

# Orion: Embracing the Web Open Tools Integration

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# What Is Orion?

- Software development in a browser: editing, navigating folders, searching, working with SCM...
- Set of linked web pages, NOT an IDE running in a browser
  - Makes it easy to integrate other functionality even if hosted on different servers
- Initial focus on web developers working on client-side JavaScript, HTML, CSS

# Context: Already in a Browser

- Bug tracking (Bugzilla, JIRA, Trac, Lighthouse, Rational RTC)
- Builds (e.g. Hudson)
- Code review (Bugzilla, Gerrit, GitHub)
- Documentation, Code Snippets
- Browsing code repositories (GitHub, ViewCVS, Rational RTC)
- Debugger (Firebug, WebKit Inspector)

# What's missing? Not Much

- Code Editor
- Navigator
- Work with SCM (Commit, Compare, Merge, etc.)
- Indexing/Search
- Unit tests

# Why work on this now?

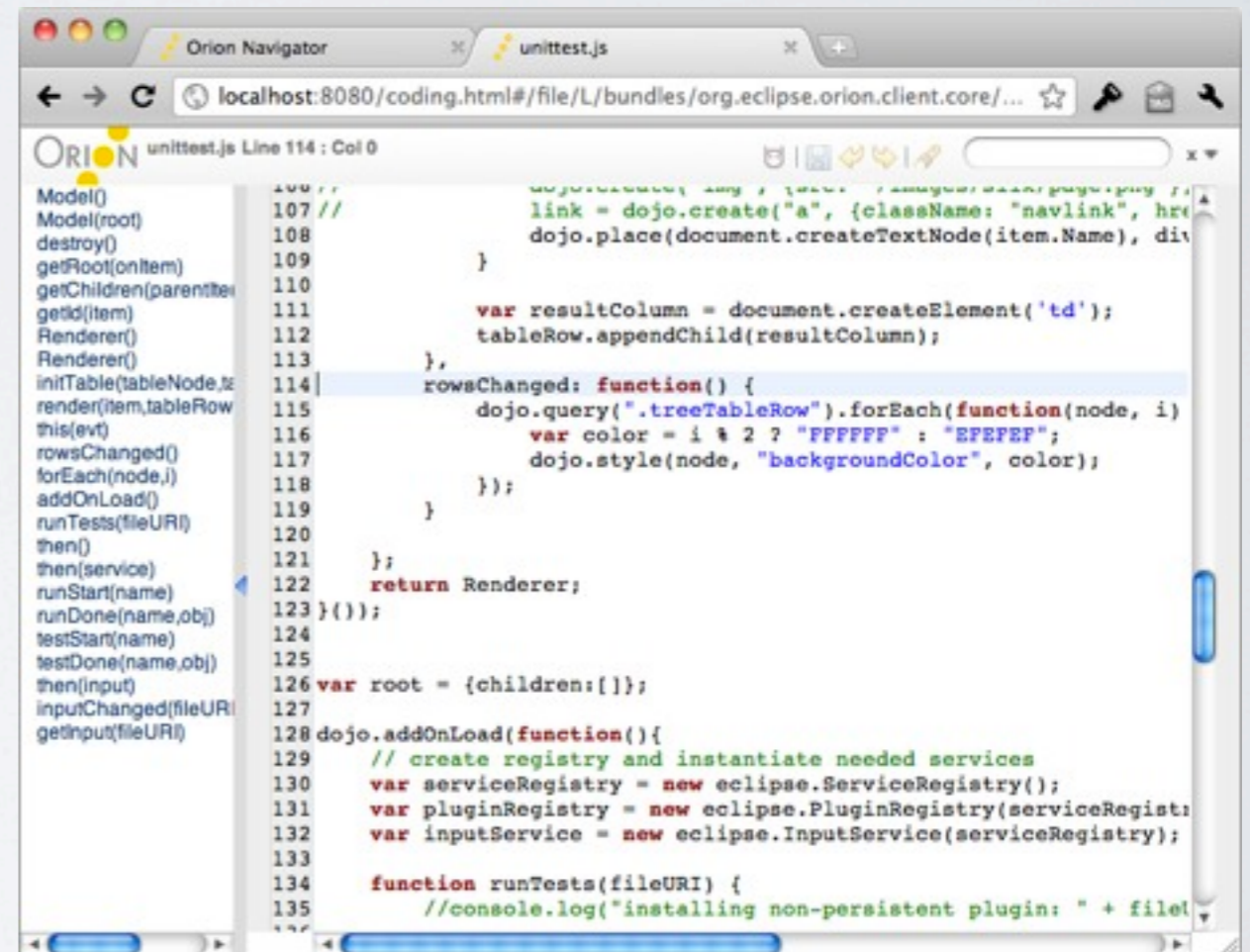
- There are other online IDEs already, extremely high rate of innovation in online tools for web development
- We need to start now, learn, fail, try again, in order to become a player in this space
- We (IBM) would like to see a community to form around this forms at Eclipse, and are contributing a seed

# Demo

```
106 //      dojo.create("img", {src: "/images/link/page.png"},
107 //      link = dojo.create("a", {className: "navlink", href:
108 //      dojo.place(document.createTextNode(item.Name), div
109 //      }
110 //      }
111 //      var resultColumn = document.createElement('td');
112 //      tableRow.appendChild(resultColumn);
113 //      },
114 //      rowsChanged: function() {
115 //      dojo.query(".treeTableRow").forEach(function(node, i)
116 //      var color = i % 2 ? "FFFFFF" : "EFEFEF";
117 //      dojo.style(node, "backgroundColor", color);
118 //      });
119 //      }
120 //      }
121 //      };
122 //      return Renderer;
123 //      }());
124 //      }
125 //      }
126 //      var root = {children:[]};
127 //      }
128 //      dojo.addOnLoad(function(){
129 //      // create registry and instantiate needed services
130 //      var serviceRegistry = new eclipse.ServiceRegistry();
131 //      var pluginRegistry = new eclipse.PluginRegistry(serviceRegistry);
132 //      var inputService = new eclipse.InputService(serviceRegistry);
133 //      }
134 //      function runTests(fileURI) {
135 //      //console.log("installing non-persistent plugin: " + fileURI);
136 //      }
```

# Code Editor

- Fast
- Scalable
- Works in all desktop browsers
- Faster than desktop Eclipse editor!



The screenshot shows the Orion Navigator web-based code editor. The browser address bar indicates the URL is localhost:8080/coding.html#/file/L/bundles/org.eclipse.orion.client.core/... The editor window title is 'Orion Navigator' and the file name is 'unittest.js'. The code is displayed in a light blue theme with a dark sidebar on the left containing a file explorer. The main editor area shows JavaScript code with line numbers 107 through 135. The code includes comments and function definitions, such as 'rowsChanged' and 'runTests'. The 'rowsChanged' function uses 'dojo.query' and 'dojo.style' to iterate over table rows and change their background color based on their index. The 'runTests' function is partially visible at the bottom of the screenshot.

```
107 //
108
109
110
111
112
113
114 rowsChanged: function() {
115     dojo.query(".treeTableRow").forEach(function(node, i)
116         var color = i % 2 ? "FFFFFF" : "EFEFEF";
117         dojo.style(node, "backgroundColor", color);
118     });
119 }
120
121 };
122 return Renderer;
123 }());
124
125
126 var root = {children:[]};
127
128 dojo.addOnLoad(function(){
129     // create registry and instantiate needed services
130     var serviceRegistry = new eclipse.ServiceRegistry();
131     var pluginRegistry = new eclipse.PluginRegistry(serviceRegistry);
132     var inputService = new eclipse.InputService(serviceRegistry);
133
134     function runTests(fileURI) {
135         //console.log("installing non-persistent plugin: " + fileURI);
```

# Navigator

The screenshot shows the Orion Navigator web interface. The browser address bar displays the URL: `localhost:8080/navigate-table.html#/file/L/bundles/org.eclipse.orion.client.core/static/?dept...`. The page title is "ORION". On the left, a "Favorites" sidebar lists `org.eclipse.orion.client.core`, `org.eclipse.orion.client.editor`, `static`, and `compare`. The main content area shows a file browser view for the path `root / org.eclipse.orion.client / bundles / org.eclipse.orion.client.core / static`. A table lists the files and folders in this directory.

Name	Actions	Date	Size
<input type="checkbox"/> images		Friday, March 04, 2011	
<input type="checkbox"/> js		Friday, March 04, 2011	
<input type="checkbox"/> js-tests		Thursday, March 03, 2011	
<input type="checkbox"/> plugins		Friday, March 04, 2011	
<input type="checkbox"/> .DS_Store		Tuesday, March 01, 2011	6 KB
<input type="checkbox"/> breadcrumbs.css		Friday, March 04, 2011	226 bytes
<input type="checkbox"/> coding.html		Friday, March 04, 2011	4.29 KB
<input type="checkbox"/> commands.css		Friday, March 04, 2011	620 bytes
<input type="checkbox"/> compare.html		Friday, March 04, 2011	2.98 KB
<input type="checkbox"/> customsplitter.css		Friday, March 04, 2011	725 bytes
<input type="checkbox"/> favicon.ico		Friday, March 04, 2011	1.12 KB
<input type="checkbox"/> git-status.html		Friday, March 04, 2011	4.54 KB
<input type="checkbox"/> ide.css		Friday, March 04, 2011	4.56 KB
<input type="checkbox"/> index.html		Friday, March 04, 2011	1.55 KB
<input type="checkbox"/> jsunit-test-new.html		Friday, March 04, 2011	6.69 KB
<input type="checkbox"/> jsunit-test.html		Friday, March 04, 2011	6.41 KB
<input type="checkbox"/> navigate-table.html		Friday, March 04, 2011	4.01 KB
<input type="checkbox"/> navigate-tree.html		Friday, March 04, 2011	3.9 KB
<input type="checkbox"/> searchResults.html		Friday, March 04, 2011	3.23 KB



# Orion Design Principles

- Regular Hyperlinks, back button, bookmarking, link sharing.
- Functionality on separate pages. Page = Task+Resource.
- Performant and Lightweight. Speed trumps power.
- Components should have value on their own.
- Low barrier of entry for adopters. Don't require technology buy-in.

# Integration Possibilities

- Hyperlinks as an integration mechanism.
- OSLC, OAuth: Consume and produce server APIs.
- Client-side “extensions”: adding commands to existing UI.
- Integrate with browser debuggers: Firebug, WebKit Inspector
- Host additional UI components, e.g. OpenSocial Gadgets.

# Use Strengths of the Web

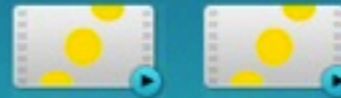
- highly distributed content
- scalable computing power
- simple connectivity -- links
- trivial update mechanism
- powerful rendering engine
- large, active community
- artifacts all over the web
- large scale analysis possible
- no central “IDE”
- refresh the page
- look and feel easy to adapt
- innovation by everyone



# Tools for the web, on the web

Try It

Watch It



Get Started




```
ORION Examples
Alternate CSS  A Very Large File

1 /*****
2 *
3 * This is an Orion Editor, running in your browser using javascript.
4 *
5 * We've prepared some examples of what Orion can do, click the links above
6 * to explore.
7 *
8 * Example #1 - This is the javascript used on this page to embed Orion
9 *
10 *****/
11 function getFile(file) {
12     try {
13         var objXml = new XMLHttpRequest();
14         objXml.open("GET",file,false);
15         objXml.send(null);
16         return objXml.responseText;
17     } catch (e) {
18         return null;
19     }
20 }
21
22 var options = {
23     parent: "editorDiv",
24     model: new eclipse.TextModel(),
25     stylesheet: "css/ide.css"
26 };
27
```

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Thank you!  
Questions?

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@skaegi

# Web-based Tools (Examples)

- [smush.it](http://smush.it) - lossless “compression” of images
- CSS Sprite Generator
- [initializr.com](http://initializr.com) - equivalent of “New Project” wizard
- W3C validator, JSLint, ...
- [jsbeautifier.org](http://jsbeautifier.org) - JavaScript code formatter