CONNECTING CUSTOM POST TYPES

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OVERVIEW

- Who am I?
- What are Custom Post Types?
- Scope of my site
- Creating 2 types: Courses, Assignments
- Connecting them on the backend
- Connecting them on the frontend
- Planning for Grades
- Conclusion

WHO AM I?

- Web Developer. Writer. Nerd*.
  - *Computer, Device, Star Wars
- Yankee Fan
- Author of *Building WordPress Themes from Scratch*

WHAT ARE CUSTOM POST TYPES?

- Any content in WordPress is considered a ‘post’
  - Posts, Pages, Attachments, Revisions, Nav Menus
- Custom Post Types (CPTs) allow us to create our own posts.
  - A better name might be “Custom Content Types”
- Ex: Businesses, People, Job Listings, etc.

SCOPE OF MY SITE

- Website for my Courses
- Wanted to create an area where students could look up Course info and Assignments
- Felt CPTs would be best
- Wanted to relate Assignments to Courses without doing it manually

TIPS FOR CREATING CPTS

- Won't go through entire development process
  - For the sake of time!
- Will make these recommendations:
  - Draw out CPTs before coding them. What fields do you want and what kind of data will they hold?
  - Make your CPTs a plugin, NOT part of the theme
    - You don't want to marry your theme to your content

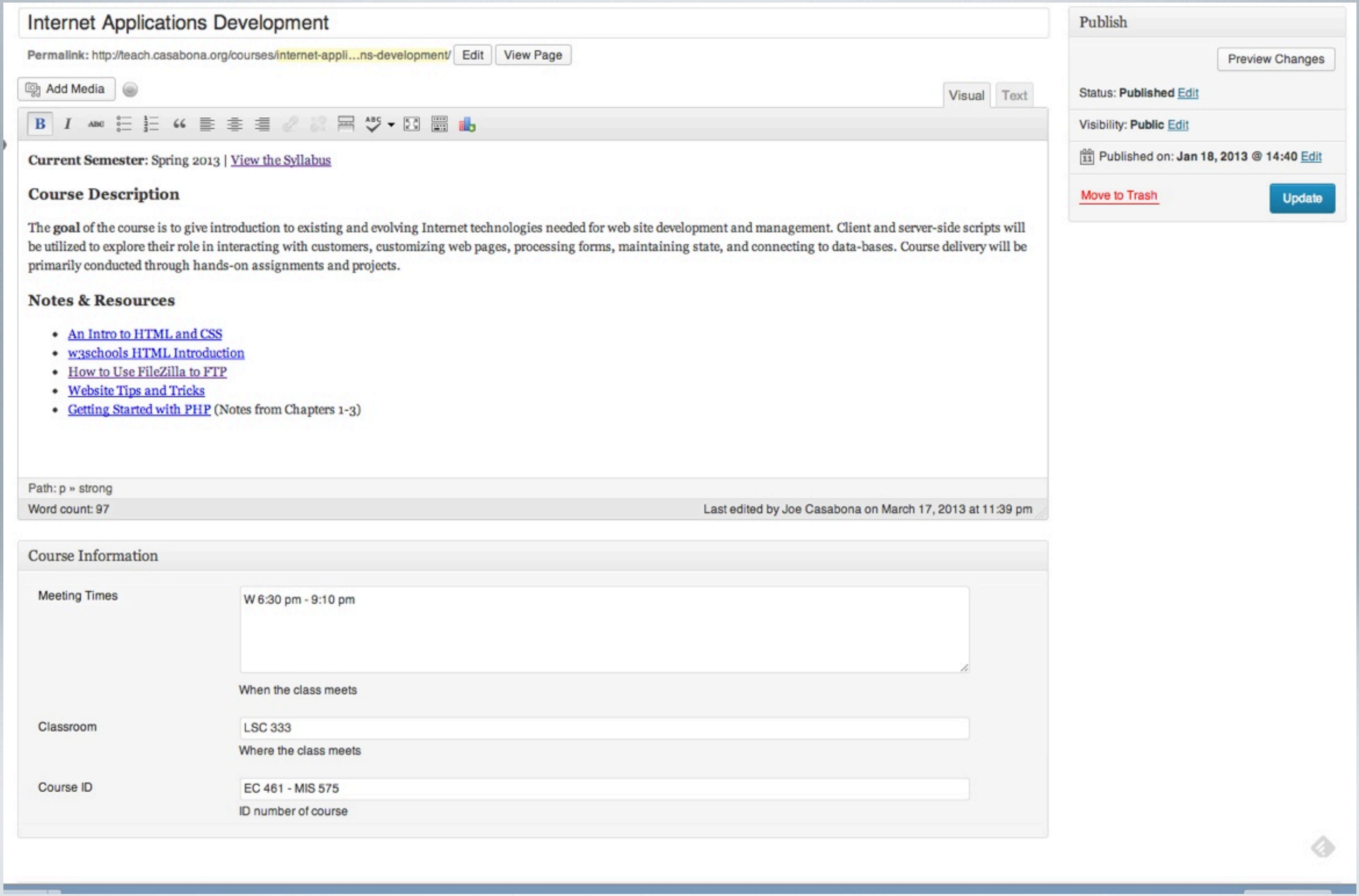
CREATING THE COURSE CPT

- The Content:
  - Title (title)
  - Description (post body)
  - Meeting Time (text box)
  - Classroom (text box)
  - Course ID/Section (text box)
- I kept it straight-forward, but would like to change a few things!

```
function prof_courses_register() {


   $args = array(
        'label' => __('Courses'),
        'singular_label' => __('Course'),
        'public' => true,
        'show_ui' => true,
        'capability_type' => 'post',
        'hierarchical' => true,
        'has_archive' => true,
        'supports' => array('title', 'editor'),
        'rewrite' => array('slug' => 'courses', 'with_front' =>
false),
       );

    register_post_type( 'courses' , $args );
}
```

```
$courses_meta_box = array(
    'id' => 'courses-meta',
    'title' => __('Course Information'),
    'page' => 'courses',
    'context' => 'normal',
    'priority' => 'high',
    'fields' => array(
        array(
            'name' => __('Meeting Times'),
            'desc' => __('When the class meets'),
            'id' => 'meetingtimes',
            'type' => 'textarea',
            'std' => ""
        ),
       array(
            'name' => __('Classroom'),
            'desc' => __('Where the class meets'),
            'id' => 'classroom',
            'type' => 'text',
            'std' => ""
        ),

         array(
            'name' => __('Course ID'),
            'desc' => __('ID number of course'),
            'id' => 'courseid',
            'type' => 'text',
            'std' => ""
        ),
    )
);

add_action('admin_menu', 'prof_courses_meta');
```

```
function prof_courses_meta() {
    global $courses_meta_box;

    add_meta_box($courses_meta_box['id'], $courses_meta_box['title'], 'prof_course_show_meta',
$courses_meta_box['page'], $courses_meta_box['context'], $courses_meta_box['priority']);
}

// Callback function to show fields in meta box
function prof_course_show_meta() {
    global $courses_meta_box, $post;

    echo '<input type="hidden" name="courses_meta_box_nonce2" value="',
wp_create_nonce(basename(__FILE__)), '" />';

    echo '<table class="form-table">';

    foreach ($courses_meta_box['fields'] as $field) {
        // get current post meta data
        $meta = get_post_meta($post->ID, $field['id'], true);

        echo '<tr>',
                '<th style="width:20%"><label for="', $field['id'], '">', $field['name'], '</label></
th>',
                '<td>';
        switch ($field['type']) {
            case 'text':
                echo '<input type="text" name="', $field['id'], '" id="', $field['id'], '" value="',
$meta ? $meta : $field['std'], '" size="30" style="width:97%" />', '<br />', $field['desc'];
                break;
            case 'textarea':
                echo '<textarea name="', $field['id'], '" id="', $field['id'], '" cols="60" rows="4"
style="width:97%">', $meta ? $meta : $field['std'], '</textarea>', '<br />', $field['desc'];
                break;
        }
        echo     '<td>',
            '</tr>';
    }

    echo '</table>';
}
```



Internet Applications Development

Permalink: http://teach.casabona.org/courses/internet-appli...ns-development/ Edit View Page

Current Semester: Spring 2013 | View the Syllabus

Course Description

The **goal** of the course is to give introduction to existing and evolving Internet technologies needed for web site development and management. Client and server-side scripts will be utilized to explore their role in interacting with customers, customizing web pages, processing forms, maintaining state, and connecting to data-bases. Course delivery will be primarily conducted through hands-on assignments and projects.

Notes & Resources

- An Intro to HTML and CSS
- w3schools HTML Introduction
- How to Use FileZilla to FTP
- Website Tips and Tricks
- Getting Started with PHP (Notes from Chapters 1-3)

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Word count: 97

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Course Information

Meeting Times: W 6:30 pm - 9:10 pm

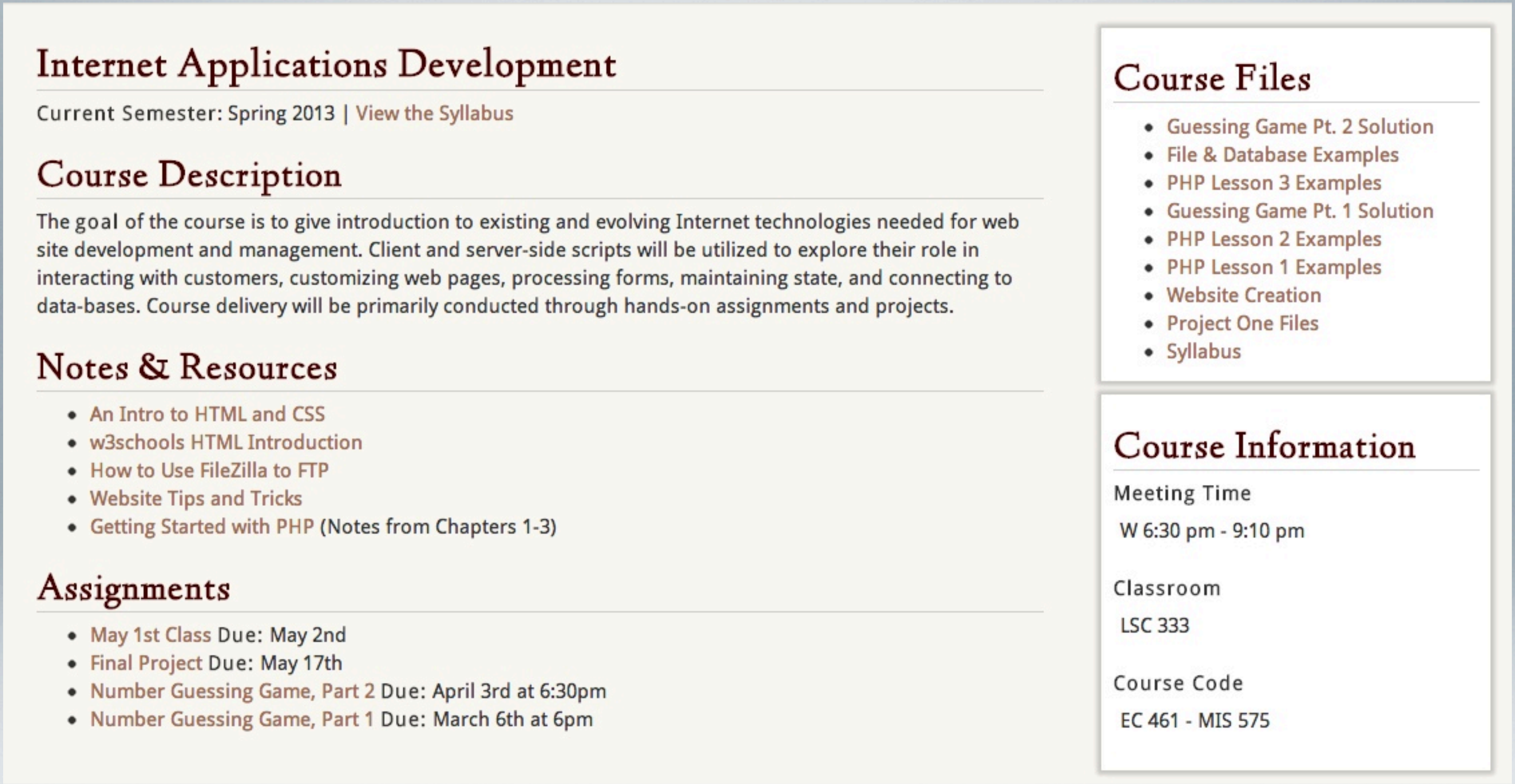
When the class meets

Classroom: LSC 333

Where the class meets

Course ID: EC 461 - MIS 575

ID number of course



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Assignments

- May 1st Class Due: May 2nd
- Final Project Due: May 17th
- Number Guessing Game, Part 2 Due: April 3rd at 6:30pm
- Number Guessing Game, Part 1 Due: March 6th at 6pm

Course Files

- Guessing Game Pt. 2 Solution
- File & Database Examples
- PHP Lesson 3 Examples
- Guessing Game Pt. 1 Solution
- PHP Lesson 2 Examples
- PHP Lesson 1 Examples
- Website Creation
- Project One Files
- Syllabus

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CREATING THE ASSIGNMENT CPT

- The Content:
  - Title (title)
  - Description (post body)
  - Due Date (text box)
  - Course (CPT: courses)

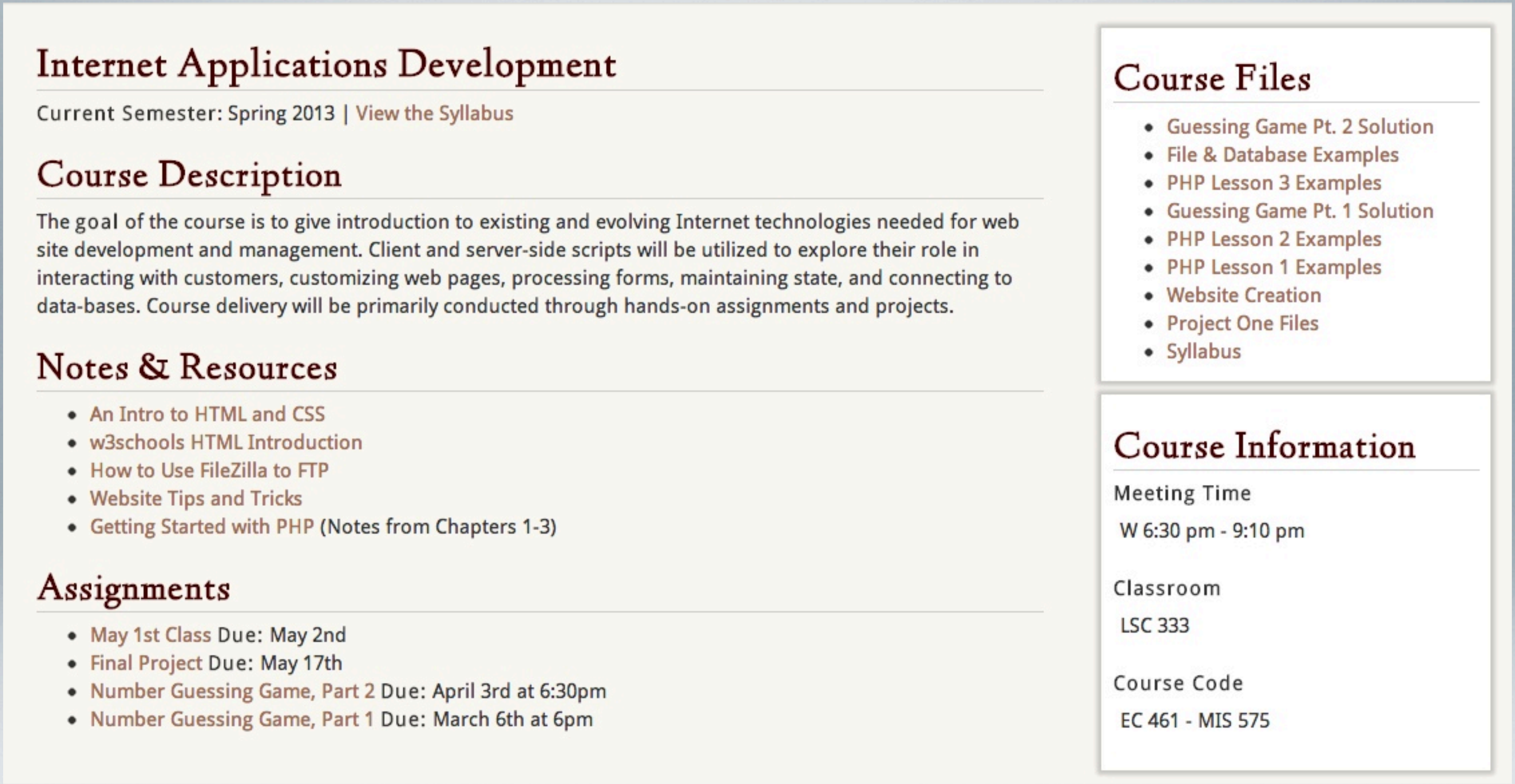
```
function prof_assignments_register() {

    //Arguments to create post type.
    $args = array(
        'label' => __('Assignments'),
        'singular_label' => __('Assignment'),
        'public' => true,
        'show_ui' => true,
        'capability_type' => 'post',
        'hierarchical' => true,
        'has_archive' => true,
        'supports' => array('title', 'editor', 'comments'),
        'rewrite' => array('slug' => 'assignments', 'with_front' =>
false),
       );

   //Register type and custom taxonomy for type.
    register_post_type( 'assignments' , $args );
}
```

```
$assignments_meta_box = array(
    'id' => 'assignments-meta',
    'title' => __('Assignment Information'),
    'page' => 'assignments',
    'context' => 'normal',
    'priority' => 'high',
    'fields' => array(
      array(
            'name' => __('Due Date'),
            'desc' => __('When is it due?'),
            'id' => 'duedate',
            'type' => 'text',
            'std' => ""
        ),
       array(
          'name'=> __('Course'),
          'desc'=> __('Select the course.'),
          'id'  => 'course',
          'type'=> 'post_list',
          'std' => ""
      ),
    )
);
```

```
 case 'post_list':
           $items = get_posts( array (
               'post_type' => 'courses',
               'posts_per_page' => -1
           ));
               echo '<select name="', $field['id'],'" id="'.
$field['id'],'">
                      <option value="">Select One</option>';
                  foreach($items as $item) {
                      echo '<option value="'.$item->ID.'"', $meta ==
$item->ID ? ' selected' : '','> '.$item->post_title.'</option>';
                  } // end foreach
               echo '</select><br />'.$field['desc'];
           break;
```

WHAT JUST HAPPENED?

- We essentially did created a type with a ‘foreign key’ pointing to a different custom post type
- We will use this foreign key on the front end to grab the assignments and display them for the selected course.
- Let’s take a look at the front end again...



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DISPLAYING ASSIGNMENTS ON COURSE PAGES

- This is a simple 2 step process:
  - Get the ID of the Course we are viewing
  - Select all Assignments that have that ID as the value in the “course” custom field
- Because of the “post_list” area in the Assignments CPT, this should be straight forward.

```
function prof_get_assignments($id){

   $args= array(
      'post_type' => 'assignments',
      'meta_query' => array(
         array(
            'key' => 'course',
            'value' => $id,
         )
      )
   );

   $assns= get_posts($args);

   return $assns;
}
```

```
<h3>Assignments</h3>

  <ul>
      <?php
          foreach ($assns as $a) :
             $a_info= get_post_custom($a->ID);
      ?>

      <li><a href="<?php print get_permalink($a->ID); ?>"><?php print
      $a->post_title; ?></a> <strong>Due:</strong> <?php print
      $a_info['duedate'][0]; ?></li>

      <?php
          endforeach;
      ?>

  </ul>



  location: single-courses.php
```

PLANNING FOR GRADES

- This complicates things!
- We need several associations
  - Assignments --> Course (check)
  - Grade --> Assignment
  - Grade --> Student
- There are several ways to do this.

SOLUTION#1

- Create a Student CPT
  - Include name, Student ID, any other important information
- Create a Grades CPT
  - Include the grade, the Assignments Post List, the Student Post List
- This would give us all of the information we need to derive grades and course schedules for students
  - The queries would get complicated, however.

SOLUTION #2

- Create only a Grades CPT
    - Include grade, Assignment Post List, and name of Student.
- This would not allow for as robust reporting and would require duplicate data entry, but it provides a quick and dirty solution that would work.

WRAPPING UP

- Linking CPTs (using my method) is a 2 step process:
  - On the backend, generate a list of posts and post IDs, which will be treated as 'foreign keys', linking the 2 CPTs
  - On the front-end, simply query your CPT, using the linked CPT's ID in the arguments, getting a list of all of the associated posts.

QUESTIONS?

Live Demo

site: Casabona.org
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email: joe@casabona.org
slides: casabona.org/wpsummit-13