Building Rich Internet Applications in Java

Ben Forta
Senior Product Evangelist,
Macromedia
Today’s Business Challenges

Sub-optimal IT agility

- Project delays
- Growing backlogs
- Skill/headcount shortages
- Dissatisfied end users

“91% IT organizations have a backlog of application development projects. More than 50% of the backlogs are significant”

CIO Magazine Poll
Organizational Realities of a J2EE World

User experience

Corporate Data
Biz Process/Logic
Transactions

Data presentation

Sales and Marketing

E Commerce

Finance and Operations

Human Resources
“What customers want today are experiences - memorable events that engage each customer in an inherently personal way.”

- Joe Pine, co-author of The Experience Economy
Examples
Evolution of Economic Value

- **Unique Competitive Position**
  - Market pricing
  - Premium pricing

- **Undifferentiated Competitive Position**
  - Market pricing
  - Premium pricing

- **Relevant to Customer Needs**
  - Stage Experiences
  - Deliver Services
  - Make Goods
  - Extract Commodities
Evolution of Economic Value

- Undifferentiated Competitive Position
  - Presence (Flat HTML)
  - Function (Perl Script)
  - Features (Web Apps)
  - Experiences (RIAs)

- Unique Competitive Position
  - Relevant to Customer Needs
  - Irrelevant to Customer Needs

- Market pricing
  - Premium pricing
Rich Internet Applications
# How We Got Here

<table>
<thead>
<tr>
<th>User Interface</th>
<th>Interactivity</th>
<th>Flexibility</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainframe</td>
<td>None: dumb green-screen or command-line terminals</td>
<td>None: only displays data sent by server</td>
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</tr>
<tr>
<td>Desktop</td>
<td>High: Drag-and-drop, point-and-click</td>
<td>High: resizable components, configurable display, local data, custom shortcuts</td>
<td>Medium: real-time computation, complicated information visualization</td>
</tr>
<tr>
<td>Client/Server</td>
<td>High: Drag-and-drop, point-and-click</td>
<td>Medium: resizable components, configurable display, server-side data</td>
<td>High: real-time computation coupled with access to server-side data</td>
</tr>
<tr>
<td>Websites</td>
<td>Low: Point-and-click, form fill-in</td>
<td>Low: limited customization of page appearance</td>
<td>None: only displays data sent by server</td>
</tr>
</tbody>
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<tr>
<th>Deployment</th>
<th>Low cost</th>
<th>High cost</th>
<th>High cost</th>
<th>Low cost</th>
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</table>

Source: Forrester Research, Inc.
A New Solution is Needed – the X Internet

Forrester’s Definition:

Intelligent apps that execute code near the user to create rich, engaging user experiences on the Net

Source: Forrester Research, Inc.
Forrester’s X-Internet Timeline

The Web

The Extended Internet

The Executable Internet

Source: Forrester Research, Inc.
1. New classes of applications

2. More value from existing apps

Source: Forrester Research, Inc.
Business Examples

<table>
<thead>
<tr>
<th>Internet</th>
<th>Extranet</th>
<th>Intranet</th>
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<tbody>
<tr>
<td>Interactive Marketing</td>
<td>eBusiness Apps</td>
<td>Customer Centric Apps</td>
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<tr>
<td>Presentations</td>
<td>Catalogs</td>
<td>Customer Portals</td>
</tr>
<tr>
<td>Media Streaming</td>
<td>Product Tours</td>
<td>Self-service</td>
</tr>
<tr>
<td>Online ads</td>
<td>Simulations</td>
<td>Customer Service</td>
</tr>
<tr>
<td>Games</td>
<td>Configurators</td>
<td>Collaboration</td>
</tr>
<tr>
<td>Offline Kiosks</td>
<td>Shopping Carts</td>
<td>eLearning</td>
</tr>
<tr>
<td>Wireless</td>
<td>Channel Portals</td>
<td>B2B Supply Chain</td>
</tr>
<tr>
<td>Business Visualization</td>
<td>Employee Portals</td>
<td>CRM</td>
</tr>
<tr>
<td>eLearning</td>
<td>Data Visualization</td>
<td>Sales Reports</td>
</tr>
<tr>
<td>Data Reporting</td>
<td>Productivity Applications</td>
<td></td>
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제 4 회 한국 자바 개발자 컨퍼런스 - JAVA Unlimited 2003
Rich Internet Applications

Best of the Desktop

Rich Internet Applications

Best of the Web

Best of Communications
### Examples

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<tr>
<td>Partner Apps</td>
<td>Enterprise IT Apps</td>
<td>Department IT Apps</td>
</tr>
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#### Internet Examples:
- eBusiness Apps
- Customer Centric Apps
- Partner Apps
- Enterprise IT Apps
- Department IT Apps

#### Extranet Examples:
- Internet
- Extranet
- Intranet

#### Intranet Examples:
- Internet
- Extranet
- Intranet

*Images for Internet, Extranet, and Intranet examples are provided.*
Rich Internet Application Results

- 35% increase in reservations year to year
- 50% reduction in time entering orders
- Reduced page load time by 50%
- More than doubled the average number of bookings per session
- 75% of first-time site visitors returned
- Greater than a five-fold return on initial pilot project investment
Technical Foundation
Fits the Existing Server Infrastructure

Client Side

Flash Player

Server Side

.net

ColdFusion for J2EE

Database & Integration

Microsoft

IBM

ORACLE

SYBASE
Technical Benefits

- Ease of development and deployment
- Integrates into legacy environments
- Extends existing applications without re-work
- Fits into current development process
- Supports a broad range of platforms and devices
- Cuts QA time for cross-platform support
How It Works

Wireless Devices

PC Browsers

Web services

Web container

ColdFusion MX for WebSphere, WebLogic, SunONE, JRun

J2EE Application Server

Content & Data

Database

Other Systems
Java Integration Options

- Easily share session data with JSPs/servlets
- Forward control between CF pages and servlets

Diagram:
- Java Session Object
  - ColdFusion Page
  - ColdFusion Component
  - JSP Page
  - Java Servlet
Conclusion
"... browser-based applications deliver sub par user experiences ... Executable Internet Technology will help companies return responsiveness and productivity to Net-based apps."

– Forrester Research