# WordPress Plugin Development
## *Stirred not Shaken*

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# Break the Ice

## Twitter: @Desrosj



* From Dartmouth, Massachusetts

* Love Sports (Baseball & Hockey are my 1, 2)

* Graduated from Johnson & Wales University Providence

* Love a good challenge and learning new things

* Hobbies include Kayaking, Photography, and long walks on the beach.

# WordPress Experience

* Developing for WordPress since about 2008 (Can't remember the love at first site moment)

* Plugins on the WordPress.org Repository

* Two+ years WordPress VIP programming experience for sites like TechCrunch

# Goals Here

* Cover the basics, and introduce some advanced practices and methods.

    * Everyone gets something out of this.

* Make sense of the many aspects of plugin development.

    * It is extremely easy to become overwhelmed with the massive amount of tutorials and resources that are available to you.

    * Stirred vs. Shaken

# What The Heck's A Plugin?

✤ *Plugins are tools to extend the functionality of WordPress.*
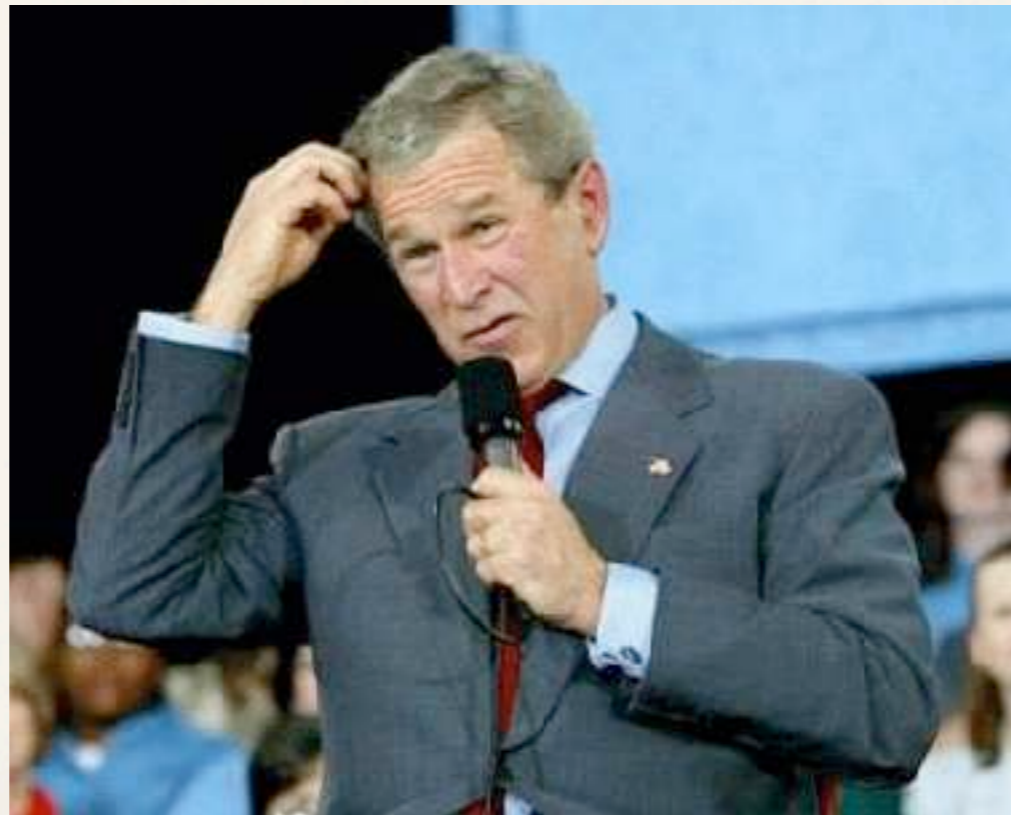
# Examples Please?



✤ Jetpack by WordPress.com

✤ Adds WordPress.com features to your self hosted WordPress sites such as Gravatar Hovercards, Social Media Sharing and more.
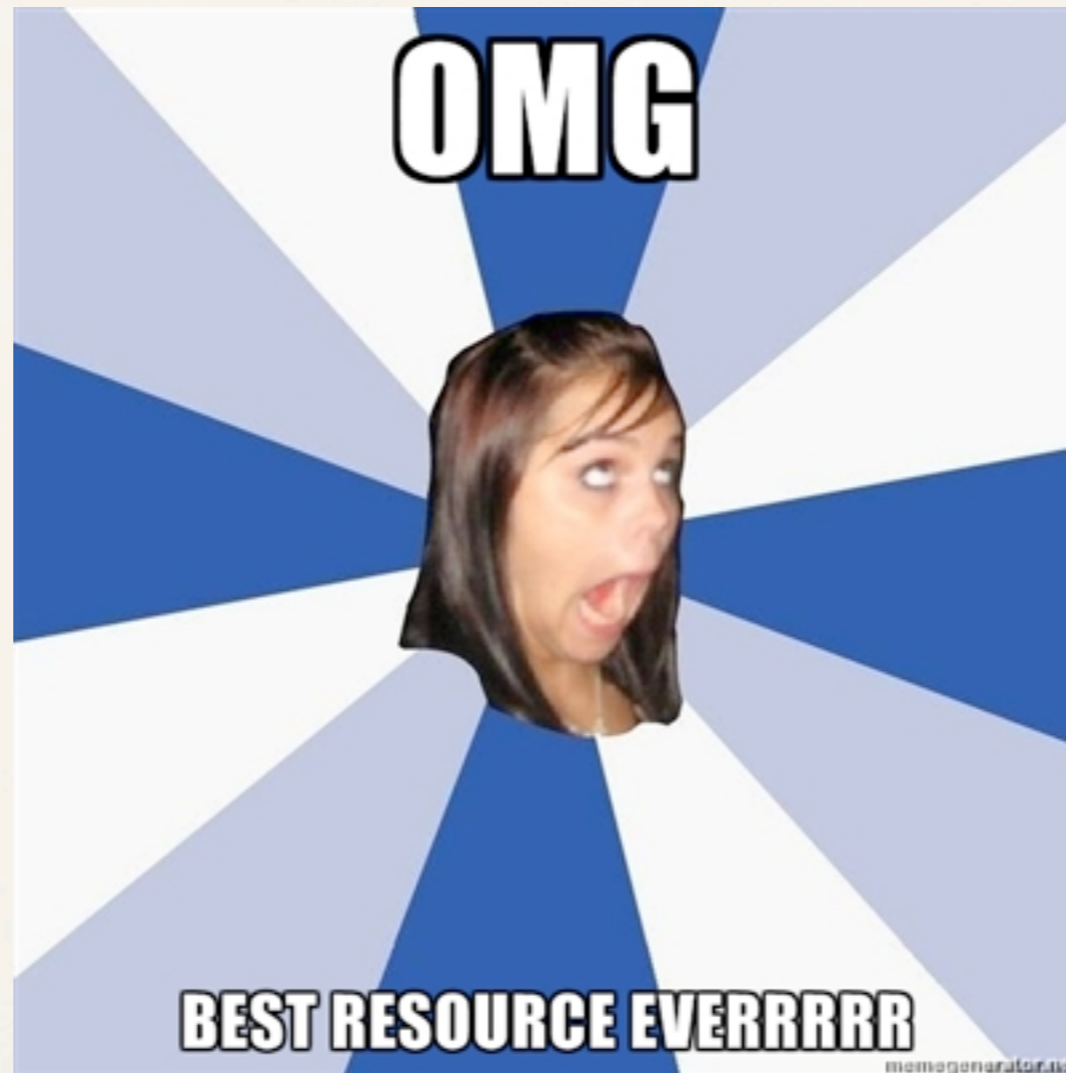
✤ Gravity Forms

✤ Easily create forms in the WP Admin. Provides conversion tracking.

# How To Make A Plugin

✤ Four Stages

  ✤ Planning

  ✤ Implementation

  ✤ Release

  ✤ Support

# Use The WordPress Codex

# 1. Planning

* What is the purpose of your plugin?

* What does it need to do?

* When should these actions be performed?

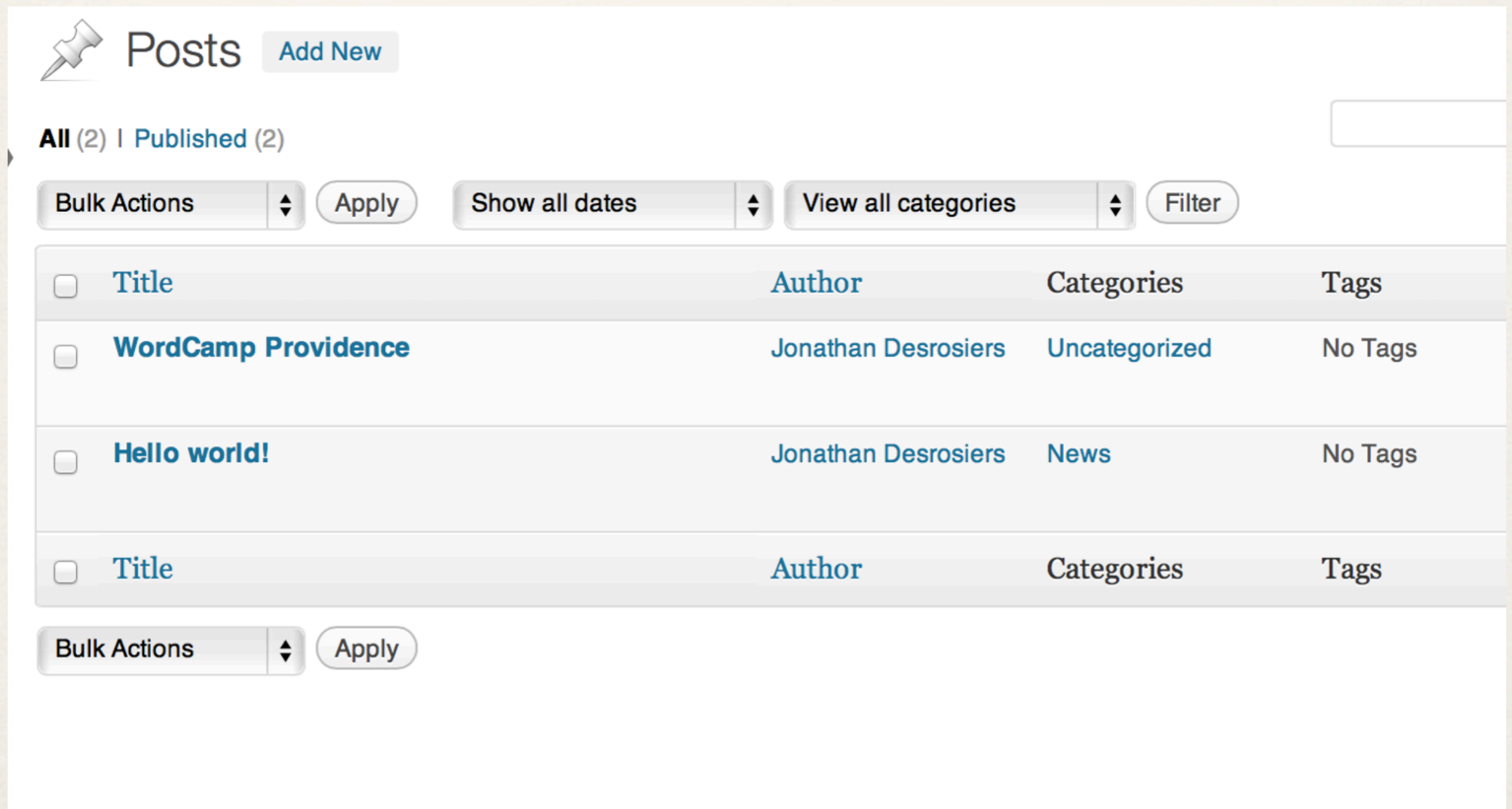* What are your components? JS? CSS?

* Will there be an admin panel?

# 2. Implementation

✤ Follow WordPress Coding Standards

   ✤ http://codex.wordpress.org/WordPress_Coding_Standards

# What Makes A Good Plugin

* Feel like it is a part of WordPress

  * If the user can tell where WordPress ends and your plugin begins, you probably should try to do things differently.

* Only does what it is expected to.

* It uses WordPress features such as post meta, Settings API, display classes such as WP_List_Table.

  * Don't reinvent the wheel.

* Doesn't break anything else! It just works.

# Don't Reinvent The Wheel

# Naming

* Accurately represent your plugin

* Be unique - Nobody likes a copy cat.
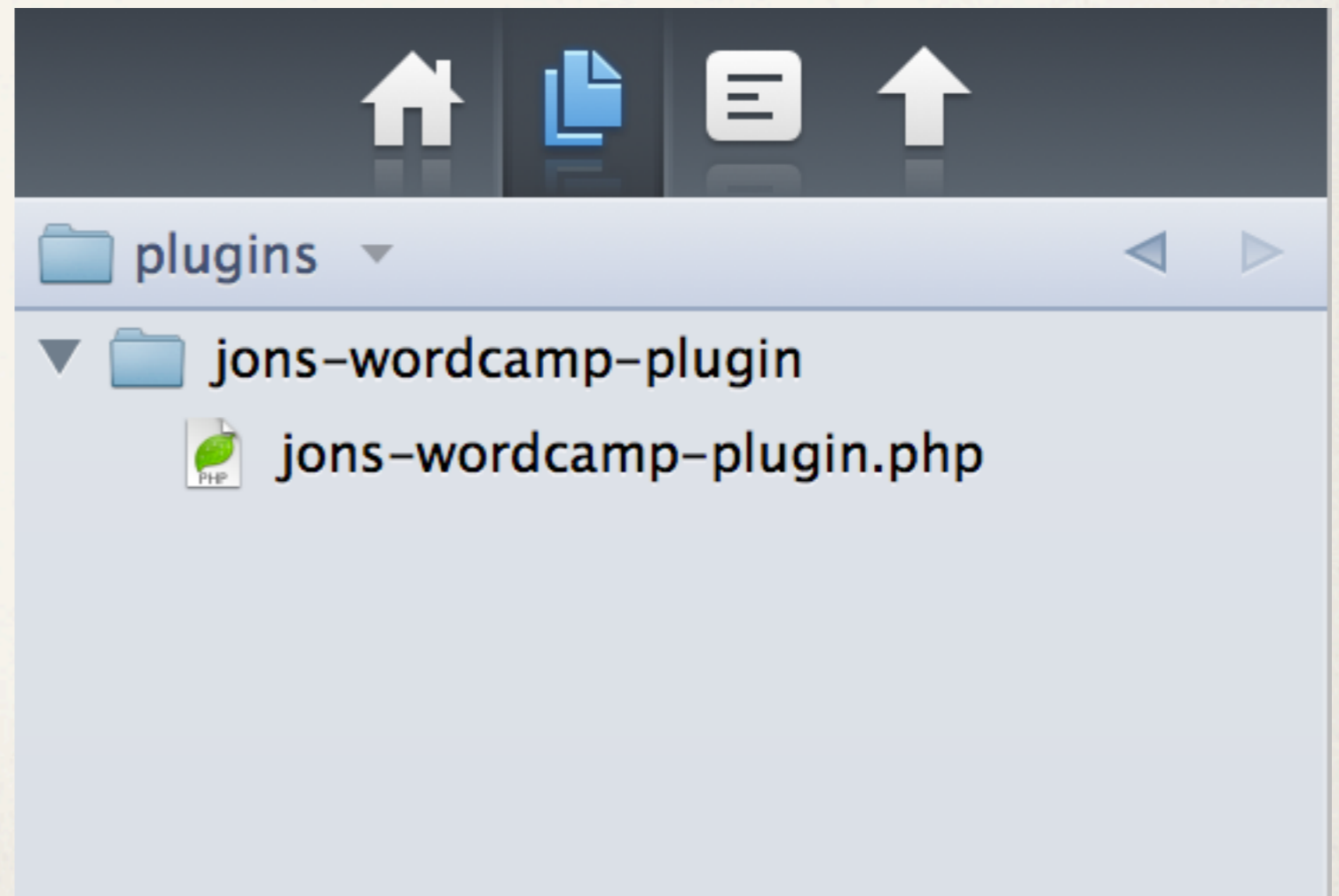
# Plugin Header

* Plugin Header

```php
<?php
/*
Plugin Name: Name Of The Plugin
Plugin URI: http://URI_Of_Page_Describing_Plugin_and_Updates
Description: A brief description of the Plugin.
Version: The Plugin's Version Number, e.g.: 1.0
Author: Name Of The Plugin Author
Author URI: http://URI_Of_The_Plugin_Author
License: A "Slug" license name e.g. GPL2
*/
```

# Actions & Filters

* Actions add functionality.

* Filters alter or change information.

# Actions

* Actions are triggered by specific events that take place in WordPress, such as publishing a post, changing themes, or displaying a page of the admin panel.

  * Allows you to only execute code when it is needed.

  * Each action hook passes specific information to the functions attached.

# Action Example

```
function jwp_wp_head() {
    if ( is_single() ) {
        //Our output here
    }
}

add_action( 'wp_head', 'jwp_wp_head' );
```

# Some Useful Action Hooks

* save_post

    * Runs when a post is saved.

* init

    * Used to create widget areas, nav menu locations, etc.

* wp_enqueue_scripts

    * Used to enqueue scripts and stylesheets.

* admin_menu

    * Used to add menus to the admin interface.

# Filters

* Filters are functions that WordPress passes data through, at certain points in execution, just before taking some action with the data (such as adding it to the database or sending it to the browser screen).

  * Filters sit between the database & output, or input and the database.

  * Almost every input and output to the site is passed through at least one filter.

  * Allows you to alter things to display or save the way you need.

# Filter Example

```php
function jwp_the_content( $content ) {

    if ( is_post_type( 'book' ) )
        return $content;

    return wp_rel_nofollow( $content );
}

add_filter( 'the_content', 'jwp_the_content' );
```

# Some Useful Filters

* the_content

  * Alter the output of the post content

* the_excerpt

  * Alter the output of post excerpt

# Actions & Filters

* ✤ Pretty damn useful.

* ✤ Allow you to alter the output and functionality of the site without having to alter Core WordPress (which you should never do).

  * ✤ Allows for easy updates when new WordPress versions are available.

# Loading Scripts The Right Way

# Loading Scripts The Right Way

```php
function jwp_enqueue_scripts() {

    wp_enqueue_script( $handle, $src, $deps, $ver, $in_footer );

}

add_action( 'wp_enqueue_scripts', 'jwp_enqueue_scripts' );
```

# Loading Scripts The Right Way

```php
function jwp_enqueue_scripts() {

    wp_enqueue_script( 'jwp-main', plugins_url( 'js/jwp-main.js' , __FILE__ ), array( 'jquery' ), '1.0', true );

}

add_action( 'wp_enqueue_scripts', 'jwp_enqueue_scripts' );
```

# Loading Scripts The Right Way

* What happens when you have 10 plugins that require jQuery?

```
function jwp_enqueue_scripts() {

    wp_enqueue_script( 'jquery' );

}

add_action( 'wp_enqueue_scripts', 'jwp_enqueue_scripts' );
```

# Loading Scripts The Right Way

```php
function jwp_enqueue_scripts() {

    wp_enqueue_script( 'jquery-ui-autocomplete' );

}

add_action( 'wp_enqueue_scripts', 'jwp_enqueue_scripts' );
```

# Works For Stylesheets Too!

```php
function jwp_enqueue_styles() {

    wp_enqueue_style( 'jwp-styles', plugins_url( 'css/jwp.css' , __FILE__ ), array( ), '1.0', 'all' );
    wp_enqueue_style( 'jwp-print', plugins_url( 'css/print.css' , __FILE__ ), array( 'jwp-styles' ), '1.0', 'print' );

}

add_action( 'wp_enqueue_scripts', 'jwp_enqueue_styles' );
```

# Admin Only Scripts/Styles

```php
function jwp_admin_enqueue_scripts() {

    wp_enqueue_script( 'jquery-ui-autocomplete' );

}

add_action( 'admin_enqueue_scripts', 'jwp_admin_enqueue_scripts' );
```

# Passing Dynamic Info to JS

* wp_localize_script() - Pass dynamic information to your JS

```php
function jwp_enqueue_scripts() {

    wp_enqueue_script( 'jws-main', plugins_url( 'js/jwp-main.js' , __FILE__ ) );
    wp_localize_script( 'jws-main', 'object_name', array( 'var1' => 'value 1' );

}
add_action( 'wp_enqueue_scripts', 'jwp_enqueue_scripts' );
```

# Input & Output Sanitation

* NEVER trust user input. Always make sure your output is formatted properly.

# Input & Output Sanitation

* All user input should be sanitized.

    * *_kses() - Strips harmful HTML

    * santize_text_field() - Sanitizes a string for database storage

* All output should be properly escaped for display

    * esc_attr() - Escapes strings for use in an HTML Attribute.

    * esc_js() - Escapes strings for output within<script> tags

    * esc_url() - Sanitizes and escapes a URL.

# Namespace Your Functions

* Non Class Approach

  * Prepend a string to all of your functions

    * jwp_function_name()

    * Prevents fatal PHP errors from duplicate function names.

# Namespace Your Functions

✤ Class Approach

```
Description: A brief description of the Plugin.
Version: The Plugin's Version Number, e.g.: 1.0
Author: Name Of The Plugin Author
Author URI: http://URI_Of_The_Plugin_Author
License: A "Slug" license name e.g. GPL2
*/

class Jons_WordPress_Plugin {

    function __construct() {
        add_action( 'wp_enqueue_scripts', array( $this, 'wp_enqueue_scripts' ) );
        add_action( 'save_post', array( $this, 'save_post' ) );
    }

    function wp_enqueue_scripts() {
        //Enqueue Scripts here!
    }

    function save_post( $post_id ) {
        //Save your post stuff here!
    }
}

$jons_wp_plugin = new Jons_WordPress_Plugin();
```

# Settings, Post Meta, User Meta

```
//Settings
add_option( 'option_name', 'option_value' );

//Post Meta
update_post_meta( $post_id, 'key_name', 'value_here' );

//User Meta
update_user_meta( $user_id, 'key_name', 'value_here' );
```

✤ Namespace all settings, post meta, and user meta to avoid conflict!

  ✤ jwp_user_meta_key

  ✤ jwp_option_name

# Only Run Code When Needed!

✤ Be specific with your action & filter hooks.

  ✤ Most hooks not only run the default, but also run more specific actions or filters.

```php
function jwp_draft_to_publish() {
    //Only executed when something is moved from draft
    //to public status
}

add_action( 'draft_to_publish', 'jwp_draft_to_publish' );
```

# Only Run Code When Needed!

✤ Be specific with your action & filter hooks.

```php
function jwp_publish_jwp_books() {
    //Only executed when a jwp_book Post Type
    //is set to published
}

add_action( 'publish_jwp_books', 'jwp_publish_jwp_books' );
```

# 1?IA8@*ts%7 (aka I'm Stuck!)
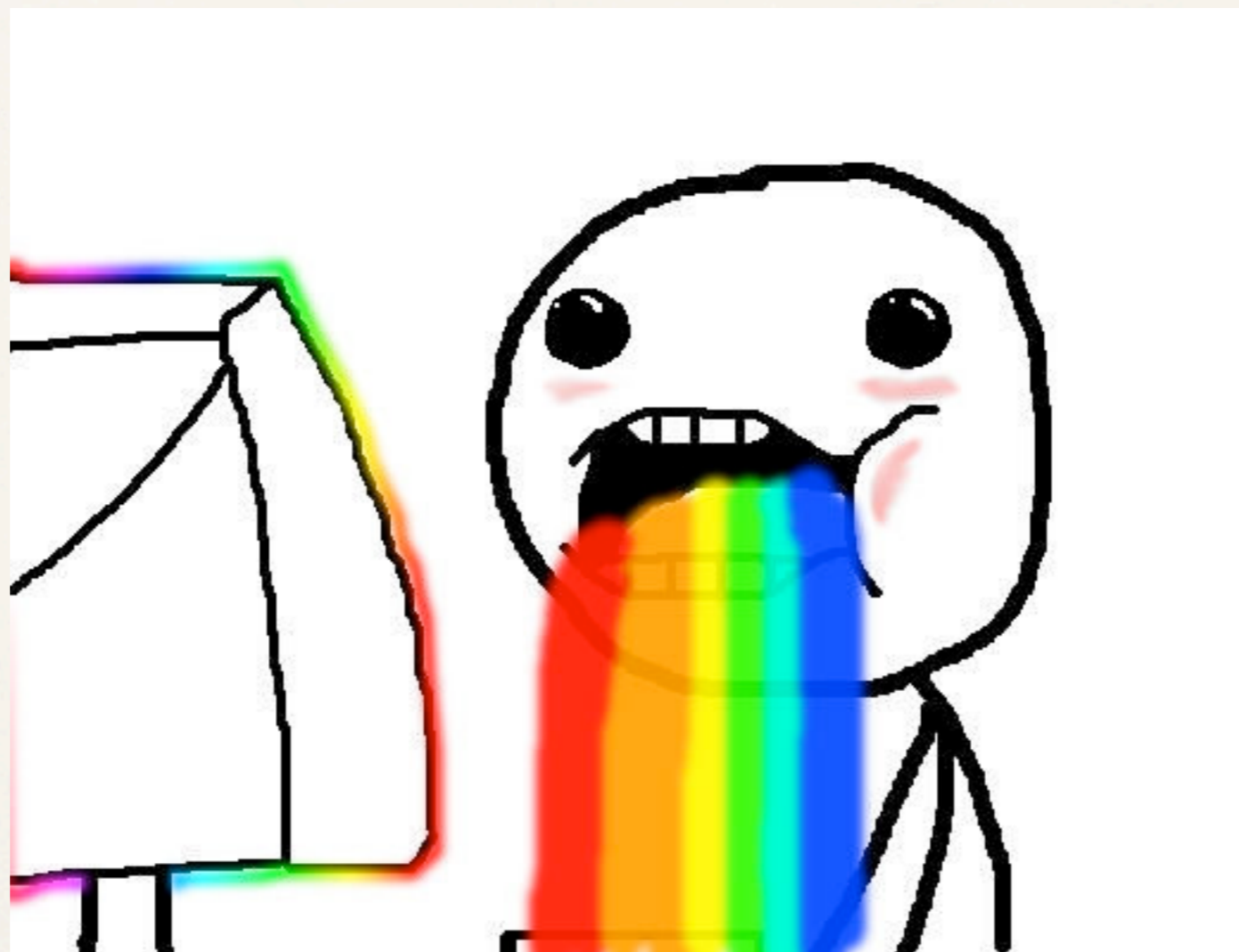
# 1?IA8@*ts%7 (aka I'm Stuck!)

* Make sure WP_DEBUG is turned on.

* Debug Bar Plugin & Extensions

* Start with a fresh install of WordPress, and a default theme

   * These are mostly bug free.

# Uninstalling Your Plugin

* We are sorry to see you go ;-(

* But we will remove our plugin info for you!

  * Prevents useless entries in the DB

  * Helps users keep their sites optimized.

# Uninstalling Your Plugin

✤ Include uninstall.php in your plugin folder

```php
//if uninstall not called from WordPress exit
if ( ! defined( 'WP_UNINSTALL_PLUGIN' ) )
    exit ();

delete_option( 'jwp_options' );
```
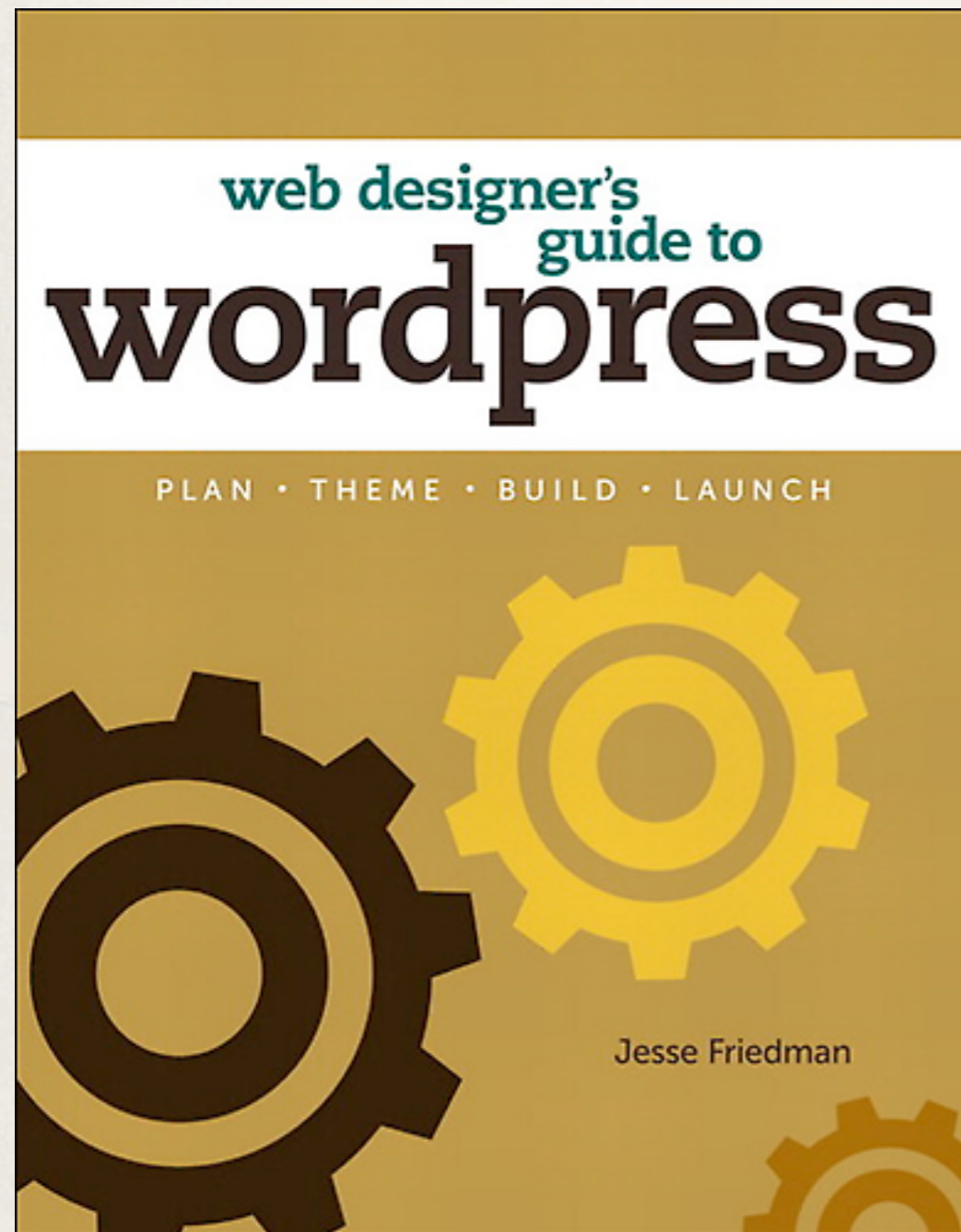
# The Next Level

* Add admin pages for input, and configuration.

* Adding AJAX Actions

* Use Transients for temporary data.

* Using wp_remote_get() and wp_remote_post()

# The Next Level

* Creating your own hooks and filters

* I18n *(Internationalization)*

* Integrate Crons

# Web Designer's Guide to WordPress

# Questions? Comments? Compliments?

* Twitter: @Desrosj

* http://jonathandesrosiers.com

    * Slides will be posted soon.