

Upgrading Contributed Code from 1.9 to 2.0

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About Anthony



- Role at HQ
 - CONTRIB Coordinator
- Lives
 - Houston, Texas, USA
- Also works as
 - Jesuit priest
- CONTRIB modules
 - Birthday block
 - MRBS block
 - Forum post approval patch

About Michael



- Role at HQ
 - Development Manager
- Lives
 - Perth, Australia
- Came to Moodle
 - from USQ, formerly academic
- CONTRIB modules
 - Progress Bar block
 - Peer Review assignment type
 - Simple Clock block
- Twitter @salvetore

Outline

- Assumed knowledge
- Setting up
- Versioning
- Language files
- Forms
- Capabilities
- Database layer changes
- Help strings
- The \$OUTPUT object
- The \$PAGE object
- Separating CSS and Javascript
- Configuration files
- Error reporting
- Contributing code



Workshop
tasks



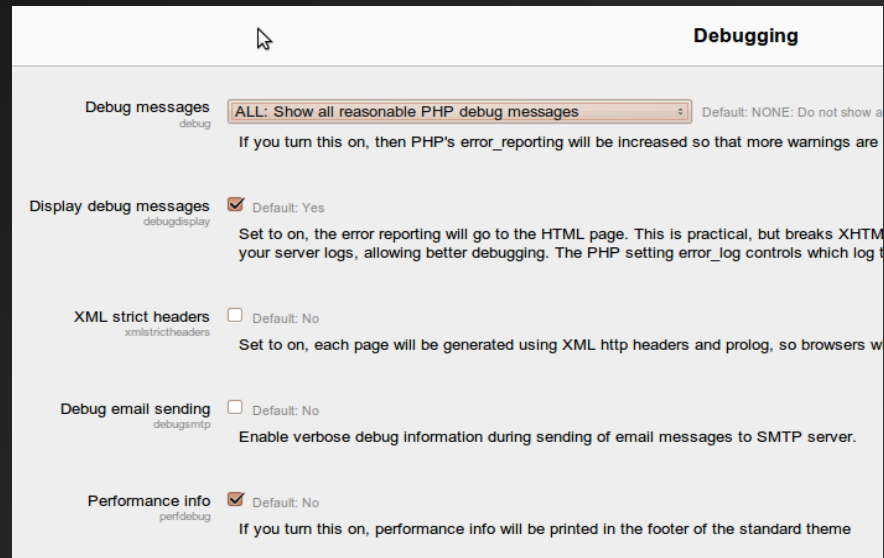
Assumed knowledge

- Moodle installation
- Moodle directory structure
 - Code
 - Data
- Plugin installation
- Basic coding
 - PHP
 - CSS
 - Javascript



Setting up

- Web server
 - Apache
- DB server
 - MySQL
- Editor / IDE
 - Netbeans
 - VIM
- Moodle 2.1 setup
 - Not pre-built packages
 - Debugging – ALL or DEVELOPER
 - Turn on Performance info
 - Disabling caches vs. Purging caches



Tasks



- The Helpdesk block
- Chosen because...
 - not either of ours
 - is in the top 20 downloads
 - has no 2.x version yet
 - exemplifies numerous aspects



Task



- Find and download Helpdesk block
 - Via Zip
 - [Modules and Plugins database](#)
 - [Download latest](#)
 - Via CVS
 - <http://cvs.moodle.org/contrib/plugins/blocks/helpdesk/>
 - Via Git
 - http://github.com/arborrow/moodle-block_helpdesk
- (don't install yet)

Versioning

- Most plugins types now require a version.php file
- Contains
 - Version number
 - Date and number
 - License

```
<?php
```

```
$plugin->version = 2011070700;
```

Tip: Don't close the PHP tag. It slows processing your file

Task



- Install the helpdesk block code to blocks dir
- Visit the notifications page
 - What happens? Why?

Task



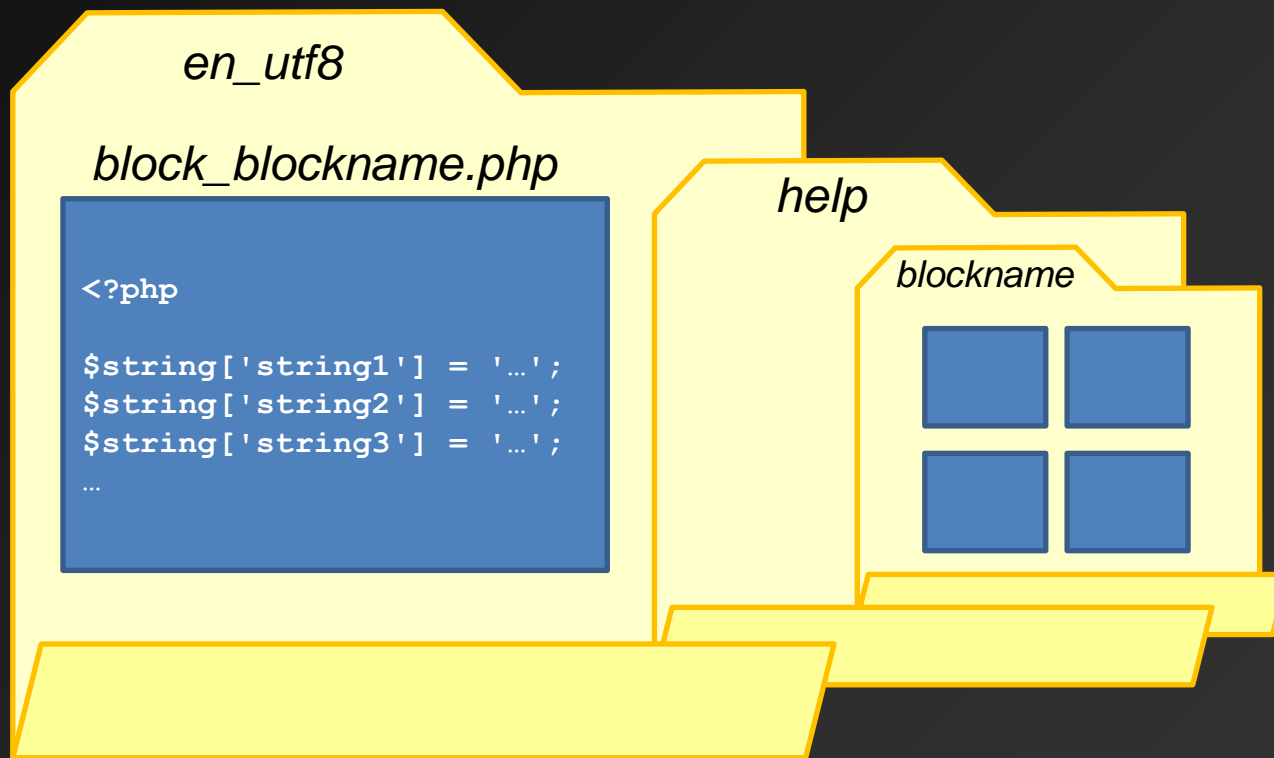
- Add a version.php file

```
<?php
$plugin->version = 2011070700;
```

- Capabilities error
 - In db/access.php line 35 change `$block_helpdesk_capabilities` to `$capabilities`
 - (not going into that further here)

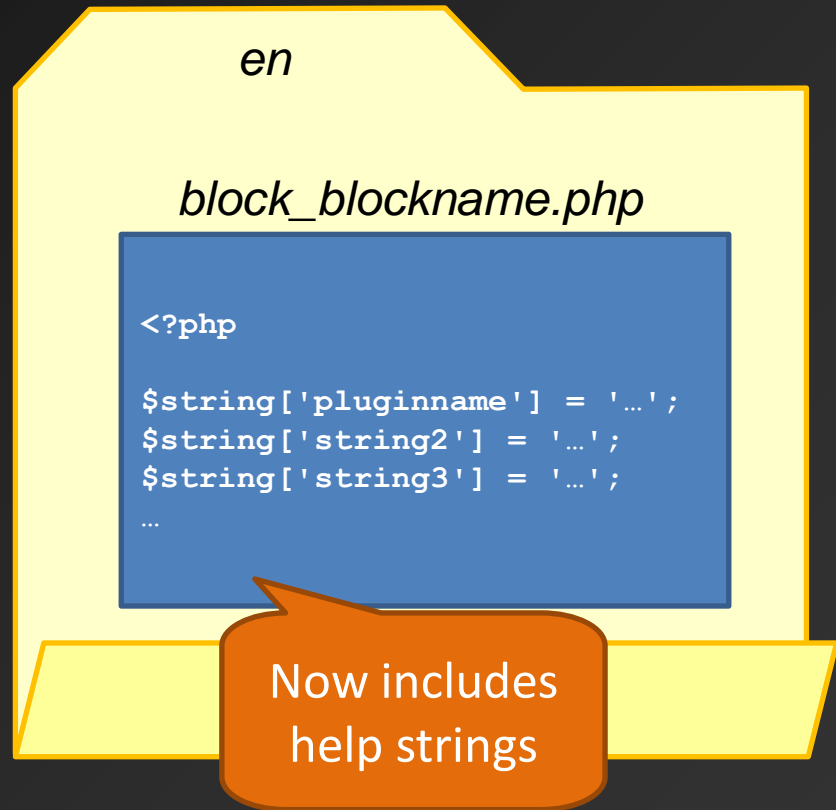
Language files

- Before



Language files

- Why has this changed?
 - Simplification
 - All lang files now UTF8
- Lang folders
 - All strings in one file, no subdirectories
 - Required string 'pluginname'



Task



- Change the lang folder to en
- Add a `pluginname` string to the language file

```
$string['pluginname'] = 'Help Desk';
```

Forms

- Why has this changed?
 - Accessibility
 - Ability to link to repositories
- HTML editor
 - html → htmleditor
- File picker
 - file → filepicker

```
$mform->addElement('filepicker', ... );
```

Task



- In `plugins/native/plugins_native.php` change editor to `htmleditor` at line 498

```
// $class = ($CFG->version >= 200710...;  
$class = "{$base}htmleditor";
```


Database layer changes

- Why has this changed?
 - Reduced ambiguity
- Changes
 - Use of the \$DB object
 - Multiple args → arrays (not just in DB calls)
 - Table names - no prefix
 - Addition of named parameters to queries
- http://docs.moodle.org/dev/DML_functions

Database layer changes

- Multiple args → arrays (not just in DB calls)
 - Before (1.9)

```
record_exists($table, $field1=, $value1=,  
$field2=, $value2=, $field3=, $value3=)
```

- After (2.x)

```
$conditions = array('field1'=>'value1', ...)  
...  
$DB->record_exists($table, $conditions)
```

Database layer changes

- Table names - no prefix
 - Before (1.9)

```
$sql = 'SELECT field FROM '.$CFG->prefix.'table...  
$result = get_records_sql($sql, $offset, $count);
```

- After (2.x)

```
$sql = "SELECT field FROM {table}...  
$result = $DB->get_records_sql($sql, $params,  
                               $offset, $count);
```

Task



- Go into a course and add an instance of the Help Desk block
- Find erroneous queries in lib/helpdesk_native.php
 - Line 712 remove `sql_as()` calls
 - Replace `$CFG->prefix` and surround table names with `{braces}`
 - Line 720

```
// $recordset = get_recordset_sql($sql, $offset, $count);  
$recordset = $DB->get_records_sql($sql, NULL, $offset, $count);
```

Task



- Find erroneous queries in lib/helpdesk_native.php
 - Add \$DB object
 - Change while to foreach at 723

```
// while($record = rs_fetch_next_...  
foreach($recordset as $record) {
```

Task



- Find erroneous queries in lib/helpdesk_native.php
 - Update get_records() call at 754 adding array

```
// $records = get_records('helpdesk_ticket', 'userid', $userid,  
//                          'timemodified DESC', '*', $offset, $count);  
$records = $DB->get_records('helpdesk_ticket', array('userid'=>$userid),  
                          'timemodified DESC', '*', $offset, $count);
```

- Add \$DB object
- (There are more SQL calls in this file)

Using the \$OUTPUT object

- Why has this changed?
 - Consistent rendering
 - Efficiency
 - Theme control
- Example
 - Before (1.9)

```
helpbutton($name, ...);  
echo '';
```

- After (2.x)

```
echo $OUTPUT->help_icon($name, ...);  
echo $OUTPUT->pix_icon('favicon', ...);
```

Ironically, \$OUTPUT doesn't

Task

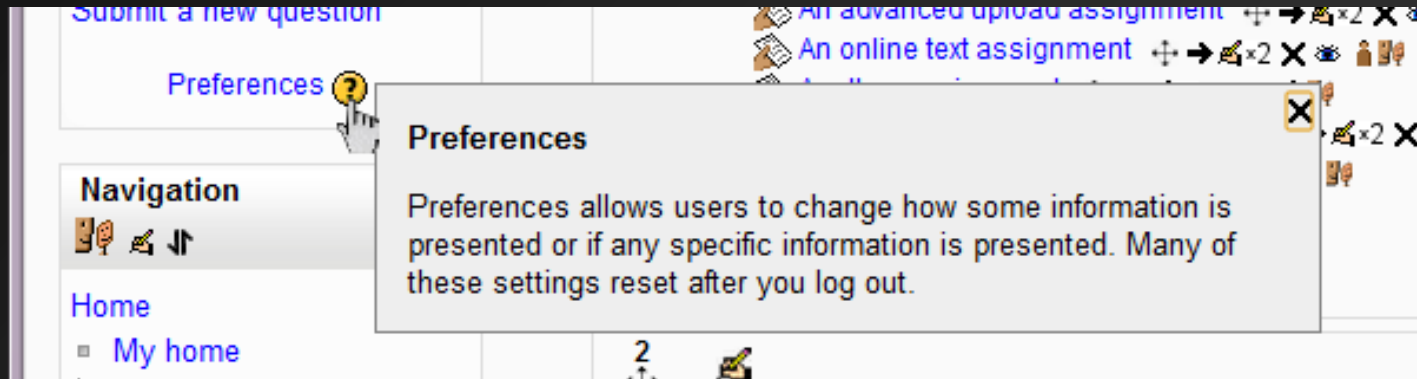


- In lib.php find the abstracted help button function at 188
 - Add global `$OUTPUT` object
 - Update help button call

```
function helpdesk_simple_helpbutton($title, $name, $return=true) {
    global $OUTPUT;
    $result = $OUTPUT->help_icon($name, 'block_helpdesk', false);
    if ($return) {
        return $result;
    }
    else {
        echo $result;
    }
}
```


Help strings

- Why has this changed
 - Simpler file structure
 - Easier to translate (AMOS)
 - Accessibility



Help strings

- Help strings come in pairs

lang/en/help/helpdesk/**assigned**.html

```
<h1>
Question Assignments
</h1>
<p>
Assigned users are Help
Desk Answers who have
been assigned to help
resolve a given
question.'
</p>
```

lang/en/helpdesk.php

```
$string['assigned'] =
'Question Assignments';

$string['assigned_help']
= 'Assigned users are
Help Desk Answers who
have been assigned to
help resolve a given
question.';
```

Task



- Bring help strings into lang file

lang/en/help/helpdesk/**assigned**.html

```
<h1>
Question Assignments
</h1>
<p>
Assigned users are Help
Desk Answers who have
been assigned to help
resolve a given
question.'
</p>
```

lang/en/helpdesk.php

```
$string['assigned'] =
'Question Assignments';

$string['assigned_help']
= 'Assigned users are
Help Desk Answers who
have been assigned to
help resolve a given
question.';
```

- Purge caches

Using the \$PAGE object

- Why has this changed?
 - On-the-fly rendering
 - Accessibility through greater abstraction
- Page URL

```
$url = new moodle_url("/blocks/helpdesk/new.php");  
if (!empty($tags)) {  
    $url->param('tags', join(',', $tags));  
}  
$PAGE->set_url($url);
```

Using the \$PAGE object

- Page context, heading, title, layout
 - Before (1.9)

```
print_header($title, $heading, ...);
```

- After (2.x)

```
$PAGE->set_context(get_context_instance(CONTEXT_SYSTEM));  
$PAGE->set_heading(get_string('helpdesk', 'block_helpdesk'));  
$PAGE->set_title(get_string('helpdesk', 'block_helpdesk'));  
$PAGE->set_pagelayout('standard');
```

Using the \$PAGE object

- Navigation
 - Before (1.9)

```
$nav = build_navigation(...);  
print_header($title, $heading, $nav...);
```

- After (2.x)

```
$parent = $PAGE->navigation->add(  
    get_string('helpdesk', 'block_helpdesk'));  
  
// Add a child navigation element  
$parent->add(  
    get_string('newticket', 'block_helpdesk'), $url);  
  
echo $OUTPUT->header();
```

Task



- Modify new.php
 - Add global \$PAGE object
 - Create and assign \$PAGE->url
 - Create context, heading, title and layout
 - Create hierarchical navigation
- (This is where the tasks end for this workshop)

Separating CSS

- Why has this changed?
 - Caching
 - Separation of content and presentation
 - Ability to adapt to multiple media types
- Avoid inline styles
- Extract files to styles.css (formerly styles.php)
- For module pages

Already done
in Helpdesk
block

```
$PAGE->requires->css($cssfile);
```


Separating JS

Not used by
Helpdesk
block

- Why has this changed?
 - Caching
 - Page load efficiency

Javascript can include:

- YUI function calls,
- OO Javascript, and/or
- simple JS function calls

```
$jsmodule = array(  
    'name' => 'block_progress',  
    'fullpath' => '/blocks/progress/module.js',  
    'requires' => array(),  
    'strings' => array(  
        array('time_expected', 'block_progress'),  
    ),  
);  
...  
$this->page->requires->js_init_call(  
    'M.block_progress.init', $arguments, false,  
    $jsmodule);
```

Configuration files

Not used by
Helpdesk
block

- Why has this changed (for blocks)?
 - Consistency for setup across site
 - Ability to add common elements
- edit_form.php

```
class block_progress_edit_form extends block_edit_form {  
  
    protected function specific_definition($mform) {  
        ...  
        $mform->addElement('text', 'config_progressTitle',  
            get_string('config_title', 'block_progress'));  
        ...  
    }  
}
```

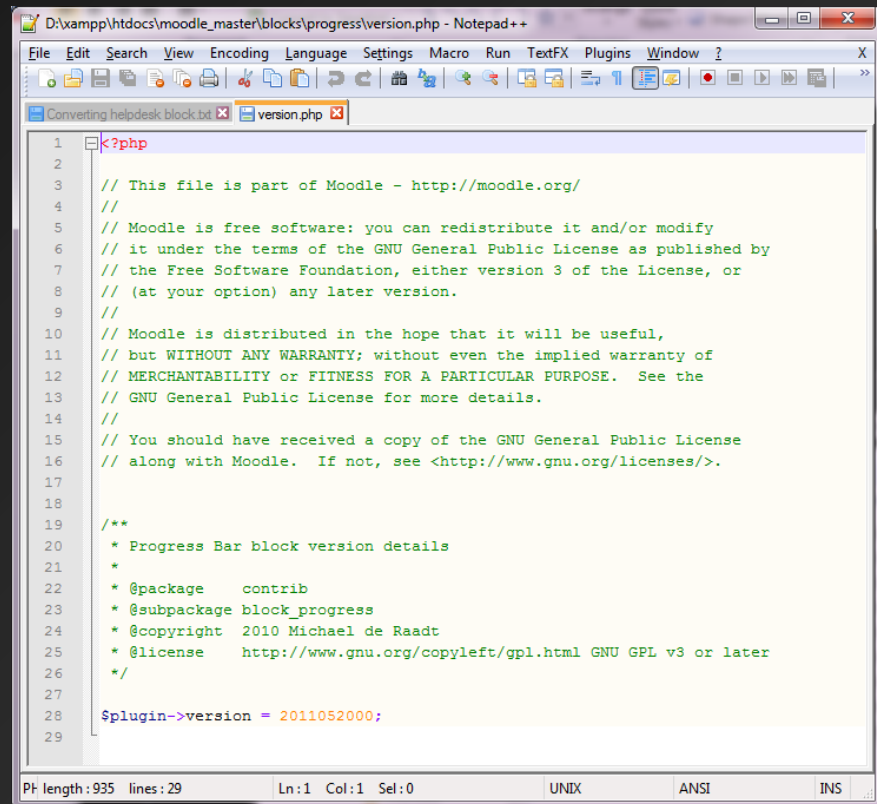
Error Reporting

- [Deprecated Functions](#)
 - Where are they located?
 - lib/deprecatedlib.php
 - What will you see?
 - error() is a deprecated function, please call print_error() instead of error()
 - Thou shalt
 - [not use addslashes](#)
 - [use optional_param and required_param](#)
 - capitalize on other's expertise
 - for example, the book activity module



Contributing code

- Plugins contribution
- Coding guidelines
 - License notice on all PHP files
 - Code checker local plugin



```
D:\xampp\htdocs\moodle_master\blocks\progress\version.php - Notepad++
File Edit Search View Encoding Language Settings Macro Run TextFX Plugins Window ?
Converting helpdesk block.txt version.php
1 <k?php
2
3 // This file is part of Moodle - http://moodle.org/
4 //
5 // Moodle is free software: you can redistribute it and/or modify
6 // it under the terms of the GNU General Public License as published by
7 // the Free Software Foundation, either version 3 of the License, or
8 // (at your option) any later version.
9 //
10 // Moodle is distributed in the hope that it will be useful,
11 // but WITHOUT ANY WARRANTY; without even the implied warranty of
12 // MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
13 // GNU General Public License for more details.
14 //
15 // You should have received a copy of the GNU General Public License
16 // along with Moodle. If not, see <http://www.gnu.org/licenses/>.
17
18
19 /**
20  * Progress Bar block version details
21  *
22  * @package contrib
23  * @subpackage block_progress
24  * @copyright 2010 Michael de Raadt
25  * @license http://www.gnu.org/copyleft/gpl.html GNU GPL v3 or later
26  */
27
28 $plugin->version = 2011052000;
29
PH length: 935 lines: 29 Ln:1 Col:1 Sel:0 UNIX ANSI INS
```