What's New in Drupal 7

Cary Gordon
The Cherry Hill Company
http://chillco.com
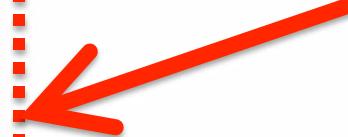
Who makes Drupal

- Project lead
  - Dries Buytaert

- Branch maintainer
  - Angela Byron (Drupal 7)
  - Gábor Hojtsy (Drupal 6)
  - Neill Drumm (Drupal 5)

- Contributors

Committers
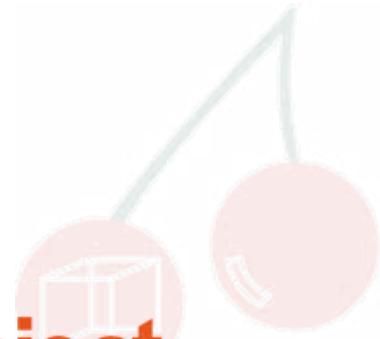
Gratuitous Catfish Shot

Changes for Users

D7UX

Drupal 7 User Experience Project
making Drupal7 an amazing user experience

About   Project Framework

Our UX Principles: 1. Make the most frequent tasks easy and less frequent tasks achievable. 2. Design for the 80% 3. Privilege the Content Creator 4. Make the default settings smart

Media Library Microproject - Update & Feedback Please!

Posted: July 3rd, 2009 | Author: Leisa Reichelt | Filed under: 4.0 Content, designing together | Tags: media, media library, microprojects | 10 Comments »

Media — iteration 2
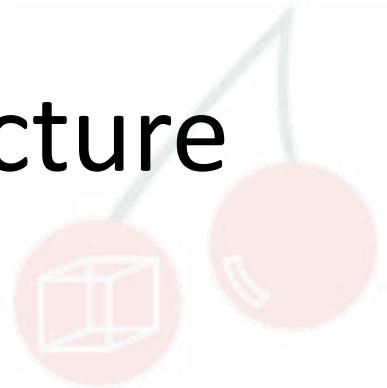
Recent Posts

Media Library Microproject - Update & Feedback Please!

D7UX Information Architecture - A detailed view

Information Architecture Strategies

Understanding the D7UX Information Architecture Approach

http://www.d7ux.org/

New Information Architecture

- New IA separates administrative tasks into "contexts":
  - I'm dealing with content.
  - I'm building out site structure.
  - I'm changing my site's appearance.
  - I'm managing the people who come to my site.
  - I'm configuring modules and settings.

Default front page

Drupal 6

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 administration section, where you can customize and configure all aspects of your website.

2. **Enable additional functionality**

   Next, visit the module list and ena
   the Drupal modules download sect

3. **Customize your website desig**

   To change the "look and feel" of yo
   themes or download additional the

4. **Start posting content**

   Finally, you can create content for
   the front page.

For more information, please refer to t
Drupal forum, or view the wide range

Drupal 7

Welcome to localhost

No front page content has been created yet.

- Create content
- Change the default front page

Help

Help ⊕

Dashboard

Follow these steps to set up and start using your website:

1. **Configure your website** Once logged in, visit the administration section, where you can customize and configure all aspects of your website.
2. **Enable additional functionality** Next, visit the module list and enable features which suit your specific needs. You can find additional modules in the Drupal modules download section.
3. **Customize your website design** To change the "look and feel" of your website, visit the themes section. You may choose from one of the included themes or download additional themes from the Drupal themes download section.
4. **Start posting content** Finally, you can add new content for your website.

For more information, refer to the specific topics listed in the next section or to the online Drupal handbooks. You may also post at the Drupal forum or view the wide range of other support options available.

Help topics

Help is available on the following items:

- Block
- Color
- Comment
- Contextual links
- Dashboard
- Database logging
- Field
- Field SQL storage

- Field UI
- File
- Filter
- Help
- Image
- List
- Menu
- Node

- Number
- Options
- Overlay
- Path
- RDF
- Search
- Shortcut
- System

- Taxonomy
- Text
- Toolbar
- Update manager
- User

Users can cancel own accounts

A valid e-mail address. All e-mails from the system will be sent to this address. The e-mail address is not made public and will only be used if you wish to receive a new password or wish to receive certain news or notifications by e-mail.

Password:

Confirm password:

Password strength:

To change the current user password, enter the new password in both fields.

Status:

○ Blocked

◉ Active

Are you sure you want to cancel your account?

When cancelling your account:
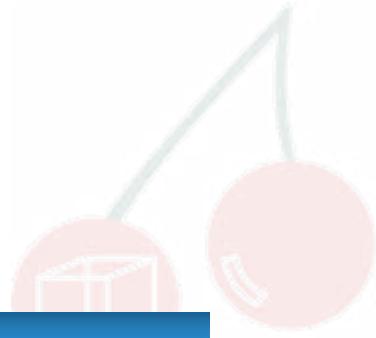
◉ Disable the account and keep all content.

○ Disable the account and unpublish all content.

○ Delete the account and make all content belong to the *Anonymous* user.

○ Delete the account and all content.

Select the method to cancel the account above. This action cannot be undone.

(Cancel account) Cancel

▽ Locale setti

Your time zone s

Time zone:

America/New

Select the desired

(Save) (Cancel account)

Edit in place

Admin Theme: "Seven"

Content

CONTENT   **COMMENTS**

+ Add new content

SHOW ONLY ITEMS WHERE

status   is   [published ▼]   [Filter]
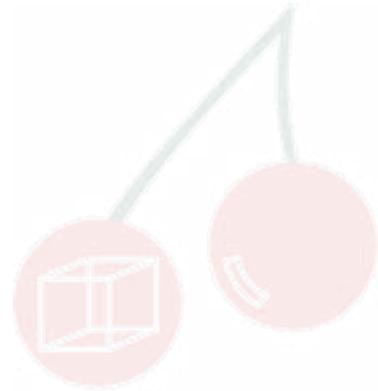
type   [Article ▼]

UPDATE OPTIONS
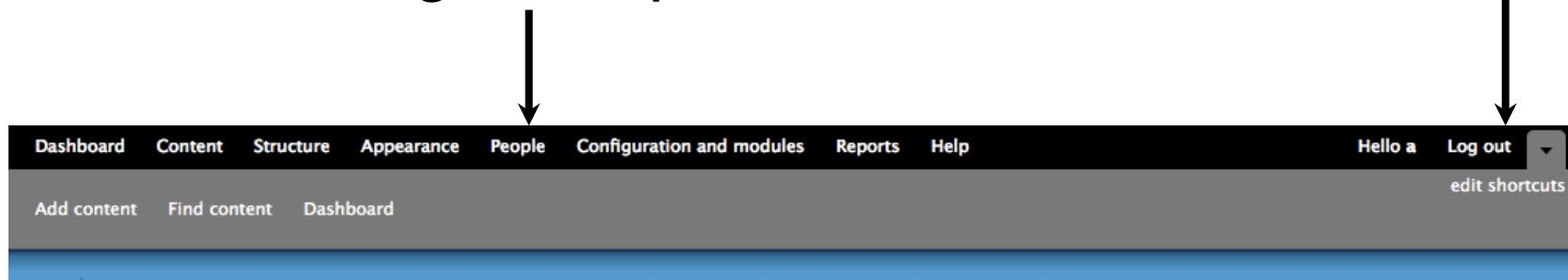
[Publish ▼]

[Update]

☐	TITLE	TYPE	AUTHOR	STATUS	UPDATED ▼	OPERATIONS
☐	A piece of content	Article	a	published	08/30/2009 – 17:18	edit
☐	A page!	Page	a	published	08/30/2009 – 17:19	edit

Toolbar & Shortcuts

Toolbar shows new
IA along the top

User account-related
info easily accessible

| Dashboard | Content | Structure | Appearance | People | Configuration and modules | Reports | Help | | Hello a | Log out | ▾ |

edit shortcuts

Add content   Find content   Dashboard

User specific admin shortcuts

Administrative Dashboard

Overlays

Vertical tabs

Drupal 6

▷ Revision information

▷ Comment settings

▷ File attachments

▷ Authoring information

▷ Publishing options

Drupal 7

E-mails

Welcome (new user created by administrator)

Welcome (awaiting approval)

Welcome (no approval required)

Account activation

Account blocked

Edit the welcome e-mail messa
required. You can use the follo
[user:mail], [site:login-url], [use
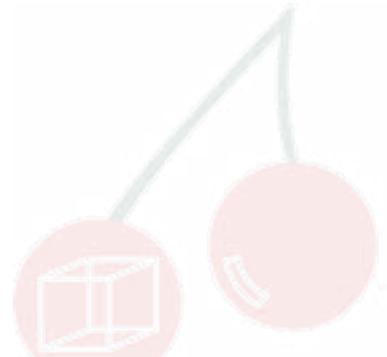
Subject

Account details for [user:na

Body
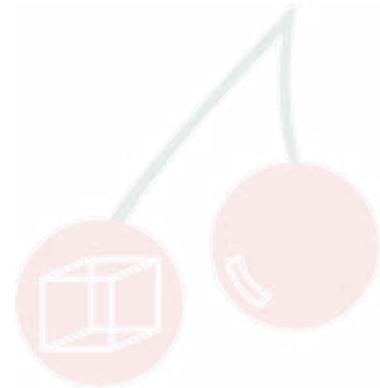
[user:name],

Module screen

ENABLED	NAME	VERSION	DESCRIPTION	OPERATIONS
☐	**Aggregator**	7.0–alpha2	Aggregates syndicated content (RSS, RDF, and Atom feeds).	
☑	**Block**	7.0–alpha2	Controls the visual building blocks a page is constructed with. Blocks are boxes of content rendered into an area, or region, of a web page. Required by: Dashboard (enabled)	⊘ Help 🔑 Permissions ⚙ Configure
☐	**Blog**	7.0–alpha2	Enables multi–user blogs.	
☐	**Book**	7.0–alpha2	Allows users to create and organize related content in an outline.	
☑	Color	7.0–alpha2	Allows administrators to change the color scheme of compatible themes.	⊘ Help
☑	**Comment**	7.0–alpha2	Allows users to comment on and discuss published content. Required by: Forum (disabled), Tracker (disabled)	⊘ Help 🔑 Permissions ⚙ Configure

Permission screen

PERMISSION	ANONYMOUS USER	AUTHENTICATED USER	ADMINISTRATOR
Block			
Administer blocks Select which blocks are displayed, and arrange them on the page.	☐	☐	☑
Comment			
Administer comments Manage and approve comments, and configure comment administration settings.	☐	☐	☑
Access comments View comments attached to content.	☐	☑	☑
Post comments Add comments to content (approval required).	☐	☑	☑

Default/Minimal Profile

Drupal

Choose profile

Choose language

Verify requirements

Set up database

Install profile

Configure site

Finished

Select an installation profile

⊙ Drupal

Create a Drupal site with the most commonly used features pre-installed.

○ Drupal (minimal)

Create a Drupal site with only required modules enabled.

(Save and continue)

Timezone and Country support
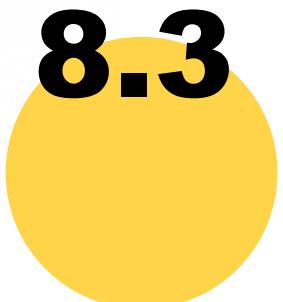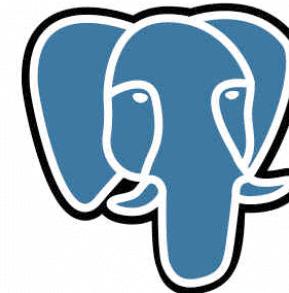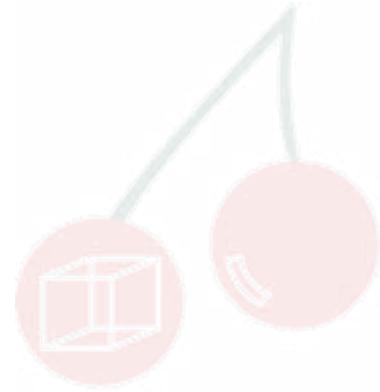
New Minimum Requirements

Changes for site builders

Mix and Match Public and Private files

Internationalization

- New translation interface
- Search module supports language-aware searches
- Individual fields can be marked translatable/untranslatable
- Support for message contexts (msgctxt) to make translation of short words like "View" much easier.

New translation interface

Native image handling

Security

- Prompted for e-mail notifications of security updates upon installation.

- PHP filter module now global "kill-switch" for "enter some PHP here" functionality.

- Cron.php requires key in URL to be run.

- New permission for running site updates.

- Limit login attempts, better flood control.

- Stronger, pluggable password hashing algorithm.

Field UI (nee CCK)

Field Types in Core

- Boolean
- Decimal/Float/Integer
- File
- Image
- List
- Text/Textarea
- Taxonomy term
- Node Body (long text and summary)

Fields apply to:

- Nodes
- Users (retires Content Profile)
- Comments (retires Node Comment & Comment Upload)
- Taxonomy terms (retires Taxonomy Image)
- Objects from contributed modules

Update Manager

Available updates ⊕

LIST   SETTINGS

Last checked: 6 sec ago   (Check manually)

Disabled add-ons

☑	NAME	INSTALLED VERSION	RECOMMENDED VERSION
☑	Taxonomy CSV import	7.x-4.5	7.x-4.6 (Release notes)
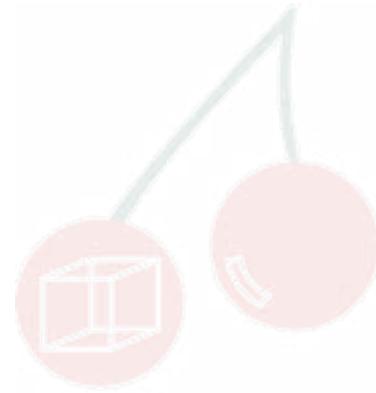
Download these updates

Add-ons requiring manual updates

Updates of Drupal core or development releases are not supported at this time.

NAME	INSTALLED VERSION	RECOMMENDED VERSION
Drupal	7.0-dev	7.x-dev (Release notes)

Install and update modules
and themes from drupal.org!

Changes for designers and front-end developers

Old table-based themes removed from core

Many page elements assignable

Block	Region	Operations
Header		
✛ User login	Header ▲▼	configure
Left sidebar		
✛ Navigation	Left sidebar ▲▼	configure
Right sidebar		
No blocks in this region		
Highlighted content		
✛ Mission statement	Highlighted content ▲▼	configure delete
Help		
✛ System help	Help ▲▼	configure
Content		
✛ Main page content	Content ▲▼	configure
Footer		
✛ Footer message	Footer ▲▼	configure delete
✛ Powered by Drupal	Footer ▲▼	configure
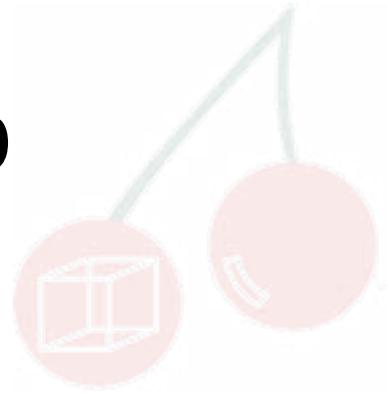
Re-vamped *.tpl.php

```php
78 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
79    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
80 <html xmlns="http://www.w3.org/1999/xhtml" xml:lang="<?php print $language-
 · >language ?>" lang="<?php print $language->language ?>" dir="<?php print
 · $language->dir ?>">
81
82 <head>
83    <?php print $head; ?>
84    <title><?php print $head_title; ?></title>
85    <?php print $styles; ?>
86    <?php print $scripts; ?>
87    <script type="text/javascript"><?php /* Needed to avoid Flash of Unstyled
 · Content in IE */ ?> </script>
88 </head>
89 <body class="<?php print $body_classes; ?>">
90    <div id="page">
91      <div id="header">
92        <div id="logo-title">
93
94          <?php if (!empty($logo)): ?>
95            <a href="<?php print $front_page; ?>" title="<?php print
 · t('Home'); ?>" rel="home" id="logo">
96              <img src="<?php print $logo; ?>" alt="<?php print t('Home'); ?
 · >" />
97            </a>
98            <?php endif; ?>
```

Re-vamped *.tpl.php

```php
100  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML+RDFa 1.0//EN"
101     "http://www.w3.org/MarkUp/DTD/xhtml-rdfa-1.dtd">
102  <html xmlns="http://www.w3.org/1999/xhtml" xml:lang="<?php print $language-
  ·  >language; ?>" dir="<?php print $language->dir; ?>"
103    <?php print $rdf_namespaces; ?>>
104
105  <head profile="<?php print $grddl_profile; ?>">
106    <title><?php print $head_title; ?></title>
107    <?php print $head; ?>
108    <?php print $styles; ?>
109    <?php print $scripts; ?>
110  </head>
111  <body class="<?php print $classes; ?>">
112
113    <?php print $page_top; ?>
114
115    <div id="page-wrapper"><div id="page">
116
117      <div id="header"><div class="section clearfix">
118
119        <?php if ($logo): ?>
120          <a href="<?php print $front_page; ?>" title="<?php print t('Home'); ?
  ·  >" rel="home" id="logo">
121            <img src="<?php print $logo; ?>" alt="<?php print t('Home'); ?>" />
122          </a>
123        <?php endif; ?>
```

Re-vamped *.tpl.php

- Re-engineered XHTML structure to facilitate CSS-only design.

- Standard, semantic class/ID names (.section, #navigation, etc.)

- Improved consistency throughout

- Enables designers to create CSS-only themes without touching PHP

- No more box.tpl.php

Stark: Naked Drupal

Skip to main content

Drupal 7 demo

User login

Username *

Password *

Log in

- Create new account
- Request new password

Powered by Drupal

Welcome to Drupal 7 demo
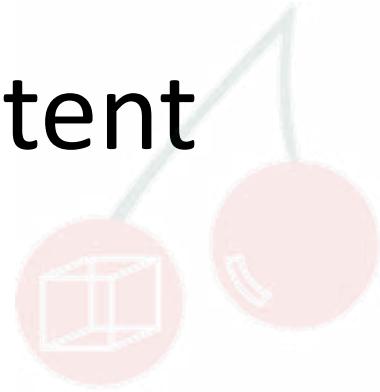
No front page content has been created yet.

Granular theming of content

Drupal 6

```
<div class="content clear-block">
  <?php print $content ?>
</div>
```

- $content was a big string of XHTML
- Fine-grained control over where *one* part of content goes means being responsible for *all* parts of content
- Security averse
- Even comments are in this mix

Granular theming of content

Drupal 7
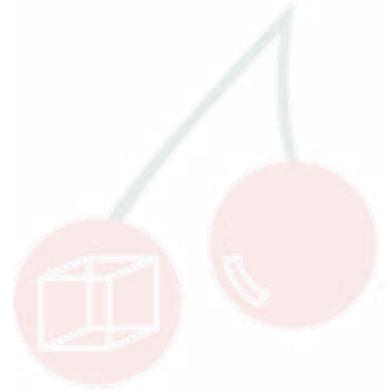
```php
<div class="content clearfix">
  <?php
    // We hide the comments and links now so that we can render them later.
    hide($content['comments']);
    hide($content['links']);
    print render($content);
  ?>
</div>
```

...

```php
<?php if (!empty($content['links'])): ?>
  <div class="links"><?php print render($content['links']); ?></div>
<?php endif; ?>

<?php print render($content['comments']); ?>
```

- $content is now an array of page properties that keeps track of what's been printed so far.

- Selectively hide parts until you're ready to print them where YOU want.

RDFa
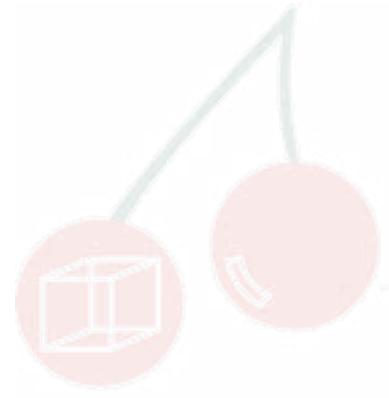
Default mapping for nodes:

```php
<?php
  $type->rdf_mapping = array(
    'rdftype' => array('sioc:Item', 'foaf:Document'),
    'title'   => array('dc:title'),
    'created' => 'dc:created',
    'changed' => 'dc:modified',
    'body'    => 'content:encoded',
    'uid'     => 'sioc:has_creator',
    'name'    => 'foaf:name',
  );
?>
```

JavaScript improvements

- jQuery 1.3, jQuery Forms 2.2, jQuery UI 1.7
- drupal_add_library() for adding related js/ css files
- New AJAX framework (from cTools) in core
- drupal_add_js/css() improved
- Use jQuery alongside other JS frameworks
- Form API dependencies (show box B when box A is checked)

Changes for coders

SimpleTest

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

Testing

Tests

Select the tests you would like to run, and click Run tests.

☐	Test	Description
☐	▸ **Aggregator**	
☑	▾ **Block**	
☑	Block functionality	Add, edit and delete custom block. Configure and move a module-defined block.
☑	Non default theme admin	Check the administer page for non default theme.
☐	▸ **Blog**	
☐	▸ **Blog API**	
☐	▸ **Book**	
☐	▸ **Bootstrap**	
☐	▸ **Cache**	
☐	▸ **Comment**	
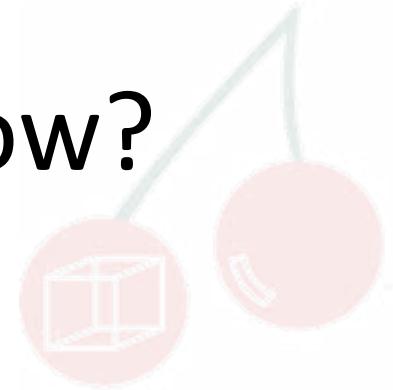
testing.drupal.org

- "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.

Database
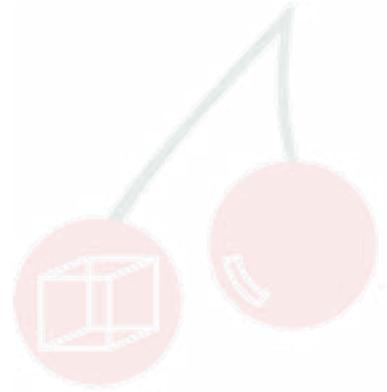
The next genration

The who in the what now?

- Database abstraction layer utilizing PHP's Data Objects (PDO)
- Theoretical support for any PHP supported database
- mysql, sqlite, and pgsql drivers included
- Support for master/slave replication, transactions, multi-insert queries, delayed inserts, and other features

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');
```

hook_query_alter()

Drupal 6:

```php
function hook_db_rewrite_sql($query, $primary_table, $primary_field, $args) {
  switch ($primary_field) {
    case 'nid':
      $return = array();
      if ($primary_table != 'n') {
        $return['join'] = "LEFT JOIN {node} n ON $primary_table.nid = n.nid";
      }
      $return['where'] = 'created >' . time() - 3600;
      return $return;
      break;
  }
}
```
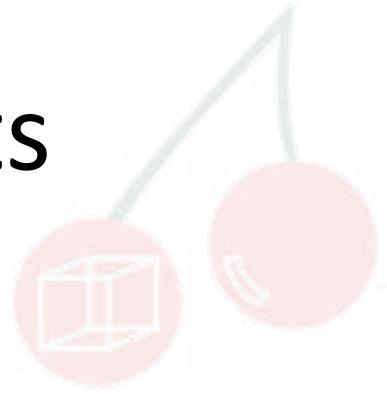
Drupal 7:

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

File System

File API improvements
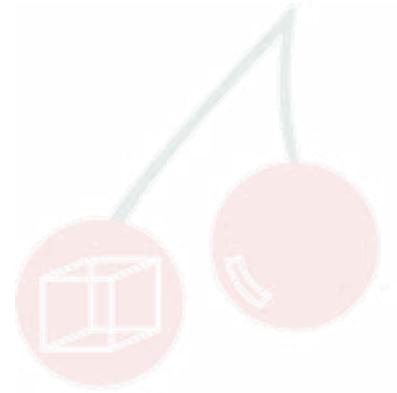
- Files are now first-class objects
- hook_file_load(), hook_file_save(), hook_file_move(), etc.
- Files are managed automatically; no need to deal with {files} table yourself
- hook_file_url_alter() for CDN support

Stream wrapper support
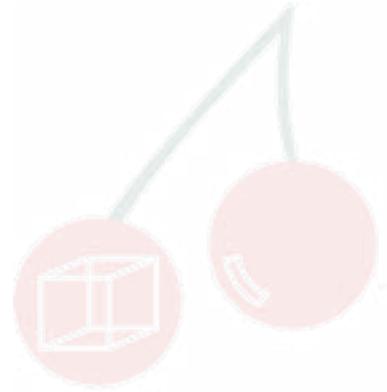
- Rather than referencing files by path, you now reference them by URI: schema://file/path/file.ext

- Allows you to change location of files directory without a database update.

- public://, private://, temp:// supported in core.

- Contributed modules can also create s3://, flickr://, etc.

APIs

APIs
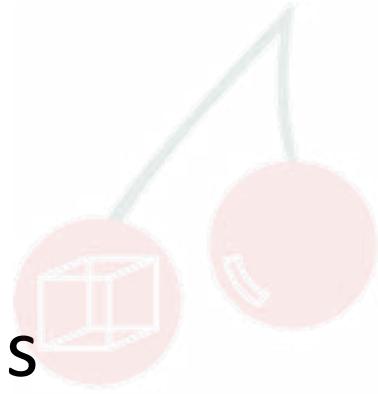
- Roles/Permissions API
- Filter/Format API
- Centralized static caching mechanism
- Locking framework
- Job queue

Field API

- Not node-specific
- Declare any entity in Drupal as "fieldable"
- Swappable storage back-ends (currently, SQL but potentially web services, etc.)
- Supports translatable content.
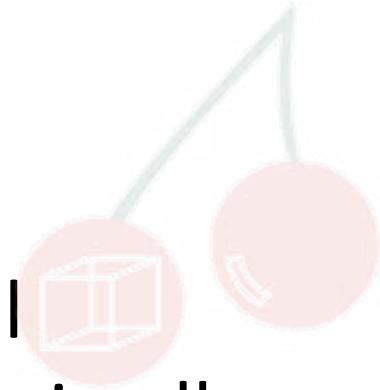
Image API

- Image toolkits now implemented as modules, rather than .inc files that users need to copy over.

- Supports image manipulation effects: scale, crop, resize, rotate…

- Can combine these into "image styles" that can be applied to any image (user pictures, file uploads…)

Registry

- Auto-parses and caches list of all ~~functions~~, classes, and interfaces in all files
- Facilitates faster hook calls; only loop through modules that implement a hook

Class registry
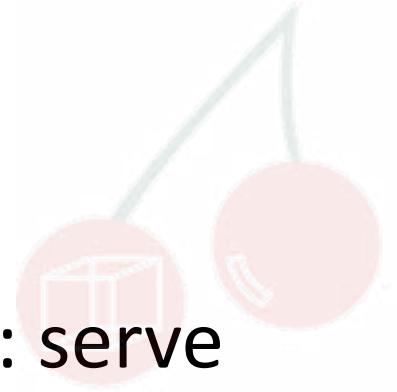
- Auto-parses and caches list of all classes and interfaces in all files

- Allows you to do:

  $foo = new Foo;

- ...from anywhere

Speed and scalablity

- Proxy and reverse-proxy support: serve anonymous page requests entirely via proxy

- Many micro-optimizations through XDebug profiling

- Smarter look-ahead system for grabbing path aliases

- InnoDB default storage system (MySQL)

- CDN support for files

Node Access Improvements

- "administer nodes" and "bypass node access" two separate permissions
- Alter hook_node_grants and hook_node_access_records
- Node access applies to unpublished nodes
- hook_node_access() allows modules to influence access on nodes defined by other modules

Install Profiles

Drupal 6

default.profile

```
function PROFILE_profile_modules() {
  return array('module1', 'module2');
}

function PROFILE_profile_details() {
  return array(
    'name' => 'Example',
    'description' => 'Description.',
  );
}

function PROFILE_profile_task_list() {
}

function PROFILE_profile_tasks(...) {
  // Start-up tasks...
}

function PROFILE_form_alter(...) {
  // Alterations to set-up form...
}
```

Drupal 7

default.info

```
name = Example
description = Description
core = 7.x
dependencies[] = module1
dependencies[] = module2 (>2.4-beta2)
files[] = example.profile
```

default.install

```
function PROFILE_install() {
  // Start-up tasks...
}
```

default.profile

```
function PROFILE_form_alter(...) {
  // Alterations to set-up form...
}
```

#D7CX

Backup and Migrate

By **ronan** on the 3rd of November, 2007
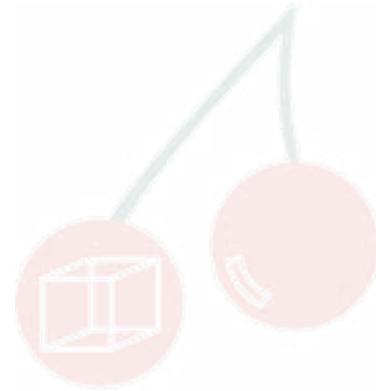
#D7CX: I pledge that Backup and Migrate will have a full Drupal 7 release on the day that Drupal 7 is released.

Backup and Migrate simplifies the task of backing up and restoring your Drupal database

The bottom line

- Easier to get started
  - Check requirements
  - Download Drupal 7
  - Create database
  - Install
  - Add themes & modules from interface

- Easier to build out
  - Improved administration
  - Themer friendly

- Easier to develop
  - More consistent and flexible

- Easier to integrate
  - RDFa

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