability
- http://groups.drupal.org/mark-boultondesign-drupal-7-project
- Go to the Usability team's sessions on Thursday afternoon!

Changes for designers



```
<body class="<?php print $body_classes; ?>">
                                                84 <body class="<?php print $body_classes; ?>">
  <div id="page">
                                                85
    <div id="header">
                                                     <div id="page-wrapper"><div id="page">
                                                86
      <div id="logo-title">
                                                87
                                                88
                                                       <div id="header"><div class="section clearfix">
        <?php if (!empty($logo)): ?>
                                                89
          <a href="<?php print $front_page;</pre>
                                                         <?php if ($logo): ?>
                                                90
id="logo">
                                                91
                                                           <a href="<?php print $front_page; ?>" title="<?php</pre>
            <img src="<?php print $logo; ?>"
                                                 · id="logo">
          </a>
                                                              <img src="<?php print $logo; ?>" alt="<?php print</pre>
                                                92
        <?php endif; ?>
                                                93
                                                           </a>
                                                         <?php endif; ?>
                                                94
        <div id="name-and-slogan">
                                                95
          <?php if (!empty($site_name)): ?>
                                                96
                                                         <?php if ($site_name || $site_slogan): ?>
            <h1 id="site-name">
                                                97
                                                           <div id="name-and-slogan">
              <a href="<?php print $front_pc
                                                98
                                                              <?php if ($site_name): ?>
rel="home"><span><?php print $site_name; ?><
                                                99
                                                                <?php if ($title): ?>
            </h1>
                                               100
                                                                  <div id="site-name"><strong>
          <?php endif; ?>
                                                                    <a href="<?php print $front_page; ?>" title
                                               101
                                                 rel="home"><span><?php print $site_name; ?></span></a>
          <?php if (!empty($site_slogan)):</pre>
                                               102
                                                                  </strong></div>
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                                                                <?php else: /* Use h1 when the content title is</pre>
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        </div> <!-- /name-and-slogan -->
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Tuesday, September 15, 2009
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    <div id="header">
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      <div id="logo-title">
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                                                       <div id="header"><div class="section clearfix">
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        <?php endif; ?>
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      </div> <!-- /logo-title -->
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      <?php if (lempty($search box)): ?>
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Tuesday, September 15, 2009

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    <div id="header">
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      <div id="logo-title">
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           CSS-only design.
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        <?php endif; ?>
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        <div id="name-and-slogan">
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      <?php if (!emptv($search box)): ?:</pre>
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Tuesday, September 15, 2009

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                                               rel="home"><span><?php print $site_name; ?></span></a>
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          <?php endif; ?>
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        </div> <!-- /name-and-slogan -->
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      <?php if (!emptv($search box)):</pre>
Tuesday, September 15, 2009
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Tuesday, September 15, 2009
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         mproved consistency throughout.
        <?php endif; ?>
            Enables designers to create beautiful, CSS-</span></a>
            only themes without touching PHP. 11 when the content title is
      </div> <!-- /name-and-slogan -->
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Tuesday, September 15, 2009
```

And to show it off...



Stark: "Naked" Drupal



localhost

Add a main menu link

a

- My account
- Create content
- Administer
- Log out

Welcome to your new Drupal website!

Please follow these steps to set up and start using your website:

1. Configure your website

Once logged in, visit the <u>administration section</u>, where you can <u>customize and configure</u> all aspects of your website.

2. Enable additional functionality

Next, visit the <u>module list</u> and enable features which suit your specific needs. You can find additional modules in the <u>Drupal modules download section</u>.

3. Customize your website design

To change the "look and feel" of your website, visit the themes section. You may choose from one of

drupal_add_js() improvements

- Now pass in \$options rather than 500 function arguments
- Uses actual weighting rather than awkward 'core' vs. 'module' vs. 'theme' types.
- Add external JavaScript files to the page.
- hook_js_alter()
- drupal_add_css() is next!

Cross-library compatibility



Before:

After:

What's next for designers?

- Re-vamped node, block, comment, etc. templates to further cater to CSS-only themes.
- Removing old core themes (and adding new ones)?
- jQuery I.3.x (and jQuery UI?)
- Additional interface elements: pop-ups, modal dialogs, vertical tabs, results filters...

Sign me up!

- http://drupal.org/community-initiatives/ drupal-core/theming
- http://groups.drupal.org/themedevelopment
- http://drupal.org/community-initiatives/ drupal-core/javascript
- http://groups.drupal.org/javascript

Changes for coders

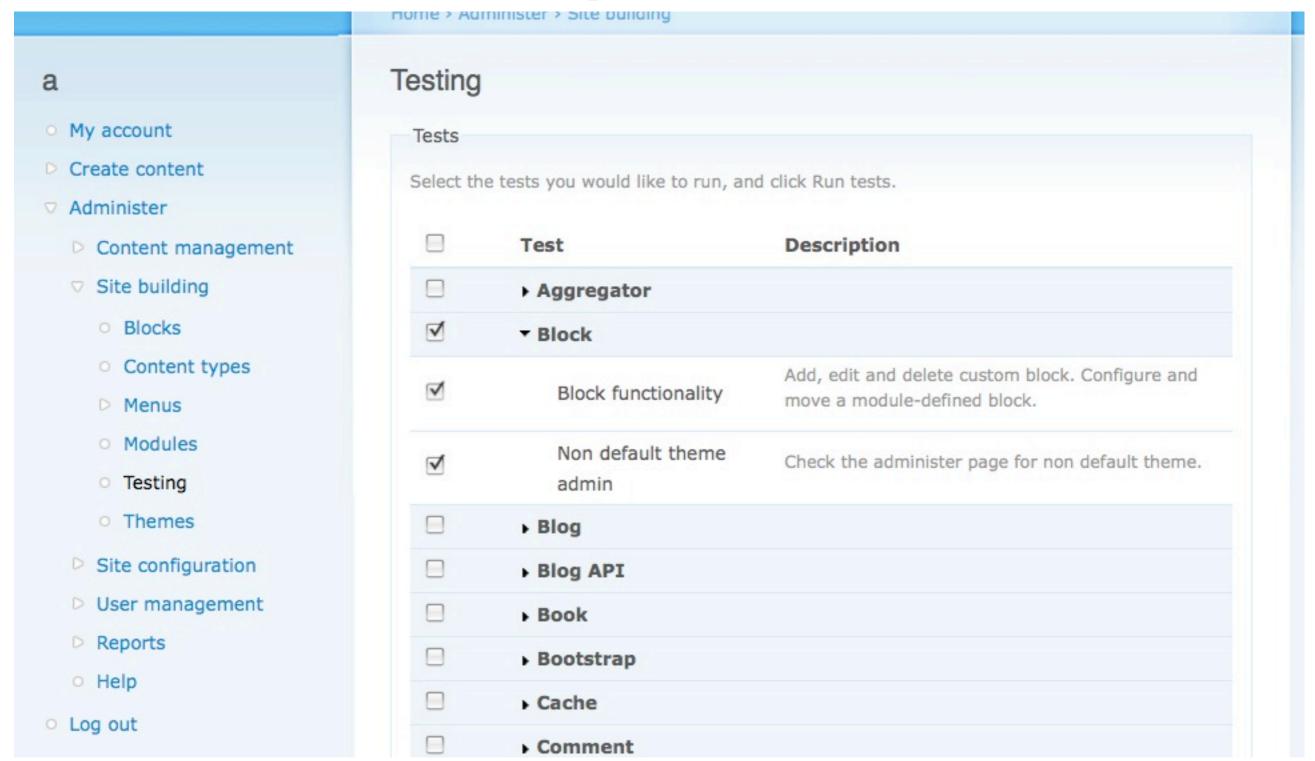


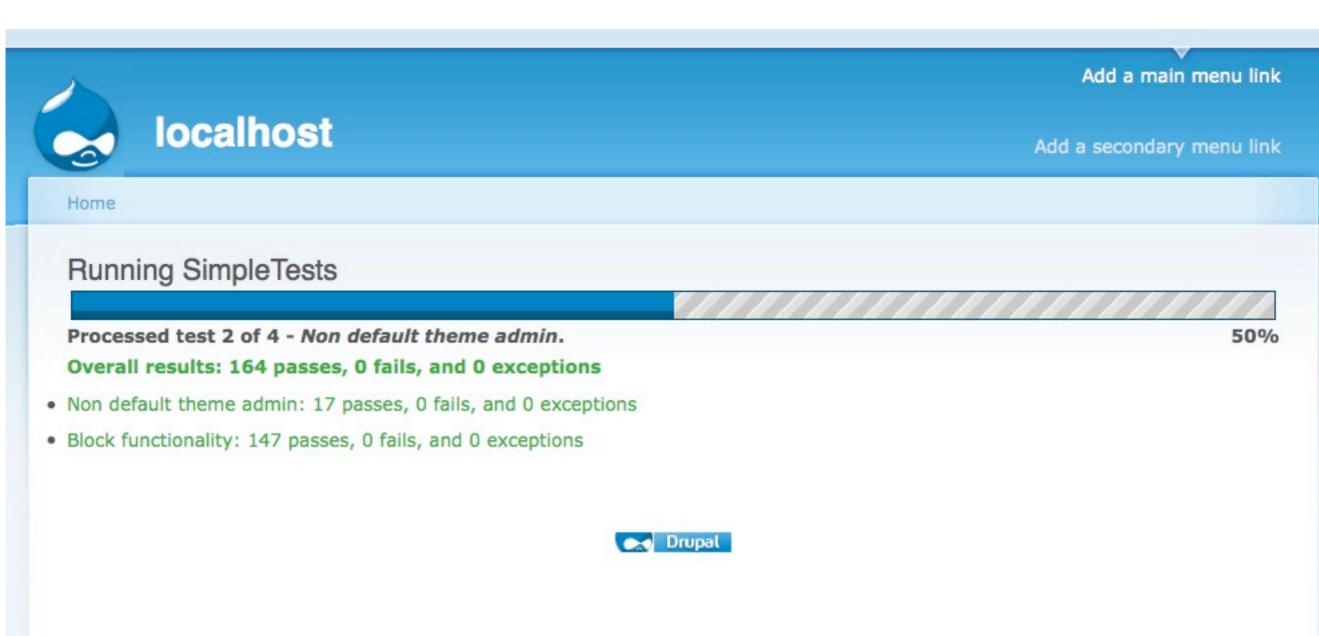
Warning: Things are about to get... geeky.

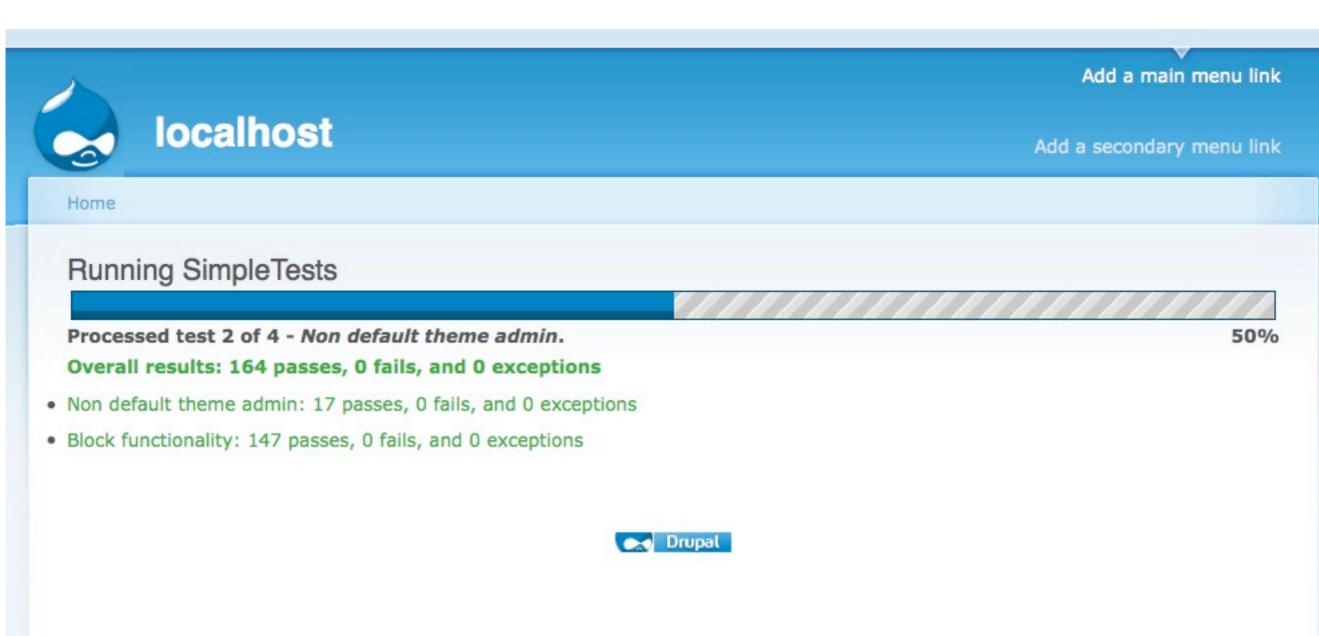


TESTING

I FIND YOUR LACK OF TESTS DISTURBING.









Add a main menu link

50%

Add a secondary menu link

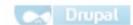
Home

Running SimpleTests

Processed test 2 of 4 - Non default theme admin.

Overall results: 164 passes, 0 fails, and 0 exceptions

- Non default theme admin: 17 passes, 0 fails, and 0 exceptions
- Block functionality: 147 passes, 0 fails, and 0 exceptions



Add a main menu link

 Writing tests causes you to really think through a problem, and helps flesh out

obscure bugs.

Processed test 2 of 4 - Non default theme admin.

50%

Overall results: 164 passes, 0 fails, and 0 exceptions

- Non default theme admin: 17 passes, 0 fails, and 0 exceptions
- Block functionality: 147 passes, 0 fails, and 0 exceptions



Add a main menu link

- Writing tests causes you to really think through a problem, and helps flesh out obscure bugs.
- Know instantly if your changes break
- Non default the something; freedom to refactor wildly.
- · Block functionality: 147 passes, 0 fails, and 0 exceptions



Add a main menu link

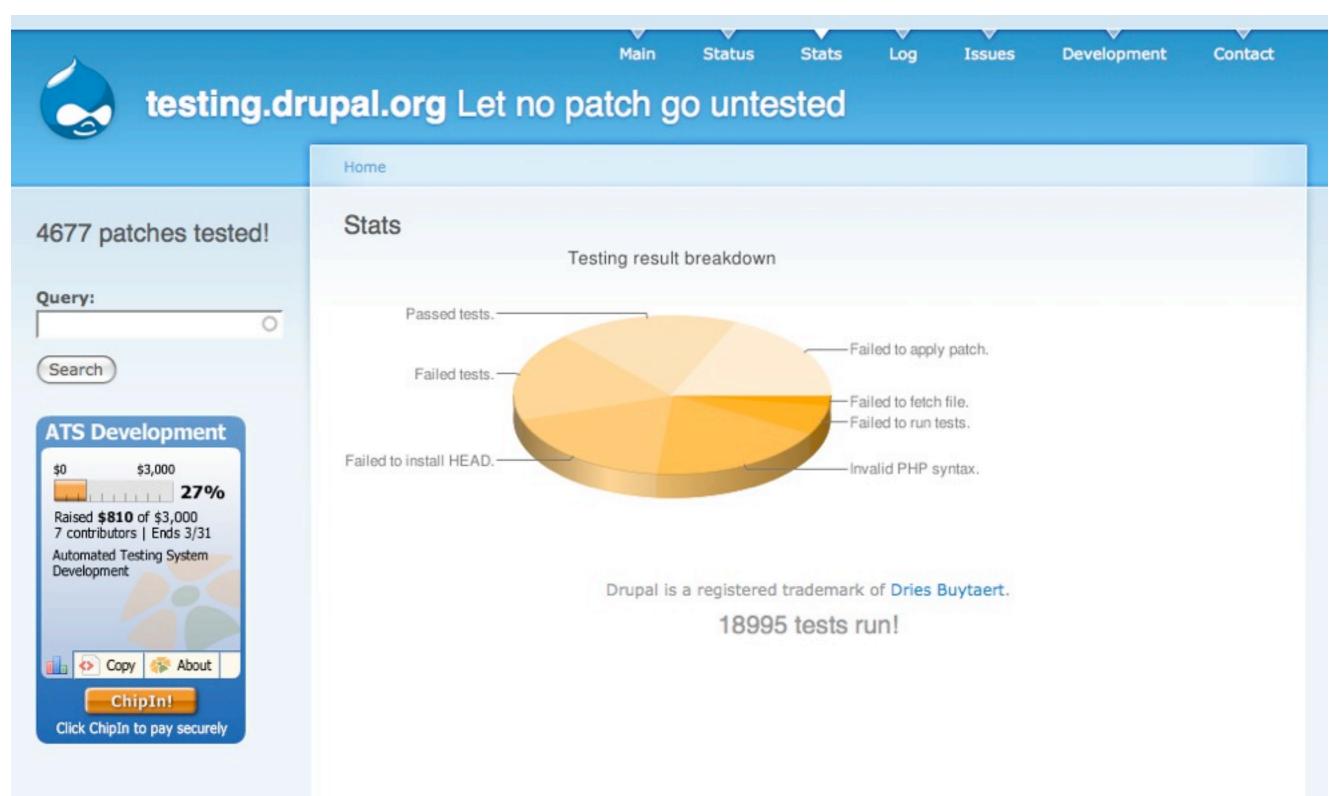
- Writing tests causes you to really think through a problem, and helps flesh out obscure bugs.
- Know instantly if your changes break something; freedom to refactor wildly.
- Block functionality: 147 passes, 0 fails, and 0 exceptions
 - Submit a test with your bug fix, it'll stay fixed forever.

- Add a main menu link
- Writing tests causes you to really think through a problem, and helps flesh out obscure bugs.
- Know instantly if your changes break something; freedom to refactor wildly.
 - Submit a test with your bug fix, it'll stay fixed forever.
 - Over 75% test coverage!

Excerpt from modules/block/block.test:

```
function testBox() {
   // Add a new box by filling out the input form on the
   // admin/build/block/add page.
    box = array();
    $box['info'] = $this->randomName(8);
    $box['title'] = $this->randomName(8);
    $box['body'] = $this->randomName(32);
    $this->drupalPost('admin/build/block/add', $box, t('Save block'));
   // Confirm that the box has been created, and then query the created bid.
    $this->assertText(t('The block has been created.'), t('Box successfully
created.'));
    $bid = db_result(db_query("SELECT bid FROM {box} WHERE info = '%s'",
array($box['info']));
   // Check to see if the box was created by checking that it's in the
   // database.
    $this->assertNotNull($bid, t('Box found in database'));
  }
```





Attachment	Si	
Attachment awesome_patch.patch	Size 13.46 KB	
Testbed results		
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Here, try this patch.		
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- "Patch (code needs review)" and "Patch (reviewed & tested by community)" statuses can now be trusted.
- Reviewers no longer getting carpal tunnel clicking through all the basic stuff.

#3
webchick - January 8, 2009 - 16:23
Status: patch (code needs work) » patch (code needs review)

Oops! Right you are, testing bot.

Attachment Size
more_awesomer_patch.patch 13.46 KB

Testbed results
more_awesomer_patch.patch passed Passed: 10270 passes, 0 fails, 0 exceptions Detailed results

- "Patch (code needs review)" and "Patch (reviewed & tested by community)" statuses can now be trusted.
- Reviewers no longer getting carpal tunnel clicking through all the basic stuff.
- Running the full test suite takes a long time; let a computer do it for you!

Oops! Right you are, testing bot.							
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- "Patch (code needs review)" and "Patch (reviewed & tested by community)"
 statuses can now be trusted.
- Reviewers no longer getting carpal tunnel clicking through all the basic stuff.
- Running the full test suite takes a long time; let a computer do it for you!
- Notifies author within 24 hours if patch no longer applies or breaks tests.

What's next for testing?

- testing.drupal.org testing on multiple databases/platforms
- Automated testing for contributed modules
- Testing site per patch
- Automated testing for JavaScript
- Improved core test coverage

Sign me up!

- http://drupal.org/community-initiatives/ drupal-core/testing
- http://groups.drupal.org/testing-qa
- testing.drupal.org back-end:
 Go see the "Saving Webchick Time" session
- Donate to testing framework improvements @ http://testing.drupal.org/



THE NEXT GENERATION

The who in the what now?

- Database abstraction layer built with PHP Data Objects (PDO)
- Theoretical support for any database PHP supports; mysql, sqlite, and pgsql drivers in D7.
- Dynamic query builder (db_rewrite_sql is DEAD!), with support for old-fashioned SELECTs for simple queries.
- Transaction support
- Master/slave replication

Static Select Queries

Drupal 6:

```
$result = db_query("SELECT nid, title FROM {node} WHERE
type = '%s' AND nid = %d", array($type, $nid));
$node = db_fetch_object($result);
```

Drupal 7:

```
$node = db_query('SELECT nid, title FROM {node} WHERE
type = :type AND nid = :nid', array(':type' => $type,
':nid' => $nid))->fetchObject();
```

Dynamic Select Queries

Drupal 6:

```
$result = pager_query(db_rewrite_sql('SELECT n.nid FROM {node} n
WHERE n.promote = 1 AND n.status = 1 ORDER BY n.sticky DESC,
n.created DESC'), variable_get('default_nodes_main', 10));
```

Drupal 7:

```
$select = db_select('node', 'n')
  ->fields('n', array('nid'))
  ->condition('promote', 1)
  ->condition('status', 1)
  ->orderBy('sticky', 'DESC')
  ->orderBy('created', 'DESC')
  ->extend('PagerDefault')
  ->limit(variable_get('default_nodes_main', 10))
  ->addTag('node_access');
```

Other Queries

Insert

```
$nid = db_insert('node')
  ->fields(array('title', 'uid'))
  ->values(array(
    'title' => 'Example',
    'uid' => 1,
  ))
  ->execute();
```

Delete

```
$num_deleted = db_delete('node')
->condition('nid', 5)
->execute();
```

Update

```
$num_updated = db_update('node')
  ->fields(array(
    'uid' => 5,
    'status' => 1,
  ))
  ->condition('created', REQUEST_TIME - 3600, '>=')
  ->execute();
```

hook_query_alter()

Drupal 6:

Drupal 7:

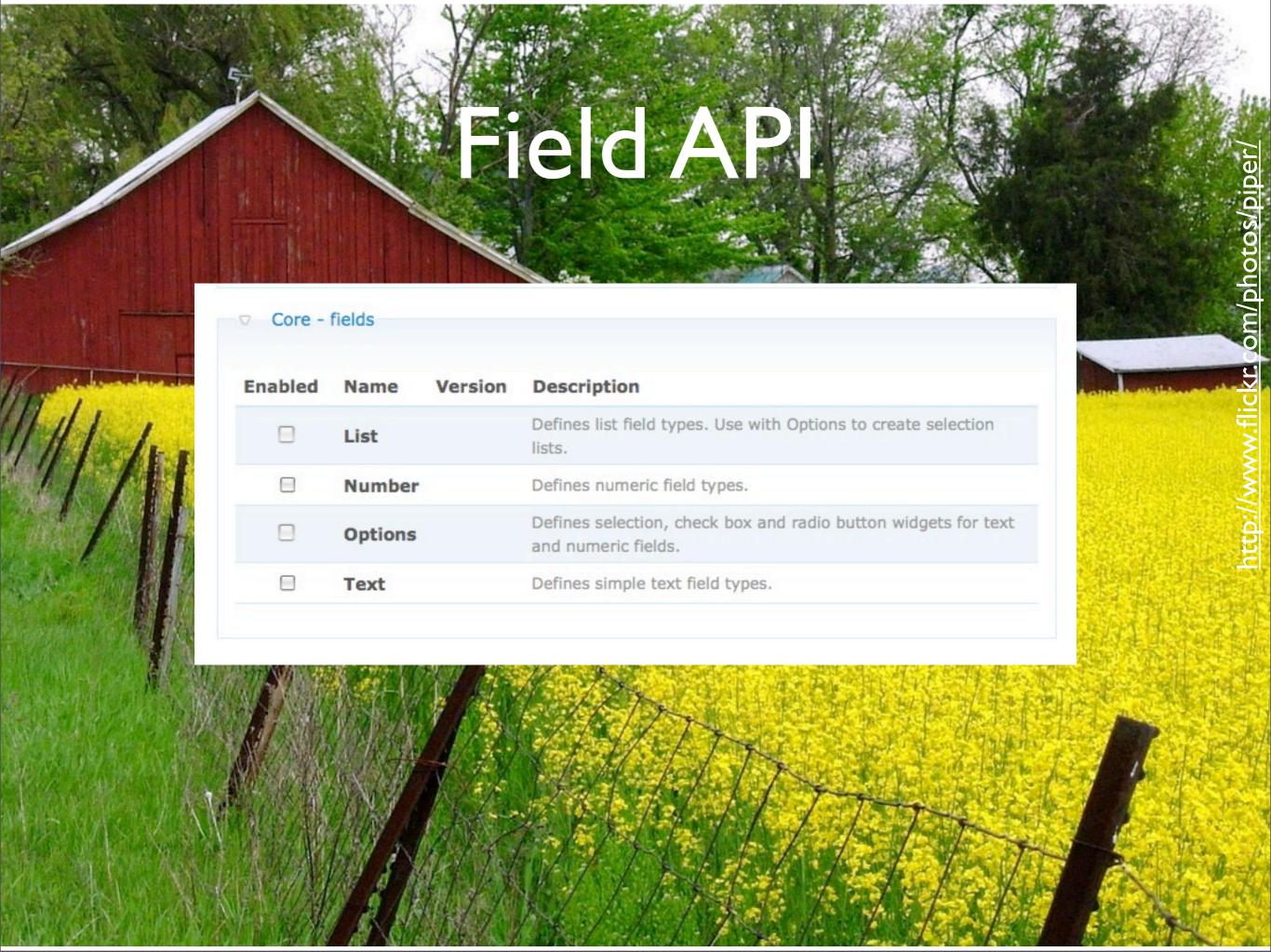
```
function hook_query_alter(&$query) {
  if ($query->hasTag('node_access')) {
    $query->condition('created', time() - 3600, '>');
  }
}
```

What's next for databases?

- Improvements to:
 - Slave replication
 - Schema API
 - Update system
 - Multiple database support
- Conversion of all core queries to DBTNG

Sign me up!

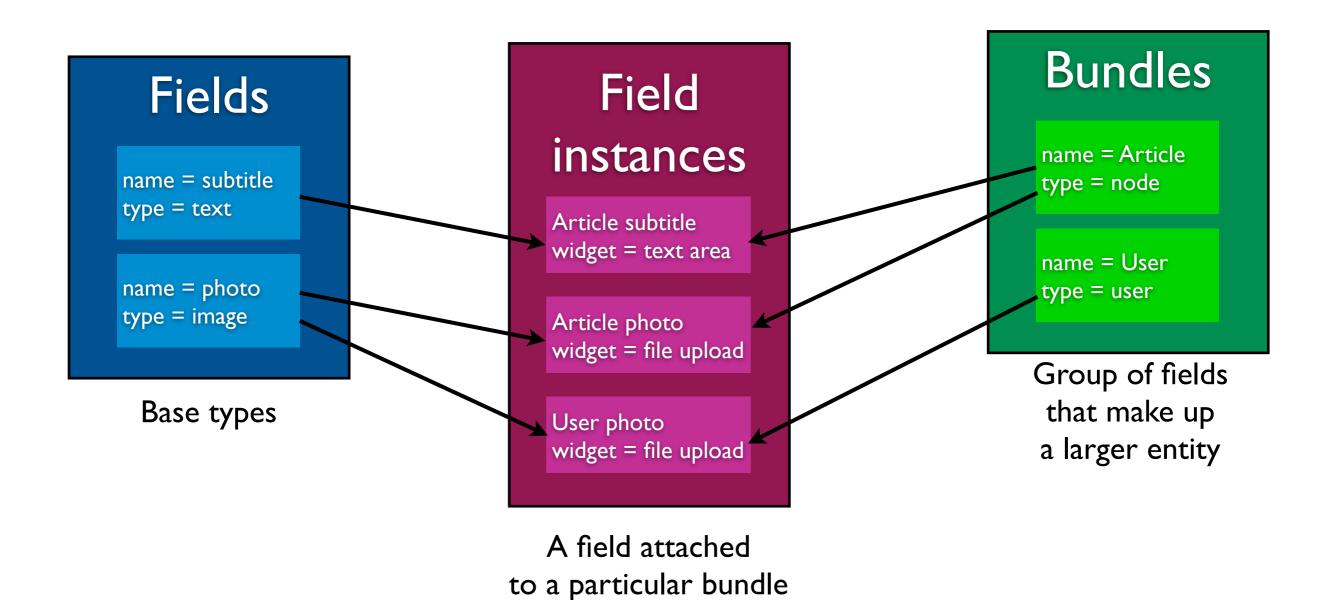
- http://drupal.org/community-initiatives/ drupal-core/database
- http://groups.drupal.org/database
- DBTNG session (uh. right now :\)
- API docs: http://drupal.org/node/310069
- Core conversion party on Saturday!



About Field API

- CCK API in Drupal core (UI in contrib)
- No longer node-specific: can attach fields to users, potentially other objects.
- Swappable storage back-ends (currently, SQL but potentially web services, etc.)
- Consistent way of storing/referencing fields to ease making changes.

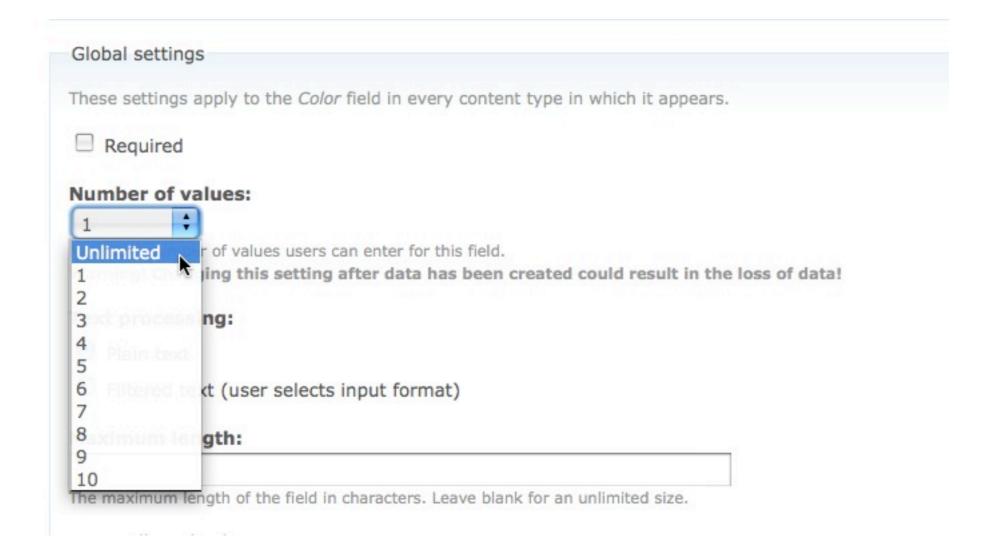
Overview



Tuesday, September 15, 2009

content_type_profile
 (content type)

nid	vid	name	gender	age	color	picture
I		Sally	F	37	Purple	sally.png
2	2	Jesse	М	32	Red	jesse.png

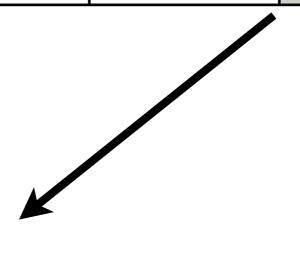


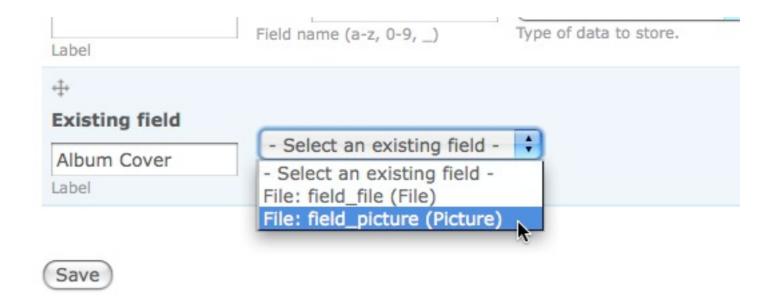
content_type_profile
 (content type)

nid	vid	name	gender	age	color	picture
		Sally	F	37	Pu ple	sally.png
2	2	Jesse	М	32	Red	jesse.png

content_field_fav_colors (multi-value field)

nid	vid	delta	color
I		0	Purple
I	I		Green
2	2	0	Red





content_type_profile
 (content type)

nid	vid	name	gender	age	picture
	I	Sally	F	37	sally.ong
2	2	Jesse	М	32	jesse.png

content_field_fav_colors (multi-value field)

nid	vid	delta	color
I	[0	Purple
Ī	Ī	I	Green

content_field_picture (shared field)

nid	vid	image
I		sally.png
Ī	Ī	album_cover.png

Field API

"entity type" I = user 2 = node

field_data_name

"revision id"
Corresponds
to node rev. ID

etid	bundle	entity_id	revision_id	delta	name_value
2	profile		I	0	Sally
2	profile	2,	2	0	Jesse

"bundle"
Name of
content type

"entity id"
Corresponds
to node ID

Field API

etid	bundle	entity_id	revision_id	delta	name_value
2	profile	I	I	0	Sally
2	profile	2	2	0	Jesse
etid	bundle	entity_id	revision_id	delta	gender_value
2	profile	I	l	0	F
2	profile	2	2	0	M
etid	bundle	entity_id	revision_id	delta	color_value
2	profile	I	I	0	Purple
2	profile	I	I	I	Green
2	profile	2	2	0	Red
etid	bundle	entity_id	revision_id	delta	picture_value
2	profile	I	I	0	sally.png
2	profile	2	2	0	jesse.png

What's next for Field API?

- Performance improvements with per-"bundle" storage and materialized views
- Translatable fields
- User Interface?
- Additional fields types (+ body/teaser/ taxonomy?)

Sign me up!

- http://drupal.org/community-initiatives/ drupal-core/fields
- http://groups.drupal.org/fields-core

name	type	filename	module	suffix	weight
system_help	function	modules/system/system.module	system	help	0
system_theme	function	modules/system/system.module	system	theme	0
system_perm	function	modules/system/system.module	system	perm	0
system_rdf_namespaces	function	modules/system/system.module	system	rdf_namespaces	0
system_elements	function	modules/system/system.module	system	elements	0
system_menu	function	modules/system/system.module	system	menu	0
blocked_ip_load	function	modules/system/system.module	system		0
_system_themes_access	function	modules/system/system.module	system		0
system_init	function	modules/system/system.module	system	init	0
system_preprocess_page	function	modules/system/system.module	system	preprocess_page	0
system_user_form	function	modules/system/system.module	system	user_form	0
system_user_register	function	modules/system/system.module	system	user_register	0
system_user_login	function	modules/system/system.module	system	user_login	0
system_user_timezone	function	modules/system/system.module	system	user_timezone	0
system_block_list	function	modules/system/system.module	system	block_list	0
system_block_configure	function	modules/system/system.module	system	block_configure	0
system_block_save	function	modules/system/system.module	system	block_save	0
system_block_view	function	modules/system/system.module	system	block_view	0
system_admin_menu_block	function	modules/system/system.module	system	admin_menu_block	0
system_theme_select_form	function	modules/system/system.module	system	theme_select_form	0

name	type	filename	module	suffix	weight
system_help	function	modules/system/system.module	system	help	0
system_theme	function	modules/system/system.module	system	theme	0
system_perm	function	modules/system/system.module	system	perm	0
system_rdf_namespaces	function	modules/system/system.module	system	rdf_namespaces	0
system_elements	function	modules/system/system.module	system	elements	0
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_system_themes_access	function	modules/system/system.module	system		0
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system_preprocess_page	function	modules/system/system.module	system	preprocess_page	0
system_user_form	function	modules/system/system.module	system	user_form	0
system_user_register	function	modules/system/system.module	system	user_register	0
system_user_login	function	modules/system/system.module	system	user_login	0
system_user_timezone	function	modules/system/system.module	system	user_timezone	0
system_block_list	function	modules/system/system.module	system	block_list	0
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system_block_save	function	modules/system/system.module	system	block_save	0
system_block_view	function	modules/system/system.module	system	block_view	0
system_admin_menu_block	function	modules/system/system.module	system	admin_menu_block	0
system_theme_select_form	function	modules/system/system.module	system	theme_select_form	0

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_system_themes_access	function	modules/system/system.module	system		0
system_init	function	modules/system/system.module	system	init	0
system_preprocess_page	function	modules/system/system.module	system	preprocess_page	0
system_user_form	function	modules/system/system.module	system	user_form	0
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system_user_login	function	modules/system/system.module	system	user_login	0
system_user_timezone	function	modules/system/system.module	system	user_timezone	0
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system_block_configure	function	modules/system/system.module	system	block_configure	0
system_block_save	function	modules/system/system.module	system	block_save	0
system_block_view	function	modules/system/system.module	system	block_view	0
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system_user_register	function	modules/system/system.module	system	user_register	0
system_user_login	function	modules/system/system.module	system	user_login	0
system_user_timezone	function	modules/system/system.module	system	user_timezone	0
system_block_list	function	modules/system/system.module	system	block_list	0
system_block_configure	function	modules/system/system.module	system	block_configure	0
system_block_save	function	modules/system/system.module	system	block_save	0
system_block_view	function	modules/system/system.module	system	block_view	0
system_admin_menu_block	function	modules/system/system.module	system	admin_menu_block	0
system_theme_select_form	function	modules/system/system.module	system	theme_select_form	0

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system_block_save	function	modules/system/system.module	system	block_save	0
system_block_view	function	modules/system/system.module	system	block_view	0
system_admin_menu_block	function	modules/system/system.module	system	admin_menu_block	0
system_theme_select_form	function	modules/system/system.module	system	theme_select_form	0

Auto-parses	and	d caches list	of le	II function	ght S,
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Allows more	function	e-grained bi	reak	L-up of cod	é
				user_login	0
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system_block_save	function	modules/system/system.module	system	block_save	0
system_block_view	function	modules/system/system.module	system	block_view	0
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system_tneme_select_form	function	modules/system/system.module	system	theme_select_form	0

Auto-parses	and	d caches list	of le	II function	ght S,
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system_elements	function	modules/system/system.module	system	elements	0
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blocked_ip_load	function	modules/system/system.module	system		0
-system through mod	function	sotnat imple modules/system/system. nodule	mer	nt a nook	0
system_preprocess_page	function	modules/system/system.module	system	preprocess_page	0
Allows more	function	e-grained bi	reak	L-up of cod	é
				user_login	0
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system_module.regis	THY.	notues/system/system.module	system	block_configure	0
system_block_save	function	modules/system/system.module	system	block_save	0
system_block_view	function	modules/system/system.module	system	block_view	0
system theme select to reg	ista	really files in	info	admin_menu_block	0
system_tneme_select_form	function	modules/system/system.module	system	theme_select_form	0

```
Auto-parses and caches list of all functions,
system_there system_tolasses, and interfaces/system/system.morple files perm
    Facilitates faster hook calls; only loop
 through modules that implement a hook
system_preprocess_page

    Allows more fine-grained

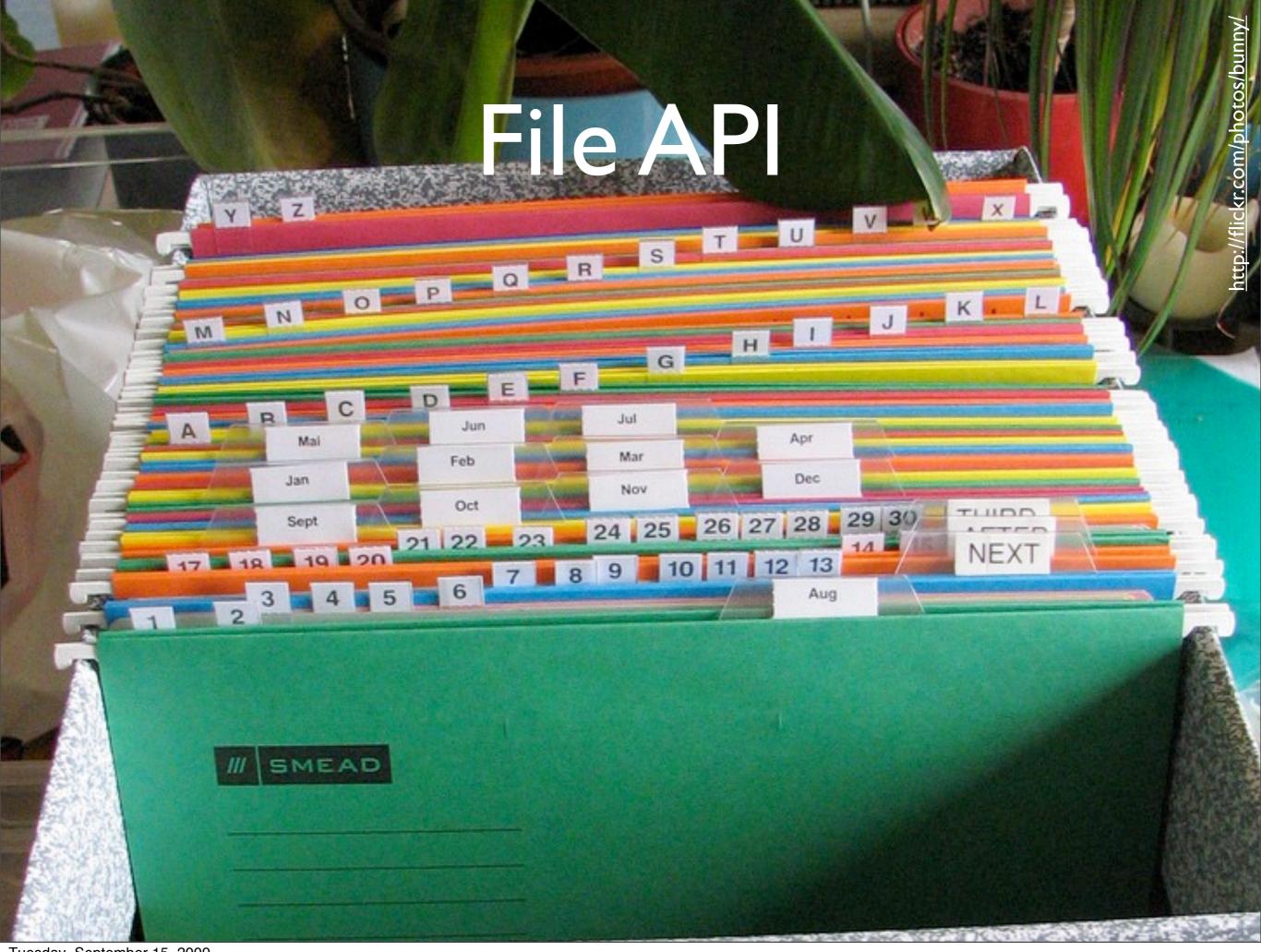
system_user_login system_user_login "info", function modules/system/systemsystem_user_login functions
    module.registry.inc) ystem/system.modu
    Need to register all files in info:
                 files[] = example.module
                 files[] = example.install
```

No more \$op

- hook_nodeapi(), hook_user(), hook_block(), etc. are no longer "mega" hooks:
 - hook_nodeapi_load(), hook_nodeapi_update()
 - hook_user_register(), hook_user_login()
 - hook_block_list(), hook_block_view()
 - hook_form_FORM_ID_alter()

Multi-load!

- node_load_multiple()
- file_load_multiple()
- taxonomy_term_load_multiple()
- user_load_multiple() (coming soon!)



File API improvements

- Files are now first-class objects
- hook_file_load(), hook_file_save(), hook_file_move(), etc.
- Files are managed automatically; no need to deal with {files} table yourself
- Potential for modules to share files

What's next for files?

- Image handling in core (for real this time?)
- File management console
- Native file fields
- Improved private file handling?

Sign me up!

- http://drupal.org/community-initiatives/ drupal-core/files
- http://drupal.org/community-initiatives/ drupal-core/images
- http://groups.drupal.org/file-api
- http://groups.drupal.org/image



New Hooks in D7

- hook_modules_X(): installed, enabled, disabled, uninstalled
- hook_taxonomy_term_X(): load, insert, update, delete
- hook_taxonomy_vocabulary_X(): load, insert, update, delete
- hook_aggregator_X(): fetch, parse, process, remove

hook_page_alter()

Drupal 6:

```
function page_callback($nids) {
    $output =
        t('Welcome to a big list of nodes.');
    foreach ($nids as $nid) {
        $output .= node_view(node_load($nid));
    }
    $output .= theme('pager');
    return $output;
}
```

Drupal 7:

```
function page_callback($nids) {
    $nodes = node_load_multiple($nids);
    $build['message'] = array(
        '#markup' =>
        t('Welcome to a big list of nodes.'),
    );
    foreach ($nodes as $node) {
        $build['nodes'][$node->nid] =
            node_build($node);
    }
    $build['pager'] = array(
        '#markup' => theme('pager'),
        '#weight' => 5,
    );
    return drupal_get_page($build);
}
```

\$page object

```
$page['left']['blocks']['user-navigation']['#block'] = (block
object);
$page['content']['message']['#markup'] = 'Welcome to a big list of
nodes.';
$page['content']['nodes'] = (array of node objects keyed by node ID);
$page['content']['pager']['#markup'] = (HTML markup of pager);
$page['footer']['blocks']['system-powered-by']['#block'] = (block
object);
```

Mwahahahaha...!

