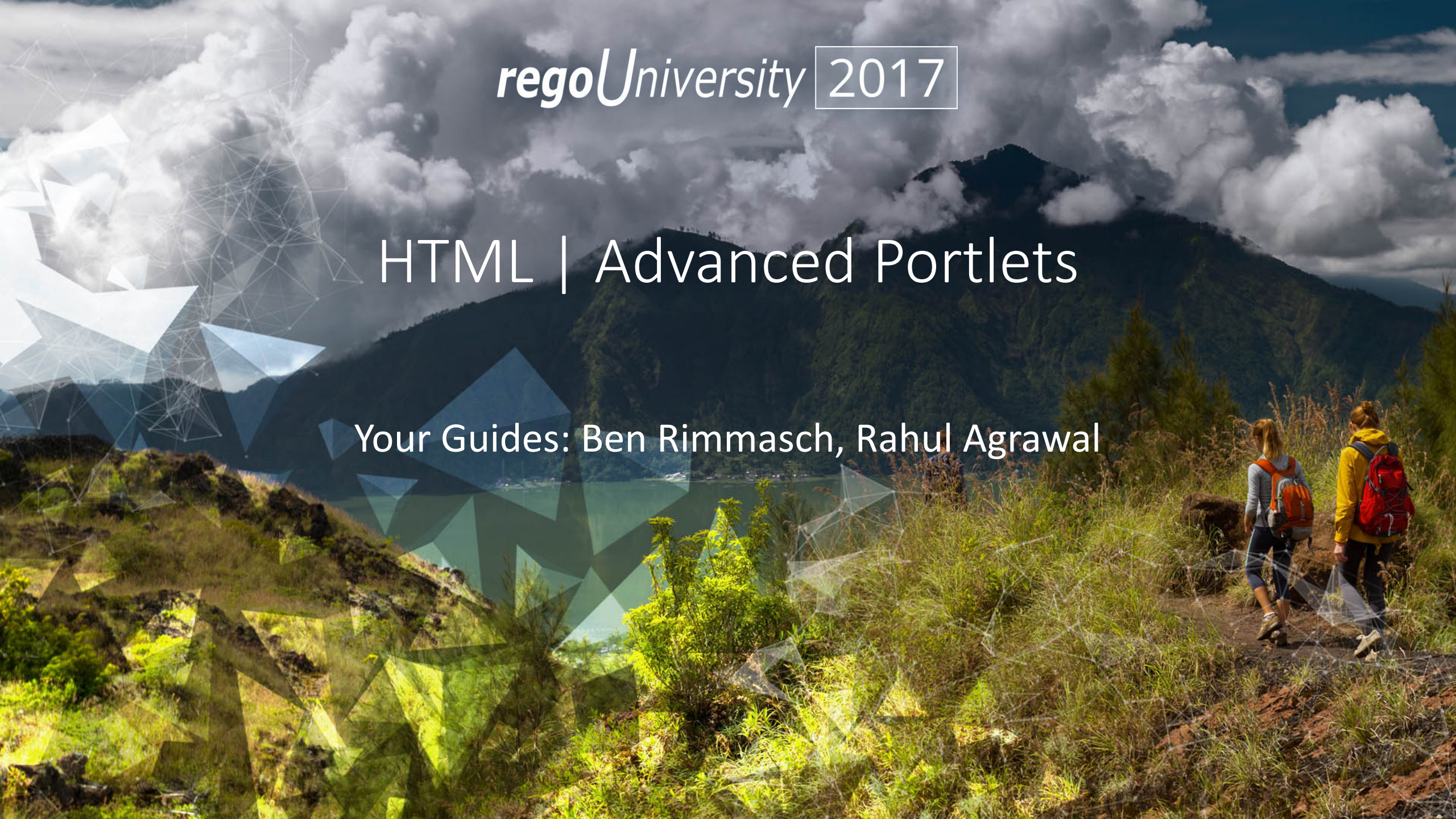


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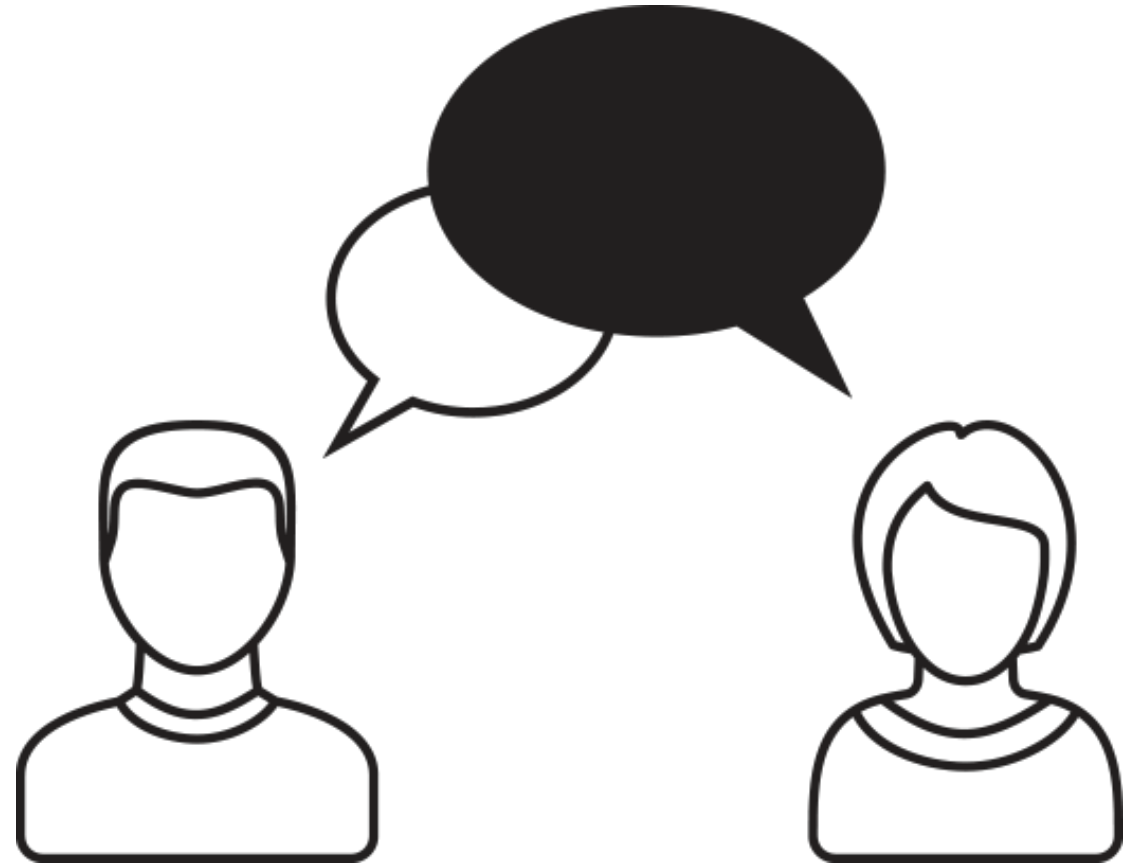
HTML | Advanced Portlets

Your Guides: Ben Rimmasch, Rahul Agrawal



Introductions

- Take 5 Minutes
- Turn to a Person Near You
- Introduce Yourself



Agenda

- HTML Portlets Overview
- HTML Portlet Use Cases
- Development Strategies
 - JavaScript
 - jQuery
- Building an Announcement HTML Portlet
 - Exercise

HTML Portlets Overview

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Overview

- HTML portlets are embedded HTML
- HTML portlets can sometimes fill a void where a standard portlet (or even out of the box create/edit screen) cannot provide all of the functionality required
 - For example, scheduling integrations with other systems are often displayed in a JavaScript HTML portlet.
 - Fancy formatting (non-grid) data is often displayed in HTML portlets (announcement portlets)
 - HTML portlets can be used to embed other webpages in Clarity
- HTML portlets can contain JavaScript (and jQuery) code to provide additional capabilities

HTML Portlet Use Cases

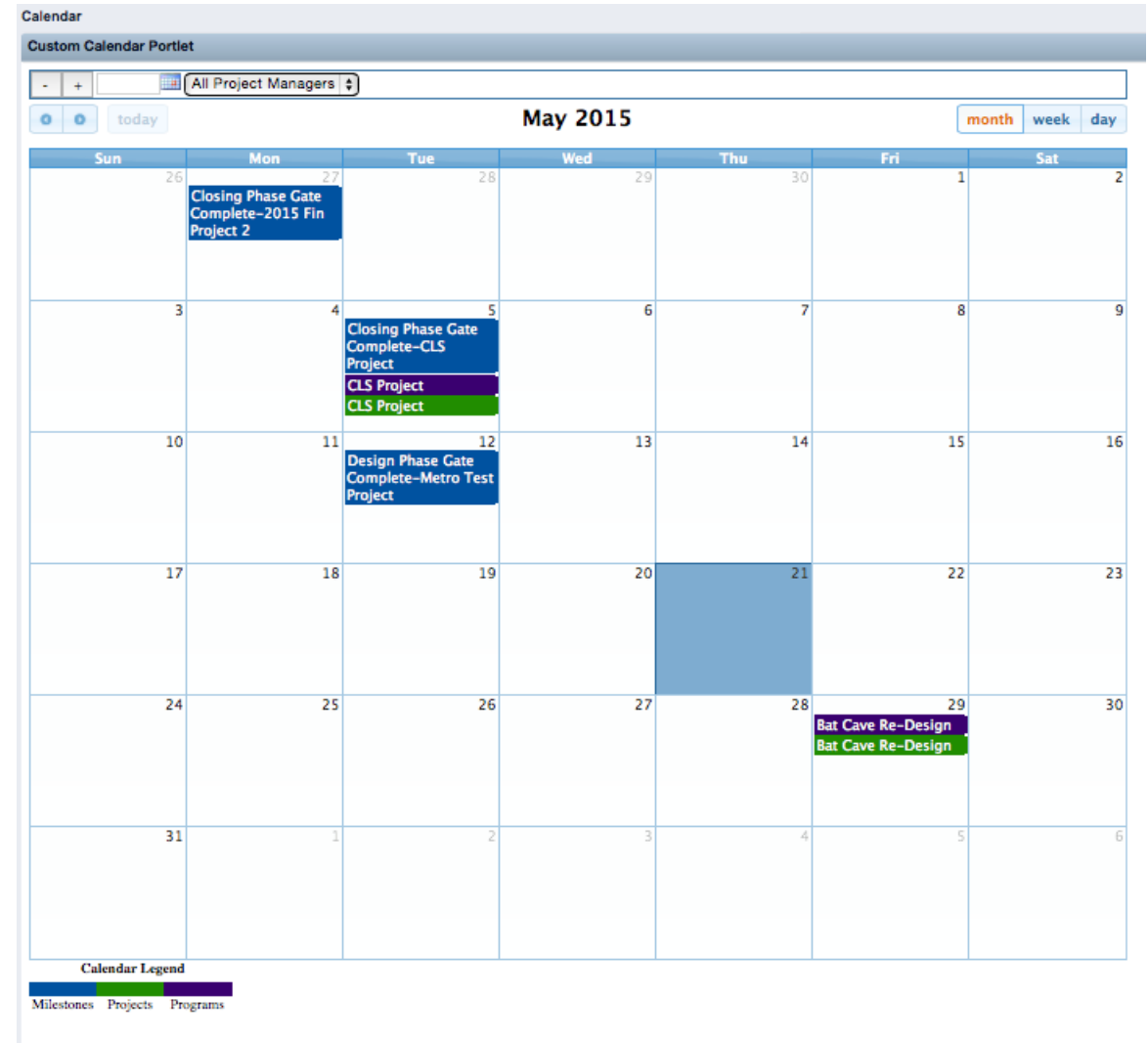
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HTML Portlet Use Cases

7

- Calendar/Scheduling Interface



- Project Story Board**

Task Name: Task	Resource Name: Resource	<button>New Task</button>
------------------------	--------------------------------	---------------------------

Not Set

Planning

Resource	ETC	Actuals
----------	-----	---------

Initiation

Identify Stakeholders

Resource	ETC	Actuals
Jones, Bruce	0	0
Tester, Tommy	4	0

Planning

Business Requirements Document (BRD)

Resource	ETC	Actuals
Jones, Bruce	0	0

Communications Management Plan

Resource	ETC	Actuals
Tester, Tommy	4	0

Stakeholder Analysis

Resource	ETC	Actuals
Garrick, Jay	0	2
Woman, Wonder	0	2
Wright, Frank	0	0
Admin, Rego	0	0
Administrator, Niku	0	0
Administrator, Process	0	0
Alfred, Al	0	0
Allen, Barry	0	0
Almeida, Joe	0	0
America, Captain	0	0
Armstrong, Ken	0	0
Arya, Vishal	0	0
Attia, Jasmin	0	0
Banner, Bruce	0	0
Barton, Clint	0	0
Sam, Uncle	0	4
Tester, Tommy	4	0

Advanced Capabilities Enablement

Resource	ETC	Actuals
----------	-----	---------

Requirements

Resource	ETC	Actuals
----------	-----	---------

HTML Portlet Use Cases

- Integrations

Resource Outlook Scheduler

Selected Assignment								
Project	Task Name	Task Start Date	Task Finish Date	Start Date	Finish Date	# of Hours	Requested Resource	Staff Request Notes
American Masters	Huckleberry Finn	4/13/17	4/19/17	4/13/17	4/13/17	7		

Displaying 1 - 1 of 1

Resource Outlook Calendar

<

April 2017

>

Su

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Tu

We

Th

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Sa

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4/13/2017

Resource

12 AM

1 AM

2 AM

3 AM

4 AM

5 AM

6 AM

7 AM

8 AM

9 AM

10 AM

11 AM

12 PM

1 PM

2 PM

3 PM

4 PM

5 PM

6 PM

7 PM

8 PM

Twain, Mark

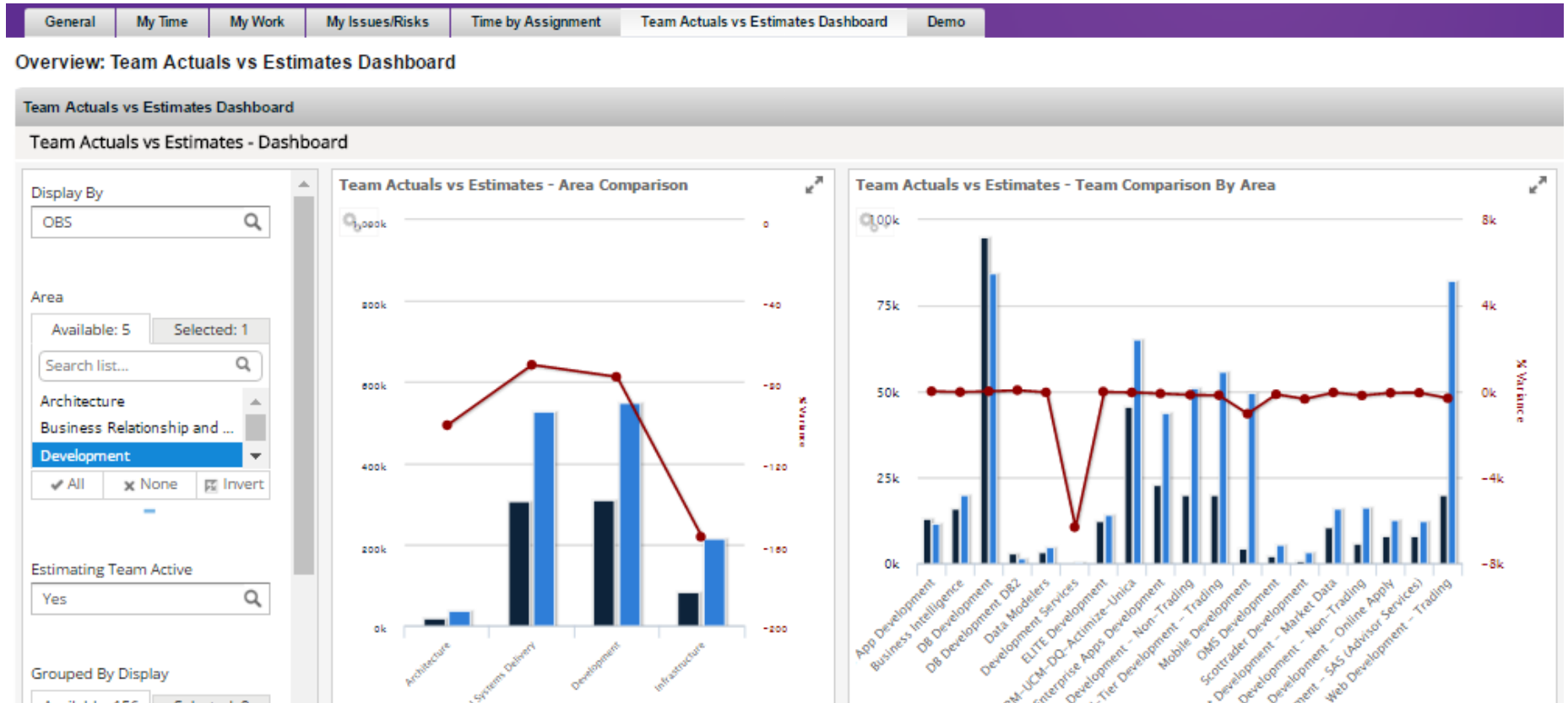
Save

Re-Sync with Outlook

Save Re-Sync with Outlook

HTML Portlet Use Cases

- Embedding another web page (This is a JasperReport on the project dashboard)



Development Strategies

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Development Strategies

- Files can be hosted from the Tomcat server's root directory
 - Usually this is <NIKU_HOME>/webroot
 - SaaS customers do not have this option but files can be uploaded to the Knowledge Store and CA PPM will serve them from there.
- Traditional web development follows traditional development practices where separation of UI and logic is desired.
 - Separate code into libraries for reuse if possible
 - Separate styling into CSS files if possible
 - Limitations in CA PPM makes some best practices difficult or impossible

Development Strategies - JavaScript

- To develop complicated JavaScript/jQuery portlets sometimes development is best done outside of CA PPM.
- An IDE compatible with JavaScript often saves a lot of development time
- Being familiar with debugging tools such as Firebug, SoapUI, and Postman is also necessary at times
 - Most modern browsers support the “debugger;” expression which acts as a break point. This is especially handy when developing in CA PPM because scripts are loaded via jQuery and are often impossible to locate in the resources of a page.

CA PPM Dos and Don'ts

- Declaring JavaScript in the HTML portlet (don't include files via URL) is one option.
 - For example:

```
<!DOCTYPE html>

<html lang="en" xmlns="http://www.w3.org/1999/xhtml">
<head>
  <title></title>

  <script type="text/javascript">alert('JavaScript declared directly in the header runs!');</script>

  <script type="text/javascript">
    function DeclarationPlace(type) {
      this.type = type;
      this.getInfo = function () {
        return 'Declarations from ' + this.type + ' work!';
      };
    };
    debugger;
    var headerPlace = new DeclarationPlace('directly in the header');
    alert(headerPlace.getInfo());
  </script>

</head>
<body>
</body>
</html>
```

CA PPM Dos and Don'ts

- The reason this works well is because all parts of the JavaScript will be loaded at run-time at the same time.
- It makes deployments easier typically as only the HTML needs to be updated.
- This does not provide optimal code organization. You may have similar code in all of HTML portlets that would need to be modified on a change.
- This also works but is not recommended in case development outside of Clarity is necessary. Some browsers won't interpret correctly HTML without all required tags.

```
<script type="text/javascript">alert('JavaScript declared directly in the header runs!');</script>

<script type="text/javascript">
function DeclarationPlace(type) {
    this.type = type;
    this.getInfo = function () {
        return 'Declarations from ' + this.type + ' work!';
    };
};
debugger;
var headerPlace = new DeclarationPlace('directly in the header');
alert(headerPlace.getInfo());
</script>
```

CA PPM Dos and Don'ts

- Declaring JavaScript in separate files and including them in the HTML portlet is another option.
 - Elements from the first and second approach combined is probably the best option overall.
 - Established library files can be uploaded into the KS and code specific to the portlet can be declared in the HTML portlet and invoked in a callback method after the KS files are loaded.
 - There are many possible pitfalls to this approach. These are best represented in code. Below are examples.



alerter.js.txt



Javascript in Knowledge Store.html

CA PPM Dos and Don'ts

- Declaring the portlet and JavaScript in files in the Knowledge Store is another option.
 - The portlet is then embedded into a second HTML portlet that contains nothing except code to embed the first HTML portlet from the KS. The first HTML portlet includes JavaScript in tags or as URLs as normal.
 - A benefit to this approach is that code can be structured traditionally.
 - A drawback is that any time code is modified it must be checked out and check back in or the URLs must be changed.
 - Another drawback is that different versions of Clarity treat JavaScript differently and this method has broken in various upgrades (and patches)

CA PPM Dos and Don'ts

- There are a few possible pitfalls to this approach as well. These are represented in code below.



- Supporting code for options above including test cases and results.



CA PPM Dos and Don'ts - jQuery

- jQuery (v1.11.2) is already included in the HTML of CA PPM
- It unfortunately can't be referenced as it is traditionally with '\$' because the character is stripped from scripts if they are declared in the HTML portlet
- It can be referenced as 'jQuery' or 'window.jQuery'

- For example:

```
<script type="text/javascript">
  jQuery(document).ready(function () {
    debugger;
    if (window.jQuery) {
      // jQuery is loaded
      alert("Full aliased jQuery is loaded!");
    } else {
      // jQuery is not loaded
      alert("Full aliased jQuery wasn't loaded!");
    }
    alert('Notice this worked.');
```

```
  });
</script>
```

Building an Announcement Portlet

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Building an Announcement Portlet

- Master Object: Announcement Item

- Stores the metadata for the announcement including the message and the display date



ats_announce_item.xml

- Sub-object: Date

- Used for date ranges the announcement should be shown



date.xml

- NSQL Query

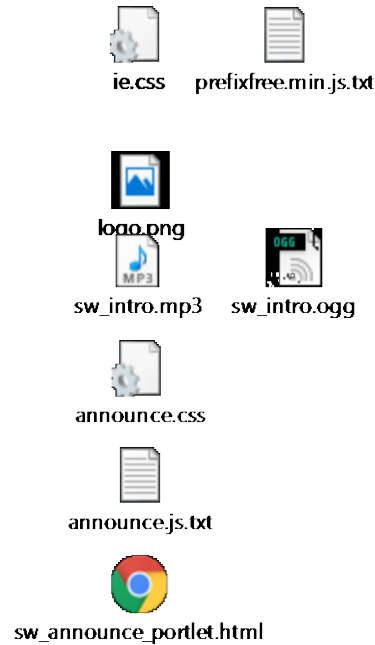
- Called from the HTML portlet to return the announcements a user should see at the current time



todays_announcements.xml

Building an Announcement Portlet

- Supporting files for compatibility
- Logo
- Audio Files
- CSS for the “Crawl”
- JS library for the “Crawl”
- The HTML portlet code



- This is where everything comes together. The links in this portlet need to be modified to match the IDs of the files from the KS in the target instance

Building an Announcement Portlet

- Demo and code review
- Experiences and comments

Questions?



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- Click on **Maintain My Certification**
- Scroll down to **Report PDU's**
- Click on Course Training (or other appropriate category)
- Enter **Rego Consulting**
- Enter Activity- **Enter Name of Course**
- Enter **Description**
- Enter **Date Started**
- Enter **Date Completed**
- Provide Contact Person **Name of Person to Contact**
- Provide Contact E-Mail **E-Mail of Person to Contact**
- Enter Number of **PDU's Claimed** (1 PDU per course hour)
- Click on the **I agree this claim is accurate box**
- Click **Submit** button



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