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HTML Portlets | Advanced

Your Guide: Ben Rimmasch and James Gille

Introductions

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

Agenda

- Introduction and HTML Portlets Overview
- HTML Portlets Overview
- HTML Portlet Use Cases
- Development Strategies
  - JavaScript
  - jQuery
- Announcement HTML Portlet

Part I: Introduction and HTML Portlets Overview

What they are and how they work

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Introduction and HTML Portlets 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

Part II:
HTML Portlet Use Cases

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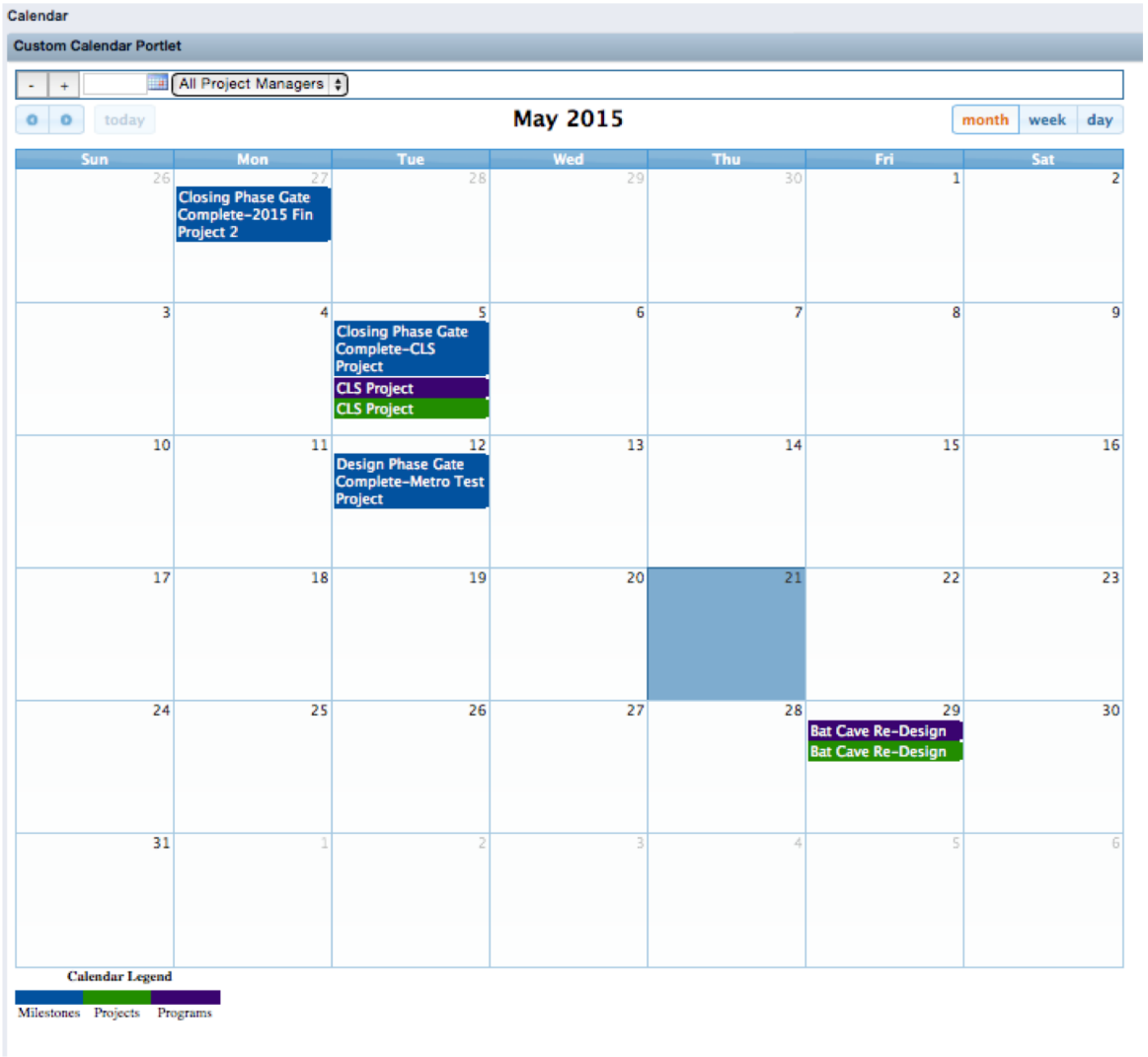
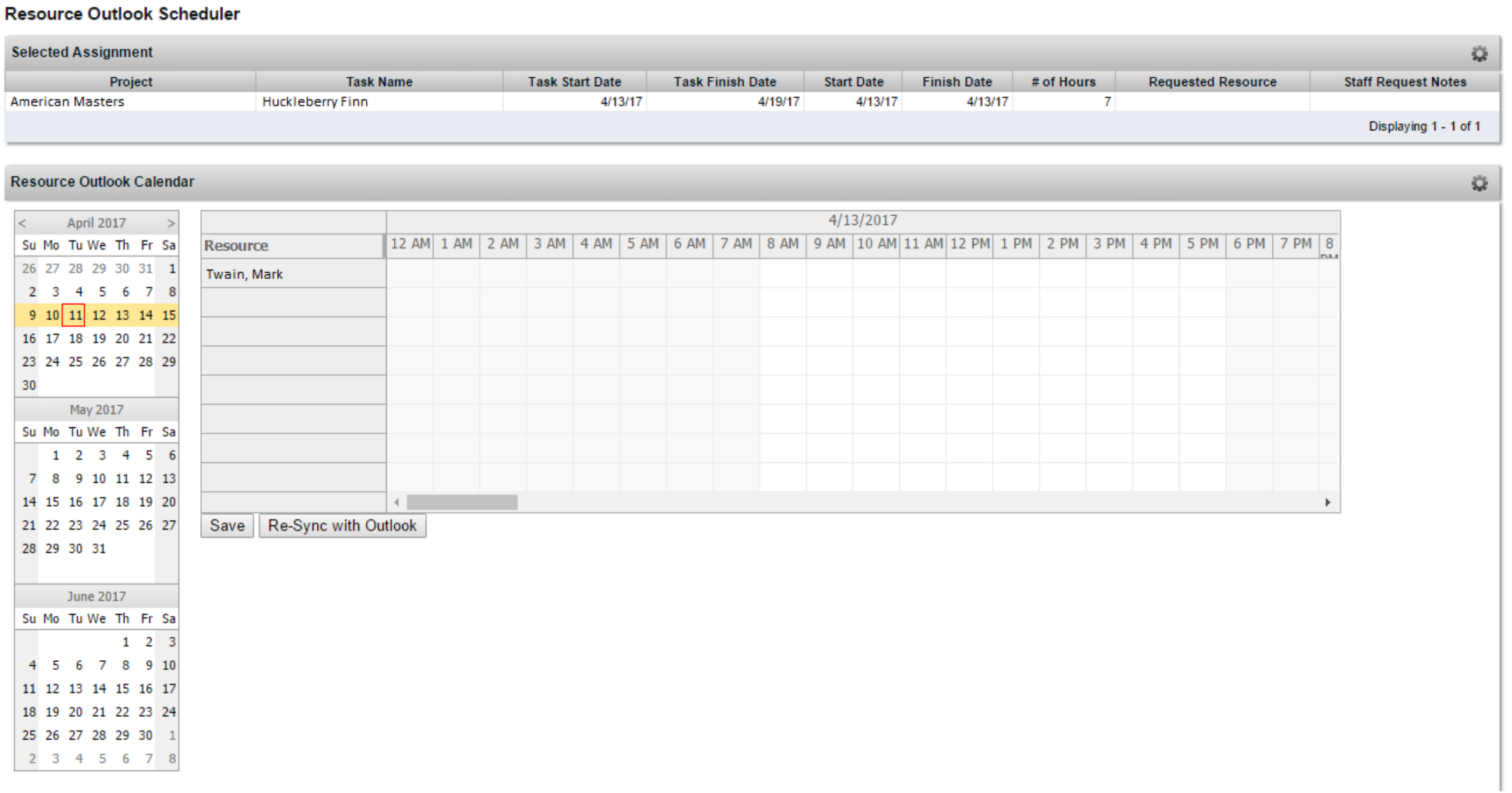
HTML Portlet Use Cases

- Calendar/Scheduling Interface



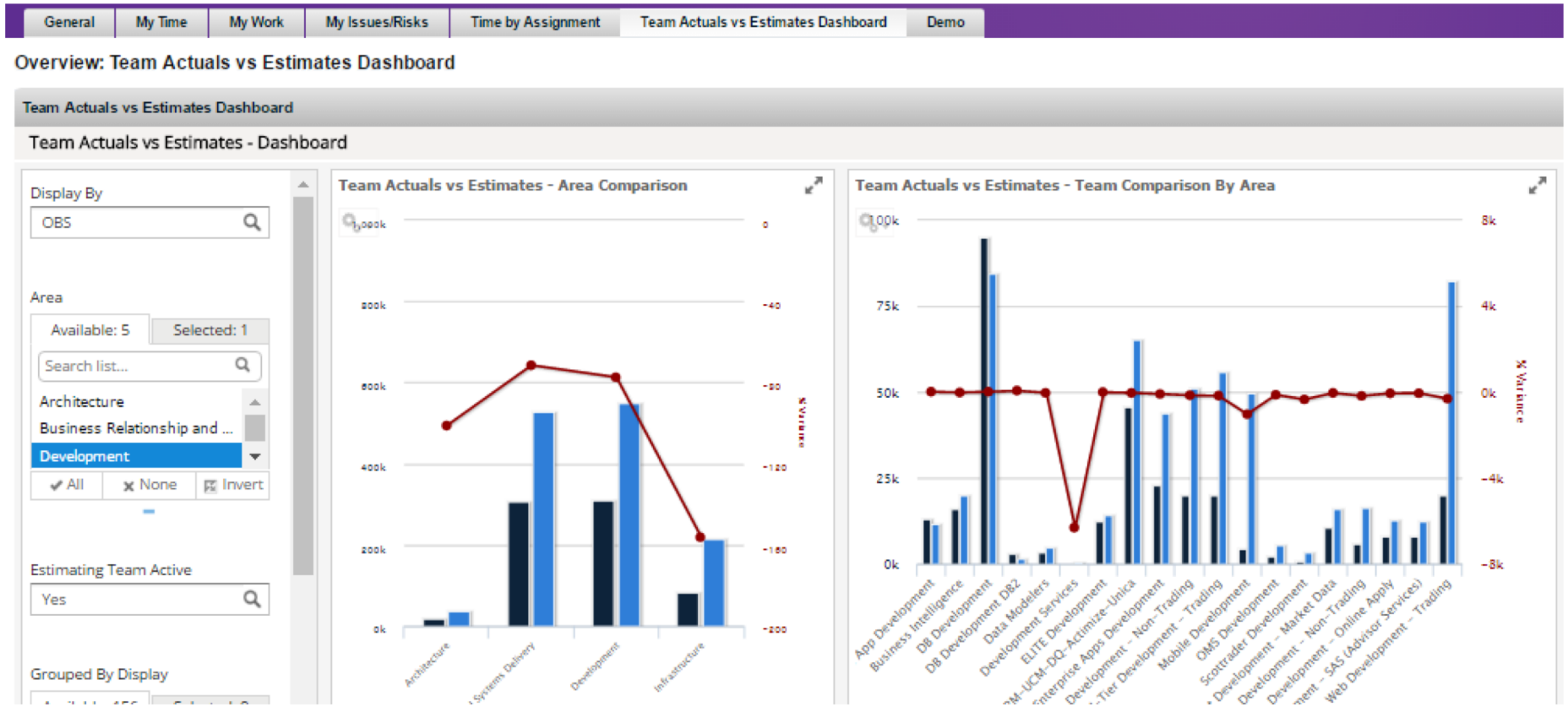
HTML Portlet Use Cases

- Integrations



HTML Portlet Use Cases

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



Part III: 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. There are limitations with this approach in later versions of Clarity and workarounds are required.
- 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

- 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 is an adequate approach for simple portlets because of the difficulties around hosting files on the KS.

```
<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.

alerter.js.txt

ks_portlet.html

Everything in Knowledge Store - v15+.html

Everything in Knowledge Store - Pre v15.html

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

Javascript in Portlet.html

jQuery in Portlet.html

Javascript in Script Tag Only.html

CA PPM Dos and Don’ts

- 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>
```

Part IV:
Announcement HTML 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
- Sub-object: Date

  - Used for date ranges the announcement should be shown
- NSQL Query

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

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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Thank You For Attending regoUniversity

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- Click on **Maintain My Certification**
- Click on **Visit CCR's** button under the **Report PDU's**
- Click on **Report PDU's**
- Click on **Course or Training**
- Class Name = **regoUniversity**
- Course Number = **Session Number**
- Date Started = **Today's Date**
- Date Completed = **Today's Date**
- Hours Completed = **1 PDU per hour of class time**
- Training classes = **Technical**
- Click on **I agree** and **Submit**

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