



Ottawa
WordCamp
2016

We can write 30 features
in 30 lines of code today
and other WordPress
Enhancements

What will this lightning strike?

- Hooks
 - Actions
 - Filters
- Tools
 - How to find the hooks you need
 - How to understand what they do
- 30 features in 30 lines of code
 - ?!!#WTFBBQ!!?



Who's thundering thru it?

- Jamie Oastler
 - Carleton Graduate
 - Lead WordPress Developer @ Innovapost
 - Farmer
- Where / How to reach me online?



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HOOKS

Hooks are provided by WordPress to allow your plugin to 'hook into' the rest of WordPress; that is, to call functions in your plugin at specific times, and thereby set your plugin in motion.

There are two kinds of WordPress hooks:



https://codex.wordpress.org/Plugin_API




ACTIONS

Actions are triggered by specific events that take place in WordPress. An action is a custom php function defined in your plugin (or theme). The function is hooked (set to respond) to some of these events.

```
add_action ( string $tag,  
             callable $function_to_add,  
             int $priority = 10,  
             int $accepted_args = 1 )
```

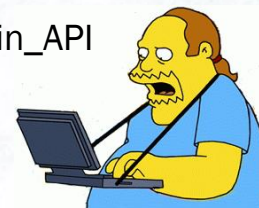
```
do_action ( string $tag, $arg = '' )
```



The basic steps to make this happen are:

1. Find action you want to hook into - **do_action()**
2. Create a function in your theme or plugin that does something and hook it via **add_action()**
3. Profit

https://codex.wordpress.org/Plugin_API



ACTIONS

1) Plugin – UCantTouchThis

```
for ($i = 0; $i < 3; $i++) {  
    echo "You can't touch this";  
}
```

```
do_action('break it down');
```



2) Functions.php

```
add_action('break it down', 'stop', 10);  
function stop() {  
    echo "<h1>Hammer Time</h1>";  
}
```

3) Result:

You can't touch this

You can't touch this

You can't touch this

[Break It Down → Stop]

HAMMER TIME

FILTERS

Filters are functions that WordPress passes data through, at certain points in execution, just before taking some action with the data. Filters sit:

- Between the database and the browser (when generating pages)
- Between the browser and the database (when adding content to the db)

```
add_filter ( string $tag,  
             callable $function_to_add,  
             int $priority = 10,  
             int $accepted_args = 1 )
```

```
apply_filters ( string $tag, mixed $value )
```

The basic steps to make this happen are:

1. Find filter you want to hook into – **apply_filters()**
2. Create a function in your theme or plugin that returns a value and hook it using the **add_filter()** function
3. Profit

https://codex.wordpress.org/Plugin_API



FILTERS

1) WordPress Core


```
function the_content( $more_link_text = null, $strip_teaser = false) {  
    $content = get_the_content( $more_link_text, $strip_teaser );  
    $content = apply_filters( 'the_content', $content );  
    $content = str_replace( ']]>', ']]&gt;', $content );  
    echo $content;  
}
```

2) Functions.php

```
add_filter('the_content', 'rickroll', 10);  
function rickroll($content) {  
    $content = "We're no strangers to love<br/>";  
    $content .= "You know the rules and so do I<br/>";  
    $content .= "A full commitment's what I'm thinking of<br/>";  
    $content .= "You wouldn't get this from any other guy<br/>";  
    return $content;  
}
```



RTFM - <https://developer.wordpress.org/reference>

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Developer Resources

Search Results / wp_head

4 results found for "wp_head". Showing results 1 to 4.

wp_head

wp_head

wp_headers

activate_wp_head

wp_header_image_attachment_metadata

wp_head

Action Hook: Print scripts or data in the head tag on the front end.

Source: [wp-includes/general-template.php:2528](#) [Used by 1 function](#) | [Uses 0 functions](#)

wp_headers

Filter Hook: Filter the HTTP headers before they're sent to the browser.

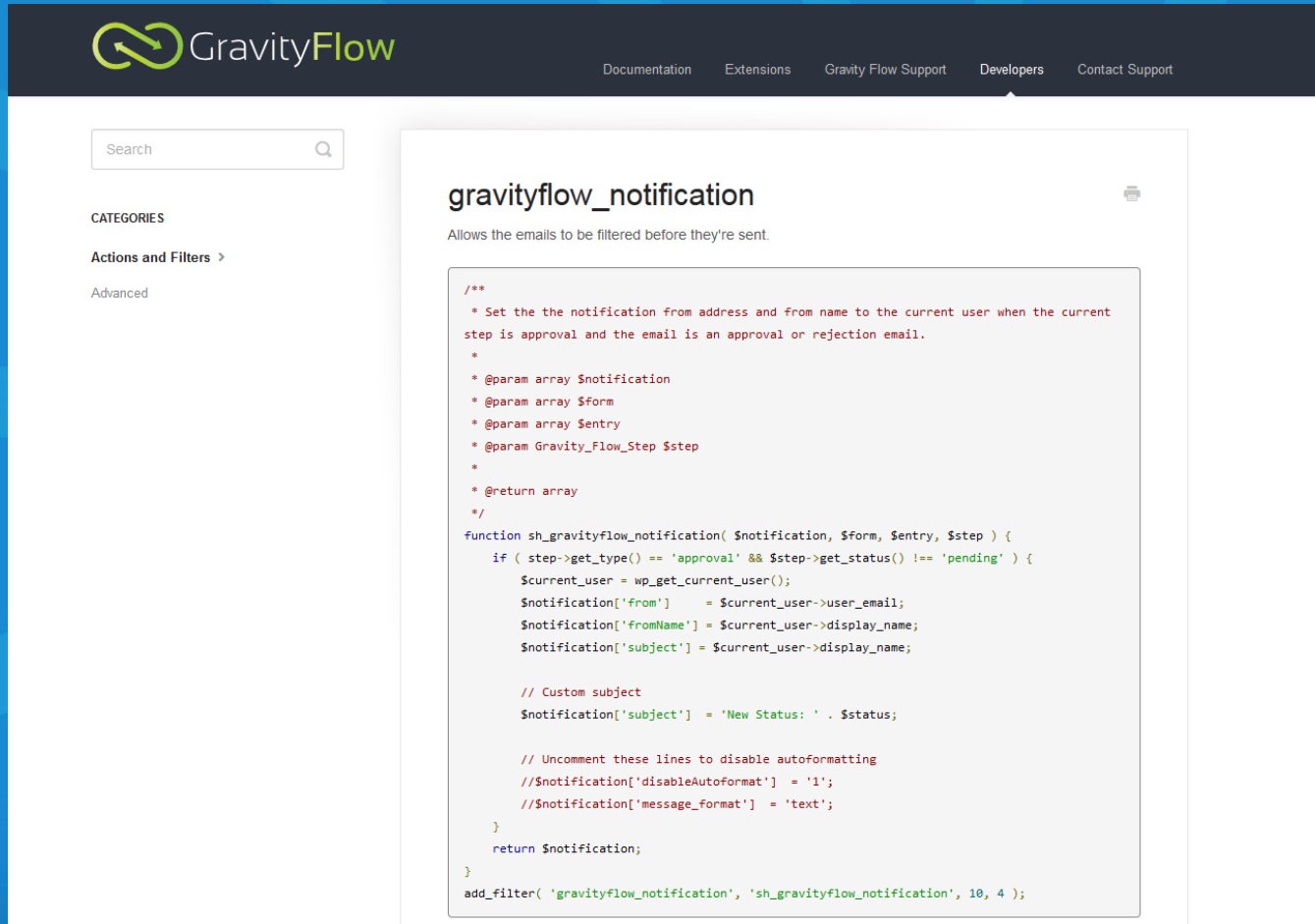
Source: [wp-includes/class-wp.php:472](#) [Used by 1 function](#) | [Uses 0 functions](#)

activate_wp_head

Action Hook: Fires before the Site Activation page is loaded, but on the wp_head action.

Source: [wp-activate.php:45](#) [Used by 1 function](#) | [Uses 0 functions](#)

RTFM – Premium Plugins generally have premium documentation options



The screenshot shows the GravityFlow plugin documentation page. The header includes the GravityFlow logo and navigation links: Documentation, Extensions, Gravity Flow Support, Developers, and Contact Support. A search bar is located on the left. The left sidebar lists categories: Actions and Filters (with a right arrow) and Advanced. The main content area displays the `gravityflow_notification` filter, which allows emails to be filtered before they are sent. Below the title is a code block containing PHP code for the `sh_gravityflow_notification` function.

```
/**
 * Set the the notification from address and from name to the current user when the current
 * step is approval and the email is an approval or rejection email.
 *
 * @param array $notification
 * @param array $form
 * @param array $entry
 * @param Gravity_Flow_Step $step
 *
 * @return array
 */
function sh_gravityflow_notification( $notification, $form, $entry, $step ) {
    if ( $step->get_type() == 'approval' && $step->get_status() != 'pending' ) {
        $current_user = wp_get_current_user();
        $notification['from'] = $current_user->user_email;
        $notification['fromName'] = $current_user->display_name;
        $notification['subject'] = $current_user->display_name;

        // Custom subject
        $notification['subject'] = 'New Status: ' . $step->get_status();

        // Uncomment these lines to disable autoformatting
        // $notification['disableAutoFormat'] = '1';
        // $notification['message_format'] = 'text';
    }
    return $notification;
}
add_filter( 'gravityflow_notification', 'sh_gravityflow_notification', 10, 4 );
```

TOOLS

TOOLS

- **Debug Bar**

<https://en-ca.wordpress.org/plugins/debug-bar/>

- **Actions + Filters Add-On**

<https://en-ca.wordpress.org/plugins/debug-bar-actions-and-filters-addon/>

The screenshot shows the WordPress Debug Bar interface. At the top, it displays the WordPress logo, site name 'Test WP 4.4.0', version '3', and a '+ Nieuw' button. On the right, it says 'Debug' and 'Hallo, admin' with a user icon. Below this is a table with system information:

ADVIESENZO #1	PHP 5.4.20	MySQL 5.0.88	Memory Usage 21.949.880 bytes
---------------	------------	--------------	-------------------------------

On the left is a sidebar menu with the following items: Queries, WP Query, Object Cache, Action Hooks, Filter Hooks, Cron, Script & Style Dependencies, Post Types, Rewrite Rules, Roles and Capabilities, Scherm info, and Shortcodes. The main area displays summary statistics:

TOTAL HOOKS WITH REGISTERED ACTIONS/FILTERS:	TOTAL REGISTERED CALLBACKS:	UNIQUE REGISTERED CALLBACKS:
345	674	395

Below this is a table listing hooks and their registered callbacks:

Hook	Priority	Registered callbacks
_admin_menu	10	▪ wp_widgets_add_menu
_core_updated_successfully	10	▪ _redirect_to_about_wordpress
activate_	10	▪ [object] Plugin_Register -> Activated
activate_demo-data-creator/demodata.php	10	▪ [object] Plugin_Register -> Activated
activate_header	10	▪ _wp_admin_bar_init
activity_box_end	10	▪ wp_dashboard_quota

Hookr.io

- Index – Search actions + filters of WP core and 885 plugins
- Plugin – Real-time illustration of actions & filters that fire during page life cycle

get_search_form

Display search form.

Description

Default to echo and not return the form.

```
(string|null) get_search_form( $echo = true );
```

Will first attempt to locate the searchform.php file in either the child or the parent theme. If not found, then the default search form will be displayed. The default search form is HTML. The filter `get_search_form` is a filter applied to the search form HTML in order to edit or replace it. The filter `get_search_form` is applied to the search form HTML in order to edit or replace it.

This function is primarily used by themes which want to hardcode the search form in the search widget in WordPress.

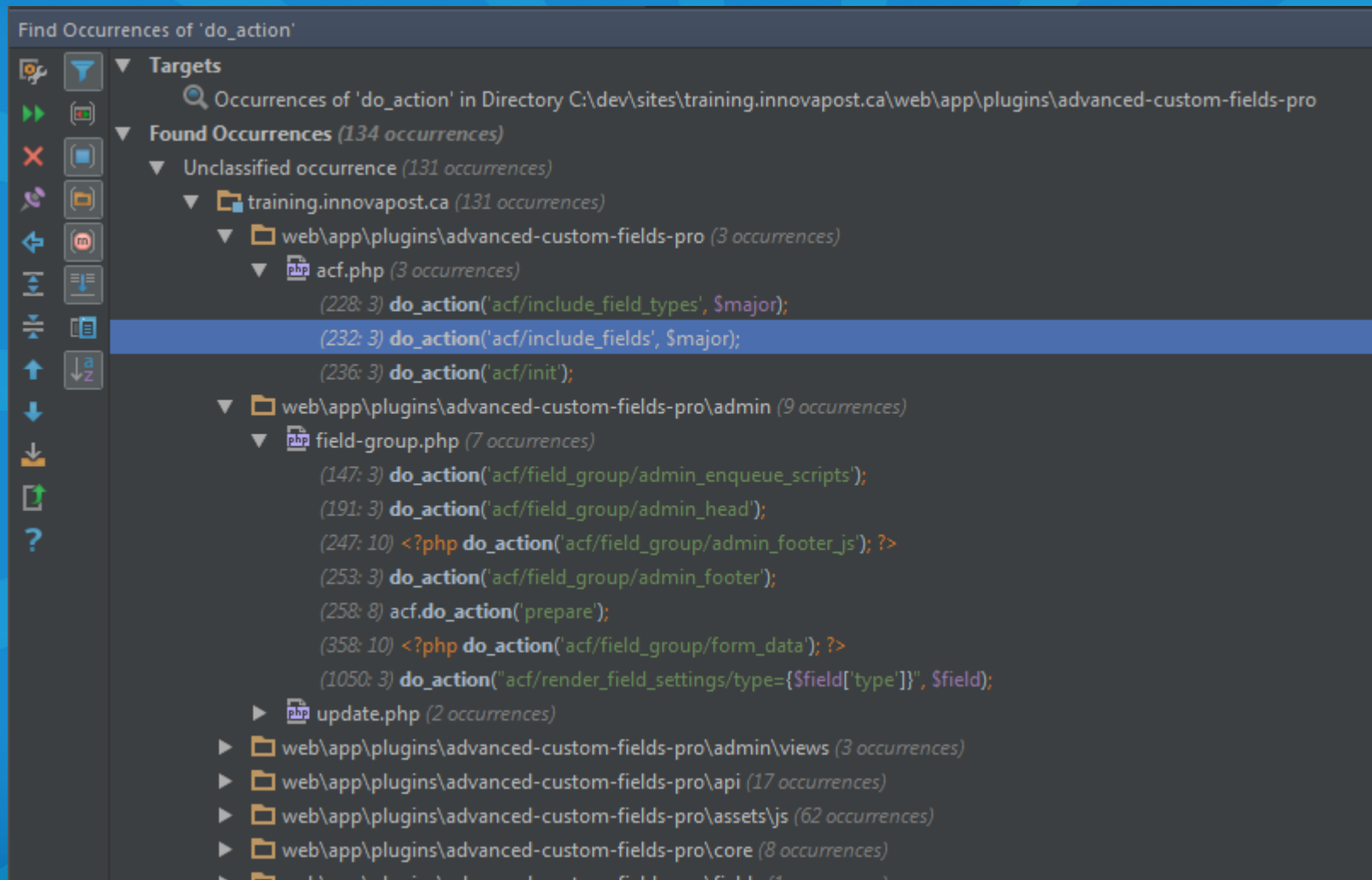
There is also an action that is called whenever the function is run called, `'pre_get_search_form'`. This is useful for outputting JavaScript that the search relies on or various formatting to the search. To give a few examples of what it can be used for.

Returns (string|null)

The screenshot shows the Hookr.io interface with a top navigation bar (WordPress, Test, Customize, 4, 0, New, Hookr). The main content area is titled "Test" and displays a real-time illustration of the page life cycle. On the right, a vertical timeline shows the sequence of events: `loop_start`, `the_post`, `get_template_part`, `get_sidebar`, `dynamic_sidebar_before`, `dynamic_sidebar`, `pre_get_search_form`, and `get_search_form`. The `pre_get_search_form` action is highlighted, showing the search form HTML being rendered. The search form is a simple text input with the placeholder "Search ...".

TOOLS

Search The Source Code – do_action / apply_filters



The screenshot shows a search interface for finding occurrences of the string 'do_action'. The search results are organized into a tree view on the left and a list of code snippets on the right. The tree view shows the following structure:

- Find Occurrences of 'do_action'
- Targets
 - Occurrences of 'do_action' in Directory C:\dev\sites\training.innovapost.ca\web\app\plugins\advanced-custom-fields-pro
- Found Occurrences (134 occurrences)
 - Unclassified occurrence (131 occurrences)
 - training.innovapost.ca (131 occurrences)
 - web\app\plugins\advanced-custom-fields-pro (3 occurrences)
 - acf.php (3 occurrences)
 - (228: 3) `do_action('acf/include_field_types', $major);`
 - (232: 3) `do_action('acf/include_fields', $major);`
 - (236: 3) `do_action('acf/init');`
 - web\app\plugins\advanced-custom-fields-pro\admin (9 occurrences)
 - field-group.php (7 occurrences)
 - (147: 3) `do_action('acf/field_group/admin_enqueue_scripts');`
 - (191: 3) `do_action('acf/field_group/admin_head');`
 - (247: 10) `<?php do_action('acf/field_group/admin_footer_js');`
 - (253: 3) `do_action('acf/field_group/admin_footer');`
 - (258: 8) `acf.do_action('prepare');`
 - (358: 10) `<?php do_action('acf/field_group/form_data');`
 - (1050: 3) `do_action("acf/render_field_settings/type={ $field['type'] }", $field);`
 - update.php (2 occurrences)
 - web\app\plugins\advanced-custom-fields-pro\admin\views (3 occurrences)
 - web\app\plugins\advanced-custom-fields-pro\api (17 occurrences)
 - web\app\plugins\advanced-custom-fields-pro\assets\js (62 occurrences)
 - web\app\plugins\advanced-custom-fields-pro\core (8 occurrences)
 - web\app\plugins\advanced-custom-fields-pro\fields (1 occurrence)

The code snippets are displayed in a list view on the right, showing the line number, the count of occurrences, and the code snippet itself. The snippet (232: 3) `do_action('acf/include_fields', $major);` is highlighted in blue.

The Challenge:

30

CREATE
FEATURES IN
LINES OF CODE
OR LESS



FEATURE SUGGESTION + MEME MAKER



WHAT TO BUILD?

~~LET'S ASK THE INTERNET FOR IDEAS~~



FEATURE SUGGESTION + MEME MAKER

What's the plan, Stan?

- **Memes**

- Image Annotation - <https://github.com/flipbit/jquery-image-annotate>
- Custom Post Type - WCK
- Meta Data – Advanced Custom Fields

- **Sharing**

- Gravity Forms
- GravityPDF (or mPDF or jsPDF)

- **Net New Code:**

- add_action - admin_enqueue_styles for CSS / JS
- GravityPDF Config + Template

FEATURE SUGGESTION + MEME MAKER

Edit Card


Add Card

Now You're Thinging

Permalink: <http://seussup.dev/moments/thinging/> Edit

Print + Preview Details

Now you're thinging!



Message

OK Cancel

Message Max Font Size

45

Message Font Colour

Select Color

Message Text Alignment

☒ Left

☐ Center

☐ Right

Published

Preview Changes



Status: Published Edit

Visibility: Public Edit

Published on: May 19, 2015 @ 11:17 Edit

Move to Trash Update

Featured Image



Remove featured image

FEATURE SUGGESTION + MEME MAKER

Meme Maker

1 Card Selection 2 Card Details 3 Preview & Submit

Pick your meme *



Who here hears
an incredible
idea?



Now you're thingin'!



Next

FEATURE SUGGESTION + MEME MAKER

1 Card Selection 2 Card Details 3 Preview & Submit

Submittor(s)*

Michael Corkum ✕

Message*

A method to help people celebrate the successes they have in their community - like an employee recognition program.

Inspiration:

- [kudosnow.com](#)
- [dueprops.com](#)
- [youearnedit.com](#)

183 of 500 max characters

Previous

Next


FEATURE SUGGESTION + MEME MAKER

Now you're thinging!



A method to help people celebrate the successes they have in their community like an employee recognition program. Inspiration: kudosnow.com, dueprops.com, youearnedit.com

FEATURE SUGGESTION + MEME MAKER

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Code Reference

Browse: [Home](#) / [Reference](#) / [Hooks](#) / [admin_enqueue_scripts](#)

`do_action ('admin_enqueue_scripts', string $hook_suffix)`




Enqueue scripts for all admin pages.

Source file: [wp-admin/admin-header.php](#)

Selectively enqueue a script in the admin

The `admin_enqueue_scripts` action hook can also be used to target a specific admin page. In this example we are loading a javascript file in the head section of `edit.php`.

```
/**
 * Enqueue a script in the WordPress admin, excluding edit.php.
 *
 * @param int $hook Hook suffix for the current admin page.
 */
function wpdocs_selectively_enqueue_admin_script( $hook ) {
    if ( 'edit.php' != $hook ) {
        return;
    }
    wp_enqueue_script( 'my_custom_script', plugin_dir_url( __FILE__ ) . 'myscript.js', array(), '1.0' );
}
add_action( 'admin_enqueue_scripts', 'wpdocs_selectively_enqueue_admin_script' );
```

 0   Contributed by [Drew Jaynes](#) — Added on September 26, 2014 at 7:45 pm

FEATURE SUGGESTION + MEME MAKER

```
1  <?php
2  //Expectation that full-size versions are 1000x705
3  add_image_size( 'meme-annotate', 497, 350 );
4
5  //Setup CSS / JS on admin to allow annotation of image storing into post meta fields
6  add_action( 'admin_enqueue_scripts', 'enqueue_annotate_styles' );
7  add_action( 'admin_enqueue_scripts', 'enqueue_annotate_scripts' );
8
9  function enqueue_annotate_styles() {
10     wp_enqueue_style( "jquery-annotate", plugin_dir_url( __FILE__ ) . 'css/annotate.min.css', array(), '1.0', 'all' );
11     wp_enqueue_style( 'seussup-meme-admin', plugin_dir_url( __FILE__ ) . 'css/seussup-meme-admin.css', array(), '1.0', 'all' );
12 }
13
14 function enqueue_annotate_scripts() {
15     wp_enqueue_script( "jquery-annotate", plugin_dir_url( __FILE__ ) . 'js/jquery.annotate.js', array( 'jquery', 'jquery-ui-core', 'jquery-ui-resizable' ), '1.0', false );
16     wp_enqueue_script( 'seussup-meme-admin', plugin_dir_url( __FILE__ ) . 'js/seussup-meme-admin.js', array( 'jquery-annotate' ), '1.0', false );
17 }
```

```

1  (function( $ ) {
2      'use strict';
3      $(function() {
4          if( $("#meme_annotation_box").length > 0 ) {
5              //Override the annotation append (save) function with the ACF meta fields
6              jQuery.fn.annotateImage.appendPosition = function (form, editable) {
7                  if (editable.note.id == "annotate-message") {
8                      $("#meme_message_width input").val(parseInt(editable.area.width() / 497 * 100));
9                      $("#meme_message_h_offset input").val(parseInt(editable.area.position().left / 497 * 100));
10                     $("#meme_message_height input").val(parseInt(editable.area.height() / 350 * 100));
11                     $("#meme_message_v_offset input").val(parseInt(editable.area.position().top / 350 * 100));
12                 }
13             };
14             var imgSrc = $(".attachment-post-thumbnail").attr("src");
15
16             if (!imgSrc) {
17                 $("#meme_annotation_box .acf-input").html("<p>You must set featured image and save as draft to specify meme details</p>");
18             } else {
19                 //Get the meme-annotate version (497x350)
20                 var imgArray = imgSrc.split("-");
21                 imgArray.pop();
22                 var imgModify = imgArray.join("-") + "-497x350.jpg";
23
24                 //Create new image and prepare annotation for the message box
25                 $("#meme_annotation_box").append("<img id='meme-annotation' src='" + imgModify + "'/>");
26
27                 $("#meme-annotation").annotateImage({
28                     editable: true,
29                     useAjax: false,
30                     defaultHeight: "350px",
31                     defaultWidth: "497px",
32                     notes: [{
33                         "top": parseInt($("#meme_message_v_offset input").val() * 350 / 100), "left": parseInt($("#meme_message_h_offset input").val() * 497 / 100),
34                         "width": parseInt($("#meme_message_width input").val() * 497 / 100), "height": parseInt($("#meme_message_height input").val() * 350 / 100),
35                         "text": "Message", "id": "annotate-message", "editable": true
36                     }]
37                 });
38             }
39         }
40     });
41 }( jQuery );

```

Override annotation adjustments to store into CSS hidden ACF meta fields

Set thumbnail of featured image as source for annotation box

Annotate image w/ defaults from ACF meta

FEATURE SUGGESTION + MEME MAKER



GRAVITY PDF

<https://developer.gravitypdf.com/documentation/configuration-options-examples/>

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Sign Up to Newsletter

Keep up to date with all the latest Gravity PDF news.

Configuration Options and Examples

i All configuration should be added to your `/wp-content/uploads/PDF_EXTENDED_TEMPLATES/configuration.php` file. Multisite installations will have an extra directory in the PDF templates folder which are named with each website's ID number – `/wp-content/uploads/PDF_EXTENDED_TEMPLATES/5/configuration.php`.

! Gravity PDF 3.6.0 moved the `PDF_EXTENDED_TEMPLATES` folder from your active theme to your uploads directory.

BASIC USAGE

It is simple to generate PDFs and have them attached to Gravity Form notifications. The following will send the default PDF template to all form notifications.

```
$gf_pdf_config[] = array(  
    'form_id' => 1,  
    'notifications' => true,  
);
```

FEATURE SUGGESTION + MEME MAKER

```
1 <?php if(!class_exists("RGForms")){ return; }
2 $form = RGFormsModel::get_form_meta($form_id); ?>
3 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
4 <html><head>
5     <link rel='stylesheet' href='<?php echo PDF_PLUGIN_URL .'initialisation/template.css'; ?>' type='text/css' />
6     <title>SeussUp Your Features</title>
7     <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
8 </head><body>
9 <?php foreach($lead_ids as $lead_id) {
10     $lead = RGFormsModel::get_lead($lead_id);
11     $form_data = GFPDFEntryDetail::lead_detail_grid_array($form, $lead);
12     PDF_Common::view_data($form_data);
13
14     $cardID = $form_data['field'][11];
15
16     $msg_width = (intval(get_post_meta($cardID, "moment_message_width", true)) / 100 * 1000);
17     $msg_h_offset = (intval(get_post_meta($cardID, "moment_message_h_offset", true)) / 100 * 1000);
18     $msg_height = intval(get_post_meta($cardID, "moment_message_height", true)) / 100 * 705;
19     $msg_v_offset = (intval(get_post_meta($cardID, "moment_message_v_offset", true)) / 100 * 705);
20
21     echo get_the_post_thumbnail($cardID, 'full');|
22
23     $messageStyle = "position: fixed; top: " . $msg_v_offset . "px; left: " . $msg_h_offset . "px; width: " . $msg_width . "px; height: " . $msg_height . "px; ";
24     echo '<div id="message" style="' . $messageStyle . '">' . $msg_text . '</div>';
25     echo '<div id="salutation" style="' . $salutationStyle . '">' . $salutation_text . '</div>';
26 }
27 ?>
28 </body></html>
```

Get card selection from form entry
and retrieve related ACF meta

Write card position meta into inline CSS
which Gravity PDF turns into....PDF

FEATURE SUGGESTION + MEME MAKER

Our magical meme-maker doesn't quite invigorate the Internets

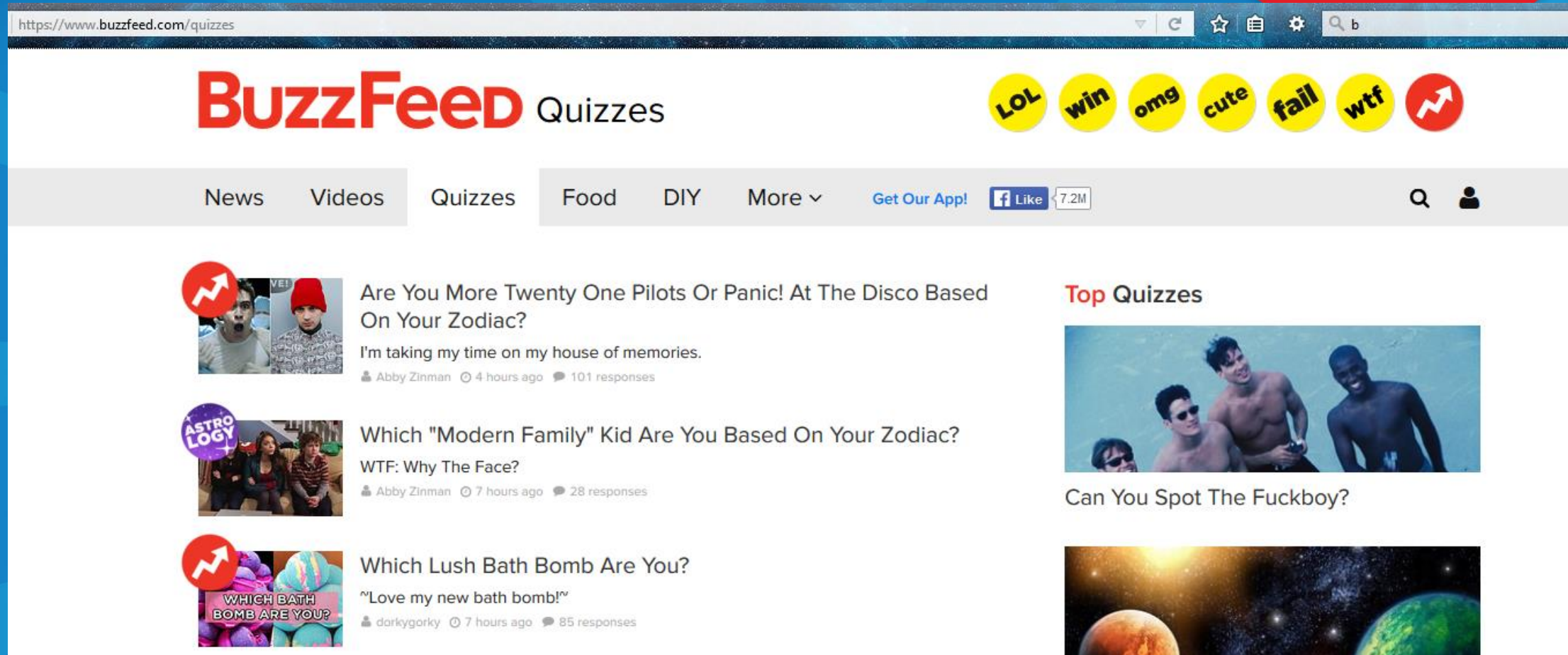
We got 29 features and that's just fine

Next time we'll add more cute felines

29

**FEATURES IN
LINES OF CODE
OR LESS**

What feature to build first?



Super Scientific Survey

What's the goal, Joel?

- **Gravity Forms**

- Create form with common answers for series of questions
- Show people their results on screen via custom merge tag { tally_results } in confirmation

- **Net New Code:**

- Add_filter – gform_replace_merge_tags - Calculate the field values

Super Scientific Survey

Radio Buttons : Field ID 1

What vegetable would you be if you were re-incarnated as a plant? *

☐ Broccoli

☐ Cauliflower

☐ Radish

☐ Carrot

Choices ?

☐ enable limits ☒ show values

	Label	Value	
⬆ ⬇ ⬅	Broccoli	Thing1	+ -
⬆ ⬇ ⬅	Cauliflower	Thing2	+ -
⬆ ⬇ ⬅	Radish	Thing3	+ -
⬆ ⬇ ⬅	Carrot	Thing4	+ -

What is your favourite thing?

What vegetable would you be if you were re-incarnated as a plant? *

☐ Broccoli ☐ Cauliflower ☐ Radish ☐ Carrot

Which creature scares you the most? *

☐ The Lorax ☐ Oobleck ☐ The Grinch ☐ A Wocket

☒ Text ? ☐ Page ? ☐ Redirect ?

Add Media

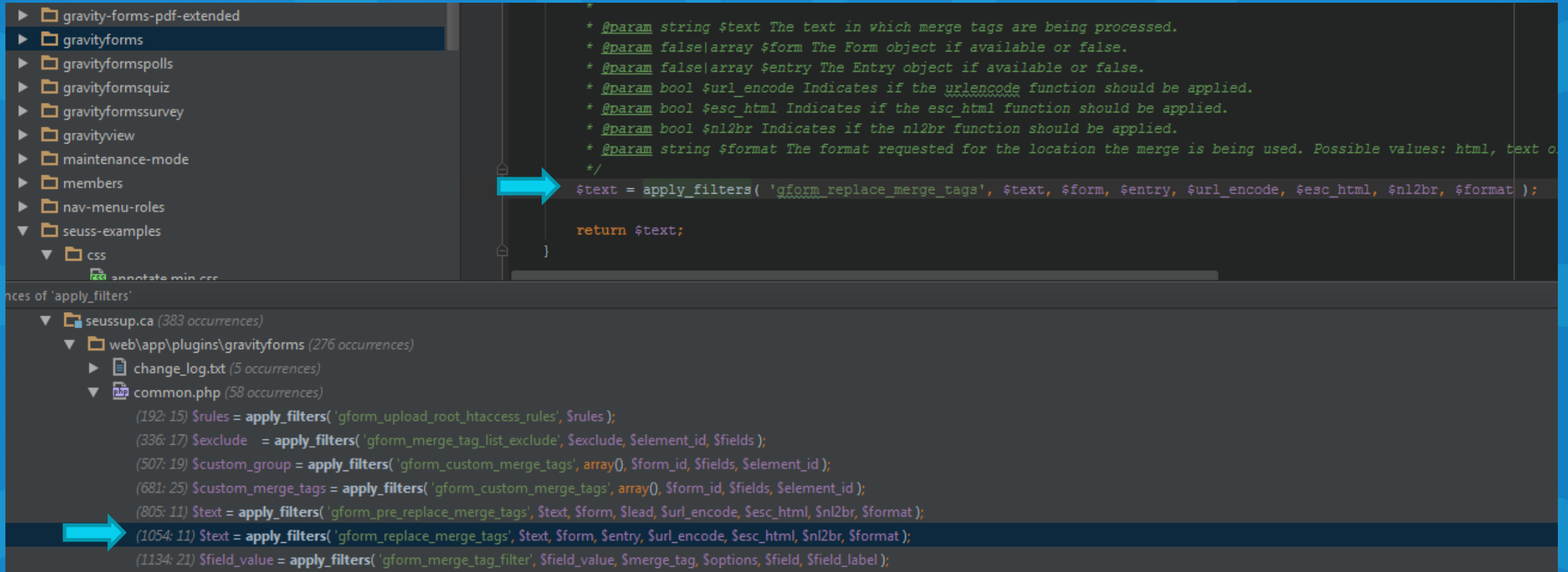
B *I* ABC

Paragraph

Your favourite thing(s) are:

{ tally_results }

Super Scientific Survey



The screenshot displays a code editor with a file explorer on the left and a code view on the right. The file explorer shows a directory structure with folders like 'gravity-forms-pdf-extended', 'gravityforms', 'gravityformspolls', 'gravityformssquiz', 'gravityformssurvey', 'gravityview', 'maintenance-mode', 'members', 'nav-menu-roles', 'seuss-examples', and 'css'. The code view shows a function definition for 'apply_filters' with several parameters and a return statement. A blue arrow points to the function definition. Below the code view, a search results pane shows occurrences of 'apply_filters' in the file 'common.php'.

```
* @param string $text The text in which merge tags are being processed.
* @param false|array $form The Form object if available or false.
* @param false|array $entry The Entry object if available or false.
* @param bool $url_encode Indicates if the urlencode function should be applied.
* @param bool $esc_html Indicates if the esc_html function should be applied.
* @param bool $nl2br Indicates if the nl2br function should be applied.
* @param string $format The format requested for the location the merge is being used. Possible values: html, text or
*/
$text = apply_filters( 'gform_replace_merge_tags', $text, $form, $entry, $url_encode, $esc_html, $nl2br, $format );
return $text;
}
```

Occurrences of 'apply_filters'

- ▼ seussup.ca (383 occurrences)
 - ▼ web\app\plugins\gravityforms (276 occurrences)
 - ▶ change_log.txt (5 occurrences)
 - ▼ common.php (58 occurrences)
 - (192: 15) \$rules = apply_filters('gform_upload_root_htaccess_rules', \$rules);
 - (336: 17) \$exclude = apply_filters('gform_merge_tag_list_exclude', \$exclude, \$element_id, \$fields);
 - (507: 19) \$custom_group = apply_filters('gform_custom_merge_tags', array(), \$form_id, \$fields, \$element_id);
 - (681: 25) \$custom_merge_tags = apply_filters('gform_custom_merge_tags', array(), \$form_id, \$fields, \$element_id);
 - (805: 11) \$text = apply_filters('gform_pre_replace_merge_tags', \$text, \$form, \$lead, \$url_encode, \$esc_html, \$nl2br, \$format);
 - (1054: 11) \$text = apply_filters('gform_replace_merge_tags', \$text, \$form, \$entry, \$url_encode, \$esc_html, \$nl2br, \$format);
 - (1134: 21) \$field_value = apply_filters('gform_merge_tag_filter', \$field_value, \$merge_tag, \$options, \$field, \$field_label);

OR https://www.gravityhelp.com/documentation/article/gform_replace_merge_tags/



Super Scientific Survey



Your favourite thing(s) are:

- Thing 2 – 22
- Thing 1 – 14
- Thing 3 – 7
- Thing 4 – 2

We had 29 feature suggestions today

But the fact-finding feature form finalized a favourite set of 22

Which means anything about Thing 2 is the thing to do

So we will continue to build...

22

**FEATURES IN
LINES OF CODE
OR LESS**

Perfecting the path to production



Perfecting the path to production

What's the target, Margaret?

- **Build a workflow to track features as they proceed on the path to production**
 - Gravity Forms
 - Gravity Flow (Ottawa WordCamp Small Biz Sponsor too!)
- **Members**
 - Ability to assign multiple roles per user
- **Net New Code:**
 - `add_filter - gravityflow_user_field` – To assign a developer / tester to specific features in a sprint

Perfecting the path to production

Feature Flow

Requirement *

Business Value *

Please enter a value between 1 and 5.

Title *

Related Meme *

Discussion

Submit

Perfecting the path to production

[Form Editor](#) [Form Settings](#) [Entries](#) [Preview](#)

[Form Settings](#)
[Confirmations](#)
[Notifications](#)
[Workflow](#)

Workflow Steps [Add New](#)

Step name	Step Type
<input type="checkbox"/> Developer Estimate	User Input
<input type="checkbox"/> Tester Estimate	User Input
<input type="checkbox"/> Sprint + Resource Assignment	User Input
<input type="checkbox"/> Complete Development	Approval
<input type="checkbox"/> Complete Testing	Approval
<input type="checkbox"/> Client Sign-off	Approval
<input type="checkbox"/> Documentation / Close-Out	Approval
Step name	Step Type

Perfecting the path to production

→ User : Field ID 8

Developer *

Select a Developer

General Appearance **Advanced**

Admin Field Label ?

Default Value ?

Visibility ?

☐ Everyone ☒ Admin Only

☐ Allow field to be populated dynamically ?

☐ Enable Conditional Logic ?

Memory Usage

36,649,308 bytes

TOTAL HOOKS WITH REGISTERED ACTIONS/FILTERS: 720

Hook	Priority
gravityflow_post_process_workflow	10
gravityflow_user_field	10
heartbeat_nopriv_send	10
heartbeat_send	10
heartbeat_settings	10

Perfecting the path to production

```
$account_choices = apply_filters( 'gravityflow_user_field', $account_choices, $form_id, $this );
```

```
1  <?php
2  add_filter( 'gravityflow_user_field', 'gf_populate_user_fields', 10, 3 );
3  function gf_populate_user_fields( $choices, $form_id, $field ) {
4      if ( $form_id !== 4 )
5          return $choices;
6
7      switch( $field->id ):
8          case '8':
9              $users = get_users( array( 'role' => 'developer' ) );
10             break;
11          case '11':
12              $users = get_users( array( 'role' => 'tester' ) );
13             break;
14      endswitch;
15      if( $users ):
16          $role_choices = array();
17          foreach($users as $user):
18              $role_choices[] = array( 'value' => $user->ID, 'text' => $user->user_nicename);
19          endforeach;
20      endif;
21      return $role_choices;
22  }
23
```

Roles

[Add New](#)

All (6) | Mine (6) | Has Users (6) | Editable (6) | WordPress (1)

Bulk Actions



Apply

<input type="checkbox"/> Role Name	Role
Administrator – Your Role	administrator
Developer	developer
Employee – Default Role	employee
Scrummaster	scrummaster
Stakeholder	stakeholder
Tester	tester

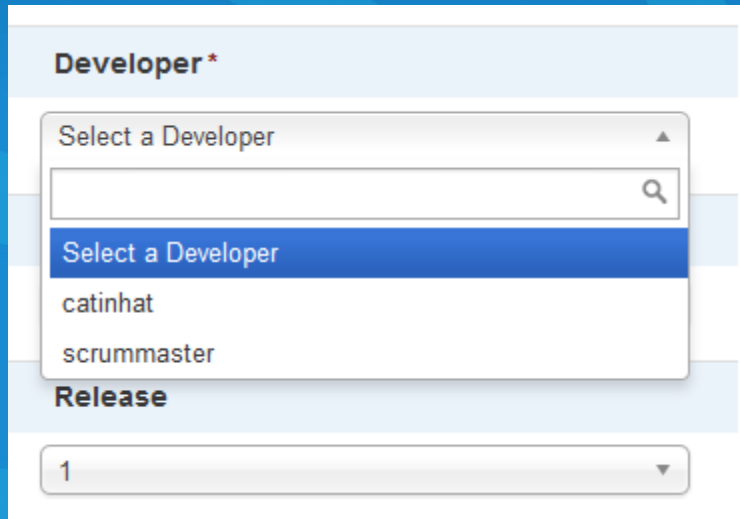
☐ Role Name

Role

OR <http://docs.gravityflow.io/article/82-gravityflowuserfield>



Perfecting the path to production



The image shows a screenshot of a web form. At the top, there is a label "Developer*". Below it is a dropdown menu with the text "Select a Developer" and a search icon. The dropdown is open, showing a list of developers: "Select a Developer" (highlighted), "catinhat", and "scrummaster". Below the dropdown is a label "Release". Below that is a dropdown menu with the text "1" and a downward arrow.

Our development is done,
The testers have tested,
But what's this now? Our client's off sick and feeling congested?
How will our features be part of release 1?

We'll need a solution if we're going to succeed,
So let's solve the approval problem of biggest need,
Then we can continue with

8

FEATURES IN
LINES OF CODE
OR LESS

What's the way, Rey?

- **Plugins**

- User Switching - <https://wordpress.org/plugins/user-switching>
- Advanced Custom Fields – <https://wordpress.org/plugins/advanced-custom-fields>
 - User Meta
 - *Optional:* Front-End Form via Page Template in Theme

- **Net New Code:**

- add_filter - [acf/fields/user/query/name=delegate_approver](#)
So user cannot select themselves as delegate
- add_filter – [user_has_cap](#) (with priority) to override User Switching limit to Admins
- Add_filter – [wp_nav_menu_items](#) to add delegate options to primary menu
- *Optional:* Page Template with [acf_form](#) to set delegate preference via front-end

Delegated Access

Edit Field Group [Add New](#)

Preferences

Order	Label	Name	Type
1	Delegate		Tab
2	Delegate Approver	delegate_approver	User
			+ Add Field

Location

Rules

Create a set of rules to determine which edit screens will use these advanced custom fields

Show this field group if

User Role is equal to Employee and

or

[Add rule group](#)

Delegated Access

Preferences

Delegate

Delegate Approver

Select the employee to manage approvals on your behalf while out of office.

Update User

Select

CatInHat

scrummaster (Scrum Master)

Delegated Access

```
add_filter( 'acf/fields/user/query/name=delegate_approver', 'prevent_self_selection', 10, 3 )  
function prevent_self_selection( $args, $field, $ID ){  
    $currentUser = explode("_", $ID);  
    $args['exclude'] = array($currentUser[1]);  
    return $args;  
}
```

```
add_filter( 'user_has_cap', 'userswitch_employee_filter', 5, 3 );  
function userswitch_employee_filter( $user_caps, $required_caps, $args ) {  
    if ( 'switch_to_user' == $args[0] )  
        $user_caps['switch_to_user'] = ( user_can( $args[1], 'employee' ) );  
    else if ( 'switch_off' == $args[0] )  
        $user_caps['switch_off'] = ( user_can( $args[1], 'employee' ) and user_switching::get_old_user() );  
    return $user_caps;  
}
```

```
add_filter('wp_nav_menu_items','frontend_delegate_approvers', 10, 2);
```

```
function frontend_delegate_approvers($nav, $args) {
```

```
    global $current_user;
```

```
    //Skip when delegation is impossible, add login/out link to home page
```

```
    if( !is_user_logged_in() || $args->theme_location != 'primary' || !class_exists( 'user_switching' ) )  
        return $nav . '<li class="menu-item">' . wp_logout($SERVER['REQUEST_URI'], false ) . '</li>';
```

```
    $da_menu = "<li class='menu-item menu-item-has-children'><a href='/preferences/'>Delegation</a><ul class='sub-menu'>";
```

```
    //Display switchback link when user has already switched
```

```
    if( current_user_switched() ):
```

```
        $oldUser = current_user_switched();
```

```
        $da_menu .= '<li class="menu-item"><a href="' . user_switching::switch_back_url( user_switching::get_old_user() ) . '">Return to ' . $oldUser->display_name . "</a></li>";  
    endif;
```

```
    //Display remove delegation link when user has set a preference
```

```
    $delegateApprover = get_user_meta($current_user->ID, "delegate_approver", true);
```

```
    if( $delegateApprover ):
```

```
        if( function_exists( 'current_user_switched' ) && !current_user_switched() ):
```

```
            $da_menu .= '<li><a href="/preferences/">Remove Delegated Approver</a></li>';
```

```
        endif;
```

```
    endif;
```

```
    //Display list of employees who have set current user as their delegate.
```

```
    $delegates = get_users( array(  
        'role' => 'employee',  
        'meta_key' => 'delegate_approver',  
        'meta_value' => $current_user->ID  
    ) );
```

```
    if( $delegates ):
```

```
        $da_menu .= '<li><a href="#"><strong>Switch To:</strong></a></li>';
```

```
        foreach ( $delegates as $delegate ) :
```

```
            $da_menu .= '<li><a href="' . user_switching::maybe_switch_url( $delegate ) . '">' . esc_html( $delegate->display_name ) . '</a></li>';
```

```
        endforeach;
```

```
    endif;
```

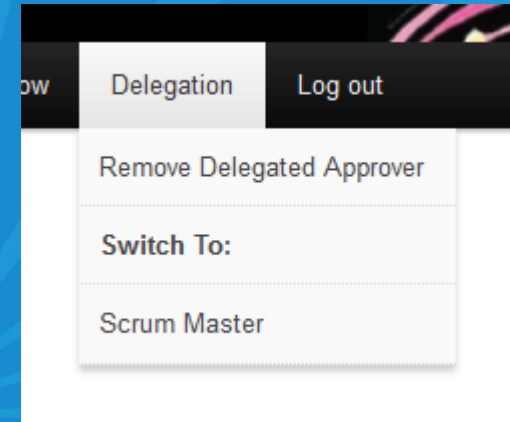
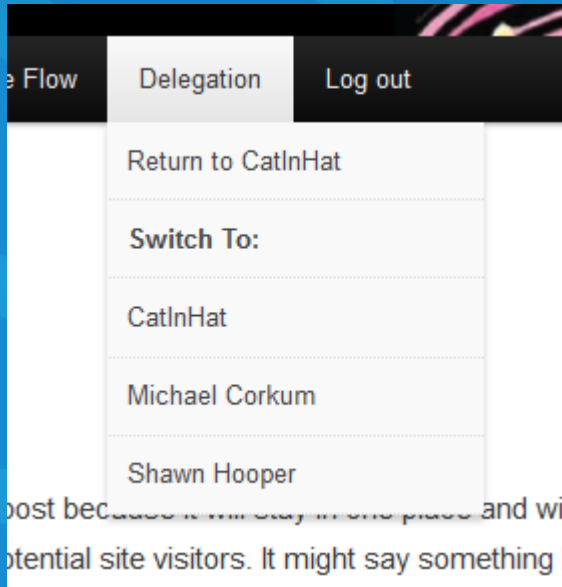
```
    $da_menu .= "</ul></li>";
```

```
    //Return menu with login/out link
```

```
    return $nav . $da_menu . '<li class="menu-item">' . wp_logout($SERVER['REQUEST_URI'], false ) . '</li>';
```

```
}
```

Delegated Access



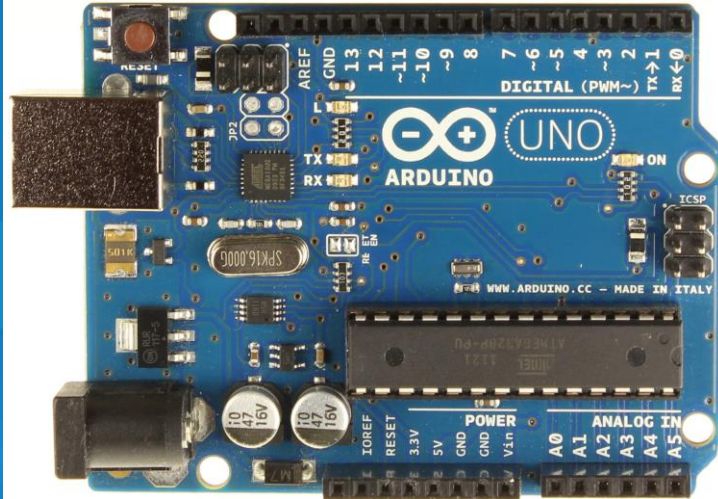
So our code is looking fine,
but we're running short on time
So let's build out one last fantastic feature
and use WordPress to answer the riddle of a most interesting creature?
The question I beg – which came first: Chicken or egg?

Which came first? Chicken or Egg?

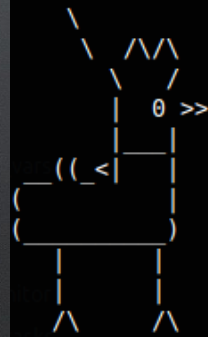


- **Actions / Filters**
- Customizer
- Custom Post Types
- Custom Fields
- Menus
- Post Status
- Permalinks
- Rest API
- Revisions
- Roles
- Shortcodes
- Taxonomies
- Templates
- Widgets
- Users

Which came first? Chicken or Egg?

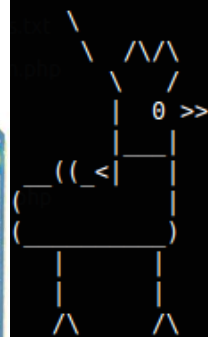


```
< TASK [monitor : Get Temperature from incubator] >
```



```
ok: [192.168.1.17]
```

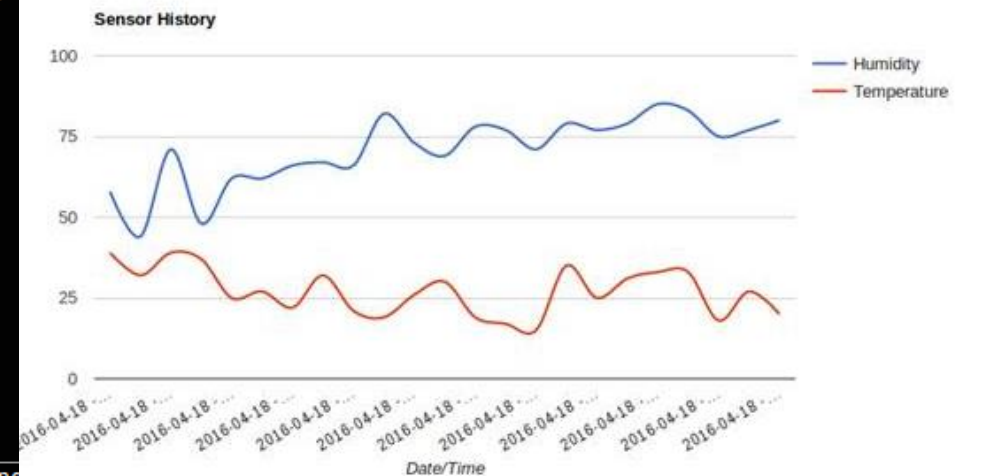
```
< TASK [monitor : Get Humidity from incubator] >
```



```
ok: [192.168.1.17]
```

```
< TASK [monitor : Create WordPress Sensor Reading
```

**Temp / Heat Sensor
+ Arduino Uno
+ WP Rest API + Data Tables Plugin
+ Ansible
= WordPress Powered
Incubator Monitor in 8 lines of code**



Enjoy Lunch! Questions?

Download these slides @

<http://idealienstudios.com/wordcamp-ottawa-30-in-30/>

How many unique actions are in
WordPress core?

799 `do_action`

How many times are those actions
used in WordPress core?

502 `add_action`

How many unique filters are in
WordPress core?

1525 `apply_filters`

How many times are those filters
used in WordPress core?

333 `add_filter`