### R.E.A.D

How to select the right modules

https://2015.midcamp.org/node/34

MidCamp 2015

#MidCamp

## Who You Are

- New to Drupal.
- Want to improve habits.
- Session curious.

# Your Role

- A Drupal developer.
- A site architect.
- Functionality decision maker.

# What it is all About

How to quickly make smart, informed functionality decisions.

## What we will Cover

- Steps to decide between a contrib, patched or custom module.
- Basics of writing/contributing a patch.
- Basics of writing/contributing a module.

### Michael Miles

From: Boston, MA ..a.k.a Planet Hoth

Work: Genuine (@WeAreGenuine)

Exp: Working with Drupal since 2008.

Recently named an Acquia M.V.P

Twitter: @mikemiles86 Drupal.org: mikemiles86 All the Places: mikemiles86

mike-miles.com

### R.E.A.D

Research what exists.

Evaluate the options.

Analyze the gap.

Determine amount of change.

# Research What Exists



### **Isolate Keywords**

- Read documentation, specs, etc...
- Pay attention to unique nouns and verbs.
- Ask questions!

#### **Perform Searches**

- 30k+ Modules available.
- Favorite search engine "Drupal [keyword]".
- Search on Drupal.org

#### **Utilize the Community**

- Use IRC: #drupal, #drupal-support.
- Use Stack Exchange: drupal.stackexchange.com.
- Social Networks: G+, Facebook, LinkedIn.
- Even reddit! reddit.com/r/drupal.

- Isolate Keywords.
- Perform Searches.
- Utilize Community.

# Evaluate the Options



#### **Read the Description**

- What does the module do?
- What does the module not do?
- What does the module depend on?

### **Community Adoption**

- Downloads vs. Installs vs. Age.
- Activity of issue queue.
- Issues are good, not bad!

### **Maintainer Activity**

- Participate in issue queue?
- Accepting of feedback?
- Regular commits and/or releases?

- Read the description.
- Check community adoption.
- Check maintainer activity.

# Analyze the Gap



#### Download and Test the Module

- Gain a better understanding.
- Use a sandbox: simplytest.me.
- What is offered out of the box?

### **Discover Missing Functionality**

- What does it not do?
- Missing 80%? Missing 20%?
- Bigger gap = Bigger effort.

### **Check for Community Solutions**

- Look at the issue queue.
- Search "Drupal [module] [functionality]".
- Ask questions!

- Download and test the module.
- Discover missing functionality.
- Check for comunity solutions.

# Determine Change



#### Review the Module Code

- Does it follow coding standards?
- Is it extendable?
- Can you figure out what does what?

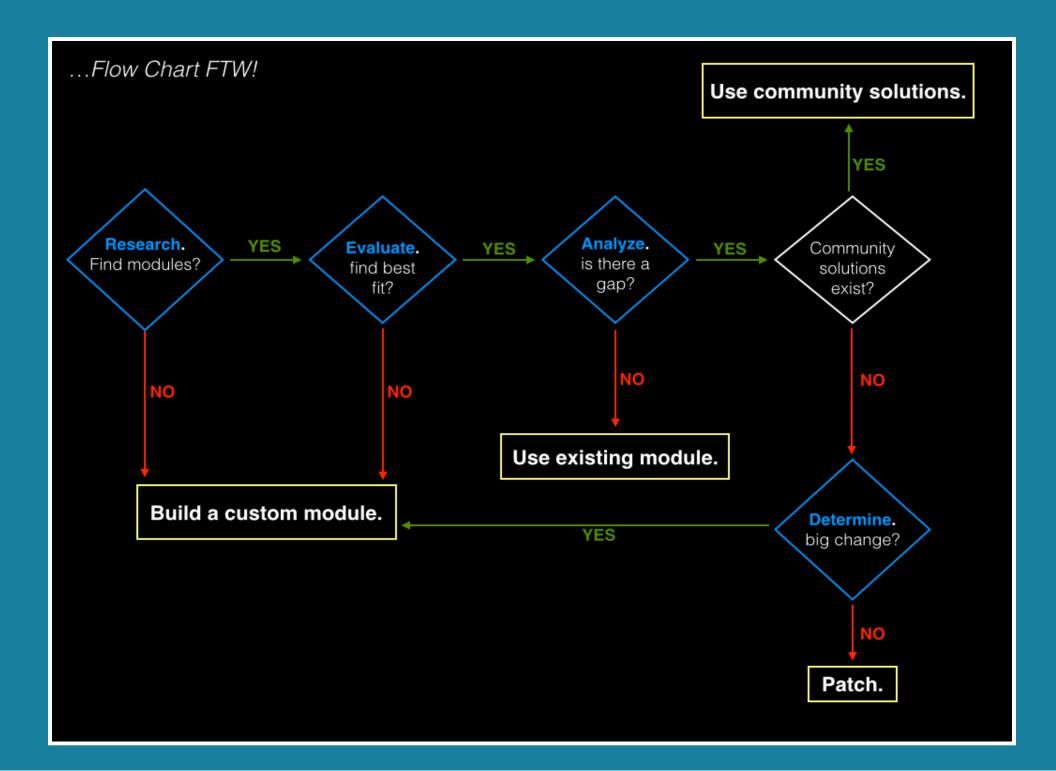
#### **Estimate Effort**

- How much code to rewrite?
- How much code to add?
- How much time is there?

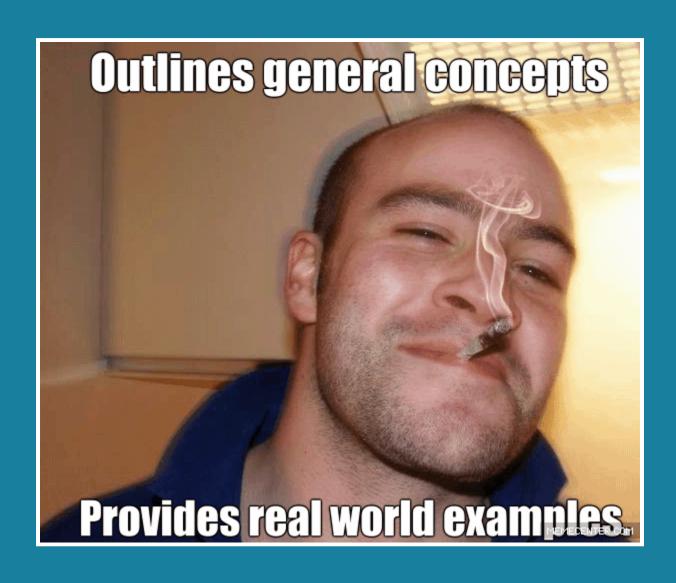
#### **Extend or Alter**

- Adding functionality?
- Changing functionality?
- Changing the modules goal?

- Review module code.
- Estimate effort.
- Extend or alter?



# Examples



# Scenario #1

### The Requirements

WHEN SAVING A FILE ENTITY
AND IT IS A JPEG IMAGE
THEN THE EXIF META DATA NEEDS TO BE CAPTURED
AND MAPPED TO CUSTOM FIELDS
AND THESE MAPPINGS NEED TO BE EXPORTABLE USING FEATURES

#### **Research What Exists**

#### Isolate Keywords

WHEN SAVING A FILE ENTITY

AND IT IS A JPEG IMAGE

THEN THE EXIF META DATA NEEDS TO BE CAPTURED

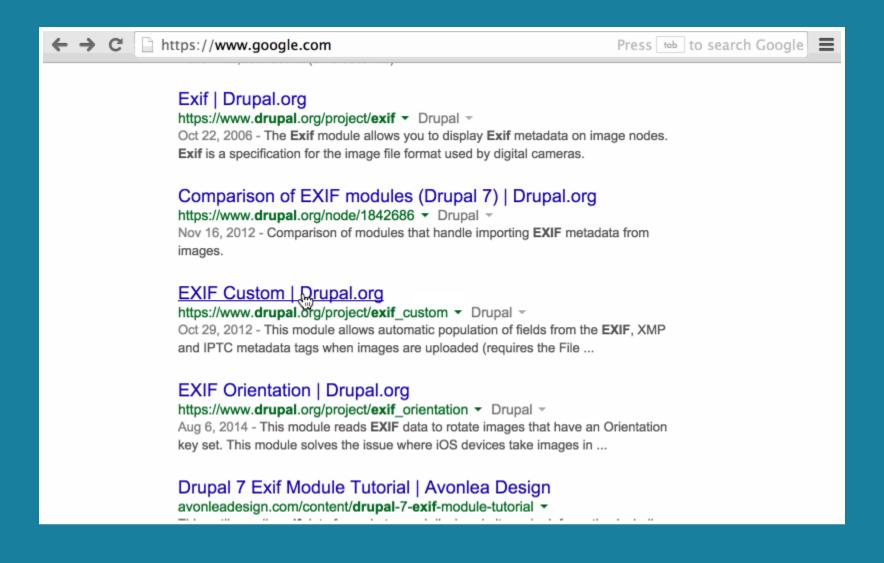
AND MAPPED TO CUSTOM FIELDS

AND THESE MAPPINGS NEED TO BE EXPORTABLE USING FEATURES

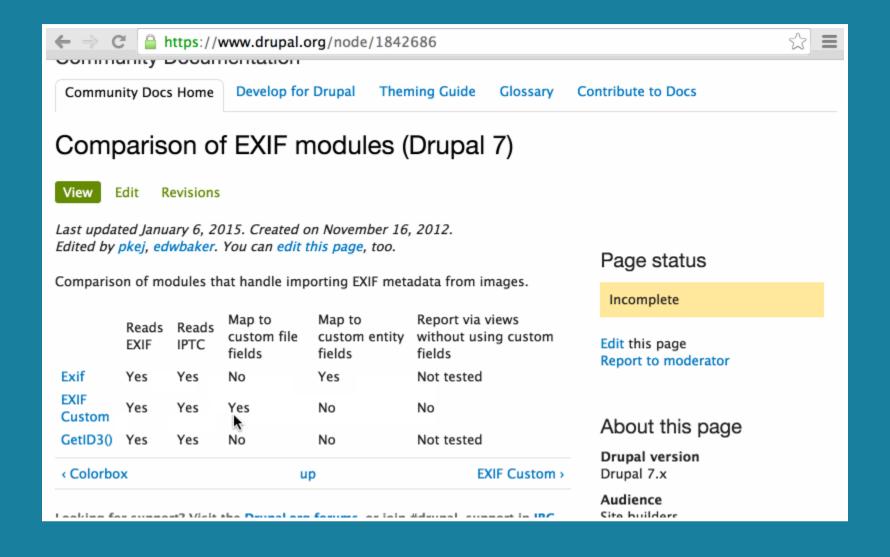
#### **Perform Search**

We will focus on the keyword "Exif"

#### **Search Google**



#### **Utilize the Community**



# **Evaluate the Options**

Exif custom seems like best fit.

## Read the Module Description

https://www.drupal.org/project/exif\_custom

## **EXIF Custom**



Version control

Revisions

Automated Testing

Posted by edwbaker on October 29, 2012 at 7:23pm

This module allows automatic population of fields from the EXIF, XMP and IPTC metadata tags when images are uploaded (requires the File Entity module).

Any number of custom mappings between image metadata tags and image fields can be created and saved and it is easy to manage what mapping is used on a site-wide and per-user basis.

To create a new mapping an example image file is uploaded – the available EXIF/XMP/IPTC fields are then listed and can be mapped to the fields attached to an image file entity.

#### Related Resources

- Installation instructions
- Comparison of image metadata modules
- Some example images for testing
- Some further example images for testing

#### References

 Baker, E. (2013) EXIF Custom: Automatic image metadata extraction for Scratchpads and Drupal Biodiversity Data Journal 1.

This module was developed as part of the eMonocot and Scratchpads projects.

#### **Project Information**

Maintenance status: Actively maintained

Development status: Under active development

Module categories: Content

Reported installs: 475 sites currently report using this module. View usage statistics.

Downloads: 4,183

Automated tests: Enabled

#### Maintainers for EXIF Custom

edwbaker – 23 commits

View all committers

#### Issues for EXIF Custom

To avoid duplicates, please search before submitting a new issue.

Search

Advanced search

All iceriae

23 open, 51 total

Bua report

13 open, 31 total

Subscribe via e-mail

Statistics



2 year graph, updates weekly

## **Look at Community Adoption**

https://www.drupal.org/project/exif\_custom

## **EXIF Custom**



Version control

Revisions A

**Automated Testing** 

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- Comparison of image metadata modules
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- Some further example images for testing

#### References

 Baker, E. (2013) EXIF Custom: Automatic image metadata extraction for Scratchpads and Drupal Biodiversity Data Journal 1.

This module was developed as part of the eMonocot and Scratchpads projects.

## **Project Information**

Maintenance status: Actively maintained
Development status: Under active development

Module categories: Content

Reported installs: 475 sites currently report using this module. View usage statistics.

Downloads: 4,183 Automated tests: Enabled Last modified: December 1, 2014

#### Maintainers for EXIF Custom

edwbaker – 23 commits

View all committer View commits

#### Issues for EXIF Custom

To avoid duplicates, please search before submitting a new issue.

Search

Advanced search

All igguag

23 open, 51 total

Rug report

13 open, 31 total

Subscribe via e-mail

Statistics



1st response 4 0 hours

Participants \*L.W.M. O

Open bugs \_\_\_\_\_

2 year graph, updates weekly

## **Look at Maintainer Activity**

https://www.drupal.org/project/exif\_custom

## **EXIF Custom**



Version control

Revisions

**Automated Testing** 

Posted by edwbaker on October 29, 2012 at 7:23pm

This module allows automatic population of fields from the EXIF, XMP and IPTC metadata tags when images are uploaded (requires the File Entity module).

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To create a new mapping an example image file is uploaded – the available EXIF/XMP/IPTC fields are then listed and can be mapped to the fields attached to an image file entity.

#### **Related Resources**

- Installation instructions
- Comparison of image metadata modules
- Some example images for testing
- Some further example images for testing

#### References

 Baker, E. (2013) EXIF Custom: Automatic image metadata extraction for Scratchpads and Drupal Biodiversity Data Journal 1.

This module was developed as part of the eMonocot and Scratchpads projects.

#### **Project Information**

Maintenance status: Actively maintained
Development status: Under active development

Module categories: Content

Reported installs: 475 sites currently report using this module. View usage statistics.

Downloads: 4,183
Automated tests: Enabled

## Maintainers for EXIF Custom

edwbaker - 23 commits last: 3 months ago, first: 2 years ago

View all committers
View commits

#### Issues for EXIF Custom

To avoid duplicates, please search before submitting a new issue.

Search

Advanced search

All issues

23 open, 51 total

Bug report

13 open, 31 total

Subscribe via e-mail

Statistics

New issues manufacture 0

Response rate LUL 0 %

1st response 1. 0 hours

Open bugs \_\_\_\_\_\_1

2 year graph, updates weekly

# Analyze the Gap

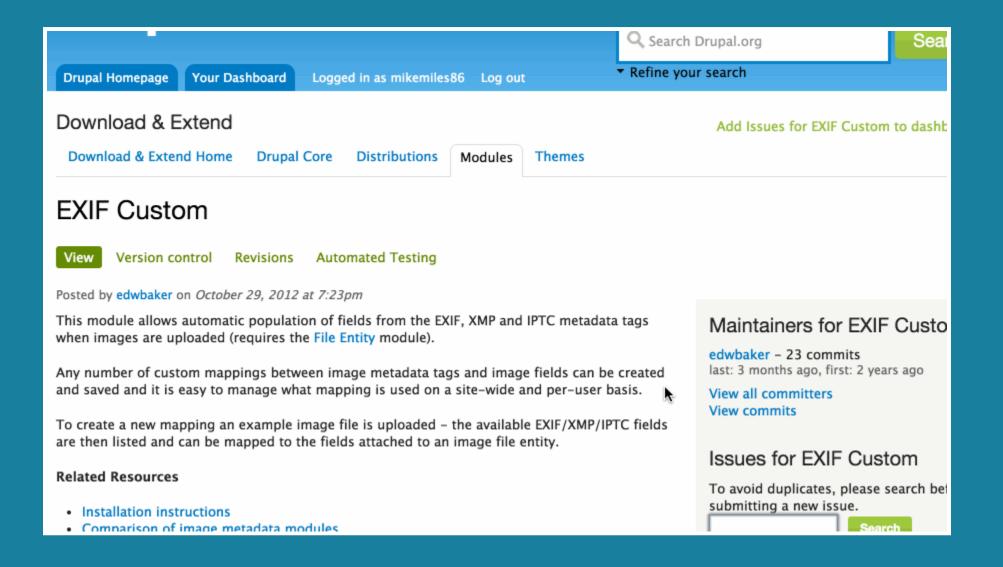
## Download and Test the Module

EXIF:COMPUTED:Width	1200	( HOHO
EXIF:COMPUTED:IsColor	1	none
EXIF:COMPUTED:ByteOrderMotorola	1	none
EXIF:COMPUTED:Copyright	© Copyright Notice	none
EXIF:COMPUTED:Thumbnail.FileType	2	none
EXIF.COMPOTED. I Humbhan. File Type	2	
EXIF:COMPUTED:Thumbnail.MimeType	image/jpeg	none
EXIF:IFD0:ImageDescription	Description	none
EXIF:IFD0:Orientation	1	Angle/Orientation
		none
EXIF:IFD0:XResolution	720000/10000	none

## **Discover Missing Functionality**

» Administration » Structure » Features » Create feature  tures •	MANAGE REVIEW OVERRIDES CREATE FEATURE SETTING	
GENERAL INFORMATION	COMPONENTS	
Name	Expand each component section and select which items should be included in this feature export.	
Example: Image gallery (Do not begin name with numbers.)	Search Clear Select all	
	► APACHE SOLR FRAMEWORK (1) (apachesolr_environment)	
Description	► APACHE SOLR SEARCH (2) (apachesolr_search_page)	
Provide a short description of what users should expect when they enable your feature.	▶ BLOCK SETTINGS (76) (fe_block_settings)	
	► BRIGHTCOVE (1) (brightcove_player)	
Package	► CUSTOM KENWORD SETS (25) (custom keywords sets)  DEPENDENCIES (221) (dependencies)	
Features		
Organize your features in groups.		
	► ENTITYQUEUE (2) (entityqueue_queue)	
Version	► FEATURE OVERRIDES (33) (features_override_items)	
Examples: 7.x-1.0, 7.x-1.0-beta1	▶ FEATURE OVERRIDES (INDIVIDUAL ADVANCED) (144) (features_override	
	► FIELD BASES (7) (field_base)	

## **Check for Solutions**



# **Determine Change**

## **Review Code**

```
function exif_custom_get_mapping(){
        //First try and get users default
471
         $mid = exif_custom_get_user_default();
         //Else use site default or item 0
    if($mid === FALSE){
           $mid = exif_custom_get_mid(variable_get('exif_custom_default', ''));
         $sql = "SELECT * FROM {exif custom mapped fields} WHERE mid = :mid AND img field != 'none'";

    $return = db_query($sql, array()
           ':mid' => $mid
return $return;

¬function exif_custom_qet_exif_fields($uri, $concatenate_arrays = TRUE){
        $fields = array();
484
        //Get all of the EXIF tags
         $exif = exif_read_data(drupal_realpath($uri), NULL, TRUE);
    if(is_array($exif)){
          foreach($exif as $name => $section){
           foreach($section as $key => $value){
              if($concatenate_arrays && is_array($value)){
                $value = implode(', ', $value);
              $fields['EXIF:'..$name ..':'..$key] = exif_custom_check_plain($value);
494
        $fields = array_merge($fields, exif_custom_get_xmp(drupal_realpath($uri)));
         //Look for IPTC data
         $size = getimagesize(drupal realpath($uri), $info);
```

## **Estimate Effort**

- Add Features integration.
- Alter primary key for mappings.
- Time is minimal.

## **Extend or Alter**

- Adding features support.
- Not changing what module does.
- Extending.

# Which Path to Choose

- Use module as is.
- Patch module.
- Write own module.

# Patch!

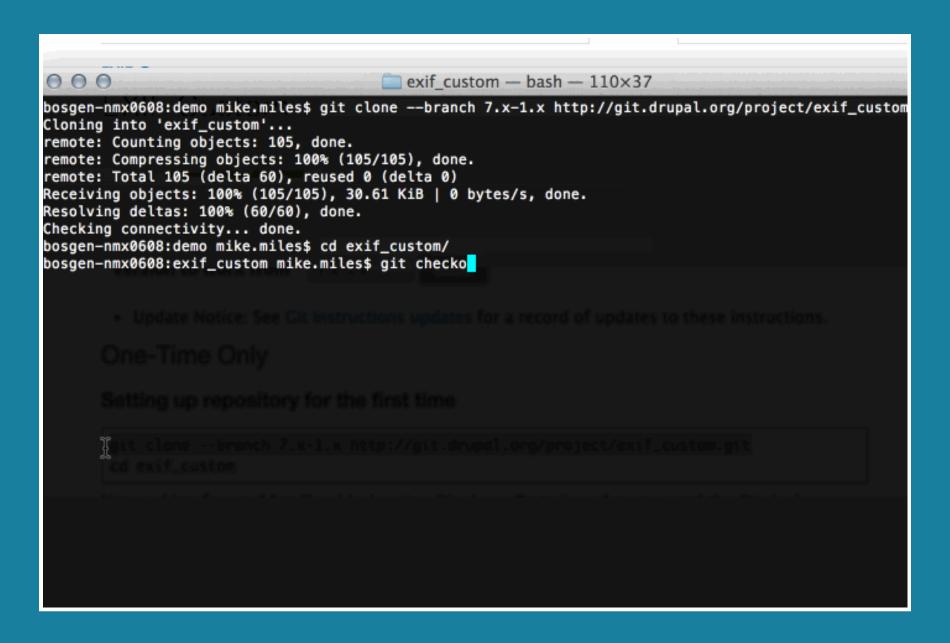
- Module meets 90% of needs.
- Small gap, small effort.
- Extends module.

# What is a Patch?

- drupal.org/patch.
- A structured list of changes to files.
- Re-appliable to files.
- Focused on a single change.

# Creating a Patch

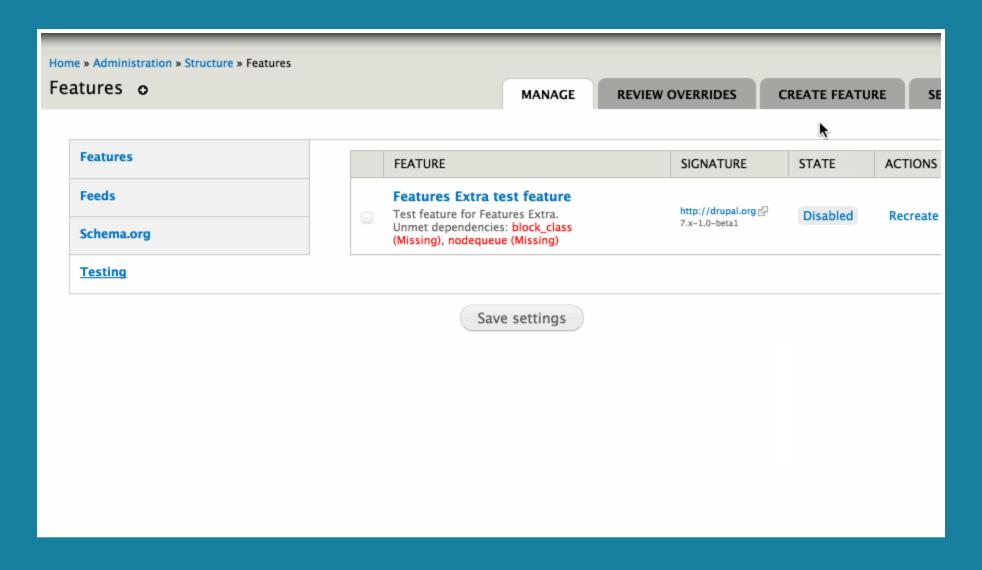
# Clone and branch module git repo.



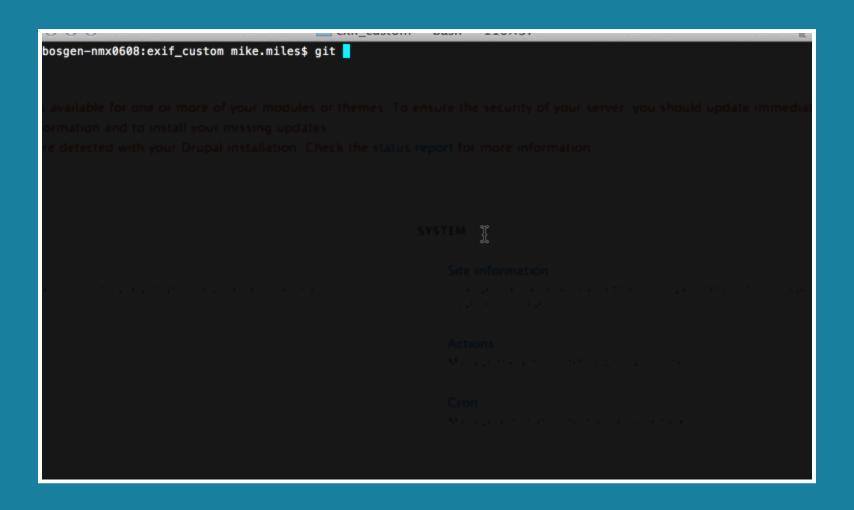
# Make changes to code.

```
PEN FILES
                                 exif_custom.features.inc ...
exif_custom.features.inc
                                    <?php
OLDERS
exif_custom
  exif_custom.features.inc
   exif_custom.info
   exif_custom.install
   exif_custom.module
                                     * Implements hook_features_api().
   LICENSE.txt
                               10 ▼ function exif_custom_features_api() {
                                     · return array(
                                     'exif_custom' => array(
                                           'name' \Rightarrow t('Exif Custom mappings.'),
                               13
                               14
                                     'dsefault_hook' => 'exif_custom_export_maps',
                             ) 16
                              17
e 15, Column 7
                                                                                                                   Spaces: 2
```

# Test your changes.



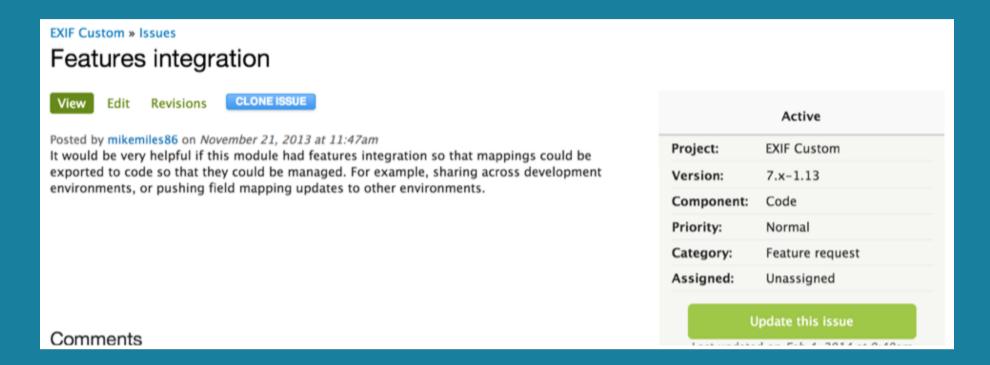
# Generate patch file.



```
diff --qit a/exif custom.features.inc b/exif custom.features.inc
new file mode 100644
index 0000000..243bbe2
--- /dev/null
+++ b/exif custom.features.inc
@@ -0,0 +1,158 @@
+<?php
+ * @file
+ * Features file for the exif custom module.
+ * Implements hook features api().
+function exif custom features api() {
+ return array(
   'exif custom' => array(
              => t('EXIF Custom mappings'),
      'default_hook' => 'exif_custom_export_maps',
    'feature source' => TRUE,
  'default file' => FEATURES DEFAULTS INCLUDED,
   'file' => drupal get path('module', 'exif custom') . '
```

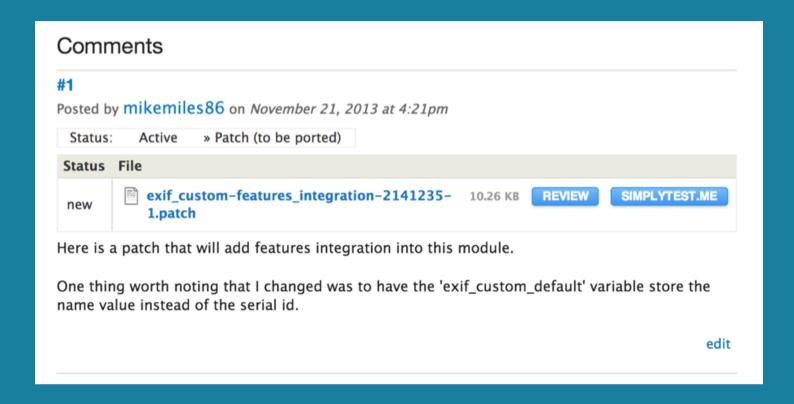
# Submitting a Patch

# Create/comment on issue queue.



# Attach your patch.

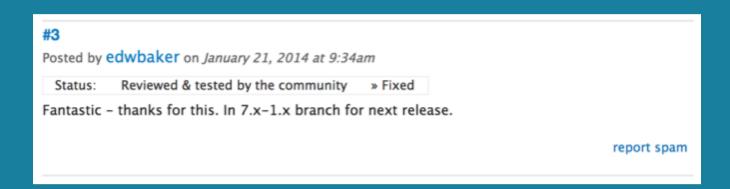
Follow patch naming standards [module]-[description]-[issue-number]-[comment-number].patch



## Watch for feedback.



# Wait for merge. (hopefully)



# Giving back to the community



# Scenario #2

# The Requirements

WHEN SITE USES WORKBENCH TO MODERATE CONTENT THEN CAN CREATE MULTIPLE TRANSITIONS BETWEEN STATES AND TRANSITIONS ARE EXPORTABLE USING FEATURES

WHEN EDITNG A CONTENT REVISION
THEN CAN SCHEDULE A TRANSITION
AND CAN SELECT DATE FOR FIRST STATE
AND CAN SELECT DATE FOR SECOND STATE

# **Research What Exists**

## **Isolate Keywords**

WHEN SITE USES WORKBENCH TO MODERATE CONTENT
THEN CAN CREATE MULTIPLE TRANSITIONS BETWEEN STATES
AND TRANSITIONS ARE EXPORTABLE USING FEATURES

WHEN EDITNG A CONTENT REVISION
THEN CAN SCHEDULE A TRANSITION
AND CAN SELECT DATE FOR FIRST STATE
AND CAN SELECT DATE FOR SECOND STATE

## **Search for Existing Modules**

We will focus on the keywords "workbench schedule"

## Search Drupal



# **Evaluate the Options**

Look at Scheduler Workbench Integration.

## Read the Module Description



https://www.drupal.org/project/scheduler workbench

## Scheduler Workbench Integration



Version control

Revisions

**Automated Testing** 

Posted by wwhurley on June 20, 2012 at 3:01pm

## Scheduler Workbench Integration

Provides integration between the Scheduler module and the Workbench Moderation module to set a moderation state when Scheduler triggers automatic publication unpublication of a module. It also adds a field to capture a default value for unpublication and adds a permission to determine which users can override this default value.

## Requirements

- Scheduler (version 7.x-1.1 or higher)
- Workbench Moderation

## Thanks

Sponsored by Forum One Communications

## **Project Information**

Maintenance status: Actively maintained

Development status: Under active development Module categories: Administration, Utility

Reported installs: 1,854 sites currently report using this module. View usage statistics.

Downloads: 13,994

## Maintainers for Scheduler Workbench Integration

wwhurlev - 2 commits

## Issues for Scheduler Workbench Integration

To avoid duplicates, please search be submitting a new issue.

## **Look at Community Adoption**



https://www.drupal.org/project/scheduler workbench

## Scheduler Workbench Integration



Version control

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## **Project Information**

Maintenance status: Actively maintained

Development status: Under active development Module categories: Administration, Utility

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Downloads: 13,994

Last modified: December 1, 2014

## Maintainers for Scheduler Workbench Integration

wwhurlev - 2 commits

## Issues for Scheduler Workbench Integration

To avoid duplicates, please search be submitting a new issue.

## **Look at Maintainer Activity**



C https://www.drupal.org/project/scheduler workbench

## Scheduler Workbench Integration



Version control

Revisions

**Automated Testing** 

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#### **Project Information**

Maintenance status: Actively maintained

Development status: Under active development Module categories: Administration, Utility

Reported installs: 1,854 sites currently report using this module. View usage statistics.

Downloads: 13,994

### Maintainers for Scheduler Workbench Integration

wwhurley - 2 commits last: 1 year ago, first: 2 years ago

View all committers View commits

### Issues for Scheduler Workbench Integration

To avoid duplicates, please search be submitting a new issue.

Search

Advanced search

All issues

12 open, 29 total

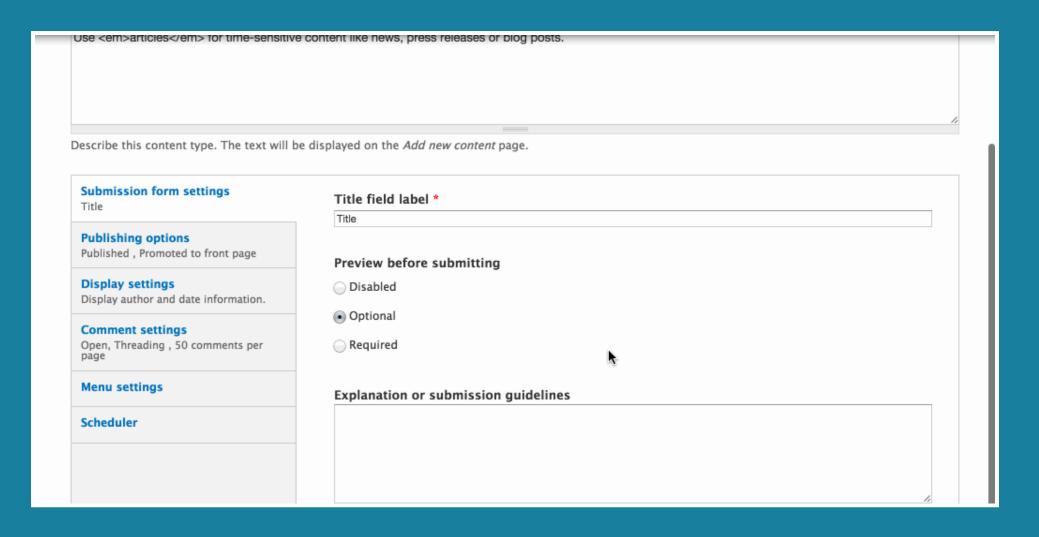
Bug report

6 open, 16 total Subscribe via e-mail

Statistics

# Analyze the Gap

## Download and Test the Module



## **Discover Missing Functionality**

- Unable to create different transitions per type.
- Unable to select per revision.
- No features support.

# **Determine Change**

## **Review Code**

```
* @param string $action
154
            Action being performed on node
       function_scheduler_workbench_scheduler_api(&$node, $action) {
      if (!workbench_moderation_node_type_moderated($node->type)) {
           return;
         $func = "_scheduler_workbench_scheduler_{$action}";
     if (function_exists($func)) {
           $func($node);
164
166
167
170
        * @param stdClass $node
171
            Node being unpublished
      function_scheduler_workbench_scheduler_unpublish(&$node) {
174
      if ($state = variable_get('scheduler_unpublish_moderation_state_'.
           workbench_moderation_moderate($node, $state);
175
176
177
178
179
     ⊝/**
        * Handles when scheduler publishes a node.
        * @param stdClass $node
           Node being published
184
      function _scheduler_workbench_scheduler_pre_publish(&$node) {
      if ($state = variable get('scheduler publish moderation_state_' . $
           $node->workbench_moderation_state_current = $node->workbench_mode
           $node->workbench_moderation_state_new = $state;
190
```

## **Estimate Effort**

- Refactor creating schedules & transitions.
- Decouple transitions from content types.
- Add Features integration.
- Will take time.

## **Extend or Alter**

- Changing how transitions/schedules are created.
- Changing purpose of module.
- Altering.

## Which path to choose?

- Use module as is.
- Patch module.
- Write own module.

## Build a custom module!

- Too big/complicated to be a patch.
- Would alter module goals.
- No other module exists to support use cases.

# Writing a Module

- drupal.org/developing/modules.
- Follow Drupal coding standards.
- Make use of hooks and APIs.
- Test your code!

# Contributing a Module

Ask yourself:

Could others use this?
Seriously, is it abstracted enough?

## Name module appropriately.

- Namespace based on dependencies.
- Be clear, not clever.
- Should indicate what module does.



https://www.drupal.org/project/workbench\_scheduler

### Workbench Scheduler

create schedules that change moderated content from one workbench moderation state to another. When editing moderated content, users can select a schedule and set the start and end dates for when it should be applied.

A simple example of when this can be helpful is to have a content revision set to be published on a specific date, and

Users with the correct permissions can create custom workbench schedules where they specify:

- The moderation state to be set when content reaches
- The moderation state to be set when content reaches
- Which content types should be able to use the schedule

can select which schedule to apply to their content and set the start and end dates from the "Workbench Scheduler"

It is possible to select only a start or end date, so that only the respective state change will be applied.

Workbench scheduler comes packaged with views support



## Maintainers for Workbench Scheduler

lpeabody - 2 commits

partdigital - 8 commits

## Issues for Workbench Scheduler

To avoid duplicates, please search before

## Provide a detailed description.

- Explain what module does and does not do.
- Outline any dependencies.
- Help fellow R.E.A.D-ers.

Workbench scheduler provides users with the ability to create schedules that change moderated content from one workbench moderation state to another. When editing moderated content, users can select a schedule and set the start and end dates for when it should be applied.

A simple example of when this can be helpful is to have a content revision set to be published on a specific date, and unpublished at another.

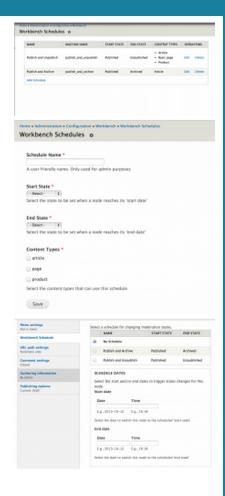
Users with the correct permissions can create custom workbench schedules where they specify:

- The moderation state to be set when content reaches the "start date"
- The moderation state to be set when content reaches the "end date"
- Which content types should be able to use the schedule

When editing content, users with the correct permissions can select which schedule to apply to their content and set the start and end dates from the "Workbench Scheduler" settings of the node edit form.

It is possible to select only a start or end date, so that only the respective state change will be applied.

Workbench scheduler comes packaged with views support to allow the creation of custom dashboards.



Workbench scheduler comes packaged with features support to allow exporting of schedules.

#### **Dependencies**

This module is dependent on the following modules:

- workbench moderation
- Date
- Date\_popup

# Be a good maintainer.

- Bugs are badges not bruises.
- Participate in the issue queue.
- Update, release and improve.

### Maintainers for Workbench Scheduler

mikemiles86 - 12 commits

last: 2 weeks ago, first: 1 year ago

**Ipeabody** - 2 commits

last: 1 month ago, first: 1 month ago

partdigital - 8 commits

last: 1 month ago, first: 5 months ago

View all committers View commits

### Issues for Workbench Scheduler

To avoid duplicates, please search before submitting a new issue.

Search

Advanced search

All issues

8 open, 41 total

Bug report

1 open, 15 total

Subscribe via e-mail

Statistics

New issues \_\_\_\_\_\_0

Response rate \_\_\_\_\_\_\_\_\_0 %

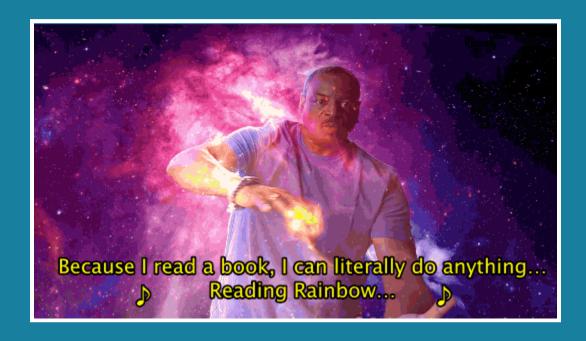
1st response \_\_\_\_\_\_ 0 hours

Open bugs \_\_\_\_\_\_\_1

Participants \_\_whw\\ 0

2 year graph, updates weekly

# Let's review



# Remember to R.E.A.D

Research what exists.

Evaluate the options.

Analyze the gap.

Determine amount of change.

bit.ly/drupalREAD

**Sprint Sunday 09:00-17:00** 

The Nerdery, 300 N Elizabeth St., Suite 500C

http://2015.midcamp.org/schedule

Learn through contribution

Contributors of all skill sets and levels are welcome and encouraged

# Feedback

https://joind.in/talk/view/13791

Speaker Name: @mikemiles86

#MidCamp

# Thank You!

