Rich Internet Applications
Tools: JSF, Flex, and JavaFX

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Exadel

Headquarters in San Francisco Bay Area
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Developing:

- JBoss RichFaces (Ajax4jsf)
- JBoss Developer Studio (Exadel Studio)
The plan:

1) Tell you about JSF, Flex, and JavaFX as RIA tools
2) Run a couple of examples
3) Answer questions
RIA tools and platforms

- JSF/Ajax – browser
- Flash/Flex – browser with plug-in
- JavaFX – browser with plug-in
JSF/Ajax
Ajax is a technique for delivering RIA applications inside a Web browser

Partial page update
Server-side
- JSF
- Struts
- Tapestry
- Wicket
- Echo
- In-house
- Many more...

Client-side
- Google GWT
- Dojo
- Prototype
- JMaki
- Many more...

Microsoft
- VB.Net
- ASP.Net

Everyone else
- PHP, Perl, Python
Over 100 Ajax frameworks out there, commercial and open source

Client-side and server-side frameworks
As we are dealing with enterprise web applications, we will focus on JSF.
JSF is a component-based framework for building user interfaces

User interfaces are created from UI components using declarative approach
1 Development

```xml
<h:form>
    <h:panelGrid columns="2">
        <h:outputText value="#{msg.emailLabel}"/>
        <h:inputText value="#{login.email}"/>
        <h:outputText value="#{msg.passwordLabel}"/>
        <h:inputText value="#{login.password}"/>
    </h:panelGrid>
    <h:commandButton action="#{login.check}" value="#{msg.btnLabel}"/>
</h:form>
```

2 JSF Component Tree

3 Output

```
<tr>
    <td>Email:</td>
    <td><input type="text" name="j_id2:j_id5" value="" /></td>
</tr>
<tr>
    <td>Password:</td>
    <td><input type="text" name="j_id2:j_id7" value="" /></td>
</tr>
</tbody>
</table>
<input type="submit" name="j_id2:j_id8" value="Sign In" />
```

Browser

```
Email: 
Password: 
Sign In
```
When working with JSF, JBoss RichFaces can be used to build Ajax-based JSF applications.
JBoss RichFaces:

- Over 100 ready to use Ajax-based JSF components
- Skinability (themes)
- Shields the developer from complicated and browser-dependent JavaScript
JSF/Ajax Example
What's good:

Ajax applications run inside the browser
No extra plug-ins
Everyone has a browser today
RichFaces shields the developer from JavaScript
What's good, cont.:

JSF

- Large community
- IDE tools: lots (Eclipse, NetBeans, RAD, IntelliJ)
- Java EE standard technology
What's not good:
At the end, still JavaScript
Browser pushed too far –
ever meant for such
capabilities
What's not good, cont:

*Limit* to how much richness can be delivered

Displaying charts, graphs with HTML and JavaScript is hard

Browser and our fault
Final note:

- JSF applications run on the server
- The browser is basically a “dumb” terminal that receives and displays HTML
- Not aware of what's happening on the server
Flash/Flex
Flex – declarative language for building user interfaces

- Lots of ready-to-use components

Flash player – lightweight, powerful virtual machine

- Installs as a plug-in into any browser
Flex application is compiled and then runs inside Flash player (plug-in)

Easily integrates with Java on the back-end
Flash/Flex Example
What's good:

Flash player

Much richer experience than browser alone

Works the same in any browser

IDE tools: Eclipse-based Flex Builder
What's not good:

Flash player plug-in must be installed

Developer experience

Management acceptance

Too “flashy”

Many stick with Ajax
Final note:

- **JSF** – UI is running on the server
- **Flex** – UI is running on the client (inside Flash plug-in in browser)
JavaFX
Java is good, but problems with Applets and Swing
No declarative way to define UI
Java virtual machine
- Installation
- Download size
- Update
- Application startup time
JavaFX

- Declarative language for building rich user interfaces using Java
- Lots of ready-to-use UI components
- “Swing for the Web”
JavaFX will deliver:

Small Java virtual machine
- Around 4 MB

JRE install/update simplified

Application download simplified
JavaFX Example
What's good:

Java virtual machine
Much richer experience than browser alone
Works the same in any browser
What's good, cont.:

Delivery

Browser plug-in, Java Web Start, Stand-alone

Leverage the Java platform

Could be “natural” RIA tool for Java shops
What's not good:

JavaFX announced at JavaOne 2007

Slow release, version 1.0 – December 2008

Java virtual machine is required

- Download/install/update issues must be fixed
What's not good, cont:

Not yet a proven technology
- Developer experience
- Management acceptance
- Flash is still the choice

IDE tools: basic support in NetBeans
What we covered:

- JSF/Ajax
- Flash/Flex
- JavaFX

Did I forget Microsoft Silverlight?
Google Chrome

Source: www.google.com
Exadel Fiji – JSF-Flex integration framework

- Ready to use Flex components
- Integrate any other Flex components
- Bind Flex components to JSF managed beans
- Uses the familiar JSF-component approach
<h:form id="myForm">
   <fiji:barChart id="barChartOne" value="#{BBeanOne.data}"
      rulersValuesHighlight="false" subtitle="Beijing 2008 Olympic Games"
      barColors="#{BBeanOne.colors}" title="One-series Bar Chart"
      width="500" height="300" legendPosition="top">
      <fiji:chartData type="name" value="#{BBeanMulti.names}" />
   </fiji:barChart>
</h:form>
“Practical RichFaces” Book
Exadel Flamingo - easily glue Flex or JavaFX to JBoss Seam or Spring Framework:

- Seam/Spring integration layer to Flex/JavaFX RIA technologies
- Client-side components
- Dynamic persistent methods
- Learn more:
  http://flamingo.exadel.com
Come and talk to me about:

- JSF, RichFaces
- Fiji
- Your RIA plans, etc.

We can help you with:

- JSF, RichFaces Training
- Jump starting development
- Professional services
Thank You!

Your turn. Questions?

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