



WebFacing and HATS overview

Jim Mason

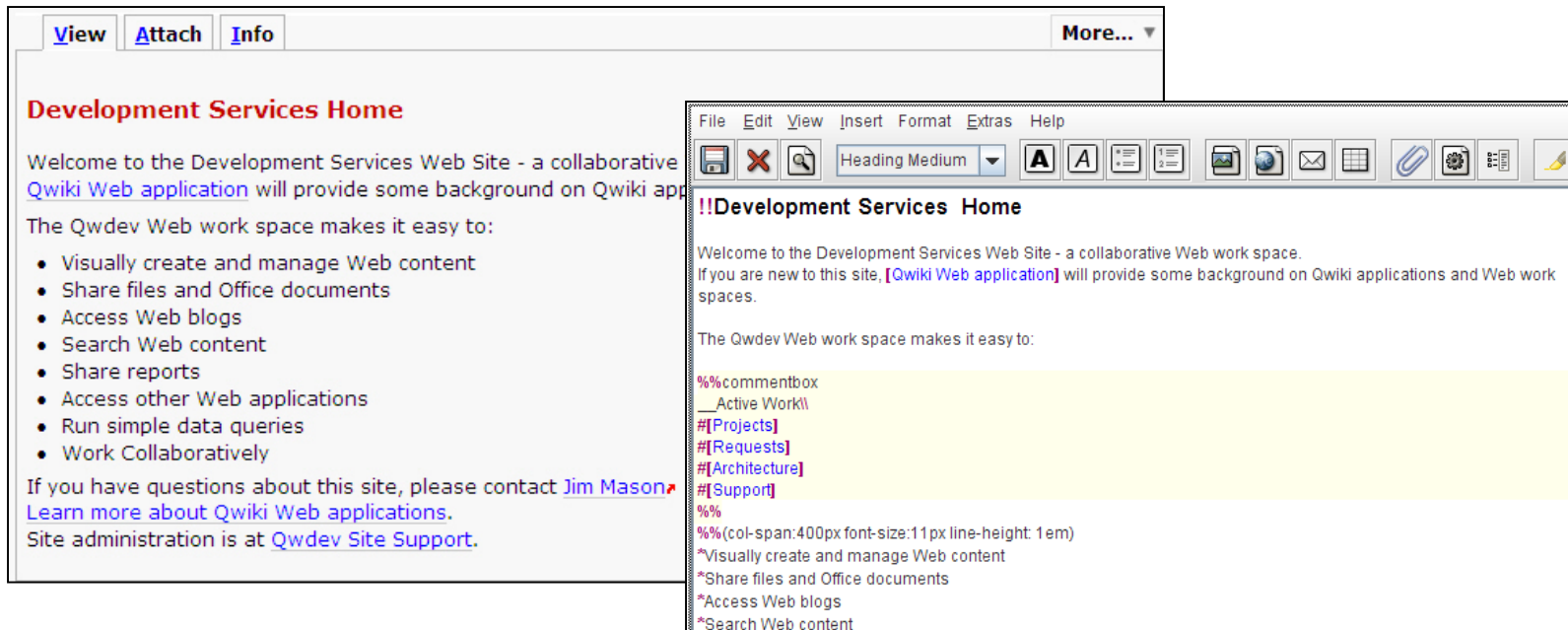
jemason@ebt-now.com

www.quickwebplace.com

*Create your own Web solutions without programming
engineer, build, deploy, support, train*

quickwebplace.com .. Your custom Web place

- Create your custom Web solution without programming!
 - ▶ Work space – visual Web sites, collaboration, content
 - *Coming soon ..*
 - ▶ Sales space – custom Web stores with integrated inventory, sales
 - ▶ Data space – custom Web data tables, forms, reports, integration
 - ▶ Team space – custom Web meetings, white boards, recordings



Agenda

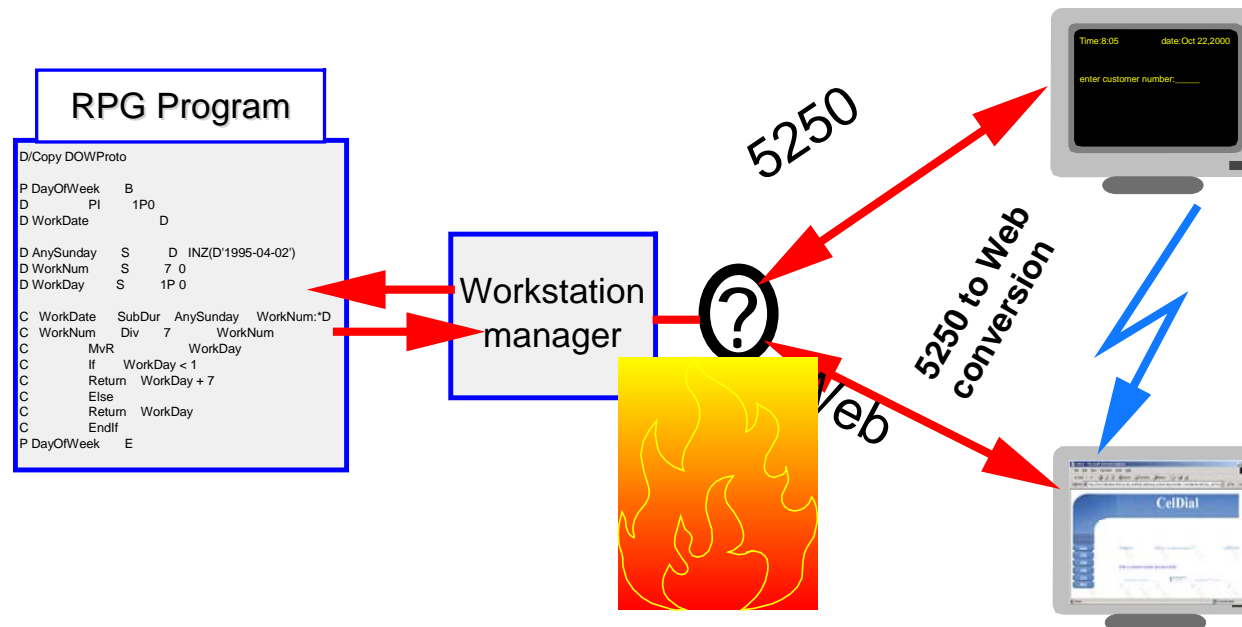
- WebFacing customization concepts
- Customizing WebFacing applications
- Extending WebFacing applications
- Integrating WebFacing applications
- WebFacing security concepts for iSeries
- Authentication options
- Authorization options
- Single signon concepts

WebFacing concepts

- **WebFacing tool converts 5250 DDS to Java Web app**
 - ♦ WebFacing tool in IBM WDSC: program 5722-WDS
 - ♦ Java Web app can be customized with IBM WDSC tools
 - ♦ WDSC v6 is built on Rational platform
(rebranding of WebSphere Studio toolset)
- **WebFacing app runs on 2 servers**
 - ♦ Generated Java Web app runs in a Java Web app server
WebSphere, WebSphere Express, Tomcat, Gluecode, more
 - ♦ Java Web code can run on iSeries OR another server
 - ▶ OS/400, Windows, Linux, AIX
 - ♦ Java Web app connects to 5250 app using WebFacing server
 - ▶ WebFacing server runs on OS/400
 - ♦ Data sent between 5250 app and Java Web app at runtime

WebFacing different than Screen scrape tools

- Screen data sent thru data buffers to the generated Java web app running on a web application server
- user gets 5250 screens as web pages
- Screen scrape tools dynamically translate 5250 data stream



WDSC WebFacing tool converts DDS source

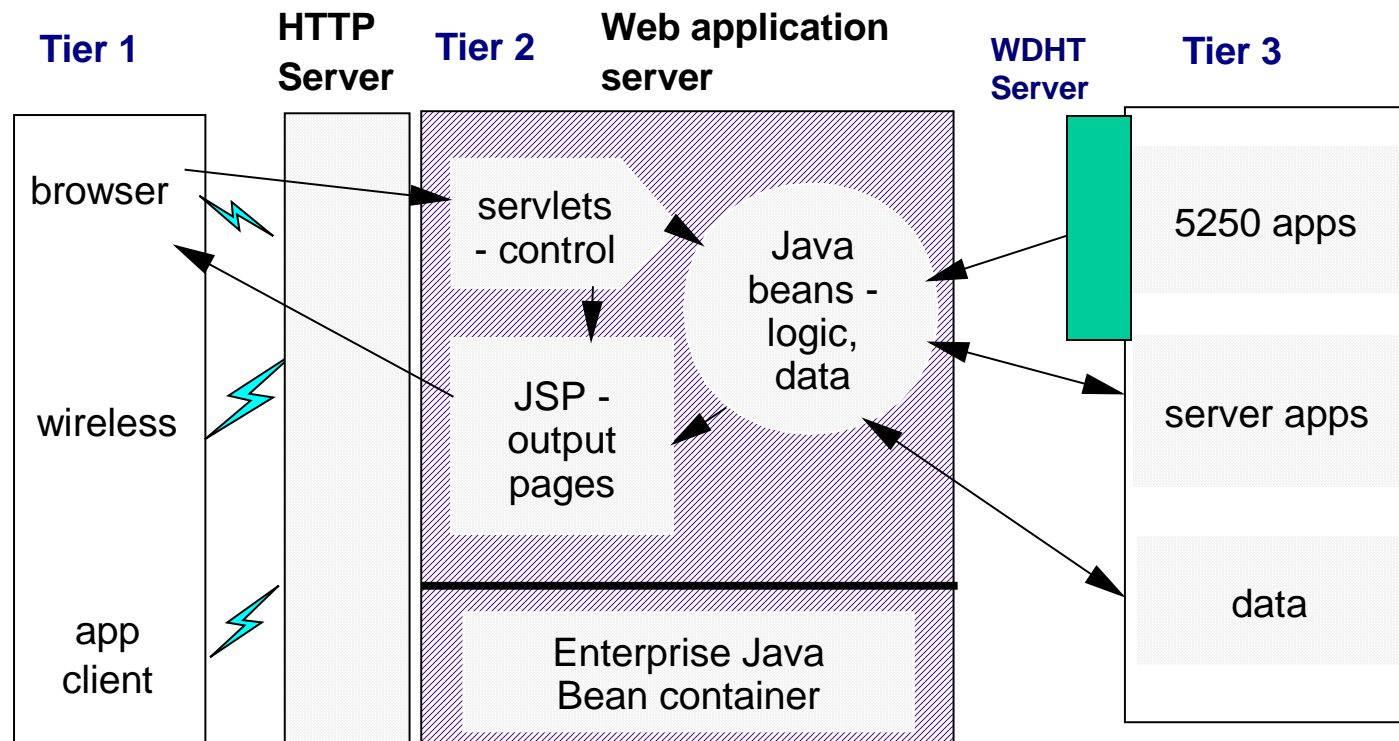
- ♦ Converts DDS, UIM help to JSPs:
- ♦ Select DDS and UIM help members to convert
- ♦ Creates one Java server page and 3 XML beans per format
- ♦ XML Bean holds data, view, feedback for record format
- ♦ JSP displays output and prompts for input
- ♦ Choose an app style for look-and-feels
- ♦ Creates an "invocation page" per conversion: (index.html)
 - ▶ has one or more invocation links to call CL programs (usually)
 - ▶ Each invocation link run by a user creates a new 5250 job
- ♦ Customize results by:
 - ▶ Using web settings in DDS source with CODE Designer for permanent changes
 - ▶ Customizing JSPs in Page Designer for temporary changes

WebFacing app deployment process

- WDSC packages WebFacing Java code in a .war file (Web App Archive) or .ear file (Enterprise App Archive)
- Copy .war or .ear file to Web app server
- Load application on Web app server
- Can package WebFacing apps similar to 5250: use an archive file for each app (AR, AP, GL)
- If one app calls another (AR to GL model)
JSP 1 calls JSP 2 by URL with app context name
add the war files on the same classpath (library list)

WebFacing app deployed to J2EE application server

- Request Flow: browser > http server > any web app server > WDHT server > 5250 host pgm
- Response: 5250 pgm > JSP > http server > browser
- WebFacing WDHT server part of OS/400



WebFacing workflow

- User enters URL for a WebFacing invocation (CL pgm)
- WFLogon.jsp prompts userid, password IF not hard-coded
- WFController processes request to start host 5250 program
- Host pgm sends out data buffers for multiple formats at once
 - WebFacing server routes data buffers to WF app in WebSphere
 - WF app merges formats into single HTML page (like 5250)
 - '5250' page embedded in browser page with header and cmd key pages by PageBuilder.jsp
 - Page sent to client browser
- User enters data, submits page
 - Page has Javascript to do DDS edits on data fields locally
 - Page sent as request back to WFController for processing again
 - Page data mapped to data buffers by WF app
 - WebFacing server sends data back to host pgm

Works with other 5250 Web-enabling options

- IBM
 - ♦ HATS: Host Access Transformation Services
dynamic 5250 screen translation to browser interface
must buy a HATS server license
 - ♦ iSeries Access for the Web and HATS LE
must buy licenses, dynamic 5250, little customization
 - ♦ Host on Demand
similar to HATS with better print support – only \$300 per user
 - ♦ Secure Telnet – built in and free on iSeries, dynamic 5250
- 3rd parties
 - ♦ Jacada, JWalk, more
- WebFacing can work with other 5250 options if needed

HATS customization kit in WDSC 6

- **HATS (Host Access Transformation Services) toolkit**
 - Dynamic 5250 translation to Web pages at runtime (WebFacing is development time translation)
 - Supports some customizations WebFacing doesn't (merging 2 5250 screens to 1 Web page or vice versa)
 - WebFacing offers more customization than HATS
 - Expensive for runtime use (server and client licenses required)
 - Part of an application can use HATS and part WebFacing
 - Dynamic translation of system screens already done in WebFacing so HATS not needed for this
 - Will WebFacing provide dynamic support in the future?

WebFacing, version 5.1.2

- **WebFacing Standard edition adds:**
 - ♦ New Web Site Designer page styles added
 - ♦ Invite and DSPATR keyword support added
 - ♦ Better performance
 - ♦ Server mode runtime support
- **WebFacing Advanced edition adds:**
 - ♦ System screens now run in batch mode too!!
HUGE IMPACT on savings for your next iSeries!!
 - ♦ Can create Struts portlet versions of WebFacing apps
 - ♦ Single sign-on support using EIM (purchased separately)
 - ♦ Can create Struts WebFacing app for easy extensions
 - ♦ User-definable command keys for URLs
 - ♦ View and print iSeries spool files

WebFacing, version 6

- **WebFacing Standard edition adds:**
 - ♦ More Web settings to customize WebFacing application
 - ♦ Better performance
 - ♦ Web settings managed in WebFacing perspective
 - not CODE Designer anymore!
- **WebFacing Advanced edition adds:**
 - ♦ Coming in fix pack later
 - ♦ CSS-P-Style sheet positioning
 - move 5250 fields anywhere on the Web page by pixel position
- **2 WebFacing servers: standard and WDHT**
 - ♦ Standard is free, can run most system screens & 5250
 - ♦ WDHT: Combines WebFacing and HATS for dynamic 5250 translation on-demand – licensed by concurrent user
 - ♦ Both run in server CPW

HATS 5250 toolkit free with RDI, v7 includes WebFacing

- IBM again repackages WebFacing, HATS tools
- WDHT is the server license required for WebFacing, HATS
 - By default, you can run 2 free users in WDHT without a license
- HATS is the default model for screen translation
- WebFacing an option to generate custom Web pages
 - WebFacing allows full Java customization
- HATS supports WML for wireless devices
- Optionally, you can create JSR 168 compliant portlets
- WebFacing bridge allows control transfer to other Web apps
 - Integrates WebFacing, HATS, other Web apps to 1 Web app
- Visual Macro Editor- create custom macros

Customization example – order inquiry

- Our sample order inquiry 5250 app comes from a customer WebFacing project
- Our process for Advanced WebFacing:
 - ♦ DDS review and analysis
 - ♦ WebFacing conversion
 - ♦ Test basic WebFacing application
- Define Advanced features needed:
 - ♦ Build a custom application style to integrate with web site
 - ♦ Add DDS web settings for standard customizations
 - ♦ Customize host workflow for web users
 - ♦ Add custom WebFacing extensions
 - ♦ Use WebFacing report service

Sample 5250 screen

- 5250 screen

```
3/06/03 22:57:56      CUSTOMER ORDER INQUIRY      D.P.# OE5460

Account #: 02      -- OR -- Season: ____
                    -- OR --
Order #: _____ Form #: _____
                    (Optional)
                    -- OR --
Salesman #: _____

Display Of Held Orders: _
= Held Orders Only
N = All EXCEPT Held Orders
blank = All Orders

CMD 1-Return      CMD 5-Acct Info.      CMD 6-Order Info.      CMD 7-Invt. Info.
```


Basic WebFacing screen

- This screen was WebFaced without customization quickly
- Corporate application style selected

IBM
WebFacing

Paramount Order Inquiry (dcs - basic)

09/10/03 11:26:33 CUSTOMER ORDER INQUIRY D.P.# OE5460

Enter
Return
Acct Info.
Order Info.
Invt. Info.
HELP

Account #: -- OR -- Season:

-- OR --

Order #: Form #:
(Optional)

-- OR --

Salesman #:

Display Of Held Orders: ☐ ☐

= Held Orders Only
N = All EXCEPT Held Orders
blank = All Orders

Custom application style

- Here, a custom application style was set to integrate with corporate web site
- can add hyperlink in header to corporate home page

The screenshot displays the Paramount Order Inquiry web application. At the top, the Paramount logo is on the left, and the text "Order Inquiry" is in a large, teal font. To the right of the title, it says "ebt-now WebReady". Below the title is a navigation bar with eight blue buttons: "Enter", "List Reports", "Account For Name", "Return", "Acct Info.", "Order Info.", "Inv. Info.", and "HELP".

Below the navigation bar, the header area contains the date and time "09/10/03 11:09:55" on the left, the title "CUSTOMER ORDER INQUIRY" in the center, and the identifier "D.P.# OE5460" on the right.

The main content area contains several input fields and labels:

- "Account #:" followed by a text input box.
- "-- OR --" followed by "Season:" followed by a text input box.
- "-- OR --"
- "Order #:" followed by a text input box.
- "Form #:" followed by a text input box, with "(Optional)" below it.
- "-- OR --"
- "Salesman #:" followed by a text input box.
- "Display Of Held Orders:" followed by a checkbox.

Extended WebFacing app

- Custom web settings, extended with calendar control, user help screen and Struts account lookup application

The screenshot displays the Paramount Order Inquiry web application. At the top, the Paramount logo is on the left, and "ebt-now WebReady" is on the right. A navigation bar contains buttons: Enter, List Reports, Account For Name (highlighted), Return, Acct Info., Order Info., Invt. Info., and HELP. Below the navigation bar, the date and time "09/10/03 11:29:22" are shown on the left, and a link "CUSTOMER_ORDER_INQUIRY" is in the center. The main form area includes fields for "Account #:" (026785), "Season:", "Order #:", "Form #:" (Optional), and "Salesman #:". A "Date_Selector" window is open, showing a calendar for September 2003. A "Customer Account Search Results" window is also open, displaying the account number 026785 and the name "A1 Party". On the right side, there is a "web master: Sky" section with a photo of a young boy and buttons for "Return" and "Message from Sky".

Paramount® Order Inquiry

ebt-now WebReady

Enter List Reports Account For Name Return Acct Info. Order Info. Invt. Info. HELP

09/10/03 11:29:22 CUSTOMER_ORDER_INQUIRY

Account #: 026785 -- OR -- Season:

-- OR --

Order #: Form #: (Optional)

-- OR --

Salesman #:

Display Of Held Orders: ☐

Date_Selector - Microsoft Internet Explorer

September 2003

<< < Today > >>

Su Mo Tu We Th Fr Sa

1 2 3 4 5 6

7 8 9 10 11 12 13

Customer Account Search Results - Microsoft Internet Explorer

File Edit View Favorites Tools Help Links

Customer Account Search Results

Account: 026785

Name: A1 Party

web master: Sky

Return Message from Sky

Some custom enhancements to look at ..

- For Advanced WebFacing, here are some enhancements users might want...
 - ♦ modifying host application workflow for web users
 - ♦ setting a default value for a field
 - ♦ using custom JSP tags to display the date
 - ♦ adding a help button on a form for web users
 - ♦ setting value for a date field with calendar
 - ♦ add lookup services for web users

WebFacing customization

- **Customize UI with WebFacing Styles**
 - Simple, quick customization without coding
 - Use “classic” (aka ugly) styles or new Site Designer styles
- **Customize UI and more with DDS Web settings**
 - Wide choice of customization: simple to complex
 - Web settings are special DDS comments for WebFacing tool during conversion, comments used to generate Java code
- **Customize UI and more with WDSC Web tools**
 - Page Designer edits JSPs (Java Server Pages)
 - Web Art Designer creates Web art images to add to pages
 - Changes NOT saved IF app re-WebFaced
 - Use Web settings to save these code changes permanently

Customization strategies

- Use existing customization tools in WDSC
- Override or subclass:
 - ♦ PageBuilder.jsp CmdKeyBuilder.jsp, ScreenBuilder, ControllerServlet, LogonServlet, WFConnection
 - ♦ Decompile code in WFRun.jar using www.decafe.hypermart.net
- Add custom Javascript files
 - ♦ ClientScript folder
- Add custom web pages
 - ♦ Open new 'child' pages invoked by URL from WebFacing app
 - ♦ On close, update WebFacing page field values as needed
- Add value lists using DDS values keyword if it fits

DDS Web Settings

- **WDSC CODE Designer creates Web settings**
 - ♦ Use DDS Display file source to set Web settings that:
 - ♦ Change text and appearance of screens for Web users WITHOUT changing green screen views!
 - ♦ Hide fields
 - ♦ Move fields and labels
 - ♦ Turn single-action subfiles into hyperlinked tables
 - ♦ Turn multi-action subfiles into drop-down listbox tables
 - ♦ Create drop-down selection lists
 - ♦ Insert any HTML or Javascript before, after or into a field

Extensions add new controls or features

- **Extensions**

- Add new features, controls to JSPs that don't exist in WebFacing tool

- **Options to add extensions**

- Page Designer to add new code, Web controls (calendar, image viewer, DB lookup etc)
- Use WebFacing specialists to automatically update WebFacing app with new code

JSP tag created to add Web page date easily

- A custom JSP tag library was created
- Tag library descriptor file was defined
- The JSP for the menu page was modified
 - taglib directive and the JSP tag for the date were added
- Cut code from JSP for and added as inserted HTML in CODE Designer web settings



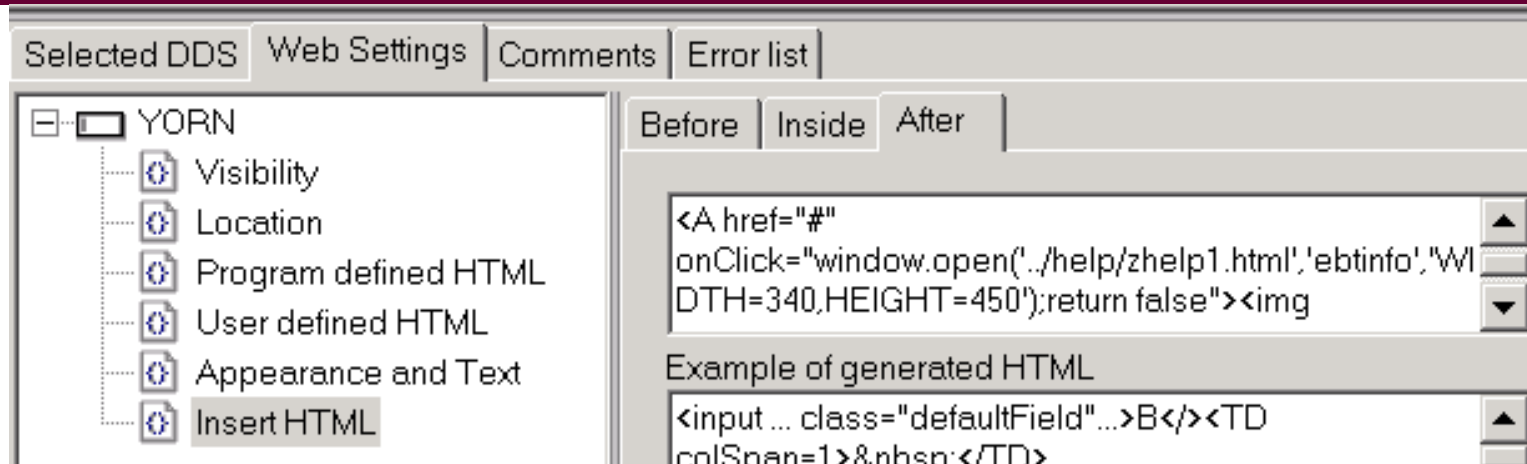
The screenshot shows a web application titled "Paramount® Order Inquiry". In the top right corner, it says "ebt-now WebReady". Below the title is a navigation bar with buttons: "Enter", "List Reports", "Account For Name", "Exit", "Cancel", and "Help". The main content area displays "OEM100" and "OEM100 Menu". It shows the current time as "Fri Aug 29 14:20:41 EDT 2003" and prompts the user to "Select one of the following:". A list of four numbered items follows, each with a URL: 1. [Call order inquiry \(oe5461\) with blank parms](#), 2. [Dsplib zpara2 to printer](#), 3. [Wrkoutq jem](#), and 4. (no text).

Button to open Help Window

- A help page was created for web users
- A hyperlink for the help page was added to a JSP page
- The hyperlink code was inserted HTML after a field on the page using CODE Designer's web settings.
- User sees the blue help button and clicks to get help page

The screenshot shows a web browser window titled "ebt-now QuickWebApp info - Microsoft Internet Explorer". The page has a blue header bar with navigation links: "Return", "Acct Info.", "Order Info.", "Inv. Info.", and "HELP". The main content area is white and contains a form titled "ORDER INQUIRY" with a "D.P.# OE5460". The form includes several input fields and labels: "Season:", "er #:", "Form #:", "Salesman #:", and "Display Of Held Orders:". The "Display Of Held Orders:" section has a legend: "= Held Orders Only", "N = All EXCEPT Held Orders", and "blank = All Orders". A blue help button is visible next to the "Display Of Held Orders:" label. On the left side of the page, there is a green sidebar with the text "ebt-now QuickWebApp" and "the fastest way to web-enable existing iSeries applications & data (for more, visit www.ebt-now)". Below this text is a photo of a smiling young boy. At the bottom of the sidebar, it says "web master: Sky". There are two buttons at the bottom of the sidebar: "Return" and "Message from Sky".

Help Button Web Setting



The code for CODE Designer's web setting stored in the DDS source member:

A 15 28'Display Of Held Orders:'

A YORN 1A B 15 53

A**%WB 8 FLD <TD colSpan=1> </TD>\r\n<TD colSpan=1>\r\n<A href="#" on+

A**%WB +Click="window.open('help/zhhelp1.html','ebtinfo','WIDTH=340,HEIG+

A**%WB +HT=450');return false">\r\n</TD>

A**%WB 14 FLD "="All Orders|'Y'=Held Orders Only|'N'=All EXCEPT Held Orders

A 66 DSPATR(RI)

Date Field value set from a Calendar control

- A calendar was defined in Javascript
- The call to invoke the calendar was added as inserted HTML after the date field on the JSP
- The calendar updates form date field when user selects a date

The screenshot displays the Paramount Order Inquiry web application. The header includes the Paramount logo, the title "Order Inquiry", and a link "ebt-now WebReady". A navigation bar contains links: "List Reports", "Return", "Acct Info.", "Order Info.", "Invt. Info.", and "HELP". The main content area shows the "CUSTOMER ORDER INQUIRY" form with fields for "Account #:" (026785), "Season:", "Order #:", "Form #:" (Optional), and "Salesman #:". A "Date_Selector" calendar window is open, showing the month of November 2003. The calendar has a grid with days of the week (Su, Mo, Tu, We, Th, Fr, Sa) and dates from 1 to 29. The date 16 is highlighted.

Paramount® Order Inquiry

ebt-now
WebReady

List Reports Return Acct Info. Order Info. Invt. Info. HELP

03 07:32:22 CUSTOMER ORDER INQUIRY

Account #: 026785 -- OR -- Season:

-- OR --

Order #: Form #:
(Optional)

-- OR --

Salesman #:

Date_Selector - Mic...

November 2003

<< < Today > >>

Su Mo Tu We Th Fr Sa

						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

WDSC Advanced edition adds more ...

- **Need WDSC Advanced edition to:**
 - ♦ View and print iSeries spool files on the Web
 - ♦ Create WebFacing portlets for portal servers
- **Assign IBM Report service to a command key**
 - ♦ View and print spool files on the Web
- **Create custom extensions**
- **Create your own services, assign to user-definable command keys**
- **Integrate system screens with 5250 apps**
 - ♦ Add-in services support dynamic generation of Web pages from 5250 UIM system screens
 - ♦ Handles most user system commands: WRKSPLF..
 - ♦ Must get system screen plugin with Update Manager (for 5.1.2)

Add report service to command key

- With the Advanced WebFacing tool, IBM added predefined report service to view spool files on the web
 - Go to project properties, add command key definition
 - Pick a command key (here F16)
 - Select the report service, save the properties and test
 - List Reports has been assigned to F16 below



Paramount® Order Inquiry


ebt-now
WebReady

Enter	List Reports	Account For Name	Return	Acct Info	Order Info	Invt. Info	HELP
-------	--------------	------------------	--------	-----------	------------	------------	------

08/30/03 00:13:36 CUSTOMER ORDER INQUIRY D.P.# OE5460

Browse spool files

- A browser opens showing all the user's current spool files
- User selects a file by clicking on the hyperlink for File to view

Address  http://localhost:7080/zpar54/RetrieveListOfReports.do

List of Spooled Files

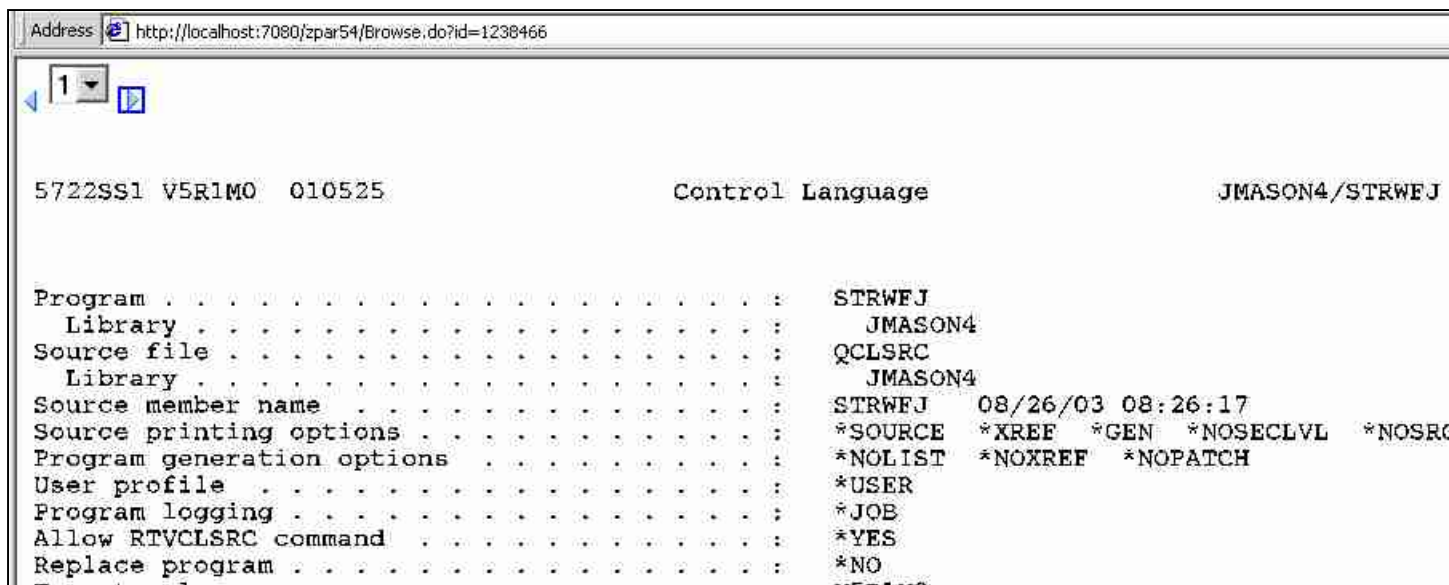
Views 1,2,3

◀ ▶

File	User	Device or Queue	User Data	Sts	Total Pages	Cur Page	Copy	Form Type	Pty	File Nbr	Job	Number
STRWFJ	JMA20426	/QSYS.LIB/ZPARA2.LIB/JEM.OUTQ		*READY	5	0	1	*STD	5	1	STRWFJ	238466
QPJOBLOG	JMA20426	/QSYS.LIB/QUSRSYS.LIB/QEZJOBLOG.OUTQ	QZDASOINIT	*READY	1	0	1	*STD	5	18	QPRTJOB	185922
QPJOBLOG	JMA20426	/QSYS.LIB/QUSRSYS.LIB/QEZJOBLOG.OUTQ	QQF03A23E0	*READY	1	0	1	*STD	5	1	QQF03A23E0	238290
QPJOBLOG	JMA20426	/QSYS.LIB/QUSRSYS.LIB/QEZJOBLOG.OUTQ	QZDASOINIT	*READY	1	0	1	*STD	5	17	QPRTJOB	185922
WFENV	JMA20426	/QSYS.LIB/JMASON4.LIB/JEM.OUTQ		*READY	7	0	1	*STD	5	1	WFENV	238463
QPJOBLOG	JMA20426	/QSYS.LIB/QUSRSYS.LIB/QEZJOBLOG.OUTQ	QZDASOINIT	*READY	1	0	1	*STD	5	27	QPRTJOB	185922

View a spool file

- User can view the spool file as a gif image
- Users browse a page at a time or select a page number
- Requires option 8 of 5722-SS1 (OS/400) and Java toolkit (5722-JC1) to generate gif image
- (image below truncated to fit foil..)



```
Address http://localhost:7080/zpar54/Browse.do?id=1238466

1

5722SS1 V5R1M0 010525 Control Language JMASON4/STRWFJ

Program . . . . . : STRWFJ
Library . . . . . : JMASON4
Source file . . . . . : QCLSRC
Library . . . . . : JMASON4
Source member name . . . . . : STRWFJ 08/26/03 08:26:17
Source printing options . . . . . : *SOURCE *XREF *GEN *NOSECLVL *NOSRC
Program generation options . . . . . : *NOLIST *NOXREF *NOPATCH
User profile . . . . . : *USER
Program logging . . . . . : *JOB
Allow RTVCLSRC command . . . . . : *YES
Replace program . . . . . : *NO
Source member name . . . . . : V5R1M0
```


Integrating WebFacing apps

- Modifying the 5250 RPG workflow for the Web
- Calling a WebFaced app
- Calling other apps from a WebFaced app
- Running WebFaced apps in portals

Modify 5250 workflow for the Web

- In many situations you may want web users working with a modified version of your host application compared with existing 5250 (or green screen) users.
- You have 3 choices to change the workflow or logic of your host application so it runs differently for a web user:
 - Add a parameter to the startup call of your application identifying if it is running for a web or host user
 - Use the QQFENV API in OS/400 to determine if the job is running for a web or host user
 - Create a web version of your host application and modify it differently for web users

Pass parm for Web usage

- Here's an actual example of using a parameter to condition workflow from the WebFacing invocation file of a sample application:

```
{InvocationCLCommand} = CALL JMASON4/ORDENTRCL3  
    ('WEBFACING DCS1 CUSTOMIZED')
```

```
{InvocationTitle} = call jmason4/ordentrcl3 ('webfacing dcs1  
customized')
```

- The InvocationCLCommand is the actual string that is executed at runtime. I've hard-coded a parameter string that indicates this was started for a WebFacing environment. The same call for a host user would have the parameter set to host instead.

Use QQFENV api to control workflow

- The QQFENV API indicates if a job is running for a Web or 5250 client device. It is part of OS/400.
- Using the returned flag (1 = WebFacing environment, 0 = 5250 environment), you can condition the logic of your host application differently for the Web user.

Using QQFENV API to control host app workflow

- You'll need to create a simple RPG ILE program similar to the one below (WFENV) that invokes the QQFENV API. You can:
 - copy the source code in figure 1 to a source member in QRPGSRC with type RPGLE (here WFENV)
 - Use CRTPGMOD to create a program module from the source member
 - Use CRTPGM to create the program with keyword BNDSVCPGM specifying QSYS/QQFENV

Sample QQFENV source call

- WFENV source program

```
DQQFENV      PR      10I 0 Extproc('QqfEnvironment')
Drc          S      10I 0
C      *entry      plist
C          parm                      mode      10
C          Eval      rc = QQFENV
C          If      rc = 1
C          Eval      mode = 'web'
C          Else
C          Eval      mode = 'host'
C          EndIf
C          Eval      *inlr = *on
```

Calling a WebFaced app

- Can be invoked using a URL passing parms

- WebFacing app can be opened in a separate browser window
- Call WFLogon app
- First parm in query string is name of invocation in app
- Can “find” how URL is created in index.jsp used to launch a WebFacing app

`http://localhost:8090/zpar54/WFLogon?inv=cl142442&turnCacheOff=1061332693056`

- Calling as a portlet in any portal server

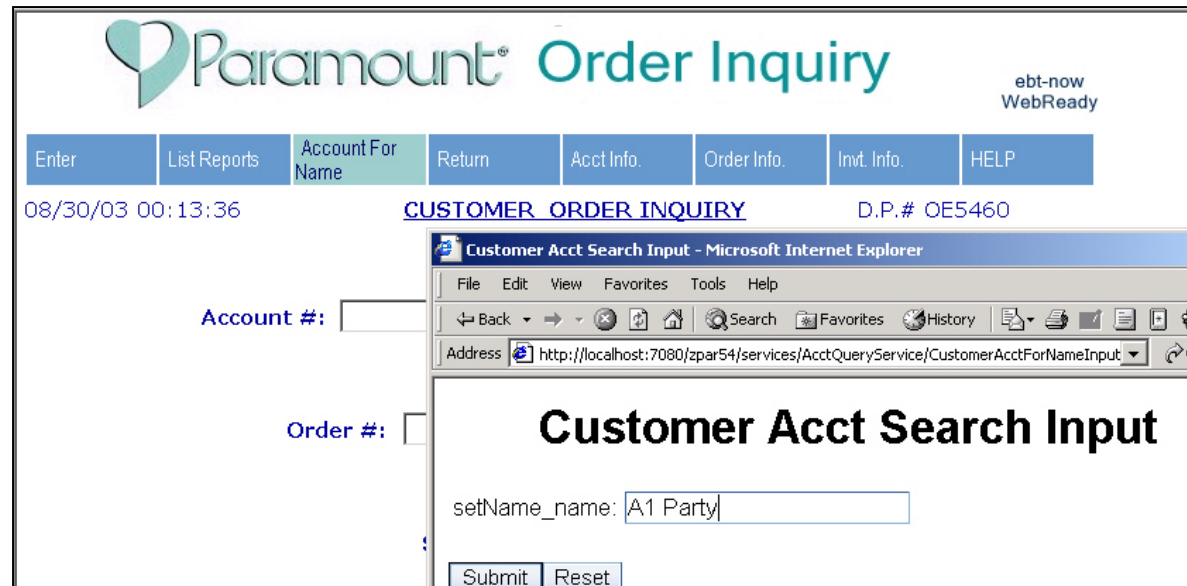
- Standard WebFacing app can be wrapped by IFramePortlet
- Can only run 1 instance of a WebFacing portlet in browser

- WebFacing Advanced edition has portlet builder

- Can generate a true WebFacing portlet
- Multiple WebFacing portlets can run concurrently in browser

Calling other apps from a WebFaced app

- **account lookup add in for a WebFacing app**
 - Create a model bean to lookup account for a name with JDBC
 - Generate a Struts web app using the Web Interaction wizard
 - Edit JSP: add button to invoke lookup, return lookup value
 - Create a Web Diagram to document the application (optional)
 - Test the generated application in WebSphere test environment



Integrate Web and 5250 application data

- How do you share Web session data with 5250 job?
 - ♦ Pass Web data on a WebFacing invocation to 5250 job
- Example: ebt-now Web access menu system
 - ♦ User signs on to Web site
 - ▶ User information captured from Web profile
 - ♦ From user menu, user selects a WebFacing app
 - ▶ Menu has url with dynamic variables for WebFacing
 - ▶ \${qwsignon.organization} passes user company nbr
 - ▶ 5250 app invoked, receives user company nbr
 - ▶ 5250 app displays orders for that specific company
- Easy way to make 'generic' 5250 apps to user-specific for Web

Running WebFacing in Portals

- HATS 5250 toolkit creates portlets for WebFacing, HATS
- Advanced edition creates WebFacing app suitable for portal deployment
 - Multiple WebFacing apps can be run in portal from 1 session correctly
- Can deploy a standard WebFacing app from Standard WDSC edition to portal to run as single instance
 - Can't run multiple WebFacing apps concurrently
 - Use IFramePortlet class to deploy to a portal server
 - Works in Apache Jetspeed portal as well as WebSphere

WebFacing and Security

- WebFacing security concepts
- Authentication options
- Authorization options
- Single signon concepts

WebFacing security concepts

- security plan should address:
 - ♦ privacy, access, authentication, authorization, integrity
- security layers:
 - ♦ network, HTTP server, Java web app server, Java application, iSeries object
- privacy:
 - ♦ VPN or SSL / TLS
- access control:
 - ♦ routers, firewalls, NAT (Network Address Translation), DMZ
- authentication:
 - ♦ web app server using custom app, LDAP or iSeries API's
 - ♦ iSeries user profiles or validation lists
- integrity:
 - ♦ transaction level control, messages not changed in transit

Authentication by user type

- **WebFacing for in-house users**
 - Users normally have existing AS/400 user profiles
 - WebFacing can prompt for userid and password
- **WebFacing for external users**
 - Need to setup authentication for userid and password
 - Usually use LDAP server on any platform with a custom, front-end app for individual authentication
 - After authentication, call WebFacing logon with group profile hard coded
 - If needed for web security, add SSL encryption on iSeries or a simple front-end Apache HTTP server (if capacity tight)

WebFacing properties controls authentication options

- Set authentication option in WebFacing properties
 - Option to prompt users for userid, password or hard-code
 - Set a default userid, password for the project
 - Set individual userid, password for each CL invocation cmd
 - Enable single signon – requires WDSC Advanced 5.1.2

Authorization to resources

- **Web authorization normally done by Web app**
 - JAAS assigns permissions to principals that id a user
 - Web, EJB security collaborators check authorizations
- **OS/400 authorizations done by user profile**
 - Mapping a Web user to one or more group profiles
 - Mapping by a program (Web or OS/400 exit program) or LDAP lookups
 - External user's share logical AS/400 group profile for access
- **Filtering 5250 data by user type**
 - 5250 application data must be "filtered" for each user or company (company A can't see company B's data)
 - Can use opnqryf to override a primary file (eg select order header by filtering user's company id)

Single signon (SSO) concepts

- Setup steps for WebFacing single signon
 - Configure a user registry (LDAP server)
 - ▶ free LDAP in OS/400 (iSeries Navigator), OpenLDAP, Domino Directory, Active Directory, Tivoli and more
 - Configure WebSphere server security for LDAP
 - ▶ Security > User registries: server userid, password, type = SecureWay, DN = myserver.mycompany.com
 - Setup security roles and constraints for the Web application
 - ▶ Web app > Security: role = all application users (or not)
 - ▶ Add authorized roles and resource authorization constraints
 - Configure Enterprise Identity Mapping (EIM)
 - ▶ Kerberos provides security token forwarding
 - WebFacing project setup for single signon

Configuring EIM support on OS/400

- Configure EIM using iSeries Navigator
- iSeries server uses EIM to enable OS/400 to authenticate users using NAS (Network Authentication Services)
- Configure EIM by:
 - ♦ Creating a domain in EIM
 - ♦ Adding the domain to Domain Management
 - ♦ Creating a Source User Registry definition in EIM
 - ♦ Creating a User Identifier in EIM
 - ♦ Creating associations in EIM for the User Identifier

Setup single signon for WebFacing project

- ♦ Import connector resource archive file in Web perspective to WebFacing project
 - ▶ `eimidTokenRA.rar` file from `<..>..iseries.webtools.ae\lib`
- ♦ In WebFacing properties, configure single signon
 - ▶ `RunTime > Project > Authentication`
 - ▶ check use single signon
 - ▶ check use EIM resource reference
 - ▶ enter `idTokenRootRR`
- ♦ Configure a test server in WDSC to use SSO for testing
 - ▶ Security tab: add JAAS authentication using admin id, password
 - ▶ For J2C create connection factory: set EIM parameters
 - *JNDI name: `eis/idTokenRoot`*
 - *Set iSeries host name as `LdapHostName` if using iSeries SSO*

What I wanted for WebFacing ...

- WebFacing uses JSF (Java Server Faces)
 - ♦ Cut costs of customization, Support multiple client types
- Expose a WebFacing application object model
 - ♦ << can be done with HATS today
- Option for dynamic Web services
 - ♦ Use Web services renderer in JSF that is configurable for 5250 app
 - ♦ << can be done somewhat with HATS today
- Support for multiple browser types (other than IE)
 - ♦ Switch to Ajax is a big rewrite of WebFacing Javascript library
- Dynamic translation of ALL 5250 screens
 - ♦ << can be done with WDHT today
- KEEP free, server mode runtime!!!!
 - ♦ << WDHT provides dynamic translation for a price

Resources

- **IBM WebFacing sites**
 - ♦ <http://www.ibm.com/software/ad/wds400>
 - ♦ <http://www.ibm.com/servers/enable/site/ebiz/webfacing/>
- **IBM Redbooks**
 - ♦ <http://www.redbooks.ibm.com> SG24-6331
- **ebt-now sites: training, workshops**
 - ♦ <http://www.ebt-now.com>
 - ♦ <http://www.quickwebsupport.com>



7 Key Points to Take Home

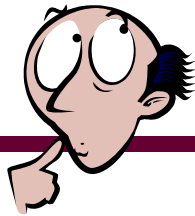
- HATS 5250 is low-cost, fast 5250 Web option
- WebFacing offers easy customization, integration
- WebFacing, HATS 5250 dynamically interact
- WebFacing apps are Web apps AND iSeries 5250 apps
- HATS 5250, WebFacing can be secured by Web environment
- WebFacing apps can be secured as OS/400 programs
- Best practices or Right practices?
 - You need to build your roadmap that's right for you ..

Your Turn!

Questions?

**How to contact me:
Jim Mason
jemason@ebt-now.com**

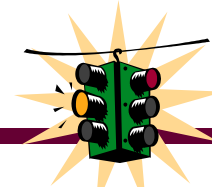
Icon Collection



FYI



Building Block



Caution



Bonus



Checklist



Note



Resource



Tip



Don't Forget



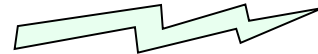
Heads Up!



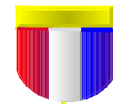
Warning



Solution



GOTCHA!



Best Practice



Tip



Finish



Issue



Tool

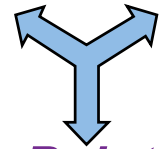


Client Issue



Lesson

Decision



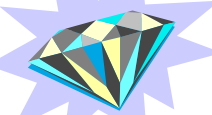
Point



Demo



Great



Feature



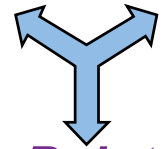
Key

Feature



Lesson

Decision



Point



Insurance

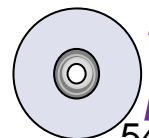


Where to FIND it

This is a comment box you can put on the slide to send a note to the speaker



Secret



Take-Home