

JBoss Community

LEVERAGE THE JQUERY PLUGIN ECOSYSTEM

To Create Highly-Interactive JSF Components

Brian Leathem

Senior Software Engineer, Red Hat

2012-06-25

JSF IS...

Component-oriented



BUILDING JSF COMPONENTS

Traditionally Tricky business



SPLIT CODE-BASE

Server-side code

- Components
- Renderers
- xml junk!

Client-side code

- HTML
- CSS
- javascript

LOTS OF BROWSERS



LOTS OF BROWSERS



+ MOBILE!

THE SOLUTION

Re-use existing javascript "widgets"
There is a huge potential for code re-use

THE SOLUTION

Re-use existing javascript "widgets"
There is a huge potential for code re-use

Google search comparison:

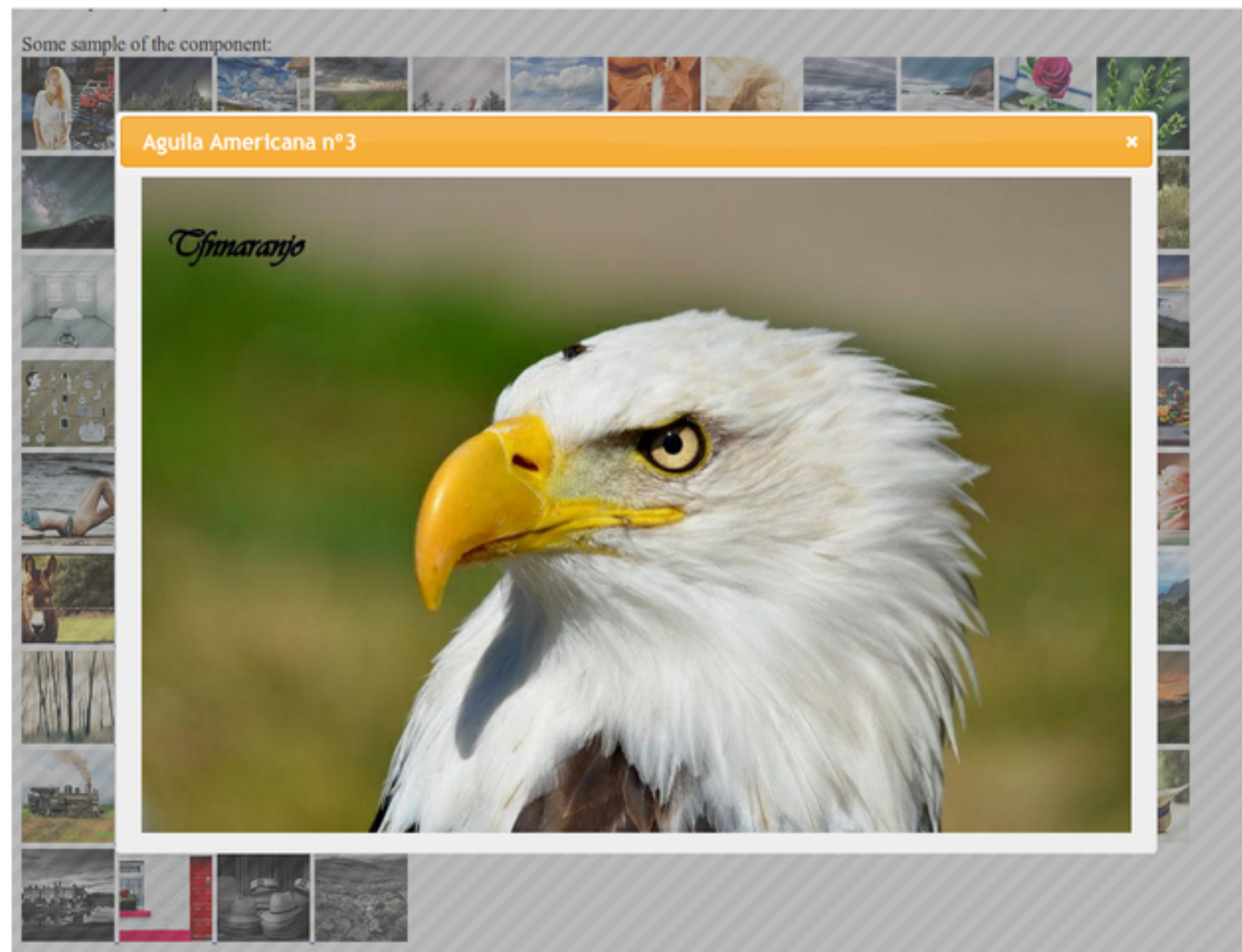
JSF Component:

- ~ 3 Million hits

Javascript Component:

- ~ 416 Million hits

IMAGE GALLERY



JQUERY UI

Accordion

▼ Section 1

Mauris mauris ante, blandit et, ultrices a, suscipit eget, quam. Integer ut neque. Vivamus nisi metus, molestie vel, gravida in, condimentum sit amet, nunc. Nam a nibh. Donec suscipit eros. Nam mi. Proin viverra leo ut odio. Curabitur malesuada. Vestibulum a velit eu ante scelerisque vulputate.

▶ Section 2

▶ Section 3

Tabs

First Second Third

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Dialog

Open Dialog

Overlay and Shadow Classes

Lorem ipsum dolor sit amet, Nulla nec tortor. Donec id elit quis purus conser

Nam c Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor venen

Button

A button element

Choice 1 Choice 2 Choice 3

Autocomplete

Slider



Datepicker

June 2012

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Progressbar



Highlight / Error

Hey! Sample ui-state-highlight style.

BOOTSTRAP

- Default 1
- Success 2
- Warning 4
- Important 6
- Info 8
- Inverse 10

- Inverse
- Inverse
- Warning

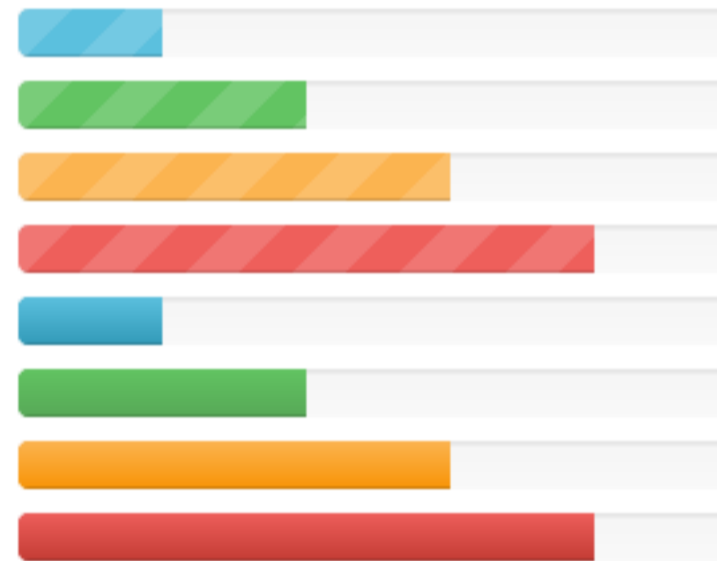
Primary action Action

Primary action Action

Primary action Action

Primary link Link

Primary button Button



LIST HEADER

- Home
- Library
- Applications

ANOTHER LIST HEADER

- Profile
- Settings

Help

Dropup Right dropup

Large button Small button Mini button

Large action Small action Mini action

\$.00

IMAGE GALLERY - COMPONENT

```
<!DOCTYPE html>
<html lang="en-US"
  xmlns="http://www.w3.org/1999/xhtml"
  xmlns:h="http://java.sun.com/jsf/html"
  xmlns:ui="http://java.sun.com/jsf/facelets"
  xmlns:cc="http://java.sun.com/jsf/composite">

<cc:interface>
  <cc:attribute name="photos" />

  <!-- plugin configuration -->
  <cc:attribute name="selector" />
  [ ... snip ... ]
  <cc:attribute name="dialogClass" />
</cc:interface>

<cc:implementation>
  <div id="{cc.clientId}:div">
    <ui:repeat value="{cc.attrs.photos}" var="photo">
      <a rel="gallery" href="{photo.full}" title="{photo.title}">
        
      </a>
    </ui:repeat>
  </div>

  <h:outputScript library="javax.faces" name="jsf.js"/>
  <h:outputScript library="composite/com.jquery" name="jquery-1.7.2.min.js"/>
  <h:outputScript library="composite/com.jqueryui/js" name="jquery-ui-1.8.19.custom.min.js"/>
  <h:outputScript library="composite/com.github.blueimp/js" name="load-image.js"/>
  <h:outputScript library="composite/com.github.blueimp/js" name="jquery.image-gallery.js"/>
  <h:outputStylesheet library="composite/com.jqueryui/css/ui-lightness" name="jquery-ui.custom.css"/>
  <h:outputStylesheet library="composite/com.github.blueimp/css" name="jquery.image-gallery.css"/>
  <h:outputScript>
    var pluginOptions = {};
    ! '{cc.attrs.selector}' || (pluginOptions.selector = '{cc.attrs.selector}');
    [ ... snip ... ]
    ! '{cc.attrs.dialogClass}' || (pluginOptions.dialogClass = '{cc.attrs.dialogClass}');

    jQuery(function() {
      $(document.getElementById('{cc.clientId}:div')).imagegallery(pluginOptions);
    });
  </h:outputScript>
</cc:implementation>

</html>
```

IMAGE GALLERY - COMPONENT

```
<!DOCTYPE html>
<html lang="en-US"
  xmlns="http://www.w3.org/1999/xhtml"
  xmlns:h="http://java.sun.com/jsf/html"
  xmlns:ui="http://java.sun.com/jsf/facelets"
  xmlns:cc="http://java.sun.com/jsf/composite">

  <cc:interface>
    <cc:attribute name="photos" />

    <!-- plugin configuration -->
    <cc:attribute name="selector" />
    [ ... snip ... ]
    <cc:attribute name="dialogClass" />
  </cc:interface>

  <cc:implementation>
    <div id="{cc.clientId}:div">
      <ui:repeat value="{cc.attrs.photos}" var="photo">
        <a rel="gallery" href="{photo.full}" title="{photo.title}">
          
        </a>
      </ui:repeat>
    </div>

    <h:outputScript library="javax.faces" name="jsf.js"/>
    <h:outputScript library="composite/com.jquery" name="jquery-1.7.2.min.js"/>
    <h:outputScript library="composite/com.jqueryui/js" name="jquery-ui-1.8.19.custom.min.js"/>
    <h:outputScript library="composite/com.github.blueimp/js" name="load-image.js"/>
    <h:outputScript library="composite/com.github.blueimp/js" name="jquery.image-gallery.js"/>
    <h:outputStylesheet library="composite/com.jqueryui/css/ui-lightness" name="jquery-ui.custom.css"/>
    <h:outputStylesheet library="composite/com.github.blueimp/css" name="jquery.image-gallery.css"/>
    <h:outputScript>
      var pluginOptions = {};
      ! '{cc.attrs.selector}' || (pluginOptions.selector = '{cc.attrs.selector}');
      [ ... snip ... ]
      ! '{cc.attrs.dialogClass}' || (pluginOptions.dialogClass = '{cc.attrs.dialogClass}');

      jQuery(function() {
        $(document.getElementById('{cc.clientId}:div')).imagegallery(pluginOptions);
      });
    </h:outputScript>
  </cc:implementation>
</html>
```

IMAGE GALLERY - COMPONENT

```
<!DOCTYPE html>
<html lang="en-US"
  xmlns="http://www.w3.org/1999/xhtml"
  xmlns:h="http://java.sun.com/jsf/html"
  xmlns:ui="http://java.sun.com/jsf/facelets"
  xmlns:cc="http://java.sun.com/jsf/composite">
```

```
<cc:interface>
  <cc:attribute name="photos" />

  <!-- plugin configuration -->
  <cc:attribute name="selector" />
  [ ... snip ... ]
  <cc:attribute name="dialogClass" />
</cc:interface>
```

```
<cc:implementation>
  <div id="{cc.clientId}:div">
    <ui:repeat value="{cc.attrs.photos}" var="photo">
      <a rel="gallery" href="{photo.full}" title="{photo.title}">
        
      </a>
    </ui:repeat>
  </div>

  <h:outputScript library="javax.faces" name="jsf.js"/>
  <h:outputScript library="composite/com.jquery" name="jquery-1.7.2.min.js"/>
  <h:outputScript library="composite/com.jqueryui/js" name="jquery-ui-1.8.19.custom.min.js"/>
  <h:outputScript library="composite/com.github.blueimp/js" name="load-image.js"/>
  <h:outputScript library="composite/com.github.blueimp/js" name="jquery.image-gallery.js"/>
  <h:outputStylesheet library="composite/com.jqueryui/css/ui-lightness" name="jquery-ui.custom.css"/>
  <h:outputStylesheet library="composite/com.github.blueimp/css" name="jquery.image-gallery.css"/>
  <h:outputScript>
    var pluginOptions = {};
    ! '#{cc.attrs.selector}' || (pluginOptions.selector = '#{cc.attrs.selector}');
    [ ... snip ... ]
    ! '#{cc.attrs.dialogClass}' || (pluginOptions.dialogClass = '#{cc.attrs.dialogClass}');

    jQuery(function() {
      $(document.getElementById("#{cc.clientId}:div")).imagegallery(pluginOptions);
    });
  </h:outputScript>
</cc:implementation>

</html>
```

IMAGE GALLERY - COMPONENT

```
<!DOCTYPE html>
<html lang="en-US"
  xmlns="http://www.w3.org/1999/xhtml"
  xmlns:h="http://java.sun.com/jsf/html"
  xmlns:ui="http://java.sun.com/jsf/facelets"
  xmlns:cc="http://java.sun.com/jsf/composite">

  <cc:interface>
    <cc:attribute name="photos" />

    <!-- plugin configuration -->
    <cc:attribute name="selector" />
    [ ... snip ... ]
    <cc:attribute name="dialogClass" />
  </cc:interface>
```

```
<cc:implementation>
  <div id="{cc.clientId}:div">
    <ui:repeat value="{cc.attrs.photos}" var="photo">
      <a rel="gallery" href="{photo.full}" title="{photo.title}">
        
      </a>
    </ui:repeat>
  </div>
```

```
<h:outputScript library="javax.faces" name="jsf.js"/>
<h:outputScript library="composite/com.jquery" name="jquery-1.7.2.min.js"/>
<h:outputScript library="composite/com.jqueryui/js" name="jquery-ui-1.8.19.custom.min.js"/>
<h:outputScript library="composite/com.github.blueimp/js" name="load-image.js"/>
<h:outputScript library="composite/com.github.blueimp/js" name="jquery.image-gallery.js"/>
<h:outputStylesheet library="composite/com.jqueryui/css/ui-lightness" name="jquery-ui.custom.css"/>
<h:outputStylesheet library="composite/com.github.blueimp/css" name="jquery.image-gallery.css"/>
<h:outputScript>
  var pluginOptions = {};
  ! '#{cc.attrs.selector}' || (pluginOptions.selector = '#{cc.attrs.selector}');
  [ ... snip ... ]
  ! '#{cc.attrs.dialogClass}' || (pluginOptions.dialogClass = '#{cc.attrs.dialogClass}');

  jQuery(function() {
    $(document.getElementById("#{cc.clientId}:div")).imagegallery(pluginOptions);
  });
</h:outputScript>
</cc:implementation>

</html>
```


IMAGE GALLERY - COMPONENT

```
<!DOCTYPE html>
<html lang="en-US"
  xmlns="http://www.w3.org/1999/xhtml"
  xmlns:h="http://java.sun.com/jsf/html"
  xmlns:ui="http://java.sun.com/jsf/facelets"
  xmlns:cc="http://java.sun.com/jsf/composite">

  <cc:interface>
    <cc:attribute name="photos" />

    <!-- plugin configuration -->
    <cc:attribute name="selector" />
    [ ... snip ... ]
    <cc:attribute name="dialogClass" />
  </cc:interface>

  <cc:implementation>
    <div id="{cc.clientId}:div">
      <ui:repeat value="{cc.attrs.photos}" var="photo">
        <a rel="gallery" href="{photo.full}" title="{photo.title}">
          
        </a>
      </ui:repeat>
    </div>
  </cc:implementation>
</html>
```

```
<h:outputScript library="javax.faces" name="jsf.js" />
<h:outputScript library="composite/com.jquery" name="jquery-1.7.2.min.js" />
<h:outputScript library="composite/com.jqueryui/js" name="jquery-ui-1.8.19.custom.min.js" />
<h:outputScript library="composite/com.github.blueimp/js" name="load-image.js" />
<h:outputScript library="composite/com.github.blueimp/js" name="jquery.image-gallery.js" />
<h:outputStylesheet library="composite/com.jqueryui/css/ui-lightness" name="jquery-ui.custom.css" />
<h:outputStylesheet library="composite/com.github.blueimp/css" name="jquery.image-gallery.css" />
```

```
<h:outputScript>
  var pluginOptions = {};
  ! '{cc.attrs.selector}' || (pluginOptions.selector = '{cc.attrs.selector}');
  [ ... snip ... ]
  ! '{cc.attrs.dialogClass}' || (pluginOptions.dialogClass = '{cc.attrs.dialogClass}');

  jQuery(function() {
    $(document.getElementById('{cc.clientId}:div')).imagegallery(pluginOptions);
  });
</h:outputScript>
</cc:implementation>
</html>
```

IMAGE GALLERY - COMPONENT

```
<!DOCTYPE html>
<html lang="en-US"
  xmlns="http://www.w3.org/1999/xhtml"
  xmlns:h="http://java.sun.com/jsf/html"
  xmlns:ui="http://java.sun.com/jsf/facelets"
  xmlns:cc="http://java.sun.com/jsf/composite">

<cc:interface>
  <cc:attribute name="photos" />

  <!-- plugin configuration -->
  <cc:attribute name="selector" />
  [ ... snip ... ]
  <cc:attribute name="dialogClass" />
</cc:interface>

<cc:implementation>
  <div id="{cc.clientId}:div">
    <ui:repeat value="{cc.attrs.photos}" var="photo">
      <a rel="gallery" href="{photo.full}" title="{photo.title}">
        
      </a>
    </ui:repeat>
  </div>

  <h:outputScript library="javax.faces" name="jsf.js"/>
  <h:outputScript library="composite/com.jquery" name="jquery-1.7.2.min.js"/>
  <h:outputScript library="composite/com.jqueryui/js" name="jquery-ui-1.8.19.custom.min.js"/>
  <h:outputScript library="composite/com.github.blueimp/js" name="load-image.js"/>
  <h:outputScript library="composite/com.github.blueimp/js" name="jquery.image-gallery.js"/>
  <h:outputStyleSheet library="composite/com.jqueryui/css/ui-lightness" name="jquery-ui.custom.css"/>
  <h:outputStyleSheet library="composite/com.github.blueimp/css" name="jquery.image-gallery.css"/>
  <h:outputScript>
```

```
var pluginOptions = {};
! '#{cc.attrs.selector}' || (pluginOptions.selector = '#{cc.attrs.selector}');
[ ... snip ... ]
! '#{cc.attrs.dialogClass}' || (pluginOptions.dialogClass = '#{cc.attrs.dialogClass}');

jQuery(function() {
  $(document.getElementById("#{cc.clientId}:div")).imagegallery(pluginOptions);
});
```

```
</h:outputScript>
</cc:implementation>

</html>
```

USING THE IMAGEGALLERY COMPONENT

```
<my:datepicker buttonImageOnly="true" dateFormat="yy-mm-dd" showOn="both"/>
```

JQUERY UI DATEPICKER COMPONENT

```
<!DOCTYPE html>
<html lang="en-US"
  xmlns="http://www.w3.org/1999/xhtml"
  xmlns:h="http://java.sun.com/jsf/html"
  xmlns:f="http://java.sun.com/jsf/core"
  xmlns:ui="http://java.sun.com/jsf/facelets"
  xmlns:cc="http://java.sun.com/jsf/composite">

  <cc:interface>
    <cc:attribute name="value" />
    <cc:attribute name="showOn" />
    <cc:attribute name="dateFormat" />
    <cc:attribute name="buttonImageOnly" />
  </cc:interface>

  <cc:implementation>
    <h:inputText id="input" value="#{cc.attrs.value}" />
    <h:outputScript library="javax.faces" name="jsf.js"/>
    <h:outputScript library="composite/com.jquery" name="jquery-1.7.2.min.js"/>
    <h:outputScript library="composite/com.jqueryui/development-bundle/ui" name="jquery.ui.core.js"/>
    <h:outputScript library="composite/com.jqueryui/development-bundle/ui" name="jquery.ui.widget.js"/>
    <h:outputScript library="composite/com.jqueryui/development-bundle/ui" name="jquery.ui.datepicker.js"/>
    <h:outputStyleSheet library="composite/com.jqueryui/css/ui-lightness" name="jquery-ui.custom.css"/>
    <h:outputScript>
      var pluginOptions = {
        buttonImage: "#{request.contextPath}/javax.faces.resource/calendar.gif.jsf?ln=composite/org.richfaces",
        buttonImageOnly: "#{true" eq cc.attrs.buttonImageOnly}"
      }
      ! '#{cc.attrs.showOn}' || (pluginOptions.showOn = '#{cc.attrs.showOn}');
      ! '#{cc.attrs.dateFormat}' || (pluginOptions.dateFormat = '#{cc.attrs.dateFormat}');

      jQuery(function() {
        $(document.getElementById("#{cc.clientId}:input")).datepicker(pluginOptions);
      });
    </h:outputScript>
  </cc:implementation>
</html>
```

JQUERY UI DATEPICKER COMPONENT

```
<!DOCTYPE html>
<html lang="en-US"
  xmlns="http://www.w3.org/1999/xhtml"
  xmlns:h="http://java.sun.com/jsf/html"
  xmlns:f="http://java.sun.com/jsf/core"
  xmlns:ui="http://java.sun.com/jsf/facelets"
  xmlns:cc="http://java.sun.com/jsf/composite">

  <cc:interface>
    <cc:attribute name="value" />
    <cc:attribute name="showOn" />
    <cc:attribute name="dateFormat" />
    <cc:attribute name="buttonImageOnly" />
  </cc:interface>

  <cc:implementation>
    <h:inputText id="input" value="#{cc.attrs.value}" />
    <h:outputScript library="javax.faces" name="jsf.js" />
    <h:outputScript library="composite/com.jquery" name="jquery-1.7.2.min.js" />
    <h:outputScript library="composite/com.jqueryui/development-bundle/ui" name="jquery.ui.core.js" />
    <h:outputScript library="composite/com.jqueryui/development-bundle/ui" name="jquery.ui.widget.js" />
    <h:outputScript library="composite/com.jqueryui/development-bundle/ui" name="jquery.ui.datepicker.js" />
    <h:outputStyleSheet library="composite/com.jqueryui/css/ui-lightness" name="jquery-ui.custom.css" />
    <h:outputScript>
      var pluginOptions = {
        buttonImage: "#{request.contextPath}/javax.faces.resource/calendar.gif.jsf?ln=composite/org.richfaces",
        buttonImageOnly: "#{true" eq cc.attrs.buttonImageOnly}"
      }
      ! '#{cc.attrs.showOn}' || (pluginOptions.showOn = '#{cc.attrs.showOn}');
      ! '#{cc.attrs.dateFormat}' || (pluginOptions.dateFormat = '#{cc.attrs.dateFormat}');

      jQuery(function() {
        $(document.getElementById("#{cc.clientId}:input")).datepicker(pluginOptions);
      });
    </h:outputScript>
  </cc:implementation>
</html>
```

RICHFACES CDK

Use the RichFaces CDK to build "full-fledged" JSF components with the ease and syntax of JSF 2 composite components



THIS IS BIGGER THAN JSF

Polyglot JVM

Web frameworks in many languages/environments

Consistent L&F throughout a heterogeneous application

CALL TO ACTION!

All JBoss projects with UI building capabilities should coordinate and identify a common strategy for building client "widgets"

Let's empower our users to build heterogeneous JBoss applications with a consistent L&F!

LINKS

[RichFaces Sandbox on github](#)

[Blog Collapsible panel w/ Composite Components](#)

[JSF Composite component API docs:](#)

- [composite Tag interface](#)
- [composite Tag implementation](#)

[Javascript "widgets"](#)

- [jQuery UI](#)
- [Twitter Bootstrap](#)
- [jQuery-Image-Gallery](#)