WP COS Meetup

An Intro to WordPress Hooks

Chris Mospaw – February 13, 2019

An Intro to WordPress Hooks

Who is Chris Mospaw?

- WordPress user/developer since 2004 (WP 1.2!)
- Former *Senior Lead Developer* at Crowd Favorite, Denver CO
- PHP and web developer since 1996
- Currently *Application Developer & Architect* for Wowza Media Systems, Golden CO

An Intro To WordPress Hooks

Pimpin' ain't easy, but hooking is in WordPress…

What is a Hook?

Drunk Octopus wants to fight.
If only he knew about WP hooks...

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Hooks in a nutshell...

- Hooks are a way to “hook into” WordPress code, be it part of Core, a Theme, or a Plugin
- Allow extending WordPress functionality without changing Core code
- A way of running your code at a specific time in the WordPress life cycle
- Can be added anywhere in your own code, allowing it to be extended as well
- Hooks define part of the Plugin API
  https://codex.wordpress.org/Plugin_API

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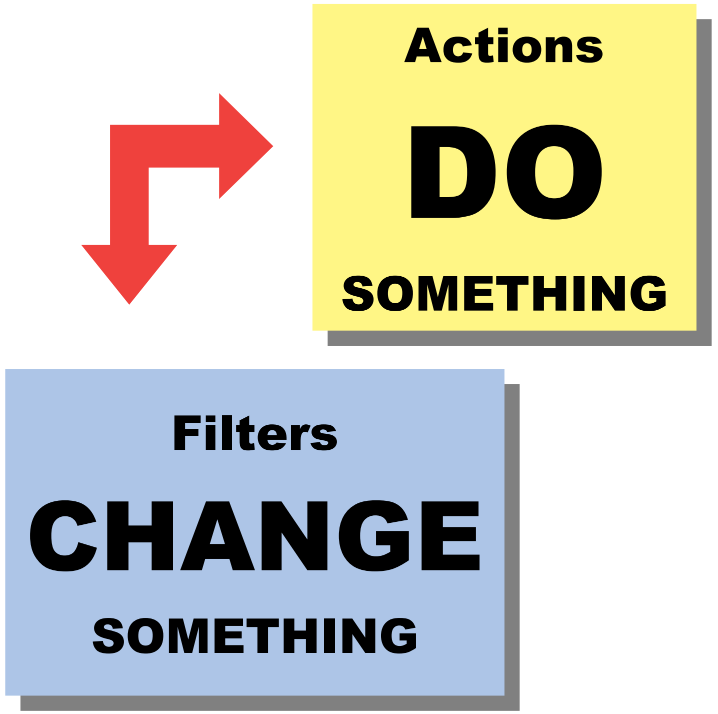
There are two types of hooks in WordPress

- Actions – perform a specific series of things, **with no return value**
  - May or may not pass parameters

- Filters – receive passed data and take action on it, **requiring a returned value**
  - Must pass at least one parameter



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Much Ado about Actions

Actions

DO

SOMETHING

Actions hooks are defined with `do_action()`. A list of Arguments, *preferably with meaningful names*, is given. There can be zero or more arguments, which are passed via calls made with `add_action()`, shown on the next slide.

```
do_action(
  $hook_name,        // The hook name – used in add_action()
  [$arg1,]           // First argument (if needed)
  [$arg2,] ...       // Second argument, and so on...
);
```

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Actions in Action

Actions

DO

SOMETHING

Hooking into an action is easy. Simply call `add_action()` with the correct parameters, and the hook is set. Your added function will run any time `do_action` with the same hook name is called.

```
add_action(
  $hook_name,         // Hook names are defined in do_action()
  $function_to_add,   // The function you want called
  $priority,          // Order of execution, lower first
  $accepted_args      // Number of arguments to pass, must
);                    // agree with # of args in do_action()
```

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Putting them together

Actions

DO

SOMETHING

Somewhere in code...

```
do_action( ‘my_plugin_hook’, $post );
```

Somewhere else in code...

```
add_action( ‘my_plugin_hook’, ‘my_action_function’, 10, 1 );
```

This runs `‘my_action_function()’` every time the `‘my_plugin_hook’` action is triggered, passing the value of `$post` as the only parameter.

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Filters are "applied"

Filters are defined with `apply_filters()` in much the same way that they are via `add_action()` but must assign at least one value, since **filters always return a value.**

```
$value = apply_filters(
  $hook_name,       // The hook name to be used in add_action()
  $value,           // The value being filtered, will be returned
  [$arg1,]          // First argument (if needed)
  [$arg2,] ...      // Second argument, and so on...
);
```

Filters

CHANGE

SOMETHING

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Adding filters for application

Filters

CHANGE

SOMETHING

The hook to filter a value is added via `add_filter()` in much the same way that `add_action()` works for actions. The parameters are the same.

```
add_filter(
  $hook_name,           // Hook names are defined in apply_filters()
  $function_to_add,     // The function you want called
  $priority,            // Order of execution, lower first
  $accepted_args        // Argument count. Must be 1 or more.
);                      // Must match # of args in apply_filters()
```

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Filters are applied

Filters

CHANGE

SOMETHING

Somewhere in code...

```
$title = apply_filters( ‘my_filter’, $title );
```

Somewhere else in code...

```
add_filter( ‘my_filter’, ‘my_filter_function’, 10, 1 );
```

This runs `‘my_filter_function’` every time the `‘my_theme_hook’` action is triggered, passing the value of `$title` as the only parameter. `‘my_filter_function’` **must** return a new value for `$title` that gets assigned when `apply_filters()` runs.

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What about shortcodes?

Filters

CHANGE

SOMETHING

From Otto (aka Samuel Wood):

"Shortcodes are a type of filter. They take in content from the shortcode, they return replacement content of some sort. They are filters, by definition. Always, always keep that in mind."

http://ottopress.com/2011/actions-and-filters-are-not-the-same-thing/

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A quick note about keeping your priorities straight...

The priority number sent via `add_action()` and `add_filter()` is...

“Used to specify the order in which the functions associated with a particular action are executed. Lower numbers correspond with earlier execution, and functions with the same priority are executed in the order in which they were added to the action.”

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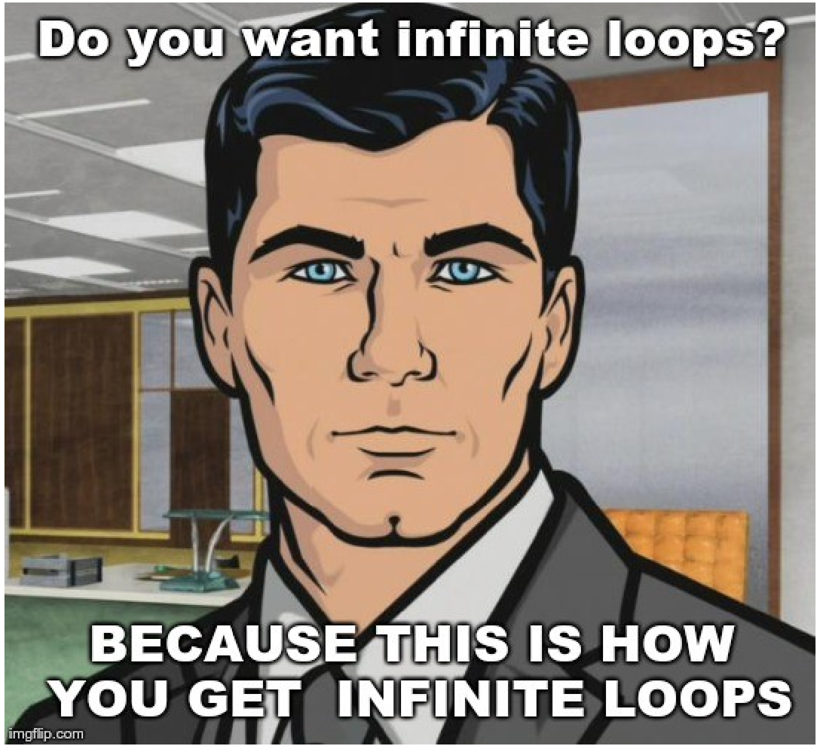
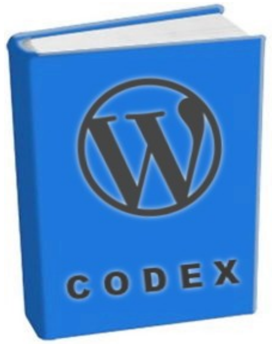
Hook removal and why

- Hooks that call hooks that refer to themselves should remove themselves to prevent infinite loops
  - They can be re-added at the end of the function
- Sometimes hooks can interfere with other hooks and should be removed and re-added


Do you want infinite loops?
BECAUSE THIS IS HOW YOU GET INFINITE LOOPS
imgflip.com

Action and filter removal reference



- **remove_filter()**
  https://codex.wordpress.org/Function_Reference/remove_filter
- **remove_all_filters()**
  https://codex.wordpress.org/Function_Reference/remove_all_filters
- **remove_action()**
  https://codex.wordpress.org/Function_Reference/remove_action
- **remove_all_actions()**
  https://codex.wordpress.org/Function_Reference/remove_all_actions

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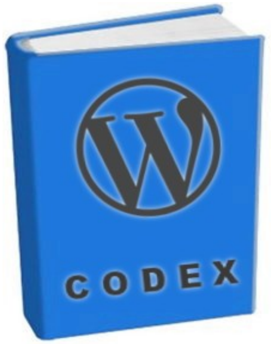
Beyond Actions and Filters: Special Hooks



When a plugin is activated, deactivate, or uninstalled, there are special hooks that get called.

- **register_activation_hook**
  https://codex.wordpress.org/Function_Reference/register_activation_hook
- **register_deactivation_hook**
  https://codex.wordpress.org/Function_Reference/register_deactivation_hook
- **register_uninstall_hook**
  https://developer.wordpress.org/reference/functions/register_uninstall_hook/

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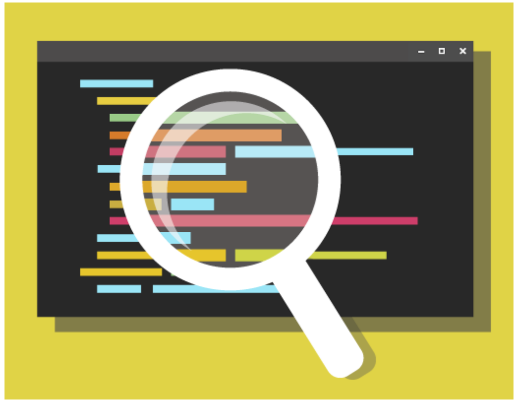
Finding hooks shouldn’t FASE you



- Searching through code for all the various calls to action and filter definitions and calls is tedious.
- Tools like phpDocumentor *cannot* help.
- **WP-FASE** can help. It’s a command-line tool that finds and documents hook definitions and calls.
  - Source: https://github.com/mospaw/wp-fase
  - Presentation for “hookers”: https://mospaw.com/wp-fase-reveal/

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Questions or Comments?