



Killer JavaScript Technology Frameworks for Java Platform Developers

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TS-6590

Kick Ass With JavaScript™ Technology

Use Prototype-based frameworks with the Java™ Platform

Learn about Prototype-based JavaScript technology frameworks, and how to integrate them into your Java technology-based web applications

Agenda

Prototype

Script.aculo.us

Rico

JavaServer™ Faces technology and Rico

Google Web Toolkit and Script.aculo.us

Prototype

A low-level JavaScript technology framework with Ajax support

- Ruby on Rails spinoff
- Distributed in one JavaScript technology file
 - Latest version: 1.5
 - Targeted browsers
 - IE 6.0, Firefox 1.0, Mozilla 1.7, Safari 1.2
- License: Use it any way you want
 - Authors not liable...

Prototype Features

- Extensions to JavaScript technology objects
 - Object, Number, Function, String, etc.
- Ruby/Smalltalk-style iterations
 - each(), collect(), min(), max(), etc.
- Utility functions
 - Try.these(), \$(), \$A(), \$F(), \$H(), \$R()
- DOM manipulation
 - Element, Field, Form, Insertion, etc.
- Periodical Executer
 - Repeatedly execute a JavaScript technology function

Prototype Ajax Support

- **Ajax.Request**
 - Make an Ajax request
- **Ajax.Updater**
 - Make an Ajax request and update an HTML element
- **Ajax.PeriodicalUpdater**
 - Repeatedly create and use Ajax.Updaters
- **Ajax.Responders**
 - Respond to Ajax requests

Ajax.Request

```
New Ajax.Request(  
    "validateZip.ajax" // URL for Ajax call  
  
    {  
        method: "get",  
        parameters: "zip=" + zip,  
        onSuccess: successCallback,  
        onFailure: failureCallback,  
    }  
);
```

Ajax.Updater

```
New Ajax.Updater(  
    "messageDiv",          // id of element to update  
    "validateZip.ajax"    // URL for Ajax call  
  
    {  
        method: "get",  
        parameters: "zip=" + zip,  
        onSuccess: successCallback,  
        onFailure: failureCallback,  
    }  
);
```

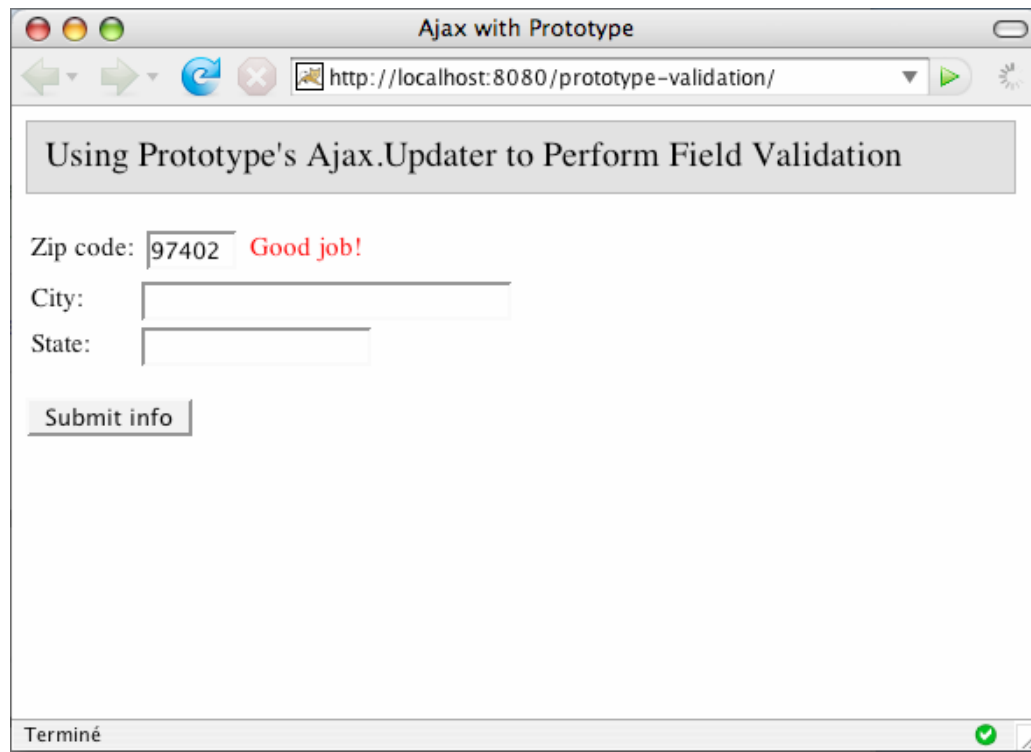

Ajax.Responders

```
New Ajax.Responders.register (  
    {  
        onCreate:    showBusyIndicator,  
        onComplete: hideBusyIndicator  
    }  
);  
...  
function showBusyIndicator() {  
    Element.show("busyIndicator");  
}  
Function hideBusyIndicator() {  
    Element.hide("busyIndicator");  
}  
...  

```

DEMO

- Ajax with Prototype



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Script.aculo.us

A high-level framework built on Prototype

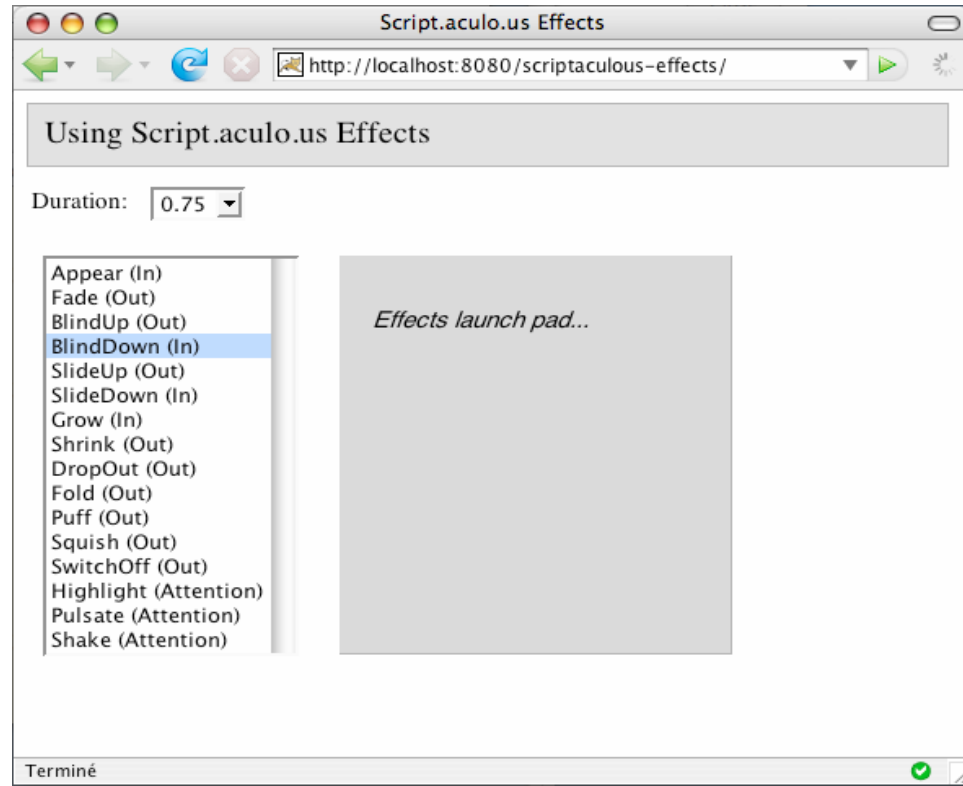
- Features
 - Special effects
 - Controls
 - DOM utilities
 - Drag and drop
 - Unit testing

Script.aculo.us Effects

- In effects
 - Appear, BlindDown, SlideDown, Grow
- Out effects
 - Fade, BlindUp, SlideUp, Shrink, Fold, Puff, Squish, SwitchOff
- Attention effects
 - Highlight, Pulsate, Shake

DEMO

- Script.aculo.us effects



Script.aculo.us Controls

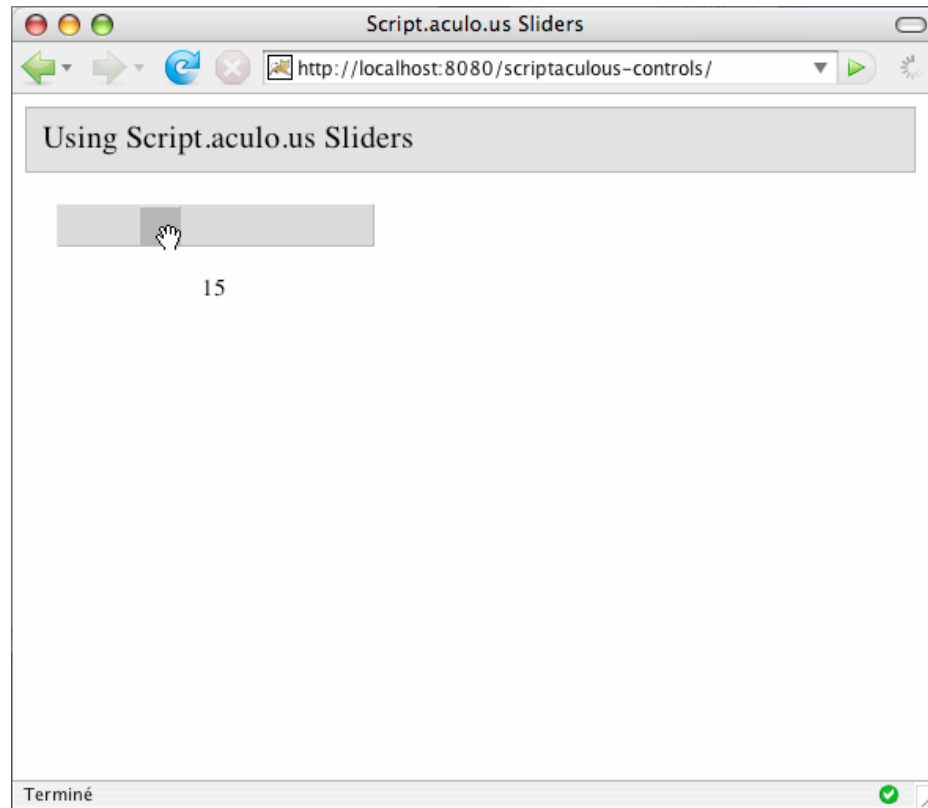
- Autocompleter.Local
- Ajax.Autocompleter
- Ajax.InPlaceEditor
- Ajax.InPlaceCollectionEditor
- Slider

Script.aculo.us Sliders

```
<script type="text/javascript" language="javascript">
  function createSlider() {
    new Control.Slider("handle", "track");
  }
</script>
...
<body onload="createSlider()">
  ...
  <div id="track">
    <div id="handle"/>
  </div>
  ...
</body>
```


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- Script.aculo.us controls



Script.aculo.us Drag and Drop

- Draggables and droppables

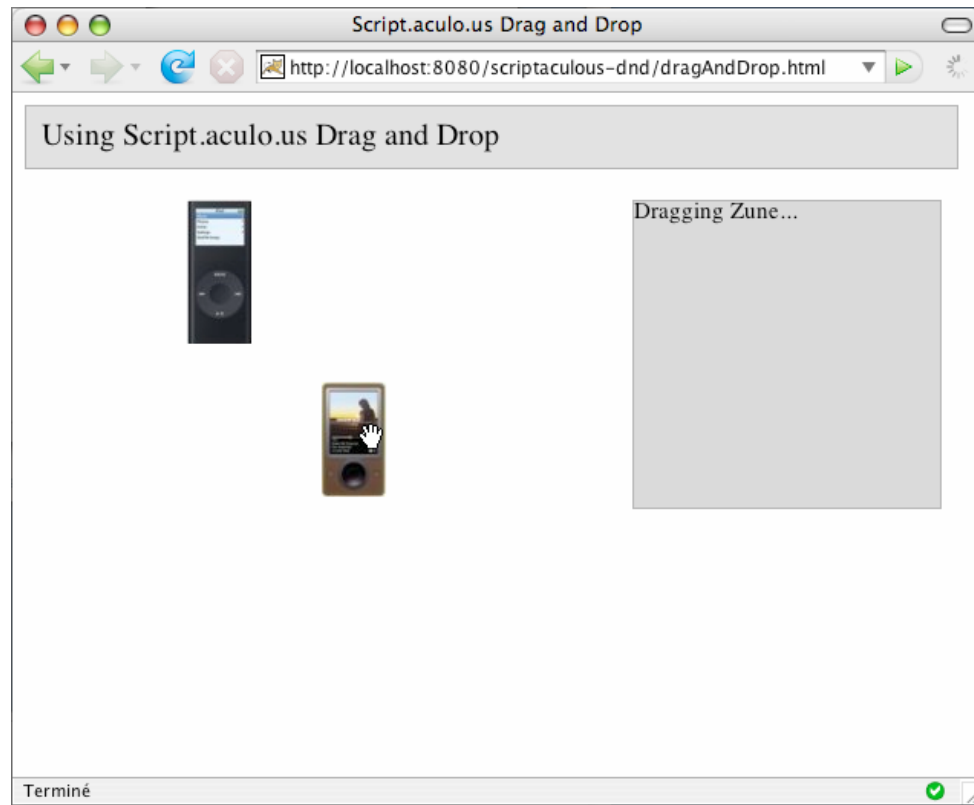
```
new Draggable("ipod");  
...  
Droppables.add("dropTarget",  
  accept: "ipod",  
  onDrop: function(element) {  
    $("dropTarget").innerHTML = "Ipod nano: black";  
    element.remove();  
  }  
);
```

Draggable and Droppable Options

- Draggable options and **callbacks**
 - Handle, revert, snap, zIndex, constraint, ghosting, **starteffect, reverteffect, endeffect**
- Droppable options and **callbacks**
 - Accept, containment, hoverclass, overlap, greedy, **onHover, onDrop**

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- Script.aculo.us drag and drop



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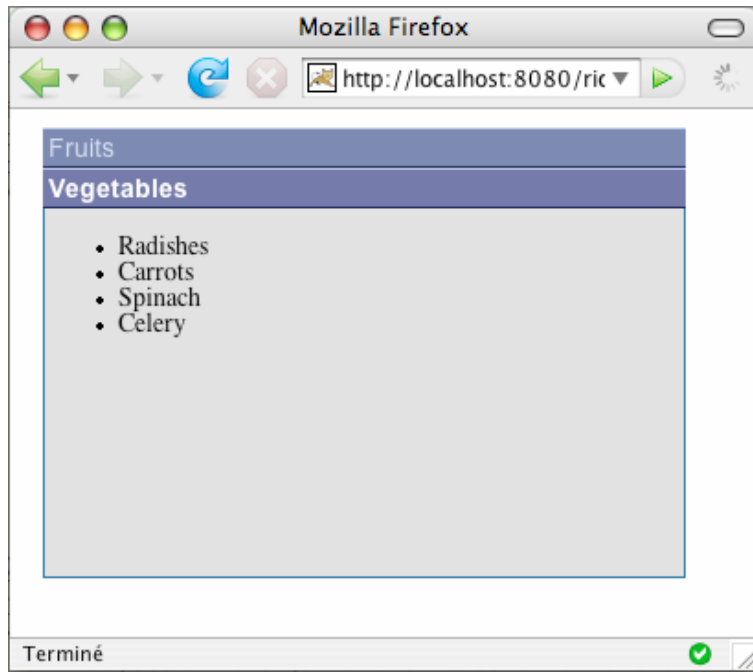
Rico

Another high-level framework built on Prototype

- Features
 - Ajax
 - Drag and drop
 - Effects
 - Behaviors

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- Rico Accordion



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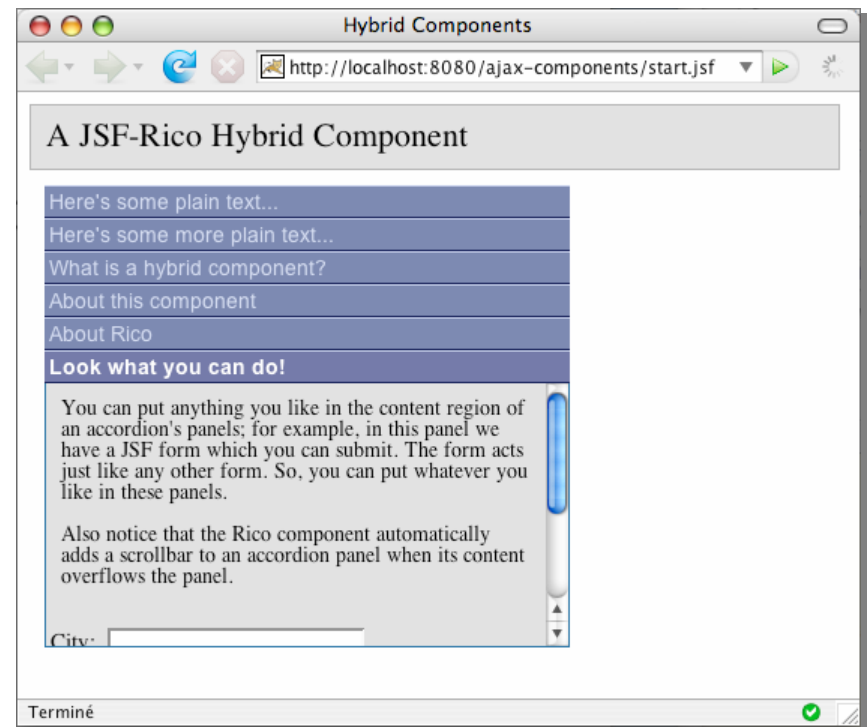
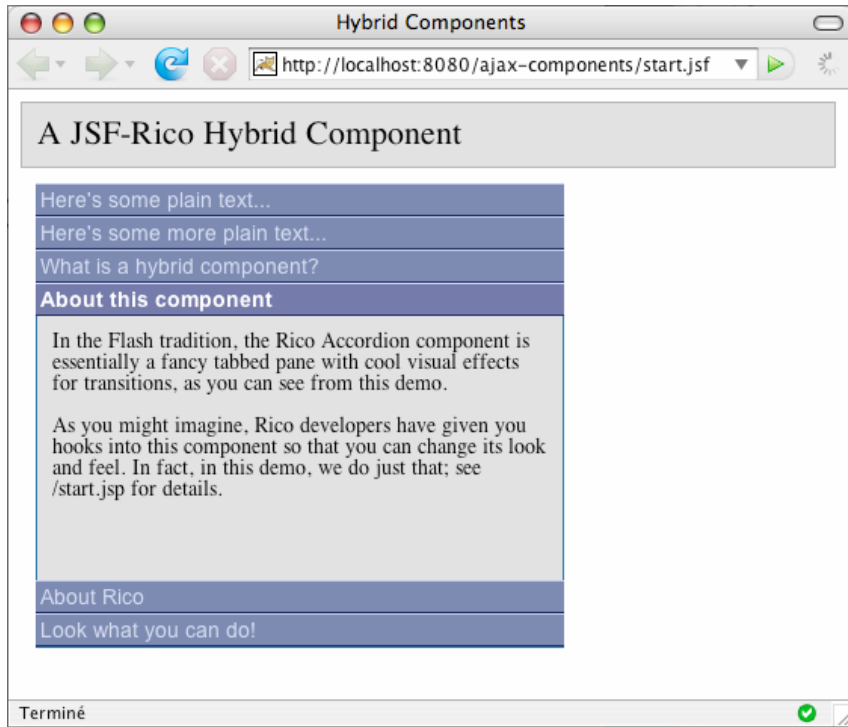


Encapsulate JavaScript Technology in JavaServer Faces Technology Components

- Components and renderers
 - Components maintain state
 - Renderers encode JavaScript technology
 - Store JavaScript technology in separate files
- JavaServer Pages™ (JSP™) technology tags
 - Pass JSP technology tag attribute values to JavaScript technology files

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- JavaServer Faces technology and Rico



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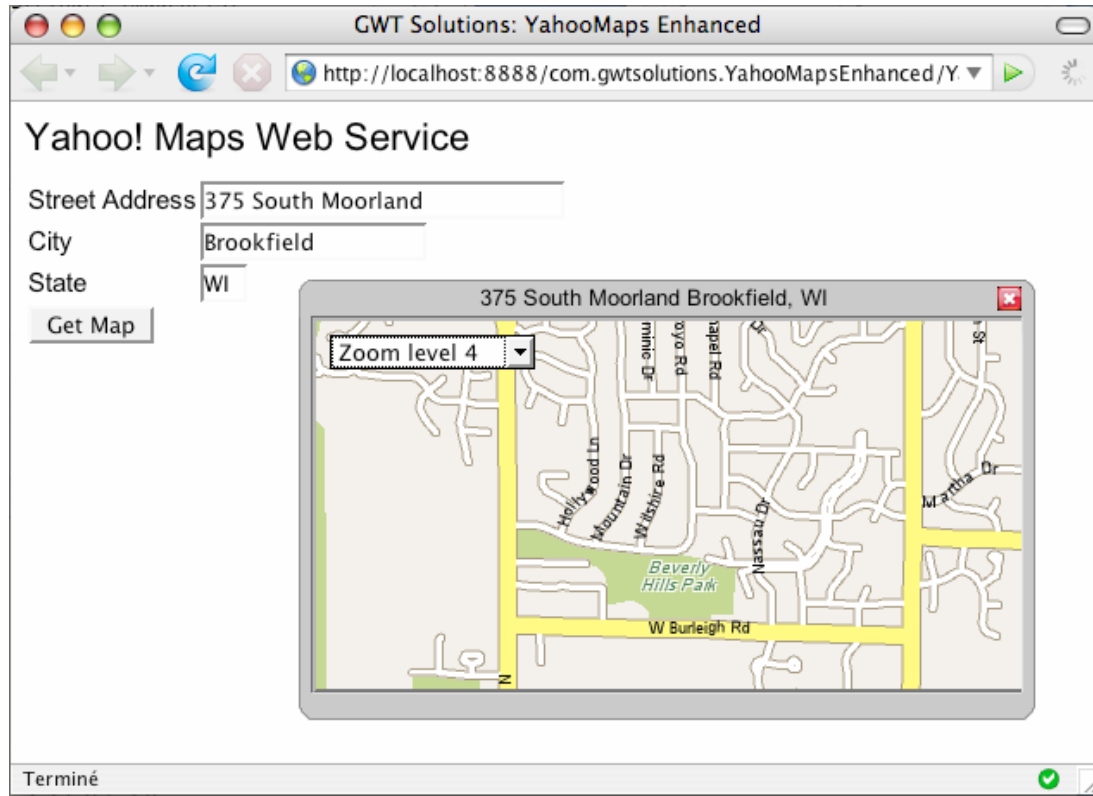
Google Web Toolkit and Script.aculo.us

Incorporate JavaScript Technology in Google Web Toolkit Widgets

- The Google Web Toolkit (GWT) makes it easy to develop **custom widgets** and **incorporate JavaScript** technology
- Encapsulate JavaScript technology in custom GWT widgets

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- The Google Web Toolkit and Script.aculo.us



Summary

- Prototype provides basic Ajax functionality
- Script.aculo.us and Rico build on Prototype
- Component-based frameworks can encapsulate JavaScript technology
- JavaServer Faces technology components
- Google Web Toolkit widgets

For More Information

Other sessions, BOFs, URLs, and books

- TS-9782: Ajax and JavaServer Faces Technology Tooling in Eclipse
- BOF-6042: Ajax for Average Joes: Enterprise Ajax Adoption Without Rocket Scientists
- <http://www.prototypejs.org/download>
- <http://script.aculo.us>
- <http://openrico.org>
- Core JSF, 2nd Edition, Pearson Education, 2007
- Google Web Toolkit Solutions, Pearson 2007



Q&A

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