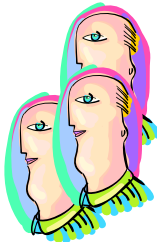# ... and UIX Begat ADF Faces: How Rich is ADF Faces Rich Client?

Peter Koletzke

Technical Director &
Principal Instructor

quovera

From The Golden Age of Hollywood

We didn't need dialogue.
We had faces.

—Norma Desmond,
Sunset Boulevard (1950)

quovera

Survey

- Job responsibilities?
  - DBA, developer
- Frameworks?
  - MyFaces, Trinidad
  - ADF Faces, ADF Faces RC
  - ADF BC
  - Other
- Tools?
  - Eclipse
  - JDeveloper
  - Other

quovera

Agenda

- **Who begat what?**
- How rich?
- Atomic components
- Layout components
- Data visualization components
- Resources

Next
3:15 (this room): **Deploying Using WLS console and JDev**

Slides will be on the NYOUG website. White paper will be in the tech journal

The white paper contains some short hands-on practices.

quovera

In the Beginning Was EBS

- E-Business Suite (Oracle Applications) needed a lightweight client interface
  - Oracle created UIX for this
- User Interface XML (Extensible Markup Language)
  - First supported in JDeveloper 9*i*
    - Became "ADF UIX" in JDeveloper 10*g* *(10.1.2)*
    - UIX support dropped out of JDev 10.1.3
  - Set of *components*
    - Tag language (e.g., af:inputText)
    - Used to build UIs (e.g., for web applications)
  - Concurrent with JSP in the industry
  - Still used in EBS through R12
    - 9*i* version of UIX, not the 10*g* version

And UIX Begat ADF Faces

- Application Development Framework (ADF) came upon the land
  - Formalized first in JDeveloper 10*g*
  - Introduced specific ADF frameworks
    - ADF Business Components (formerly BC4J)
- JSF had become a Java standard
  - Not in the EE editions, but an industry trend
- Oracle converted UIX components to the JSF standards
  - And called it "ADF Faces"
  - And it was good.

And ADF Faces Begat ADF Faces RC

- Oracle released ADF Faces (non-RC) to open source Apache Project
  - Called "Trinidad" (part of MyFaces)
  - myfaces.apache.org/trinidad
- Oracle created ADF Faces Rich Client
  - Introduced in JDeveloper 11*g*
  - Concurrent with introduction of ADF Controller (task flows)
- Oracle used it to build Fusion Applications
  - A *very* heavy investment
- And it was *very* good.

Agenda

- Who begat what?
- How rich?
- Atomic components
- Layout components
- Data visualization components
- Resources

Rich == Highly-Interactive

- Components built for interactivity
  - For example, table grid component
    - Resize columns with drag and drop
    - Reorder columns with drag and drop
    - No page refresh wait when scrolling through rows
- Support for pop-ups and dialogs
- Client-side validation
  - Property driven
  - For example, formats, ranges, and required
  - Error messages appear next to the component with a problem value

---

Deep Dive Into af:table

First/Given Name	Last Name	JobTitle	Contact Information		Department Name
			Email Address	Phone No.	
Ellen	Abels	Sales Manager	EABEL	011.44.1644.429267	Sales
Mozhe	Atkinson	Stock Clerk	MATKINSO	650.124.6234	Shipping
David	Austin	Programmer	DAUSTIN	590.423.4569	IT
Elizabeth	Bates	Sales Representative	EBATES	011.44.1343.529268	Sales
David	Bernstein	Sales Representative	DBERNSTE	011.44.1344.345268	Sales
Laura	Bissot	Stock Clerk	LBISSOT	650.124.5234	Shipping
Karen	Colmenares	Purchasing Clerk	KCOLMENA	515.127.4566	Purchasing
Curtis	Davies	Stock Clerk	CDAVIES	650.121.2994	Shipping
Bruce	Ernst	Programmer	BERNST	590.423.4568	IT
Timothy	Gates	Shipping Clerk	TGATES	650.505.3876	Shipping
Michael	Hartstein	Marketing Manager	MHARTSTE	515.123.5555	Marketing
Shelley	Higgins	Accounting Manager	SHIGGINS	515.123.8080	Accounting
Charles	Johnson	Sales Representative	CJOHNSON	011.44.1644.429262	Sales
Vance	Jones	Shipping Clerk	VJONES	650.501.4876	Shipping
Jack	Livingston	Sales Representative	JLIVINGS	011.44.1644.429264	Sales
Mattea	Marvins	Sales Representative	MMARVINS	011.44.1346.329268	Sales
Randall	Matos	Stock Clerk	RMATOS	650.121.2874	Shipping

- Column grouping
- Row highlighting
- Column moving
- Export to Excel
- Detach option
- Column sorting & filtering

Demo

Rich == Flexible

- Fully declarative AJAX support
- Built on top of JSF APIs
  - Deployable on any 1.2 implementation of JSF
- Configurable skins
  - CSS development work
  - A single property applies the skin to all components in the application
- Large range of UI items
  - 150+ components (and counting)
- Internationalization and accessibility

It's the richest kind.

Rich == Easy To Use

- Property-driven components that save development effort
- Layout components to arrange other components
- Data Visualization Tools (DVT) components
  - Lots of functionality with little effort
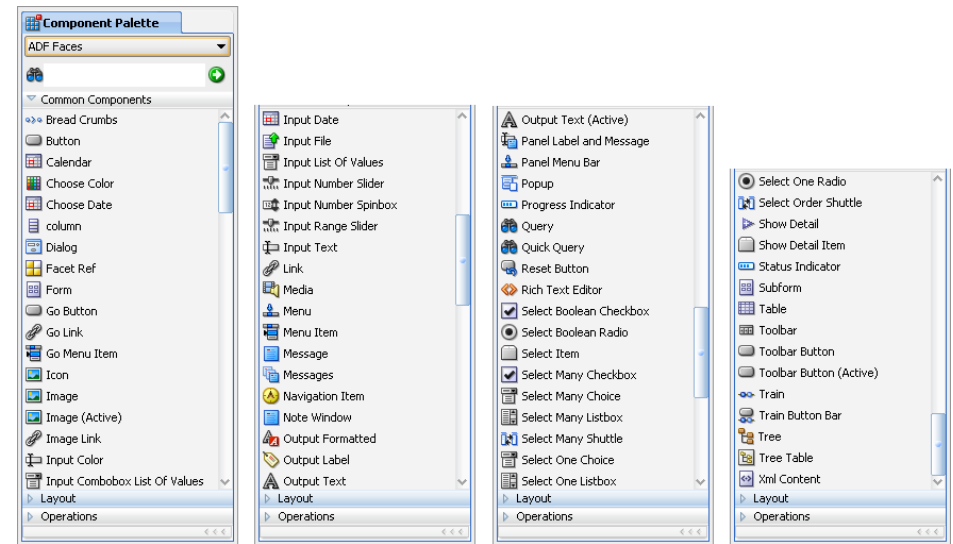 - Chart, Gantt, Pivot Table, Map, Hierarchy Viewer, Gauge

Really rich!

Agenda

- Who begat what?
- How rich?
- **Atomic components**
- Layout components
- Data visualization components
- Resources

Atomic Components

- Most are on the Common Components page of the Component Palette

---

Some Atomic Components

af:inputText
af:commandButton
af:commandImageLink
af:inputListOfValues
af:menuItem
af:selectOneChoice
af:inputDate
af:selectBooleanCheckbox

---

af:selectManyShuttle

- Single component for multiple-selection list
  - Checkmark selection or
  - Double click or
  - Select and click arrow buttons

> af prefix identifies the ADF Faces RC library

Some Rich Features

- Atomic components are the main user interface items
- Features:
  - Converters; e.g., number format

  ConvertNumber sub-component

  Pattern = "###,###.##"

Label 1	jdeveloper	Example format: ###,###.##
Label 2		

  Test

  - Validators; some are built in, e.g., required
    - Messages appear next to items

* af:inputText	
af:outputText	
af:inputDate	
af:selectOneChoice	

  ❌ Error: A value is required.
  You must enter a value for * af:inputText.

  - AJAX
  - Drag and drop

  Required = true

  RequiredMessageDetail = "You must enter a value for {0}."

Using AJAX in ADF Faces RC

- **A**synchronous **J**avaScript **a**nd **X**ML
- Partial Page Rendering (PPR) in ADF Faces
  - "Declarative AJAX"
- Much AJAX in ADF Faces is transparent
  - Built into the components
  - Nothing special needs to be done

AJAX provides a cleaner user interface!

- You can setup non-default AJAX behavior using properties
  - *partialSubmit* – used by command items
  - *autoSubmit* – used by input items/lists, etc.
  - *partialTriggers* – all components, sets up the "viewer" (listener)

AJAX Interactions – Total Pay

Recalculate

PPR Demo - Mozilla Firefox

PPR Demo

Salary 400   Total Pay 500

Raise 100

Done

Id	raise
Value	#{bindings.raise.inputValue}
AutoSubmit	true

Id	totalPay
Value	#{bindings.salary.inputValue + bindings.raise.inputValue}
AutoSubmit	false
partialTriggers	salary raise

Id	salary
Value	#{bindings.salary.inputValue}
AutoSubmit	true

2895 3rd Street, SF

Drag and Drop

Drag Source 2000

Submit

Attribute sub-component; Name = ""dragSourceValue"

Attribute Drag Source sub-component; Attribute = ""dragSourceValue"

Drop Target Drag Source 2000

Attribute Drop Target sub-component; Attribute = "value"

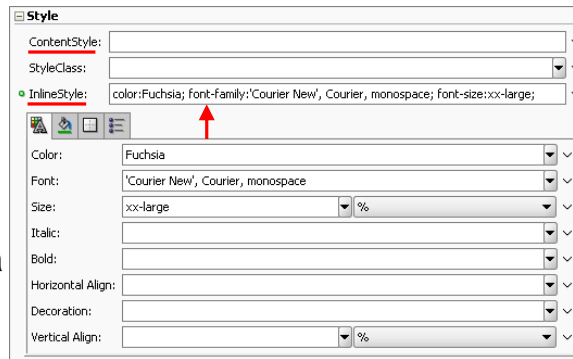- The value from Drag Source will be copied into Drag Target

Modifying the Visual Aspects

- Skins
  - First and foremost – get this right

  Demo

- Properties - secondary
  - *ContentStyle*
    - For data inside the component (foreground)
  - *InlineStyle*
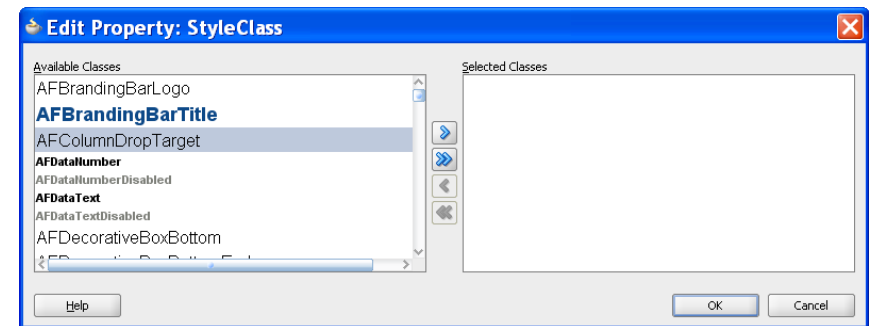   - Set from tab area below it
    - Or just type it in

Another Visual Aspects Property

- *StyleClass*
  - Equivalent to the HTML *class* property
  - Apply existing style sheet selectors
  - Can apply more than one to a component

Agenda

- Who begat what?
- How rich?
- Atomic components
- Layout components
- Data visualization components
- Resources

Container Components

- Most are on the Layout page of the Component Palette
  - Use them to hold other components
- af:panelHeaderLayout
  - Region title
  - Stack components under it

- af:panelGroupLayout
  - Lay out components in a row or in a column

  horizontal

  vertical
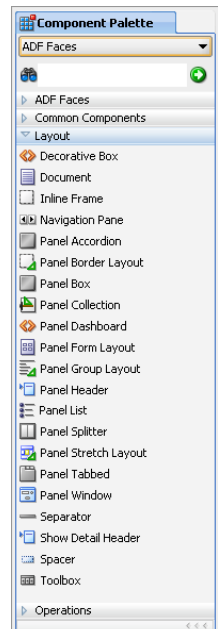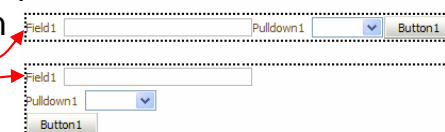
Some Rich Features

- Allow for sophisticated layouts
  - Nest layout components within layout components
  - Virtually limitless possibilities
- *Facets* (sub-components) provide special functionality
  - For example, relative placement of components – regardless of resolution or window size
  - **<f:facet>** component
- Use af:spacer to fine tune placement
- Hide or display the contents using the layout component properties
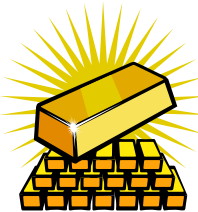
More Layout Components

- af:panelBorderLayout
  - Predefined layout areas
  - Uses *facets* to hold the contents of each area
    - Start, end, top, bottom (and more)

- Center area stretches its contents to fill the area
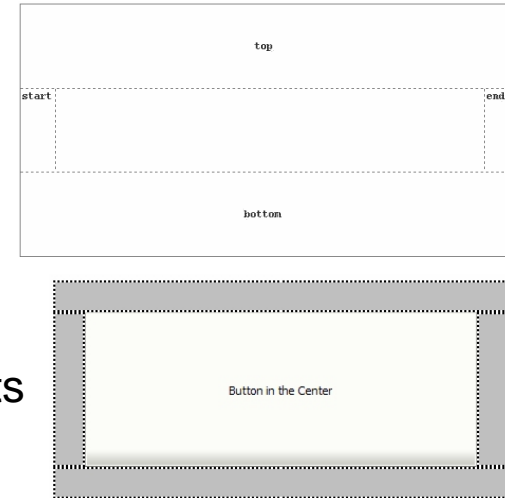
Super-Rich Layout Components

- af:panelSplitter
  - Split pane control
  - Optional: user can move the drag bar
    - Horizontal or
    - Vertical
- af:calendar
  - MS Outlook style
- af:carousel
  - Good for visual browsing
- af:panelAccordian
  - Also found in MS Outlook
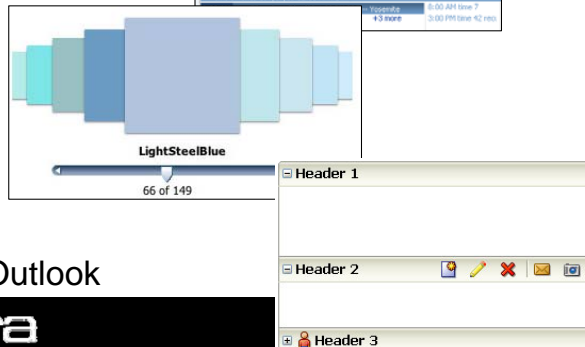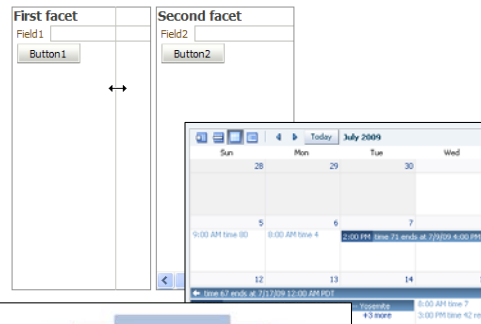
Layout Tip

- Design This Container option in the pulldown menu for the layout component

Demo

- Allows you to resize container elements visually
  - This action changes the property values
- Another tip: Assign color to the borders so you can see the containers

PanelFormLayout

- Lay out fields in rows and columns
  - Perfect for most input forms
- Right justifies prompts
- Left justifies fields
- Tab order is down the first column, then across to the second column
  - Not necessarily intuitive; workaround:
    - Multiple PFLs in a single vertical PGL
   - Set *fieldWidth* and *labelWidth* of the PFLs

Details in the white paper

Achieving the Perfect Layout

- Know your container components
  - Facets are powerful things
- More
  - af:popup
    - Drop in an af:dialog or af:window
    - Drop af:showPopupBehavior into an action item (button or menu choice)
  - af:panelStretchLayout
    - Expands contained components to fill width
    - Use if another container cuts a component
  - af:menuBar
    - Panel Menu Bar
    - Creates menu area, drop in af:menu then af:menuItem
  - af:panelLabelAndMessage
    - Provides a prompt for a group of objects
    - FirstName and LastName fields with a prompt of "Name"
    - Use inside af:panelFormLayout
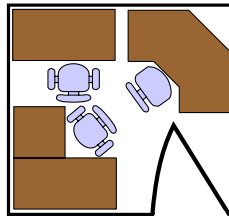
More Perfect Layout Tips

- Design page fragments, not separate pages
- Use Quick Start Layouts when creating the page or template

Find by category.

Provides prebuilt functionality indicated by symbols and description.
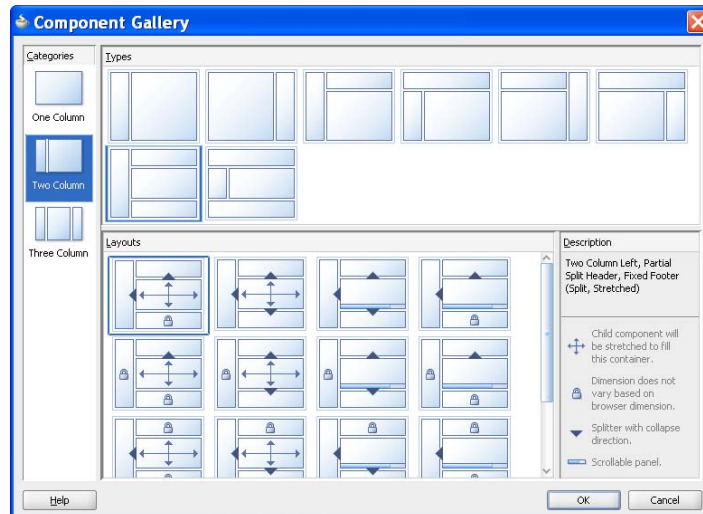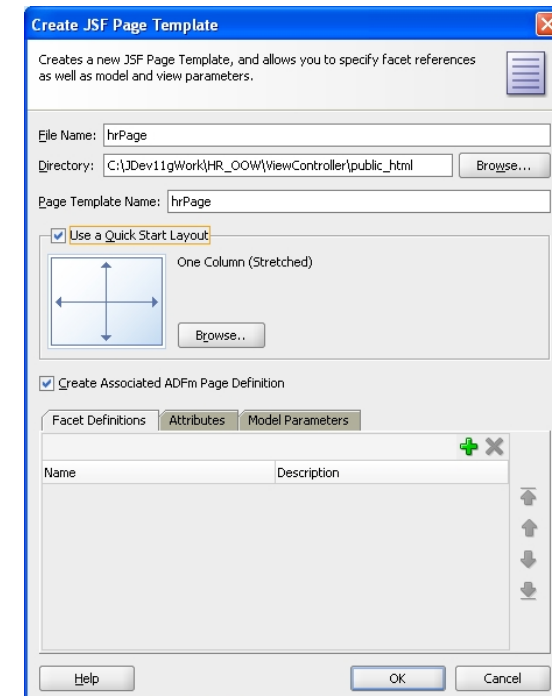
Create Templates

- New gallery item for JSF page template
- Define facets
  - Your own layout areas
- Add attributes
  - Can transfer data from page to template
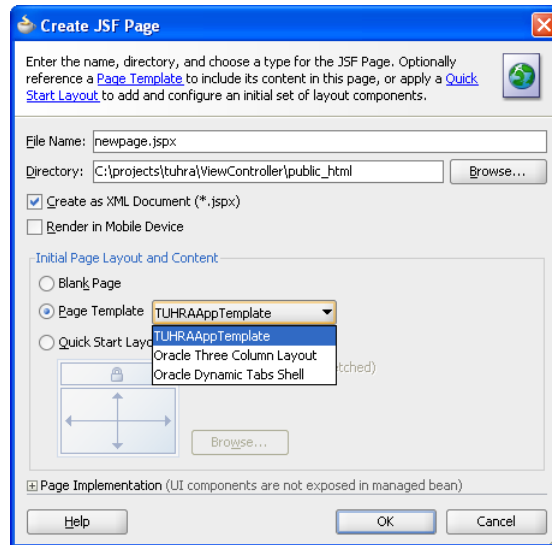- Add container components

Using the Template

- Application's templates appear in the JSF Page dialog
  - *Use Page Template* pulldown
- The layout elements are referenced from the template

Tip: Drop Into the Structure Window

- Drop on top of container into which you want the component to appear
- Much more accurate
- Other options
  - Click the component after selecting the Structure window node
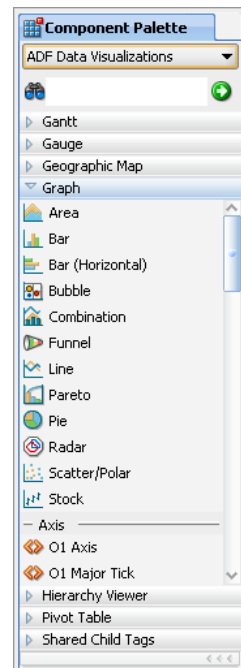 - Use the bread crumbs in the editor
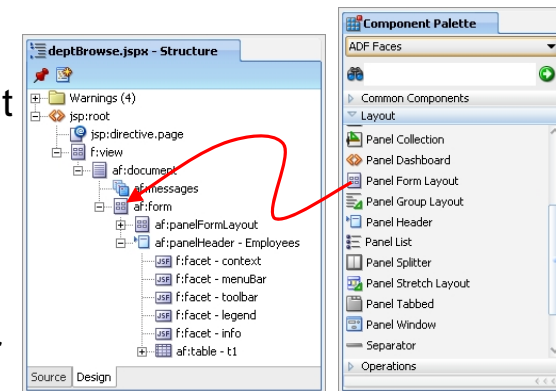
Agenda

- Who begat what?
- How rich?
- Atomic components
- Layout components
- Data visualization components
- Resources

DVT Components

- Data Visualization Tools are on the ADF Data Visualizations page
- Each type has its own panel with components
  - Gantt
  - Gauge
  - Map
  - Graph
  - Hierarchy Viewer
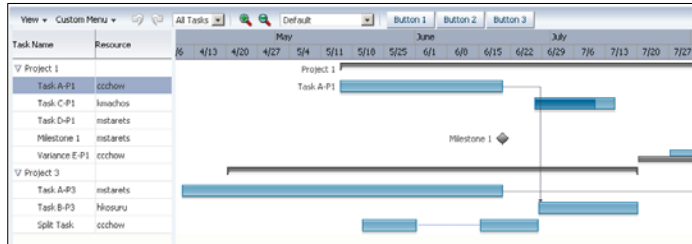 - Pivot Table

Some DVT Components

Department Salaries
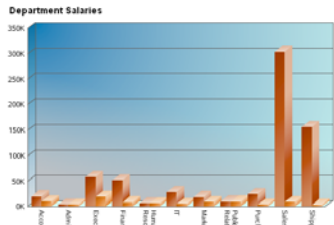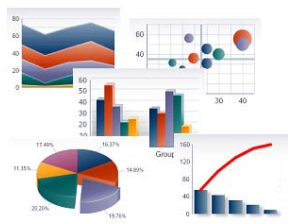
dvt:graph

More graphs

dvt:map

dvt:projectGantt

Units in Stock
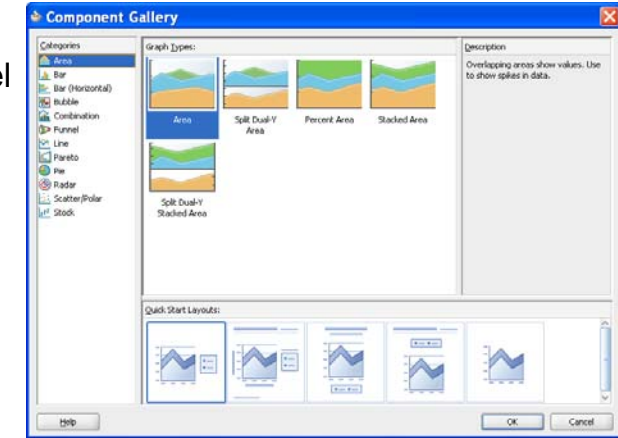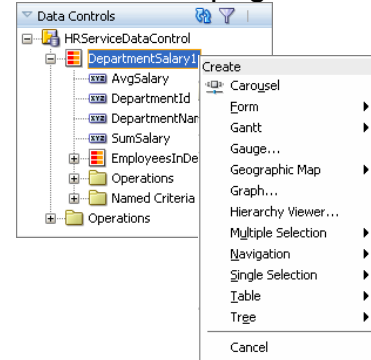
dvt:gauge

Some Rich Features

- Rich by nature
- Connect to data
  - Drop from the Data Control panel to the page
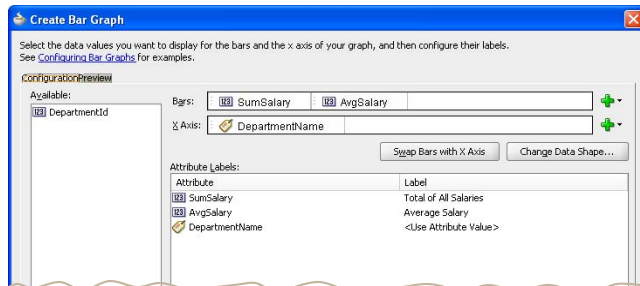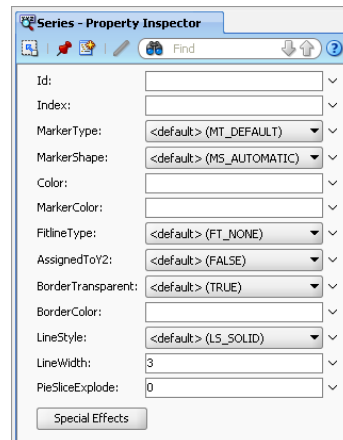- Select from a multitude of styles

---

More Rich Features

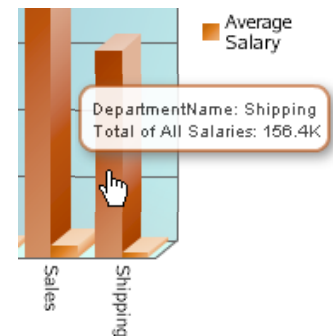- Specify data usage

- Control visual aspects using properties

Other Rich Features

- Drill down capability can be mostly declarative
- Some elements of the DVT components are mouse-aware
  - For example, mouse over in the bar graph
  - Displays details about the data point

Average Salary

DepartmentName: Shipping
Total of All Salaries: 156.4K

Details in the white paper

Agenda

- Who begat what?
- How rich?
- Atomic components
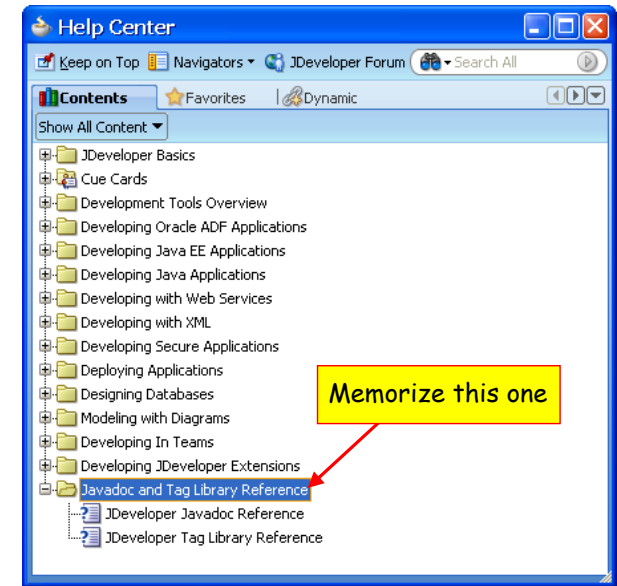- Layout components
- Data visualization components
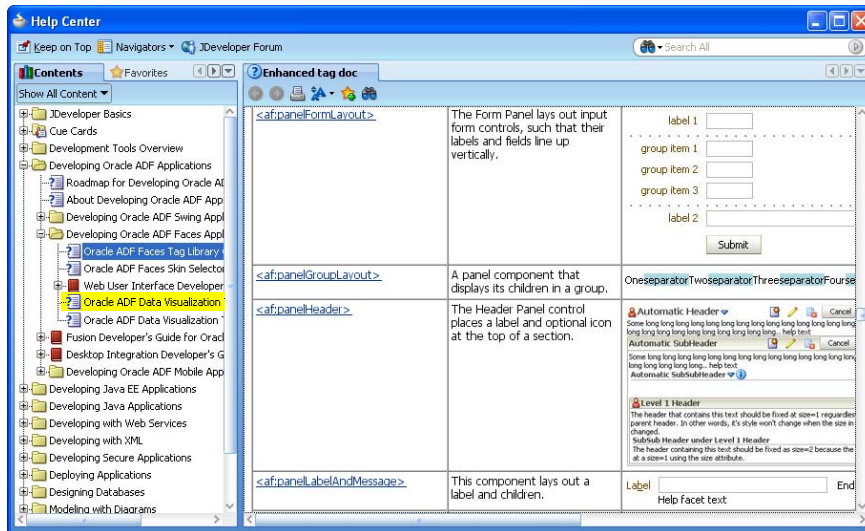- Resources

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JDeveloper Help Center

- **Help | Table of Contents**
- Search engine
- Link to JDev forum
- Favorites tab
- Dynamic tab
  - Context-sensitive list based on the task at hand
- Opening a topic opens another tab


Memorize this one

Visual Component Guide

- JDev Help Center (help system)
  - Search for "enhanced tag doc"; also one for DVT


Other Resources

- www.oracle.com/technology/products/adf/adffaces
  - *The Web UI Developer's Guide for Oracle ADF*
  - Cheat Sheets
- ADF EMG – enterprise methodology group
- AMIS blog –ADF Faces white papers
- rea.oracle.com
  - Explore Now | Sandbox | Rich Client
- *Quick Start Guide*
  - Grant Ronald
- *Oracle Fusion Developer Guide*
  - Nimphius and Munsinger
- *Oracle JDeveloper 11g Handbook*
  - Mills and Yours Truly
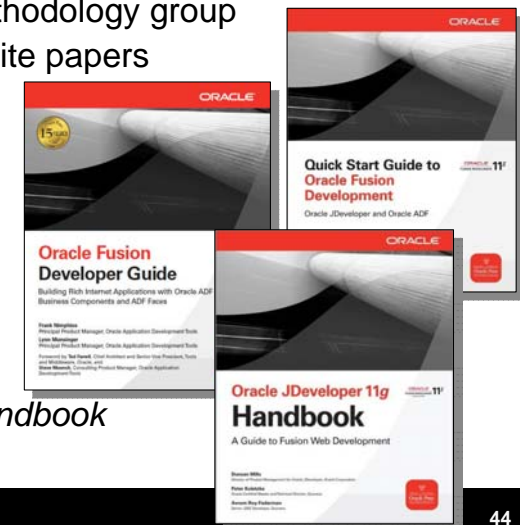
http://rea.oracle.com
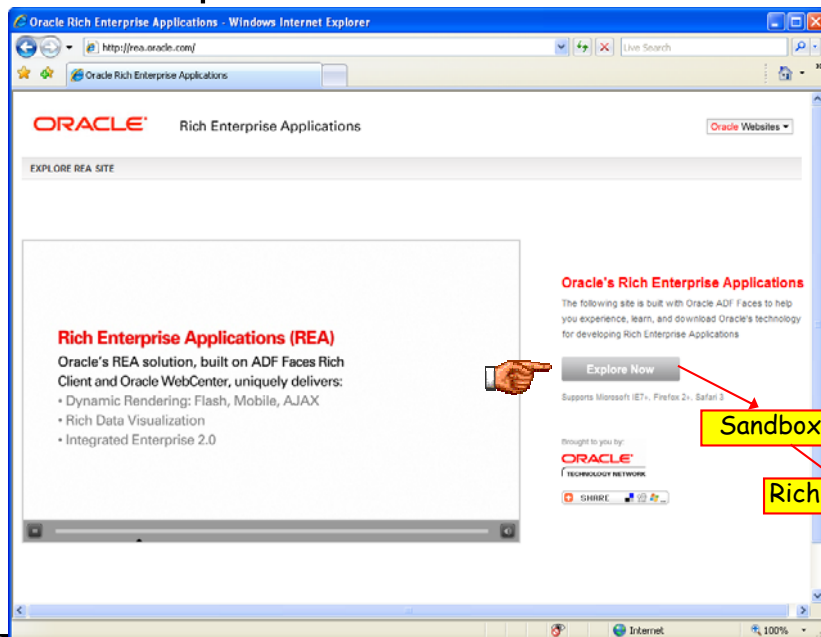
Economics 101

> The rich are different from you and me.
>
> They have more money.
>
> —F. Scott Fitzgerald (1896–1940), author, and Mary McGuire Colum (1884–1957), critic

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Summary

- UIX begat ADF Faces…
  - ADF Faces RC has a long heritage
- ADF Faces RC is pretty rich
  - High-interactivity, AJAX, skins, popups, dialogs, DVT, drag-and-drop
- Atomic components are mostly for interaction with users
- Layout Components provide sophisticated arrangement of components
- DVTs supply the functionality users often ask for
- There are many resources for help with learning and using ADF Faces
- And it is good.

Where is Rich anyway?

Nixon?

Which Rich?

We've only got room for 4.
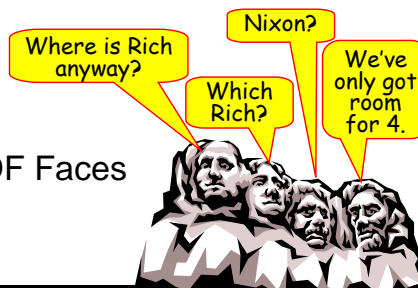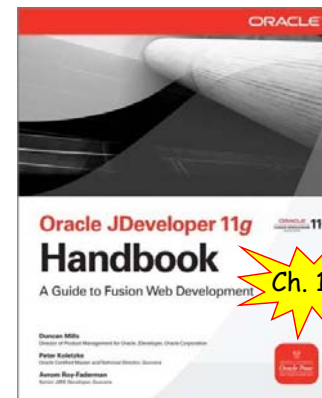
- **Books co-authored with Dr. Paul Dorsey, Avrom Roy-Faderman, & Duncan Mills**

http://www.quovera.com

- **Founded in 1995 as Millennia Vision Corp.**
- **Profitable without outside funding**
- **Consultants each have 10+ years industry experience**
- **Strong High-Tech industry background**
- **200+ clients/300+ projects**
- **JDeveloper Partner**
- **More technical white papers and presentations on the web site**