Using Custom Post Types to Control Access

Building a collaborative web site by segmenting a site into areas of responsibility and control.

Custom Post Types - CPTs

- What
 - Features and Attributes of CPTs
 - How they can be used for access control
- Why
 - The problem we a trying to solve
 - Why CPTs meet our needs
- How
 - Implementing CPTs
 - Simple Case Study

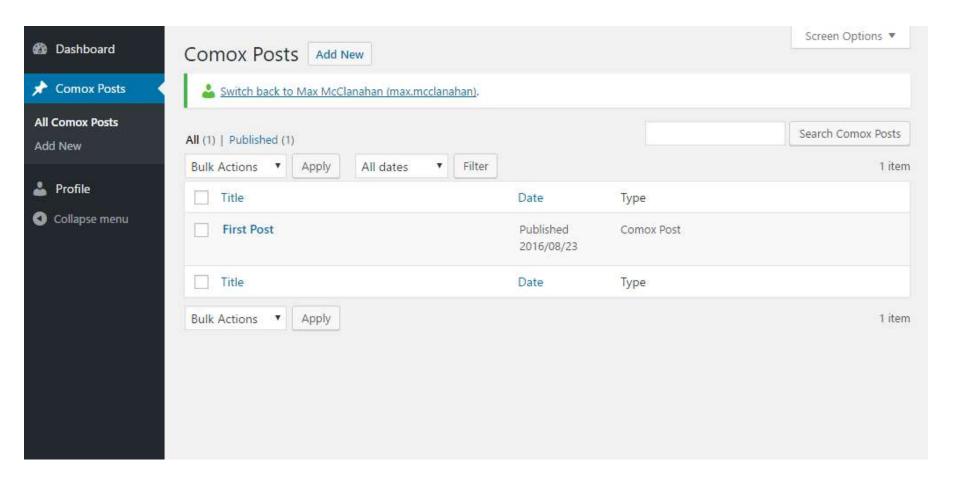
Background

- A bit about the organization
 - All about bicycle touring
 - Tours are developed and run by volunteers
 - Local groups in several various cities across
 Canada
- What we used to have
- Where we wanted to go
 - Modern web software
 - Break the single person bottle neck

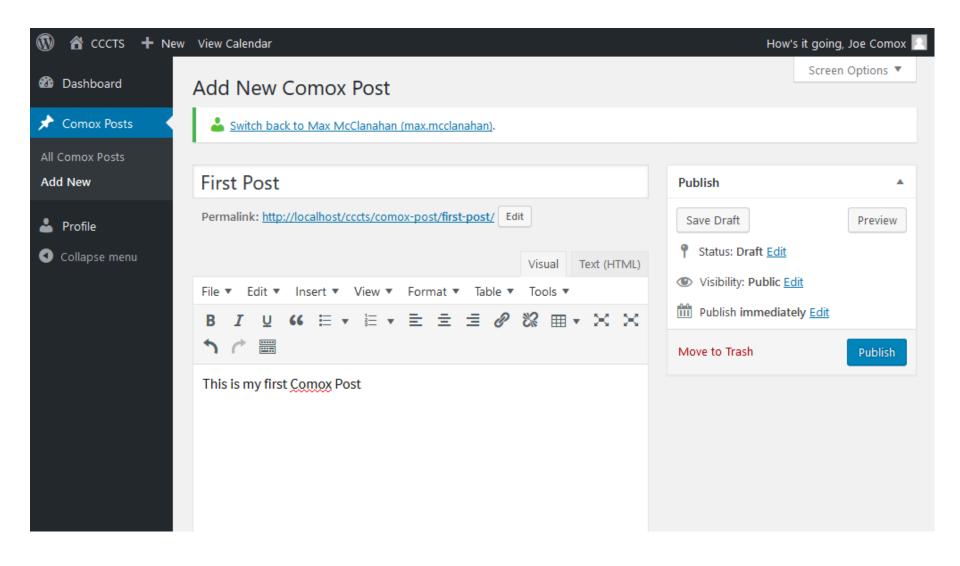
Breaking the Single Person Bottleneck

- Different approaches
 - Make everyone an admin
 - Multiple contributors central publication
 - Multiple restricted editors
- Restrict access for security purposes
- Restrict access to enhance simplicity

Simple Restricted Dashboard



Simple Restricted Post



Why use CPTs

- Alternative architectures
 - Restricted categories
 - Addresses only security requirements not simplicity
 - Doesn't fully solve security issues
 - Much less elegant that capabilities
 - Multi-site installation
 - Would probably work
 - Adds unnecessary complexity

Users, Roles and Capabilities

- Users
 - Must have one or more roles
- Roles
 - Standard System Roles
 - Administrator, Editor, Author, Contributor, Subscriber
 - Custom Roles
 - Club Document Editor, Rides Director
- Capabilities
 - read, delete_posts, edit_posts

What are Post Types

- Great Concept bad name
- Default System Post Types (i.e. non-custom post types)
 - Post
 - Page
 - Attachment
 - Revision
 - Navigation Menu Item

Post Type Common Features

- A set of fields
- A set of capabilities
- A set of taxonomies
- A set of attributes
 - Hierarchical ?
 - Archive page ?

What are Taxonomies

- A list of terms
- Can have a parent (category) or not (tags)
- Associated to 0 or more CPTs (many-to-many)
- Capabilities
 - Manage_terms
 - Edit terms
 - Delete terms
 - Assign_terms

Case Study

- Local Editor
 - Comox_editor, Victoria_Editor, Ottawa_editor
 - CPT for each local editor restricts his area of authority
- Club Document Editor
 - CPT to restrict area of authority
 - Custom Taxonomy to categorise different document types
- Ride Director
 - CPT to restrict area AND add custom fields
 - Uses built-in tax taxonomies

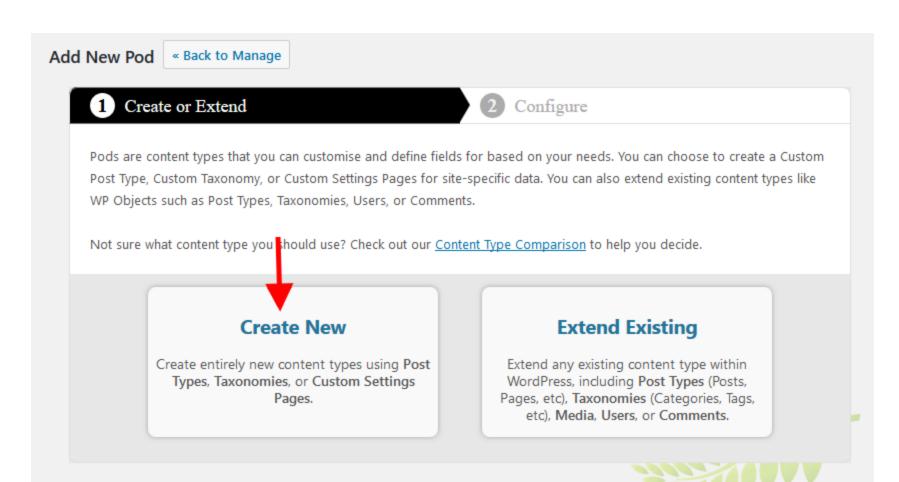
Plugins Employed

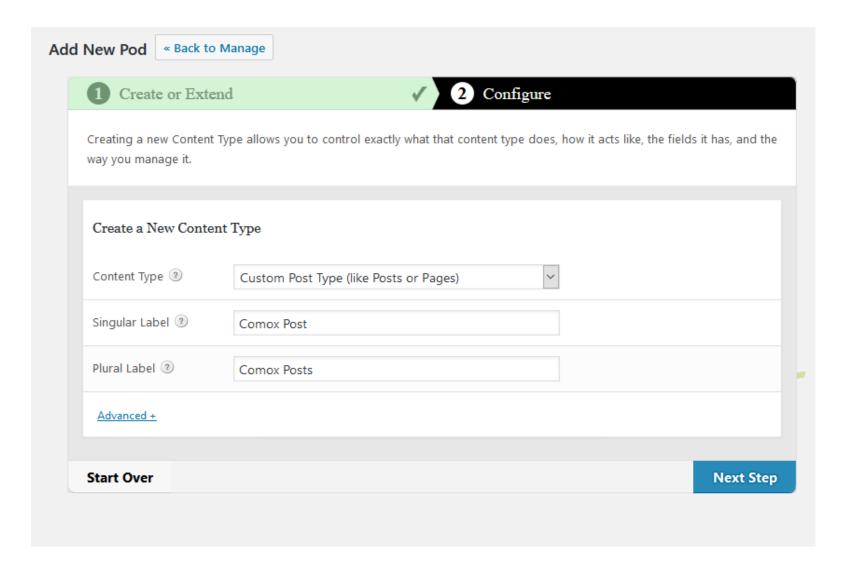
- Pods Content Types and Fields
 - "Custom Post Type UI" is a possible alternative
- Members
 - "Roles & Capabilities" component of Pods is an alternative
- Post Type Switcher
 - Essential for converting an existing site
- User Switching
 - Not strictly required, but very useful for testing

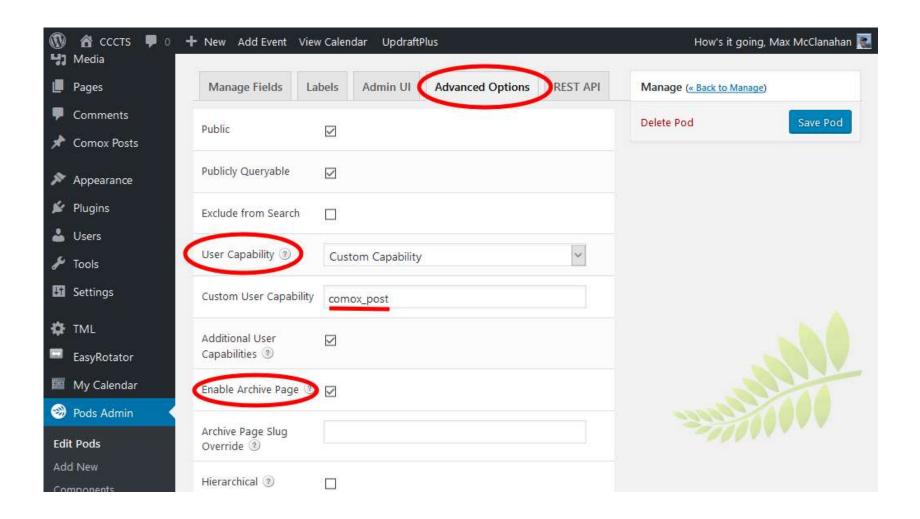
Setting up a Local Editor

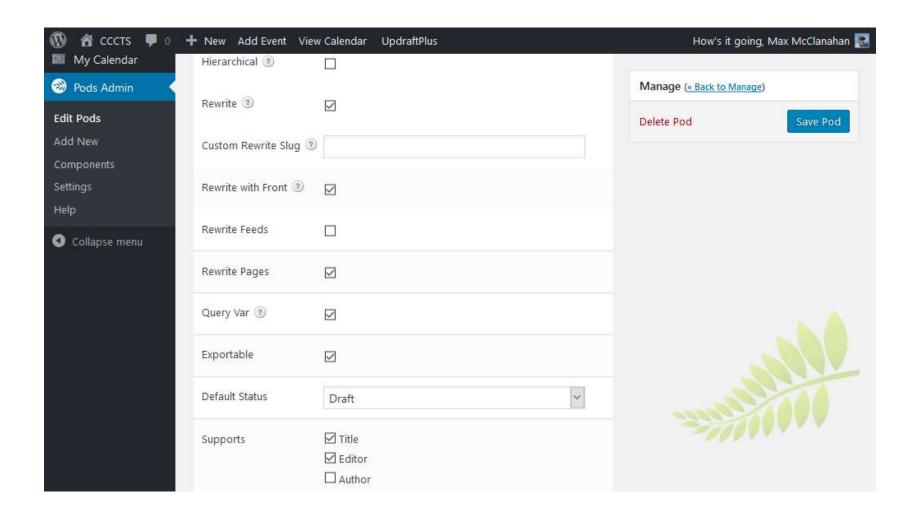
- Create the CPT "Comox Posts"
 - PODS plugin
- Create the "Comox Editor" role
 - Members plugin
 - Users | new Role
- Setup menus to Reference CPT's
 - Create a Custom Link menu item
 - URL: site-url/?post_type=comox_post

Create the CPT



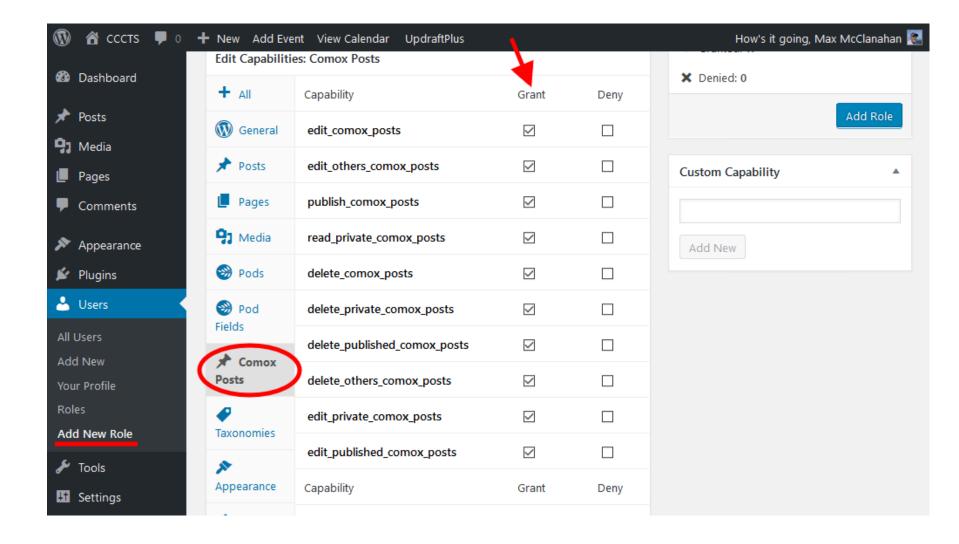






	/ Calendar UpdraftPlus	How's it going, Max McClanahan 🌊
	☑ Editor □ Author	Manage (« Back to Manage)
	☐ Featured Image ☐ Excerpt ☐ Trackbacks ☐ Custom Fields ☐ Comments ☐ Revisions ☐ Page Attributes ☐ Post Formats	Delete Pod Save Pod
Advanced Supports ③		
Built-in Taxonomies	☐ Categories (category) (category) ☐ Link Categories (link_category) (link_category) ☐ Categories (mc-event-category) (mc-event-category) ☐ Tags (post_tag) (post_tag)	
Thank you for creating with WordPress.		Version 4.6

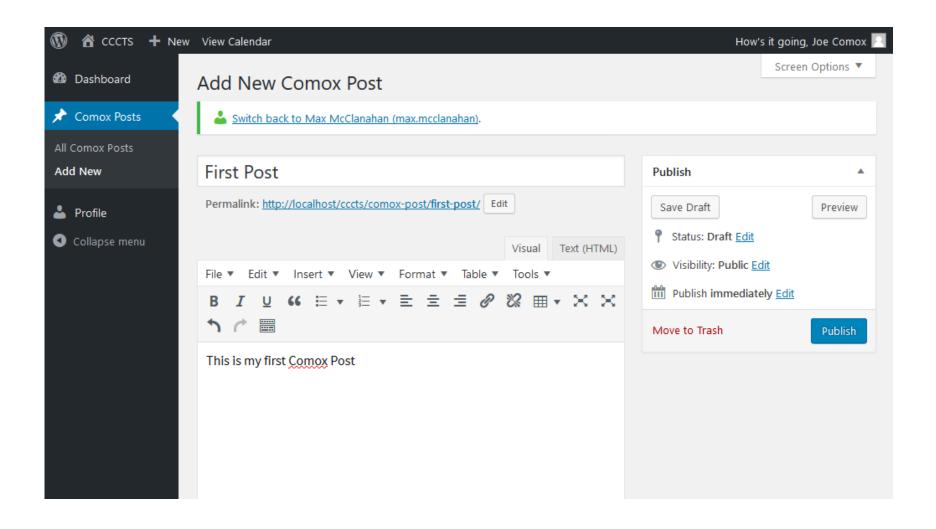
Create "Comox Editor" Role



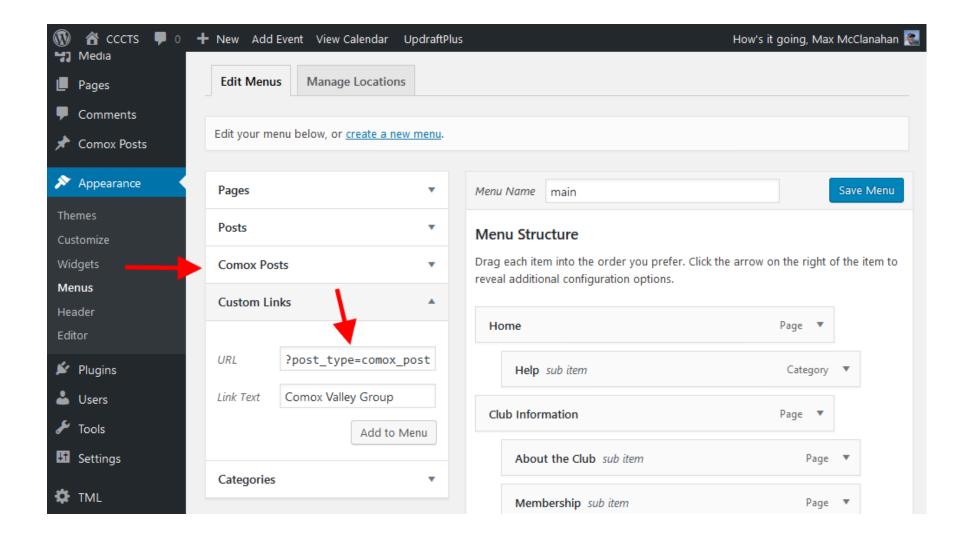
More on Users and Role

- Add the new CPT capabilities to the Administrator
- Create new user "Joe Comox"
 - Optional user for testing
 - Assign "Comox Editor" role
- Confirm Role and CPT are working
 - Switch user to "Joe Comox"
 - Create a new Comox Post

Creating a Comox Post



Menu Link to Comox Post Archive



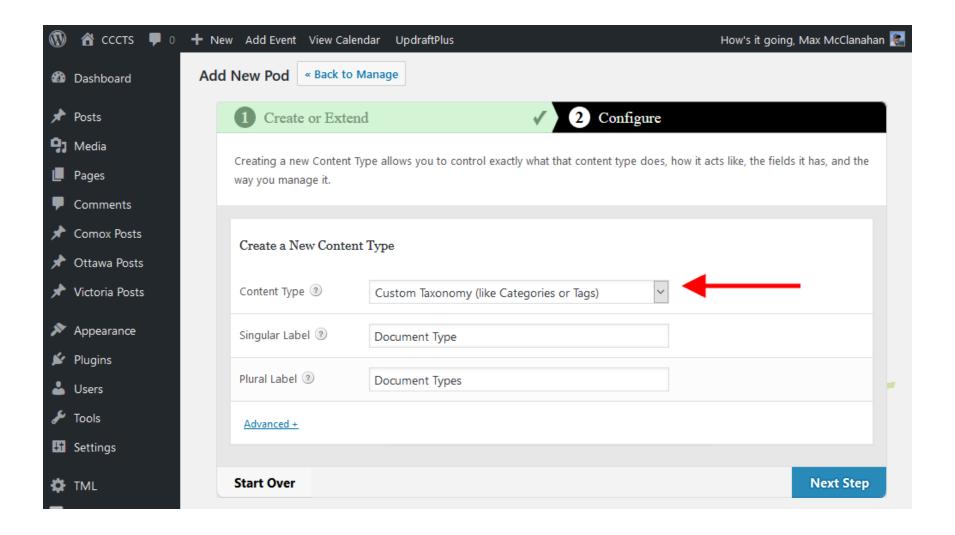
What's Next?

- Use Pods "duplicate" functionality to create additional similar CPT's
- Create a corresponding role for each CPT
- Add users to roles
- Add menu items for each CPT archive
- Deploy

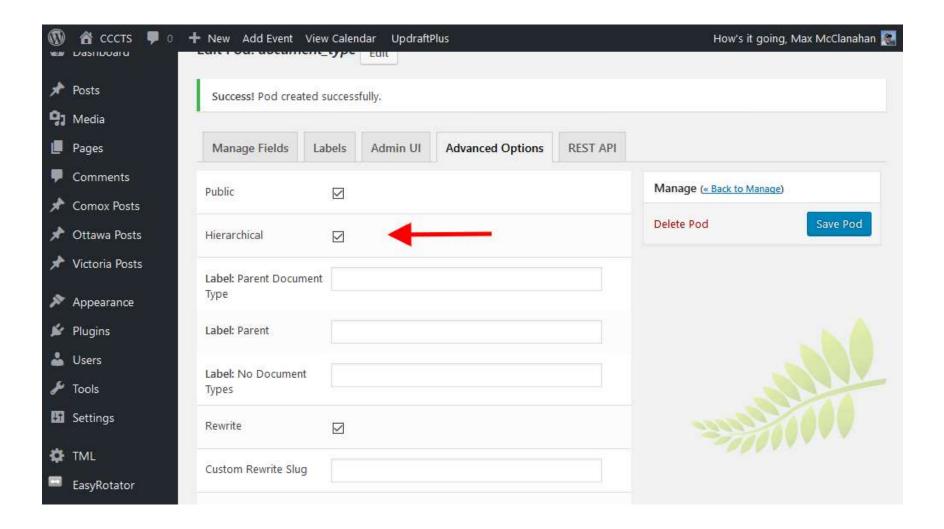
Club Document Editor Case Study

- Slightly more complicated example than the Local Editor
- Adds a custom taxonomy to categorize different types of documents
- First we will Create the custom taxonomy using Pods
- Then we will create our "Club Document" CPT as in the previous example

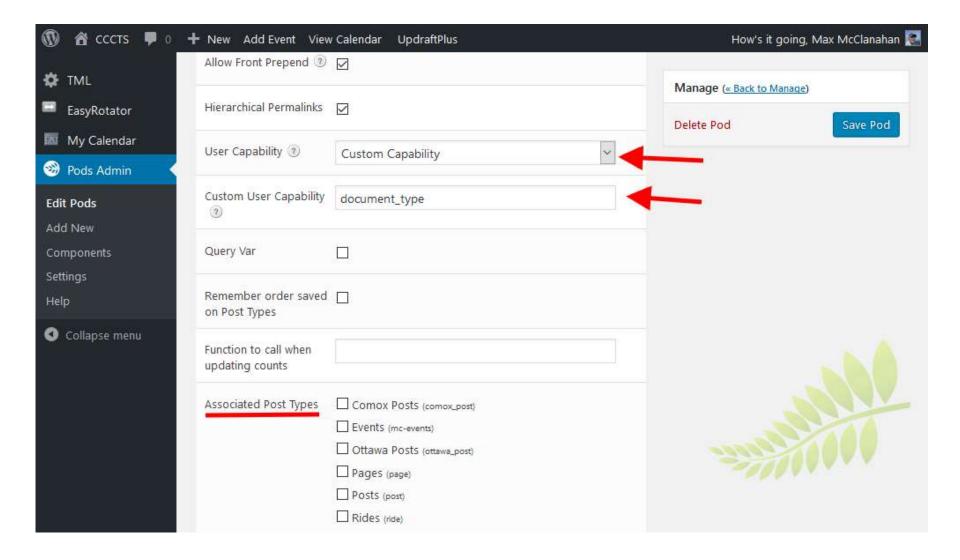
Create a Custom Taxonomy



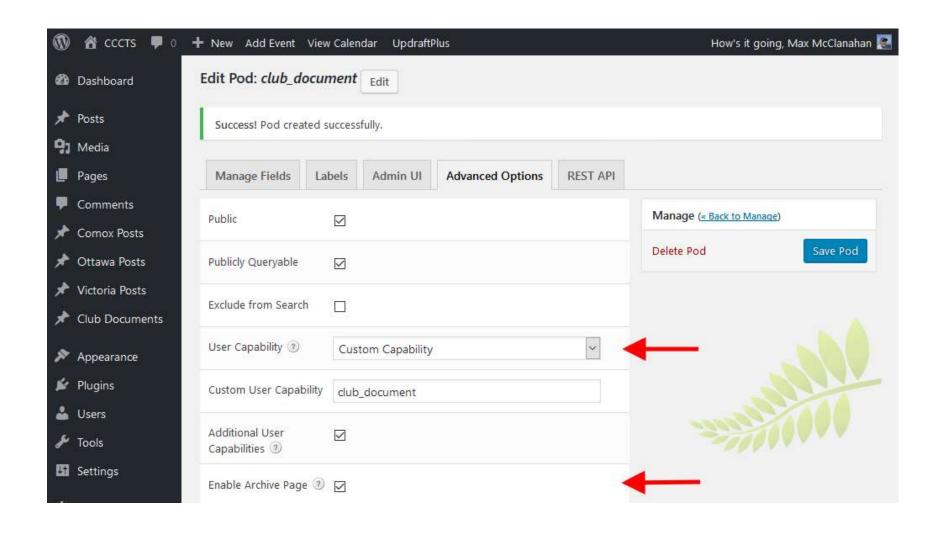
Create Taxonomy cont.



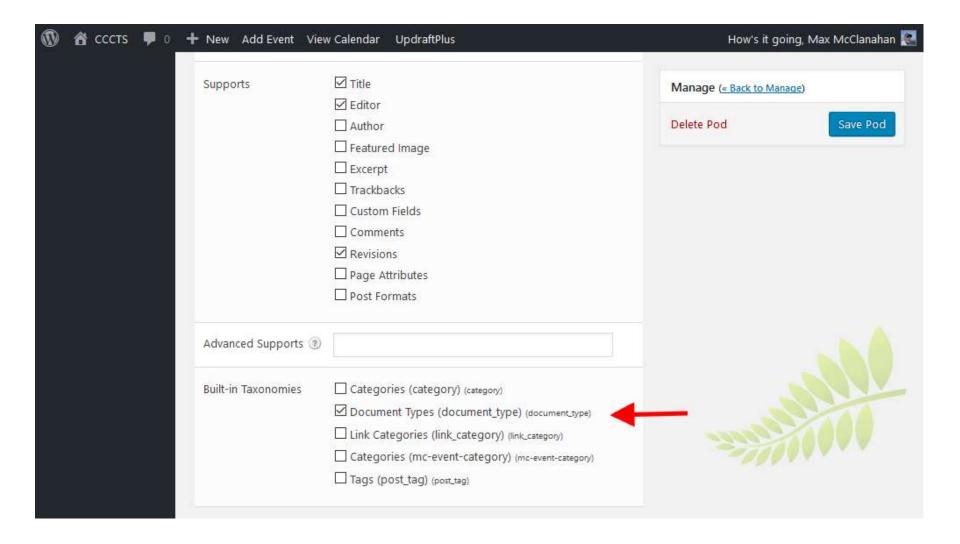
Create Taxonomy cont.



Create "Club Document" CPT



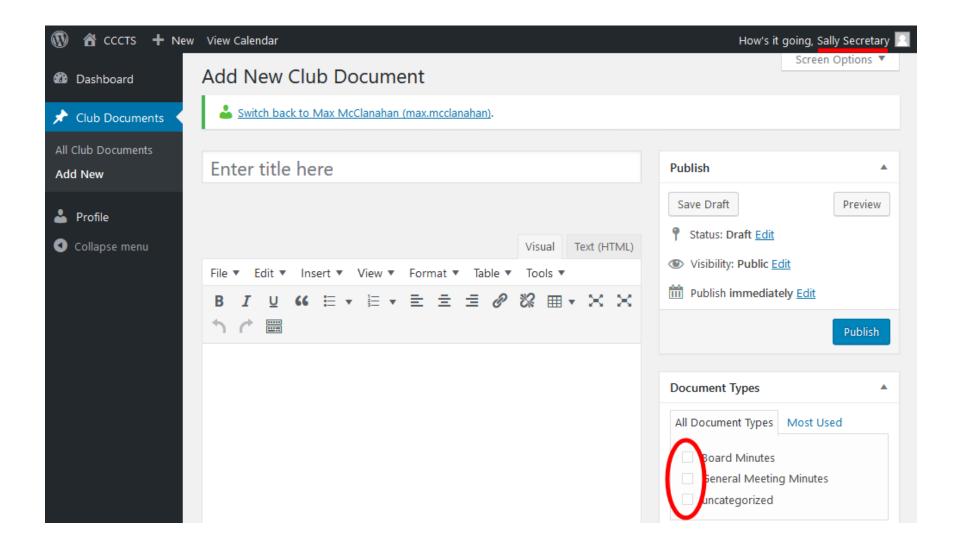
Create "Club Document" CPT cont.



Create Role and User

- Add new role: Club Document Editor
 - Assign all Club Document capabilities
- Assign all Club Document capabilities to administrator
- Create new user: Sally Secretary
 - Assign Club Document Editor Role
- Populate our *Document Types* Taxonomy
 - Add: "Board Minutes", "General Meeting Minutes" and "uncategorized"

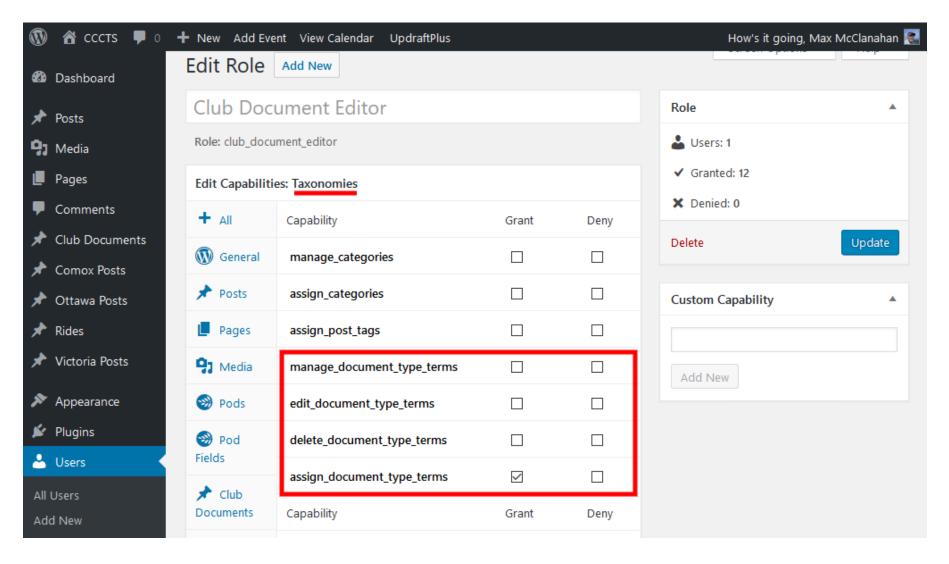
Test: Add New Club Document



Why Can't Sally Select a Document Type?

- Hint: If I switch back to my administrator role everything works fine.
- But we assigned Sally all Club Document capabilities!
- Document Types is a taxonomy not a CPT
- Where do we set taxonomy capabilities?

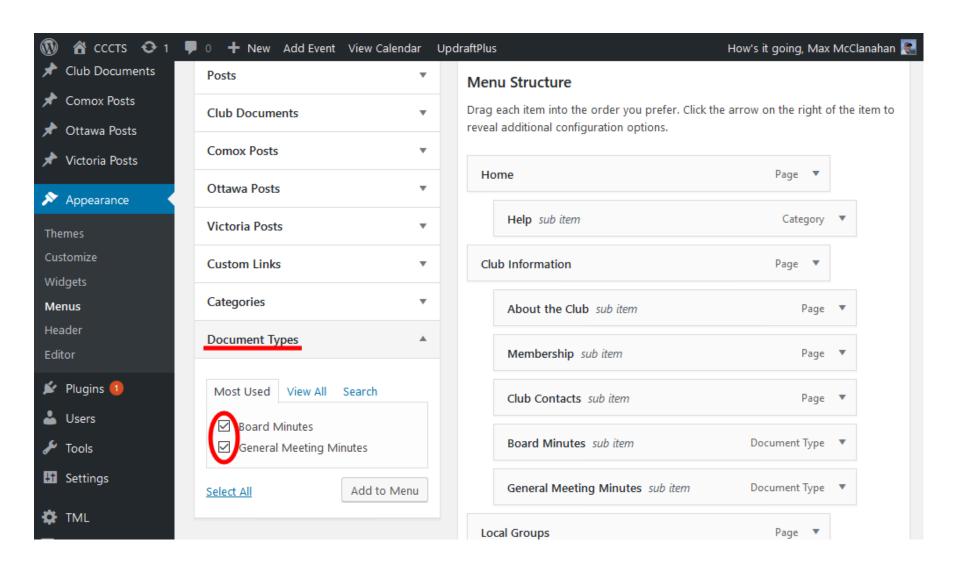
Setting Taxonomy Capabilities



Taxonomy Capabilities

- Grant assign_document_type_terms to Club Document Editor role
- Grant all 4 document_type taxonomy capabilitites to administrator
- Flush the Pods cache:
 - Pods Admin | Settings | Clear Pods Cache

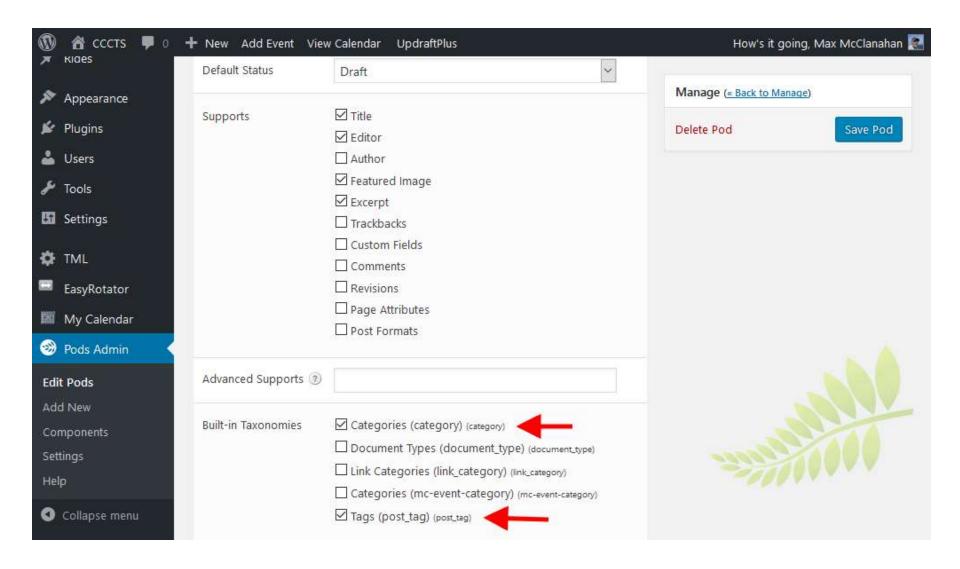
Menu Links to Archives



Ride Director Case Study

- Our most complicated CPT
- Numerous custom field using table based storage
 - But that is a topic for another day
- Custom post type that uses the built-in taxonomies category and tags

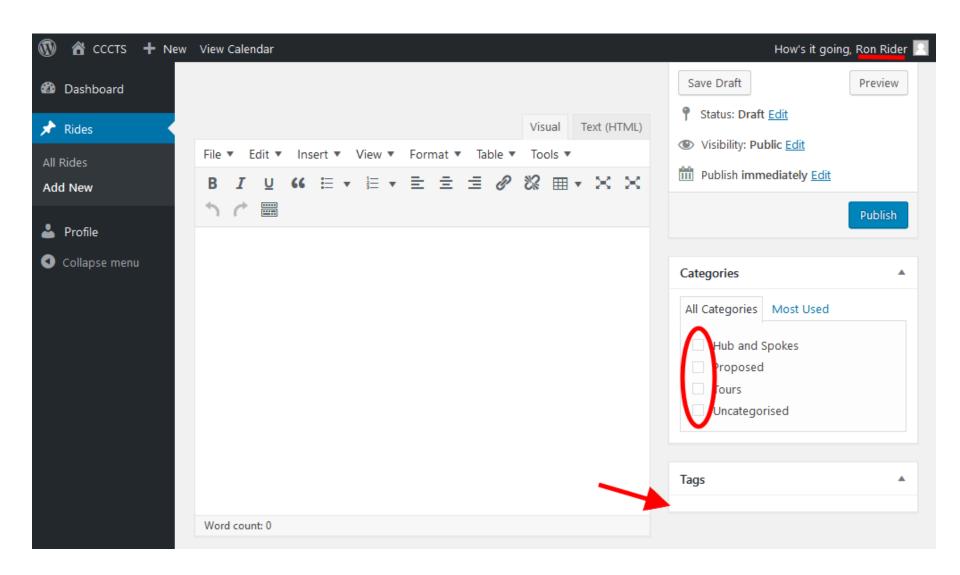
Create Rides CPT



Rides: Roles & Capabilities

- Create new "Rides Director" role
 - Grant all Rides capabilities
- Grant all Rides capabilities to Administrator
- Create user "Ron Rider" with Ride Director role.

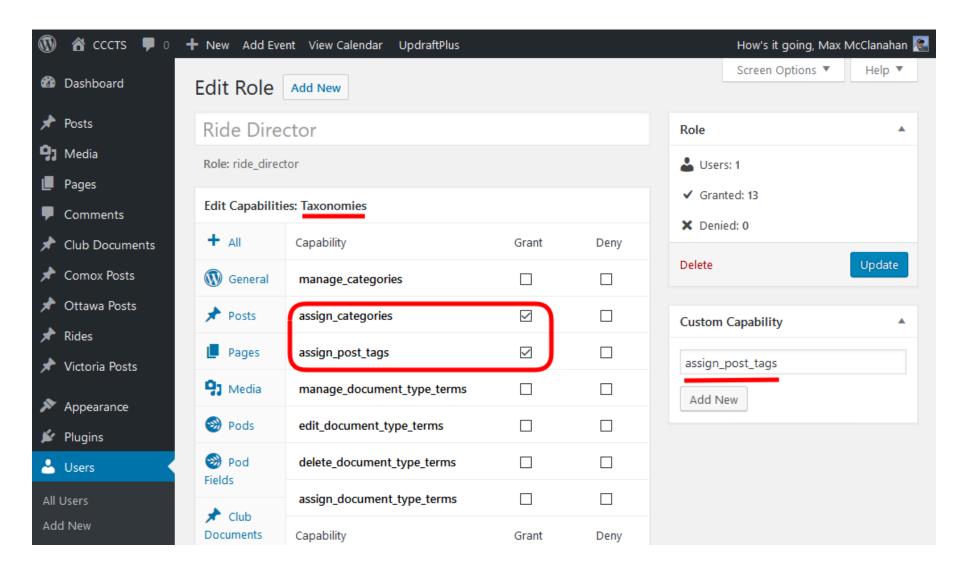
Test: Add New Ride



We Have Been Here Before

- Why can't Ron assign categories or tags?
- Again we have a capability problem
- Same problem (slightly) different solution
 - Create custom capabilities
 - assign_categories, assign_post_tags
 - Grant both capabilities to Rides Director & Administrator
 - Bind the taxonomy using a filter in functions.php
 - Flush the Pods cache

Creating Custom Capabilities



Binding Built-in Taxonomy Capabilities

```
/* In order to use a builtin taxonomy inside a CPT we need
 * to setup capabilities for the taxonomy that are enabled
 * in the role for that CPT
add_action('init', 'set_builtin_tax_caps');
function set_builtin_tax_caps() {
       $tax = get_taxonomy('post_tag');
       $tax->cap->assign_terms = 'assign_post_tags';
       $tax = get taxonomy('category');
       $tax->cap->assign terms =
                             'assign categories';
```

Summary

- Post Types (built-in or custom) each have an associated set of capabilities.
- By taking advantage of that functionality we can segment our site into discreet areas of responsibility
- Restrict access to only essential functionality
- Simplifies the interface by limiting to a specific area

Hopefully this discussion has provided a better understanding of how Custom Post Type can provide the infrastructure for building a collaborative web site.

QUESTIONS?