



the  
**POWER**  
of  
**JAVA™**

DeveloperZone



JavaOne  
FOR THE POWER OF THE JAVAS

# Web 2.0: Next Generation Communities With Rich Java™-Based Applications

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TS-1375

# Presentation Goal

Learn how Javalobby/DeveloperZone is enhancing its communities using rich desktop Java™ technology

# Agenda

## Web 2.0—the present hype

Java-based RIA technology

Data in, data out

Java-based RIAs at DeveloperZone

Summary

Q&A

# Web 2.0—The Hype

- What is Web 2.0?
  - Definition
- Exploded onto the scene
- No clear definition for Web 2.0
- Buzzword for a host of different technologies
- The rich and semantic Web
- Brings a desktop feel to Web applications

# Examples

## Web 2.0 in All It's Glory



# Agenda

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# Why Desktop Java Technology for Web 2.0?

- Easy interaction with server data
- Strong tool support
- Rich component set
- Tighter integration with host platform
- Readily available on most computers



# Rich Client Platforms

## NetBeans™ Platform and Eclipse

- Plug-in approach to application development
- Greatly reduce the amount of boilerplate code that must be written
- Wizard frameworks
- Provide advanced components not usually found in the toolkits by themselves
- Provide features like automatic updating of applications over the Internet



NetBeans IDE 5.0 - LiveChat

File Edit View Navigate Source Refactor Build Run CVS Tools Window Help

Projects | LiveChat | Modules


**Project Properties - LiveChat**

Categories:

- Sources
- Libraries
- Application
  - Splash Screen

Progress Bar:  Enabled    Color: [255,114,0]    Positioning: 0,268,472,3

Running Text:    Size: 11    Color: Yellow    Positioning: 268,253,205,12

Splash Screen:  Browse...

OK    Cancel    Help

Output - LiveChat (run)

```

org.netbeans.swing
org.netbeans.modules
org.netbeans.core
org.netbeans.core
[WinSys.PersistenceManager]
[WinSys.PersistenceManager]
[WinSys.PersistenceManager]
[WinSys.PersistenceManager] Problem when deserializing TopComponent for tcID:'projectTab_tc'. Reason: Top component projectTab_tc could not be found.
[WinSys.PersistenceManager] Problem when deserializing TopComponent for tcID:'runtime'. Reason: Top component runtime could not be found.
BUILD SUCCESSFUL (total time: 25 seconds)
  
```

Finished building LiveChat (run).

# Java-Based Thin Clients

Nexaweb, Canoo ULC, Insitech XTT

- Ultra-small downloads
- Communicates with a back-end server for data
- Able to use existing Java-based components
- Usable in the browser and via Java Web Start software

Order Invoice	Order No.	Customer Name	Status	Order Total(\$)	Order Date
	1	Mike Adam	Review	2563.45	2002-10-22
	2	Steve Job	Order Confirmation	748.28	2003-01-15
	3	Mike Adam	Order Confirmation	748.28	2003-01-15
	4	Nancy Doss	Order Confirmation	748.28	2003-01-15
	5	Steve Job	Order Confirmation	1257.03	2003-01-15
	7	Steve Job	Order Confirmation	748.28	2003-01-15
	8	Jyothi Smith	Order Confirmation	1257.03	2003-01-15
	9	Jyothi Smith	Order Confirmation	1257.03	2003-01-15
	10	Bill Gates	Order Confirmation	748.28	2003-01-15
	11	Kevin Sali	Order Confirmation	748.28	2003-01-28
	13	Jyothi Smith	Order Confirmation	748.28	2003-03-05
	15	Mike Adam	Order Confirmation	748.28	2003-03-05
	16	Jyothi Smith	Order Confirmation	3607.76	2003-03-10
	18	Mike Adam	Order Confirmation	426.53	2003-04-29
	19	Nancy Doss	Order Confirmation	1655.87	2003-04-30

# Swing + JDIC + SwingLabs + Java Web Start Software

Embrace the Full Power of Java Technology

- Tighter integration with the host platform
- Installable and updatable via the Web
- Many improvements in latest Java technology updates
- Universal install
- Enforces security in a meaningful way

# Agenda

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# Caucho's Hessian

## Binary Web Services for Java Technology

- Wicked fast Web services
- Cross-platform
  - Client implementations in Ruby, PHP, and C#
- Secure
- Integrates with Spring
- Deal with objects on both ends of the service
  - No need for marshalling or a separate class to turn WSDL to Java code

# Where It Fits In

- Implementation agnostic SDK to Javalobby
- Integration with Javalobby forums
  - JDocs comments feed into JL forums
- Chat client interacts with Javalobby private messages
- Search hundreds of thousands of Javalobby posts from any application

# Hessian Examples

Java:

```
String url = "http://localhost/soa/SearchService";
HessianProxyFactory factory = new HessianProxyFactory();
ISearchService searcher = (ISearchService)
    factory.create(ISearchService.class, url);
Object[] results = searcher.searchByPage("swing swt", 0,
15);
```

PHP:

```
include_once 'HessianClient.php';
$testurl = 'http://localhost/soa/SearchService';
$proxy = &new HessianClient($testurl);
echo $proxy->searchByPage('swing swt', 0, 15);
```

# SOAP

## Cross-platform Standard XML Services

- Cross-platform
- Secure
  - Secure with SSL and Basic AUTH
- Integrates with Spring
- XML on both ends of the service
  - Allows us to access the services from JavaScript™
- Only submits requests via POST
  - Hard to debug



# How We're Using It

- Complete SDK for DeveloperZone.com
- Interaction with .NET and Ruby clients
- Data produces charts and notifications in the standalone app
- Post directly from JRoller blogs into DeveloperZone

# DeveloperZone SOAP Examples

```
java org.apache.axis.wsdl.Wsd12Java -t -o dz-service  
    http://localhost:9090/services/nsDz:dzService?wsdl
```

```
service = (DzServiceSoapBindingStub)new  
DeveloperZoneSoapServiceLocator().getDzService();
```

```
service.login("matt", "j12006");
```

```
Link[] links = service.getLinks(1,10,FRONTPAGE);
```

```
service.voteOnLink(links[0].id, true); // true = vote up
```

```
count = service.getUsersVotesGivenCount("matt"); // 42
```

```
service.logout();
```

# Agenda

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Data in, data out

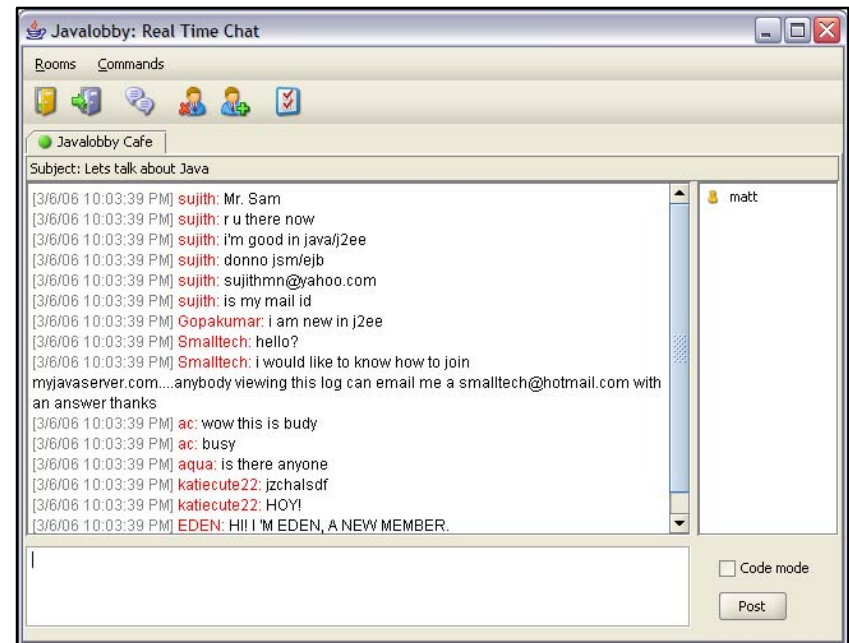
**Java-based RIAs at DeveloperZone**

Summary

Q&A

# Standalone Java Web Start Application

- Started as a simple chat application
- See your private messages
- Check the hottest threads
- Monitor the DZ queue
- Integrates with the OS
- Small, installs over the Web
- Smack, JDesktop Integration Components (JDIC), Swing, Hessian



# Using Smack for Messaging

- Open source library for communication with a Jabber server
- Interact with your buddies from DeveloperZone.com
- Join in hosted developer chat rooms
- Interact with other developers on Google Talk

# Connecting to Our Jabber Server

```
public static void makeConnection() throws XMPPException {
    //XMPPConnection.DEBUG_ENABLED = true;
    connRes = ResourceBundle.getBundle("resources/conn");
    conn = new XMPPConnection(connRes.getString("server"),
        Integer.parseInt(connRes.getString("port")));
}

public static void login(String name, String pass) {
    conn.login(name, pass);
}

public static Collection getRooms() throws XMPPException {
    Collection rooms = MultiUserChat.getHostedRooms(conn,
        connRes.getString("conference"));
    return rooms;
}
```

# Adding a User Status Listener

```
userStatusListener = new DefaultUserStatusListener() {  
    public void voiceRevoked() {  
        hasVoice = false;  
        append("[ " + timeStamp.format(new Date()) + " ]" ,  
                gray);  
        append(">>> You have been devoiced.\n", magenta);  
    }  
  
    public void voiceGranted() {  
        hasVoice = true;  
        append("[ " + timeStamp.format(new Date()) + " ]",  
                gray);  
        append(">>> You have been voiced.\n", magenta);  
    }  
}
```

## Adding a User Status Listener (2)

```
public void banned(String actor, String reason) {
    if (reason.equals(""))
        reason = "No reason given.";

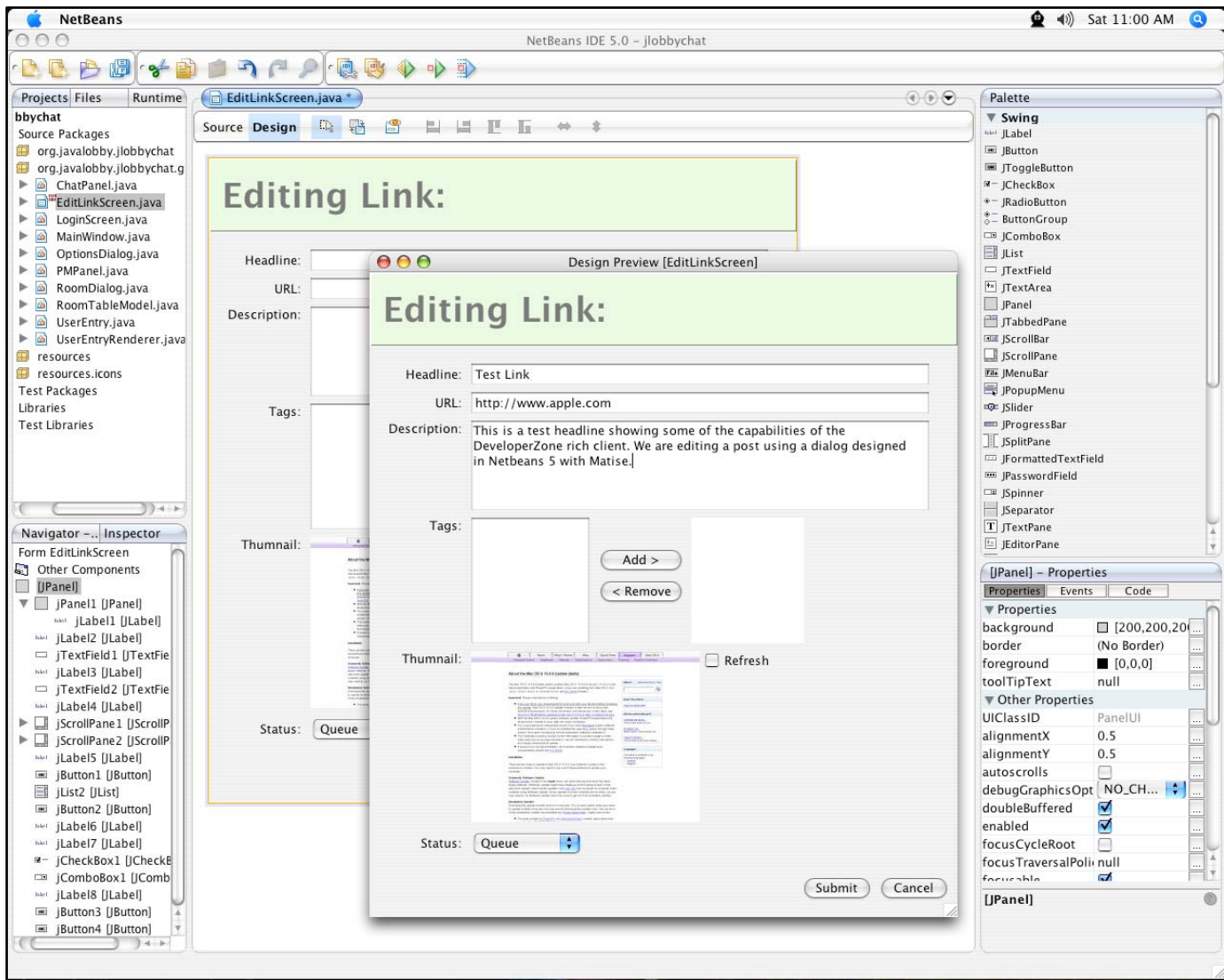
    Main.mainWindow.wasBanned(ChatPanel.this);
    JOptionPane.showMessageDialog(Main.mainWindow, "You have
        been banned from " + roomName + " by " + actor +
        ".\n(Reason: " + reason + ")",
        "You have been banned.", JOptionPane.WARNING_MESSAGE);
}
};

muc.addUserStatusListener(userStatusListener);
```



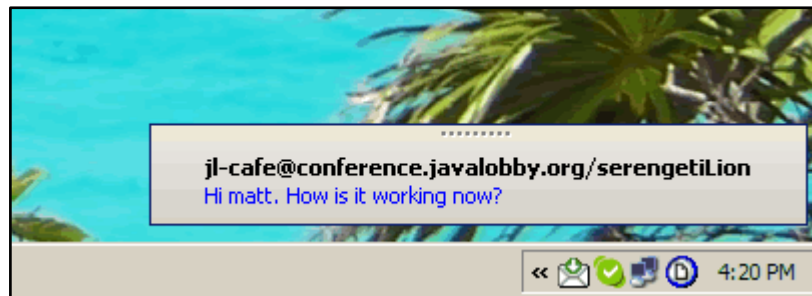
# DeveloperZone with Java Web Start Software

- Rich client Swing-based application
- Uses Hessian to communicate with DeveloperZone Web service
- Swing based applications are still much more capable than browser ones—even with AJAX
- Thanks to Matisse, design is also much easier than with AJAX



# Integrating with the Native System

- Why is native integration important?
- Pure integration—JDIC
- Emulation from Swing—JideSoft
- Tray icons, notifications, etc.
- More...



# DeveloperZone in Your Tray

```
JPopupMenu menu = new JPopupMenu("DeveloperZone"); JMenuItem  
checkItem = new JMenuItem("Check Private  
Messages");  
  
checkItem.addActionListener(new ActionListener() { public  
void actionPerformed(ActionEvent evt) { ... }});  
menu.add(checkItem);  
  
ImageIcon icon = new ImageIcon("dz.gif");  
TrayIcon ti = new TrayIcon(icon, "DeveloperZone", menu);  
ti.addActionListener(new ActionListener() {  
public void actionPerformed(ActionEvent e) {  
dzFrame.setVisible(true);  
} });  
  
SystemTray tray = SystemTray.getDefaultSystemTray();  
tray.addTrayIcon(ti);
```

# Show Me the Money!

```
else if (JLChatGlobals.prefs.getFrontOnNameSaid()) {
    if (message.getBody().indexOf(JLChatGlobals.nickName) !=
-1) {
        final Alert alert = new Alert();
        alert.getContentPane().setLayout(new BorderLayout());
        alert.getContentPane().add(createSampleAlert(new
            ActionListener() {
                public void actionPerformed(ActionEvent e) {
                    alert.hidePopupImmediately();
                }
            }, message.getFrom(), message.getBody()));
        ...
        alert.setTimeout(2000);

        alert.setPopupBorder(BorderFactory.createLineBorder(new
            Color(10, 30, 106)));
    }
}
```

# Show Me the Money! (Cont.)

```
CustomAnimation showAnimation =
    _entrancePanel.getAnimation();

showAnimation.setVisibleBounds(PortingUtils.
    getLocalScreenBounds());

alert.setShowAnimation(showAnimation);

CustomAnimation hideAnimation = _exitPanel.getAnimation();

hideAnimation.setVisibleBounds(PortingUtils.
    getLocalScreenBounds());

alert.setHideAnimation(hideAnimation);

alert.showPopup(_locationPanel.getDisplayLocation());
```

# DEMO

JavaOne Conference Planner

# DeveloperZone TiVo Application

- TiVo provides an interface between your network and your TV
- Consume data, very little interaction
- Applications built entirely in Java code
- Run from a host machine
- Our TiVo application will monitor the DZ queue



# What Can This Baby Do?

- Shows the latest items in the DeveloperZone.com queue
- Highlights the ability of the TiVo to handle transparencies
- Can merge multiple feeds into one stream
- Refreshes automatically on a regular schedule

# Show Me the Code!

## Building the Interface—Setting Up the UI

```
public void init(IContext context) throws Exception
{
    super.init(context);
    root = getRoot();
    delay = 5000;
    active = new View[100];
    root.setResource(Color.white);
    root.setResource("background.mpg");

    titleFont = (Resource.FontResource)
        createFont("default.ttf", FONT_BOLD, 20,
            FONT_METRICS_BASIC | FONT_METRICS_GLYPH);
}
```

# Show Me the Code!

## Building the Interface—Setting Up the UI (2)

```
articleFont = (Resource.FontResource)
    createFont("default.ttf", FONT_PLAIN, 18,
        FONT_METRICS_BASIC | FONT_METRICS_GLYPH);

titleFont.addHandler(this);
articleFont.addHandler(this);

bg = new View(root, 0, 0, root.getWidth(),
    root.getHeight());

View banner = new View(root, 0, 0, 640, 120);
banner.setResource("dz-banner.png");
}
```

# Show Me the Code!

Building the Interface—The Interface So Far



# Show Me the Code!

## Building the Interface—The Article Scroller

```
View titleView = new View(v, 0, y, articleWidth, 80);
String titleF = titleView.layoutText(tfi, article.title);
int titleLineCount = getLineCount(titleFormatted);
titleView.setSize(titleView.getWidth(), titleLineCount *
    (int) tfi.getHeight());
```

```
Resource animation = getResource("*" + (delay * 2));
Resource animation2 = getResource("*1000");
```

```
for (int i = 0; i < count; i++)
{
    active[i].setLocation(active[i].getX(),
        active[i].getY() - extra, animation2);
}
```

# Show Me the Code!

## Building the Interface—The Interface So Far



The screenshot shows the DeveloperZone website interface. At the top, there is a green header with the text "DeveloperZone" and a network diagram of colored nodes. Below the header, the main content area has a light green background with a wavy pattern. Two article snippets are visible, each starting with a "DeveloperZone" logo and a network diagram.

### DeveloperZone

#### Zoovy - New Web 2.0/AJAX Based Software

Zoovy, the provider of ecommerce development tools today announced that it is now providing template-driven AJAX/Web 2.0 capability with its tools. The company's new software allows companies to create online stores using the popular AJAX technique, which makes web pages more interactive.

### DeveloperZone

#### Setting up cross domain access with Flash

Another change to the Flash Player 7 framework is the use of cross-domain policy files. A policy file is a simple XML file that gives the Flash Player permission to access data from a given domain without displaying a security dialog.

# Show Me the Code!

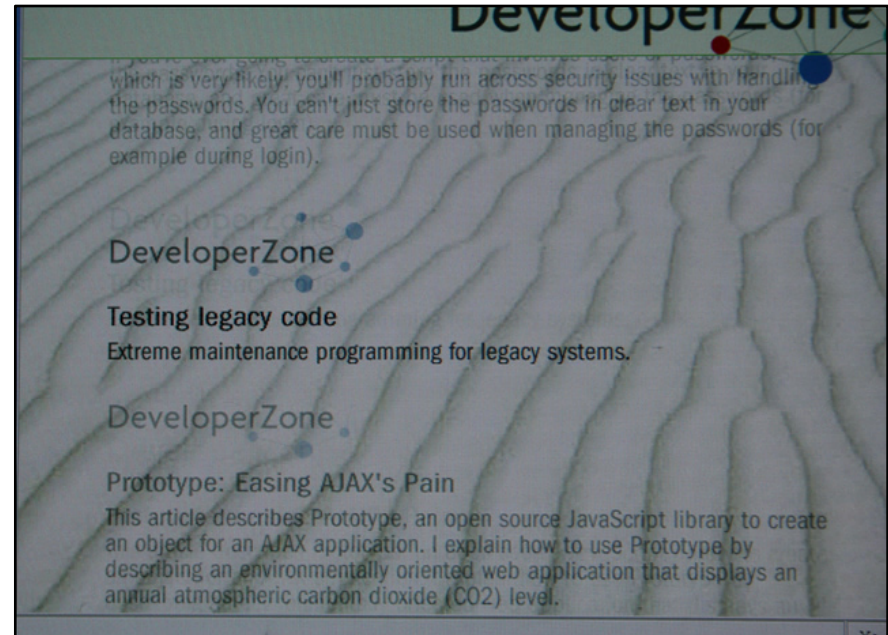
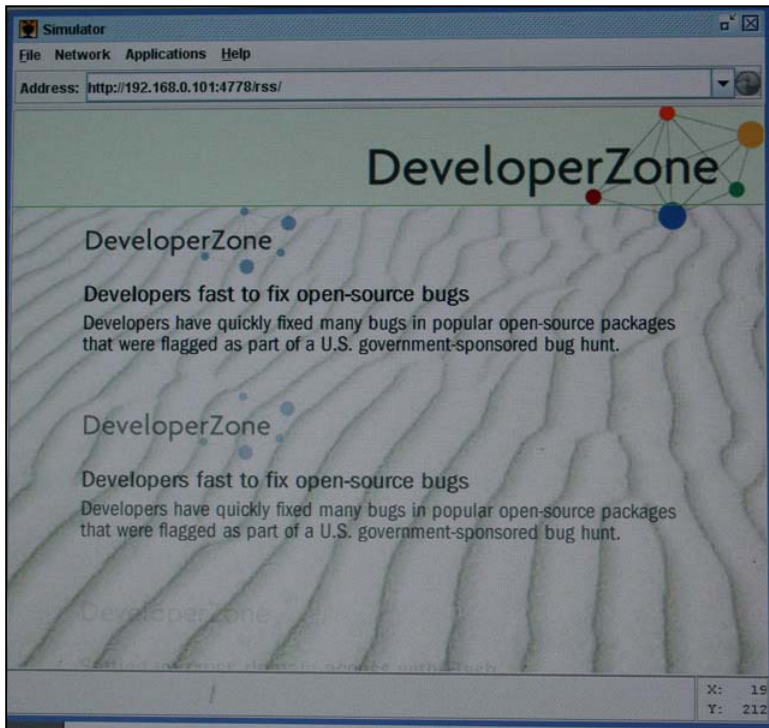
## Start the Feed

```
public boolean handleEvent(HmeEvent event)
{
    switch (event.getOpCode())
    {
        case EVT_FONT_INFO:
            if (titleFont.getFontInfo() != null &&
                articleFont.getFontInfo() != null)
            {
                startFeed(); // Starts animation
            }
            break;
    }

    return super.handleEvent(event);
}
```

# Live Action TiVo

## Well, Almost...





# Summary

- The Web 2.0 hype machine
- Java technology on the desktop is a viable option
- Web services give you easy access to data
- Access your developer communities right from your IDE
- We're eating our own dog food

# For More Information

- <http://www.developerzone.com>
- <http://www.netbeans.org>
- <http://www.eclipse.org>
- <http://www.caucho.com>
- <http://jdic.dev.java.net>
- <http://www.jivesoftware.org>
- <http://tivohme.sf.net>

# Q&A



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