





# BOF5806

## Doing JSF Development in NetBeans IDE

A large, abstract graphic on the right side of the slide features a complex arrangement of white and gold-colored geometric shapes, including triangles and polygons, set against a blue gradient background.

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FUTURE  
JAVA

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# Program Agenda

- Introduction
- The Challenge:
  - Semantic Search & Navigate (Johannes Weigend)
  - Small Team, Lots of Sites (Glenn Holmer)
  - Build an Application in 3 Weeks (David Heffelfinger)

# **Speaker: Johannes Weigend**

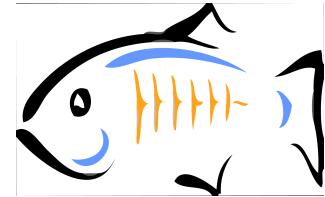
## **The Challenge: Semantic Search & Navigate**

- CTO of QAware GmbH, Munich, Germany
- 20 years of experience building individual software solutions for enterprise customers
- Worked as trainer, architect, consultant and developer
- Focus on Java, JEE since 1996

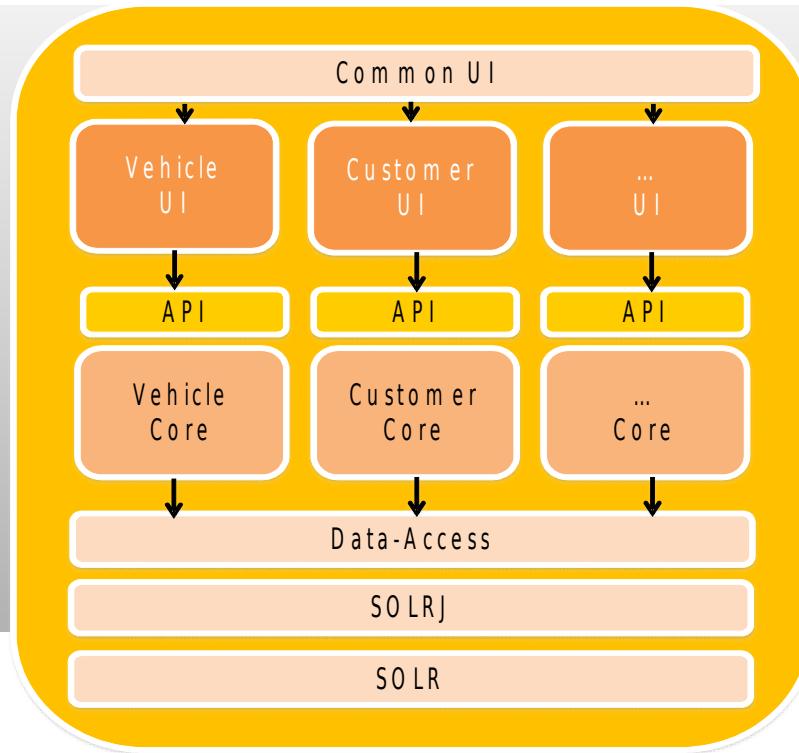
# About Semantic Search & Navigate

- Information Research
- Integration of “Data Silos”
- “Google”++
- **Search and navigate through a semantic network of information (technical and business)**

# Search Architecture in a Nutshell



Glassfish 3.1



- Primefaces 3.4
- JSF 2.1
- CDI
- JEE6 / OSGi
- apache.commons.\*
- SOLRJ (Client)
- Apache SOLR (WAR)





Live Demo

# Cool things using PrimeFaces: AutoComplete

Kunde:

The screenshot shows a user interface element for searching customers. On the left, there is a text input field with the placeholder "Kunde:" and the letter "H" typed into it. To the right of the input field is a button labeled "Suche". Below the input field is a dropdown menu containing a list of names. The first name in the list, "Helmut Duschinger", is highlighted with a gray background, indicating it is the currently selected item.

Helmut Duschinger
Harlan Jenkins
Taylor Higgins
Nerea Figueroa
Alexa Holcomb
Felicia Fulton
Erich Farmer
Hilel Dudley
Wynter Michael
Haley Hahn

```
<h:form id="custSearch">
<h:panelGrid columns="3" columnClasses="searchmainTd1">
    <h:outputLabel for="queryCustomer" value="Kunde:"/>
    <p: autoComplete id="queryCustomer" queryDelay="400"
        value="#{sc_search.queryCustomer}" effect="blind"
        completeMethod="#{sc_search.completeCustomer}" global="false" size="35"
        styleClass="defaultInput"
        onfocus="clearInput(['plateSearch:queryPlate_input', 'vinSearch:queryVin'])"/>
    <p: commandButton value="Suche" action="#{sc_search.doCustomerSearch}" ajax="false"/>
</h:panelGrid>
<input type="text" style="display:none"/>
</h:form>
```

106

# Cool things using PrimeFaces: Smart-looking Components

Fullpage Layout

Panel

Accordeon

Suche (TM14296) > Fahrzeug (MI COOPER S)

Ausgewähltes Fahrzeug



MINI COOPER S  
Fahrgestellnummer: TM14296  
Kunde: Lunea Reed  
pede@mfringillami.edu, 0049 32 774 3111-2719  
Produktionsdatum: 11.06.2007  
Letzter Service: 26.09.2012



Filter ✖

Weitere Informationen

Fahrzeug	Kunde (0)	Pakete (220)	Techn. Aktionen (0)	Reparaturhistorie (0)
Servicehistorie (0)	Gewährleistung (0)	<b>Steuergeräte (17)</b>	Nachrüstungen (0)	Dokumente (1631)

Marke: MINI  
Modell: COOPER S  
Fahrgestellnummer: TM14296  
Typschlüssel: RH31  
Grundtyp (Typschlüssel): RH31  
E-Bezeichnung: R52  
Leistung: 125  
Karosserie: CABRIO  
ConstructionKind: I  
Innenfarbe: PN  
Außenfarbe: A63  
Innenausstattung: T6  
ISStufe:  
Getriebe: MECH  
CarManufacturingPlant:  
Produktionsdatum: 11.06.2007  
Anzahl Türen: 2  
verkauft Inland/Export: 2

Tabcontrol

# Cool things using PrimeFaces: ajaxStatus

MINI COOPER S  
Fahrgestellnummer: TM14296  
Kunde: Lunea Reed  
pede@mifringillami.edu, 0049 32 774 3111-2719  
Produktionsdatum: 11.06.2007  
Letzter Service: 26.09.2012

Fahrzeug    Kunde (0)    Pakete (220)    Techn. Aktionen (0)    Repa...

Servicehistorie (0)    Gewährleistung (0)    Steuergeräte (17)    Nachri...

Marke    Seite aktualisieren

Fahrgestellnummer:	RH31
Typschlüssel	RH31
Grundtyp (Typschlüssel)	RH31
E-Bezeichnung	R52
Leistung	125
Karosserie	CABRIO

```
<p:ajaxStatus onstart="statusDialog.show() ;"  
    onsuccess="statusDialog.hide() ;"  
    onerror="alert('Daten konnten nicht vollständig geladen werden.');" ;  
    statusDialog.hide() ;  
/>
```

```
<p:dialog modal="true"  
    widgetVar="statusDialog"  
    header="Seite aktualisieren"  
    draggable="false" closable="false" resizable="false">  
    <p:graphicImage value="../../resources/ajaxloadingbar.gif"/>  
</p:dialog>
```

# Cool things using PrimeFaces: Runtime Theme Changes

Suche (TM14296) > Fahrzeug (MI COOPER S)

Ausgewähltes Fahrzeug



MINI COOPER S  
Fahrgestellnummer: TM14296  
Kunde: Lunea Reed  
pede@mifringillami.edu, 0049 32 774 3111-2719  
Produktionsdatum: 11.06.2007  
Letzter Service: 26.09.2012



Filter

Kontext \*

- Typschlüssel von Fahrzeug (MI COOPER S): RH31
- > Hauptgruppe (18)
- > Untergruppe (67)

Weitere Informationen

Fahrzeug Kunde (0) Pakete (220) Techn. Aktionen (0) Reparaturhistorie (0)  
Servicehistorie (0) Gewährleistung (0) Steuergeräte (17) Nachrüstungen (0) Dokumente (1631)

- 00\_00\_251 MINI engine oil service  
MINI engine oil service incl. additional service
- 00\_00\_251 MINI engine oil service  
MINI engine oil service incl. additional service
- 00\_00\_251 MINI engine oil service  
MINI engine oil service incl. additional service
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- 00\_00\_251 MINI engine oil service  
MINI engine oil service incl. additional service

Suche (TM14296) > Fahrzeug (MI COOPER S)

Ausgewähltes Fahrzeug



MINI COOPER S  
Fahrgestellnummer: TM14296  
Kunde: Lunea Reed  
pede@mifringillami.edu, 0049 32 774 3111-2719  
Produktionsdatum: 11.06.2007  
Letzter Service: 26.09.2012



Filter

Weitere Informationen

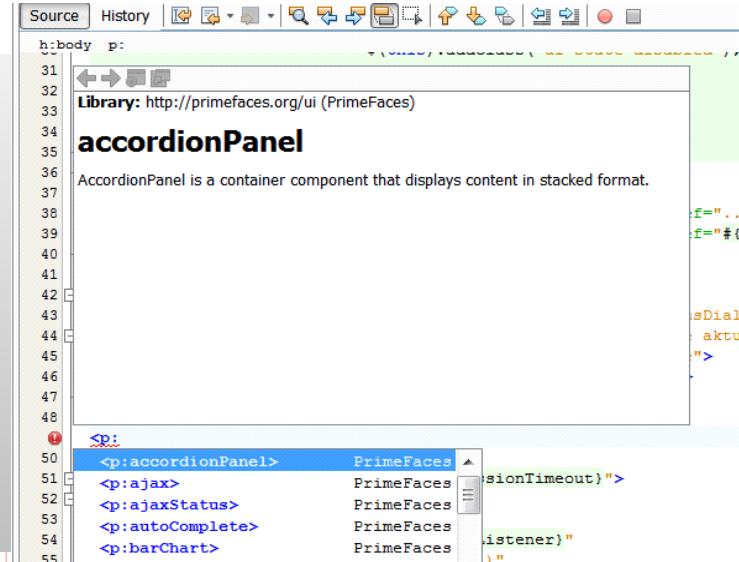
Fahrzeug Kunde (0) Pakete (220) Techn. Aktionen (0) Reparaturhistorie (0)  
Servicehistorie (0) Gewährleistung (0) Steuergeräte (17) Nachrüstungen (0) Dokumente (1631)

Marke	MINI
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IStufe	MECH
Getriebe	MECH
CarManufacturingPlant	
Produktionsdatum	11.06.2007

# Why We Use NetBeans for JSF Development!

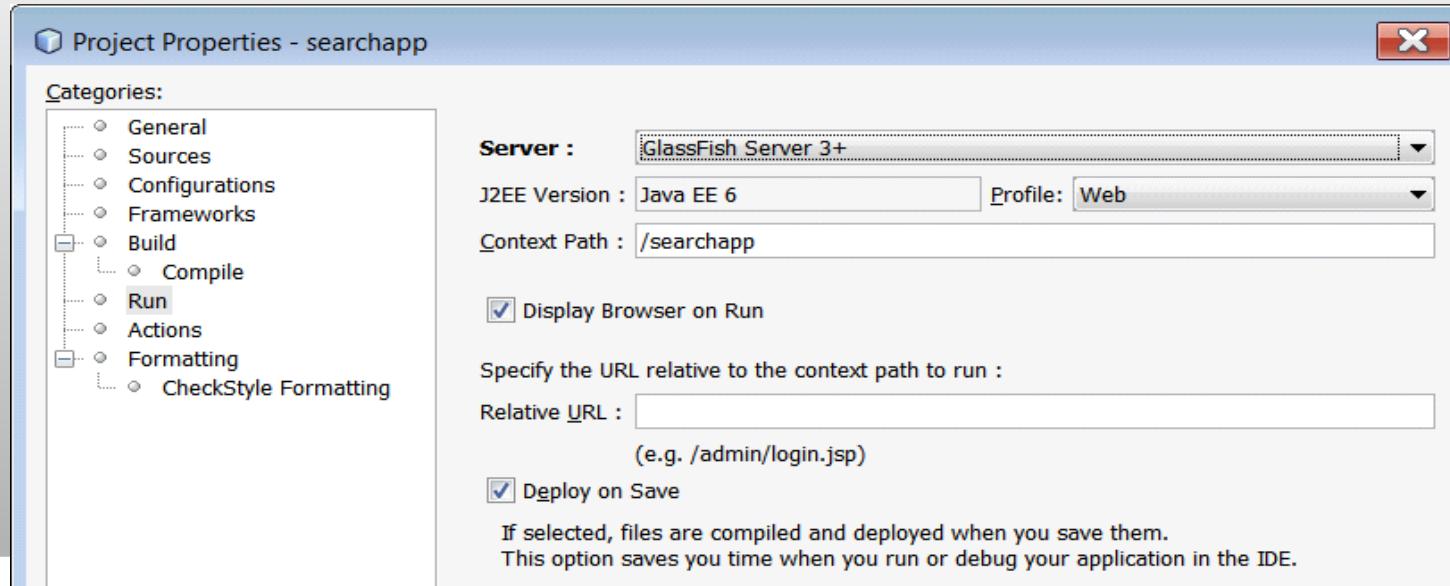
- Code Completion  
and Navigation

```
<p:panel>
  <h:form>
    Find documents:
    <p:inputText size="20" value="#{searchController.query}"></p:inputText>
    <p:commandButton action="#{searchController.doSearch}" value="Search"/>
  </h:form>
</p:panel>
```



# Why We Use NetBeans for JSF Development!

- Deploy on Save

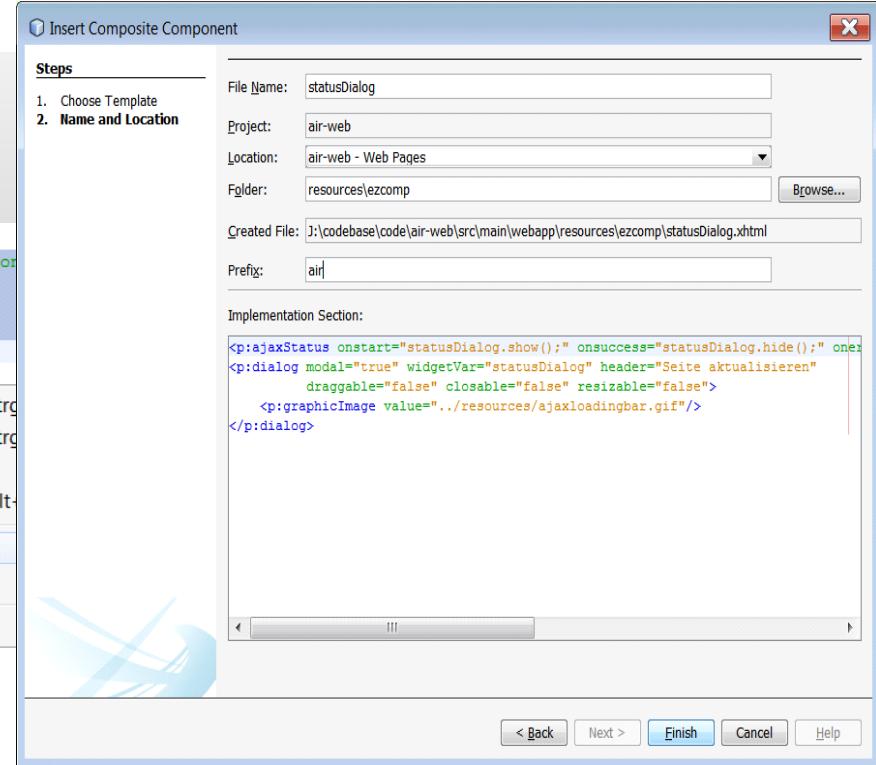


# Why We Use NetBeans for JSF Development!

- Refactor Composite Components

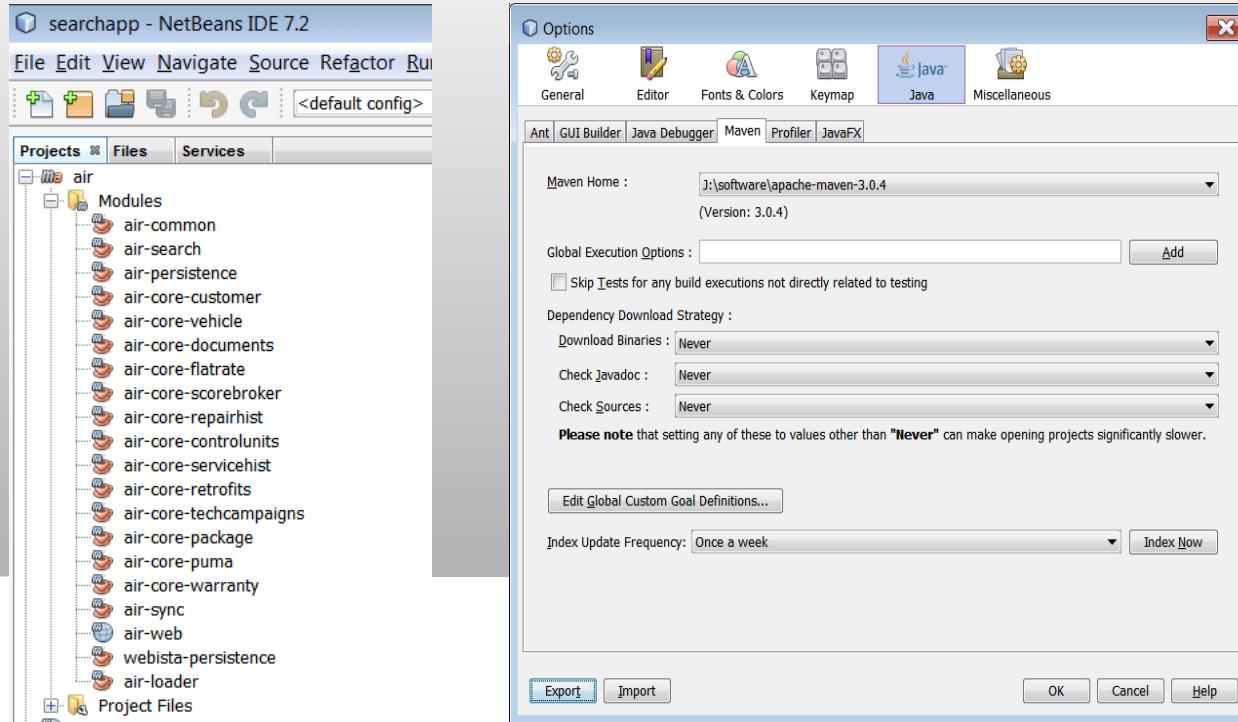
A screenshot of the NetBeans IDE interface. On the left is the code editor showing JavaServer Faces (JSF) XML code. A context menu is open over some XML tags, with the 'Refactor' option highlighted. Other options visible in the menu include 'View', 'Find Usages', 'Format', 'Insert Code...', 'Check XML', 'Validate XML', 'Cut', 'Copy', 'Paste', 'Code Folds', and 'Select in Projects'. The menu also lists keyboard shortcuts for each command.

```
<h:body>
  <p:ajaxStatus onstart="statusDialog.show();" onsuccess="statusDialog.hide();" onerror="statusDialog.hide();">
    <p:dialog modal="true" widgetVar="statusDialog" header="Seite aktualisieren">
      <p:graphicImage value="resources/ajaxloadingbar.gif" />
    </p:dialog>
  </p:ajaxStatus>
</h:body>
```



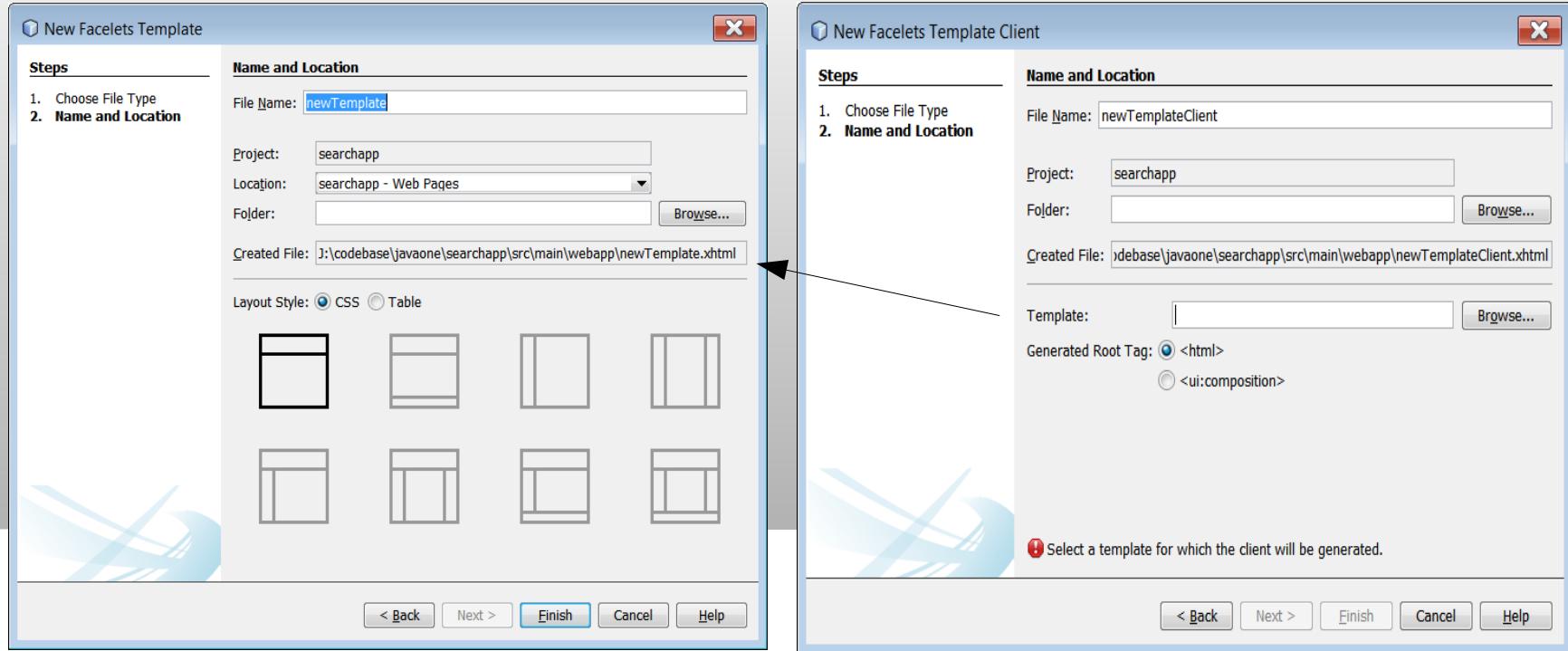
# Why We Use NetBeans for JSF Development!

- Very strong Maven Support



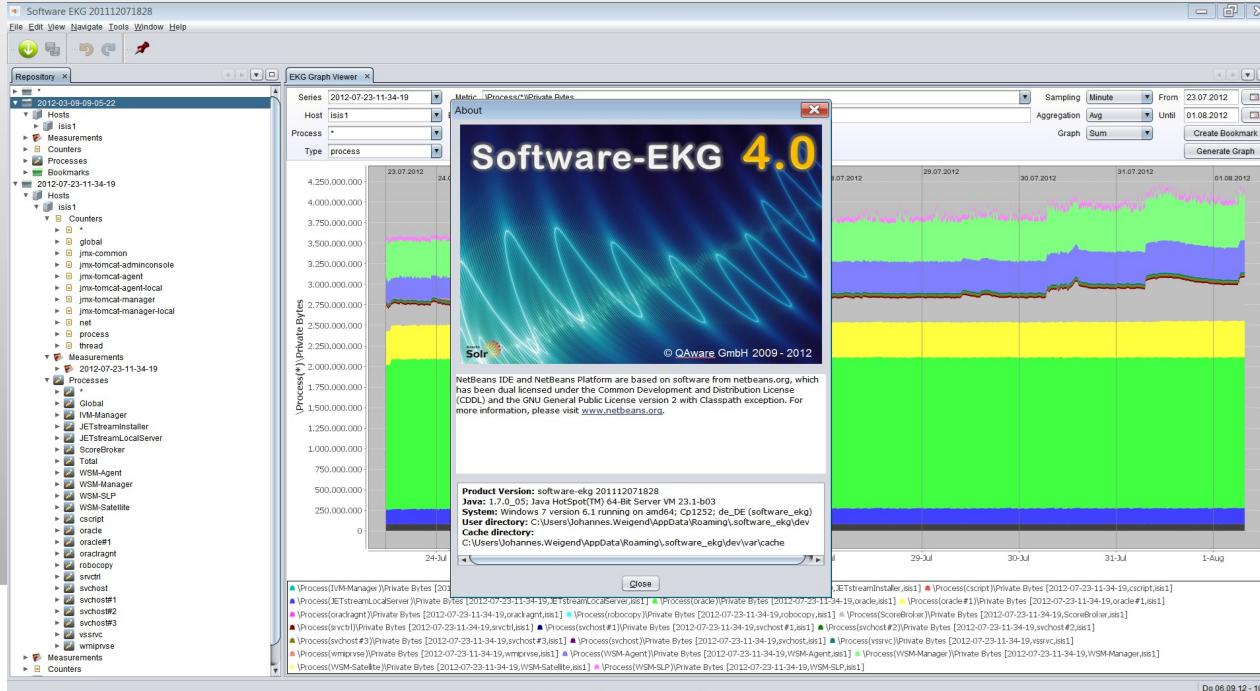
# Why We Use NetBeans for JSF Development!

- Facelet Template Support



# Why We Use NetBeans for JSF Development!

- NetBeans Platform is open for custom plugins



# Why We Use NetBeans for JSF Development!

- More consistent than other open source IDEs
  - Functionality is well tested and works as intended.
  - This is more important than a feature battle.
  - We have been IntelliJ users for years, Eclipse does not work for us, while NetBeans does a perfect job.

# **Speaker: Glenn Holmer**

## **The Challenge: Small Team, Lots of Sites**

- Team Leader at Weyco Group, Inc.
- Linux systems administrator for our web sites
- Java developer since 1997
- Member of NetCAT testing community

# The Challenge: Small Team, Lots of Sites



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MEN'S SHOES BOYS SHOES CLOTHING ACCESSORIES CLEARANCE

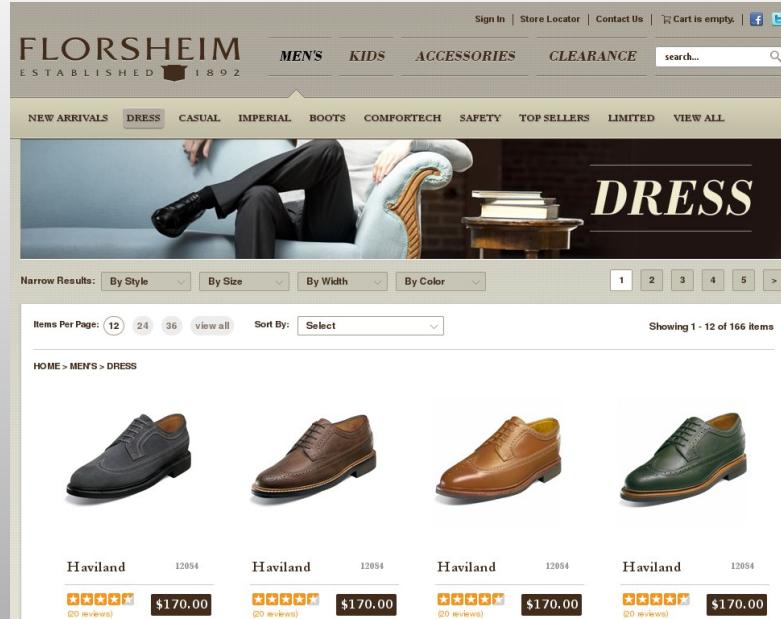


WHO WE ARE ▾ TECHNOLOGY ▾ STORE LOCATOR ▾ BLOG ▾

# JSF 2.0 and Facelets to the Rescue

- templating
- view parameters
- component library recognition
- all made manageable by NetBeans!

# Facelets Templating



styleGrid.xhtml

mainHeader.xhtml  
topCategoryMenu.xhtml  
  
subCategoryMenu.xhtml  
  
search.xhtml, pageMenu.xhtml  
  
"main-content" (ui:insert)

mainGridTemplate.xhtml

# Facelets Templating: enclosing page

## styleGrid.xhtml

```
1<ui:composition ui:define ice:outputText
2    <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
3        "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
4    <!-- styleGrid.xhtml -->
5    <ui:composition template="/mainGridTemplate.xhtml"
6        xmlns:ui="http://java.sun.com/jsf/facelets"
7        xmlns:f="http://java.sun.com/jsf/core"
8        xmlns:h="http://java.sun.com/jsf/html"
9        xmlns:ice="http://www.icesoft.com/icefaces/component">
10    <ui:define name="main-content">
11        <f:view>
12            <f:metadata>
13                <f:viewParam name="topCategoryCode" value="#{categoryAction.topCategoryCode}" />
14                <f:viewParam name="subCategoryCode" value="#{categoryAction.subCategoryCode}" />
15                <f:viewParam name="pageNumber" value="#{categoryAction.pageNumber}" />
16            </f:metadata>
17            <f:event type="preRenderView" listener="#{categoryAction.loadGrid}" />
18            <ui:include src="includes/styleGridLayout.xhtml" />
19        </f:view>
20    </ui:define>
```

# Facelets Templating: main template

## mainGridTemplate.xhtml

```
<h:body>
  <f:view contentType="text/html">
    <ice:form id="mainGrid">
      <div id="wrapper">
        <ui:include src="includes/mainHeader.xhtml"/>
        <ui:include src="includes/subCategoryMenu.xhtml"/>
        <!-- START main area -->
        <ui:insert name="main-content" > main-content (default contents) </ui:insert>
        <ui:include src="includes/mainFooter.xhtml"/>
      </div>
    </ice:form>
  </f:view>
</h:body>
```

# View Parameters

The screenshot shows a web page for men's dress shoes. On the left, there's a sidebar with 'Narrow Results:' dropdowns for 'By Style' (selected), 'By Size', 'By Width', and 'By Color'. Below that are 'Items Per Page:' dropdowns and a breadcrumb trail 'HOME > MEN'S'. The main content area shows a brown leather dress shoe with a wingtip toe. To the left of the shoe is a sidebar with a list of shoe styles: view all, bike toe, boot, cap toe, casual, dress, lace up, moc toe, plain toe, sandal, slip on, and wing tip. The 'dress' option is highlighted with a mouse cursor icon.

customer searches by style

# View Parameters: source

## search.xhtml

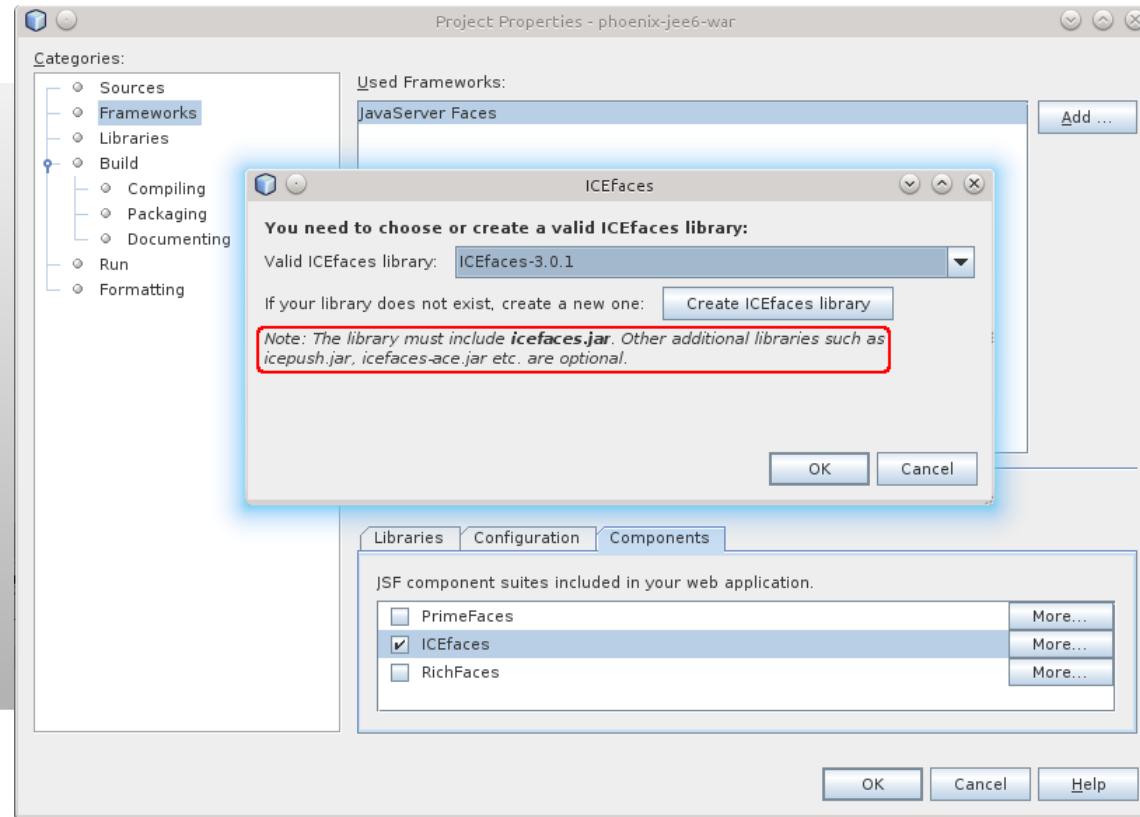
```
<ui:fragment rendered="#{!empty gridView.searchObjects['style']}>
  <div id="filtercolumns" class="offfilter" onmouseover="this.className='onfilter'" onmouseout="this.className='offfilter'" style="float:left; margin-right:10px;">
    <ui:repeat value="#{gridView.searchObjects['style']}" var="topMenuItem">
      <div class="iceMnuBarSearch" id="#{topMenuItem.field}SearchMenu" onmouseout="Ice.Menu.hideOrShow(this, false)" onmouseover="Ice.Menu.show(this, true)" style="float:left; width:150px; border:1px solid #ccc; padding:5px; margin-bottom:5px;">
        <div class="iceMnuBarItem" id="#{topMenuItem.field}SearchMenu:#{topMenuItem.rowIndex}" onmouseover="this.className='onfilter'" onmouseout="this.className='offfilter'">
          <span class="iceMnuBarItemLabelSearch">#{!empty categorySearchAction.params[topMenuItem.field]} : <input type="text" value="#{categorySearchAction.params[topMenuItem.field]}" />
        </div>
        <div class="iceMnuBarSubMenuSearch" id="#{topMenuItem.field}SearchMenu:#{topMenuItem.rowIndex}" style="border-left:1px solid #ccc; padding-left:10px; float:left; width:150px; margin-top:5px;">
          <ui:repeat value="#{topMenuItem.children}" var="subMenuItem">
            <div class="iceMnuItemSearch" id="#{topMenuItem.field}SearchMenu:#{topMenuItem.rowIndex}" style="border-left:1px solid #ccc; padding-left:10px; float:left; width:150px; margin-bottom:5px;">
              <h:button outcome="styleGridSearch" includeViewParams="true" onmouseover="this.className='onfilter'" onmouseout="this.className='offfilter'" style="width:100%; height:100%; border:none; background-color:#fff; font-size:1em; padding:5px; margin-bottom:5px;">
                <f:param name="#{subMenuItem.field}" value="#{subMenuItem.value}" />
                <f:param name="text" value="" />
                <f:param name="pageNumber" value="0" />
                <f:param name="subCategoryCode" value="#{gridView.subCategoryCode}" />
                <f:param name="price" value="#{gridView.searchDisplayPrice}" />
                <f:param name="reset" value="#{empty subMenuItem.value ? subMenuItem.field : ''}" />
              </h:button>
            </div>
          </ui:repeat>
        </div>
      </div>
    </ui:repeat>
```

# View Parameters: target

## styleGridSearch.xhtml

```
<ui:define name="main-content">
  <f:view>
    <f:metadata>
      <f:viewParam name="text" value="#{categorySearchAction.searchText}" />
      <f:viewParam name="style" value="#{categorySearchAction.params['style']}" />
      <f:viewParam name="size" value="#{categorySearchAction.params['size']}" />
      <f:viewParam name="width" value="#{categorySearchAction.params['width']}" />
      <f:viewParam name="color" value="#{categorySearchAction.params['color']}" />
      <f:viewParam name="pageNumber" value="#{categorySearchAction.pageNumber}" />
      <f:viewParam name="subCategoryCode" value="#{categorySearchAction.subCategoryCode}" />
      <f:viewParam name="price" value="#{categorySearchAction.price}" />
      <f:viewParam name="styleName" value="#{categorySearchAction.styleName}" />
      <f:viewParam name="reset" value="#{categorySearchAction.reset}" />
    </f:metadata>
    <f:event type="preRenderView" listener="#{categorySearchAction.loadGrid}" />
    <ui:include src="includes/styleGridLayout.xhtml" />
  </f:view>
</ui:define>
```

# Component Library Recognition



# **Speaker: David Heffelfinger**

## **The Challenge: Build an Application in 3 Weeks**

- Author of **Java EE 6 Development of NetBeans 7**
- CTO of Ensoode Technology, LLC
- MS Software Engineering, Southern Methodist University

# Building an Enterprise Java EE Application in 3 Weeks With NetBeans

- The kickoff meeting
  - Application employed standard Java EE Technologies (JSF 2, EJB 3.1, JPA, CDI)
  - Demo of the initial prototype plus initial architecture was done using NetBeans
  - NetBeans was recommended, but not required

# NetBeans Adoption Within the Team

- Most developers in the team were Eclipse users
- After seeing the demo, **97%** of the development team adopted NetBeans (we had one stubborn IntelliJ Idea user)



# Project Was Delivered on Time

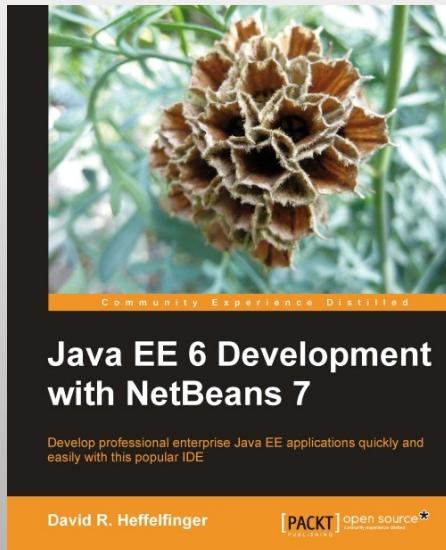
- In an astounding feat, we were able to deliver
  - With a less than experienced team
  - In the three weeks allocated



# NetBeans Features that Made it Possible

- GlassFish integration
- Eclipse keybindings
- Generation of Facelets template clients
- JPA entity generation
- Facade (DAO) generation

## Want to Know More?



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