Ten Years Younger - The Oracle Forms Makeover

By Grant Ronald, Oracle Corporation

The previous edition of the ODTUG Technical Journal included an interesting article on Oracle Forms modernization including a rather alarming anecdote about users of a Forms application going on strike because the application was perceived as outdated and required complex navigation. Which raised the question of whether an Oracle Forms application can live in a world of Facebook and Web 2.0? Are all Oracle Forms applications intrinsically clumsy to navigate, visually dated, and a catalyst for user rebellion?

In this article, we look at some less radical means of giving your Forms application a visual makeover.

THE DICHOTOMY OF USERS

As architects and developers of IT systems, we are tasked to build applications that address a business function. In doing so, we have to make application functions easily and productively available to end-users; which is where we see our first challenge.

Facebook, Twitter, and LinkedIn, are examples of applications we use on a daily basis that come under the ubiquitous term "Web 2.0" that, for many, is seen as an example of modern UI design. Should this be the goal for modernizing our Forms applications? Maybe yes, maybe no, but before deciding, let's look at the other end of the spectrum.

How many of you have peeked over the check-in desk at the airport and watched the check-in operator rattle through a whirlwind of keyboard strokes as she declined your request for an upgrade? If you have, chances are you've seen a character mode application in action (and quite possibly one based on Oracle Forms). Surely not - a character mode interface to a key business application? And this is our dichotomy: on the one hand, users want visually appealing, modern application experiences. But on the other, this is a professional business application for which fast, familiar keyboard gestures and function key combinations are the way they are used to working.

EXTENDING THE FORMS UI

So how can you achieve the balance of giving your Forms application the makeover to bring it into the 21st century without having to embark on a massive program of redevelopment or user retraining?

The answer lies in the architecture of Oracle Forms. For a Forms application running through a browser, the user interface is rendered as a Java applet. This Java applet includes a number of Java classes responsible for rendering each of the Forms' UI components. The magic lies in the fact that since each UI component is, in effect, a Java class, it can be subclassed. This means you can create your own component that does everything the base component does, but with your own added code to alter the functionality or look and feel.

Additionally, Forms also includes a generic UI container called a bean area. This means that if you want to add a completely new visual component that's not based on any existing Forms component, such as diary planner or a graph, you can build this component in Java and then integrate it into Forms using the bean area.

So without changing a single line of your existing Forms code, you have the mechanism by which you can alter each and every one of the visual components used in a Forms application.

Of course, simply changing all your text fields to have rounded corners or flashing text isn't going to fool your users and fix that complex navigation model or overly populated screens, but with these features and the skills of a UI designer, you have the ability to significantly redefine your Oracle Forms' user experience, while still retaining the features of the core application.

Well, that's the theory; let's look at some real case studies where customers have embraced Forms modernization using these techniques.

RANDSTAD

Project Duo was an initiative by Randstad and its external Oracle consultancy partners, to build an HR recruitment system based on Oracle Forms for back-office use, with an Oracle ADF front-end for Internet users. In terms of user experience there were two clear requirements for this application: easy to use (because of high user turnover) and to have a Windows XP look and feel.

The resulting application is impressive, not just in its visual impact, but in the fact that it is 100 percent generated from Oracle Designer as well!

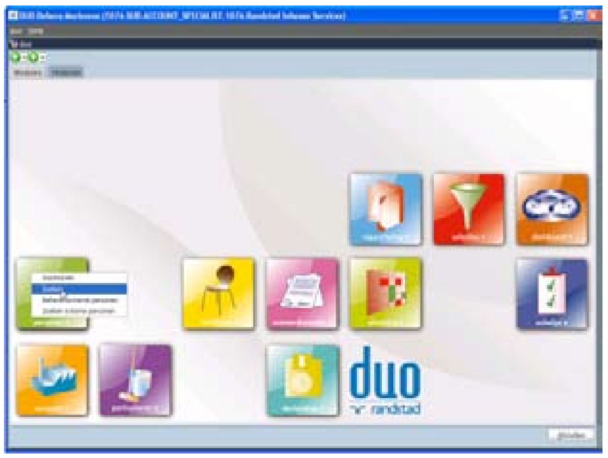
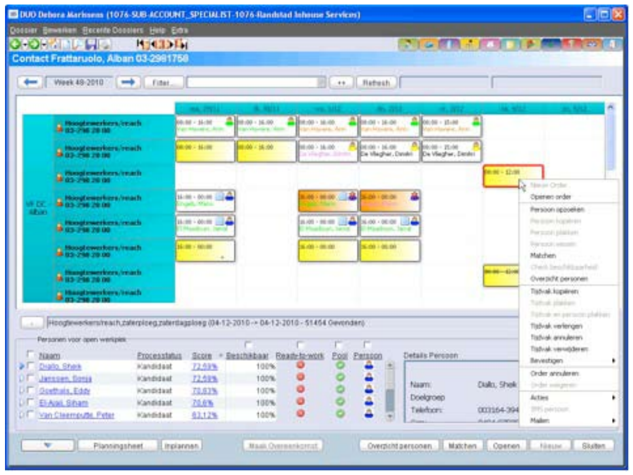


Figure 1 - Navigation/Menu page

Figure 1 shows an innovative opening screen that allows users to launch particular application modules. So, rather than going through the more usual route of a nested menu bar, the user has a "dashboard" of application functions.

Furthermore, as shown in the top right of figure 2, these icons are repeated. This means that on these screens the user has a simple, quick, and intuitive way of navigating to different application modules.

Project Duo also makes innovative use of Java beans to add application functionality to the user interface not natively available in Oracle Forms. For example, where the application requires the user to schedule people to jobs, a scheduling Java bean is used which allows the user to directly enter data into a calendar. This is a much more visually intuitive interface than simply entering data in a Forms multi-row block. As figure 2 shows, the data is represented in a way that anyone using an Outlook diary or any other online diary would understand.


DUO Debora Markxens (1076-SUB-ACCOUNT_SPECIALIST-1076-Randstad Inhouse Services)

Contact Frattaruolo, Alban 03-2981758

Hoogtewerkers/reach,zaterploeg,zaterdagploeg (04-12-2010 -> 04-12-2010 - 51454 Gevonden)

Personen voor open werkplek

Naam	Processtatus	Score	Beschikbaar	Ready-to-work	Pool	Persoon
Diallo, Shek	Kandidaat	72,59%	100%			
Janssen, Sonja	Kandidaat	72,59%	100%			
Goethals, Eddy	Kandidaat	70,83%	100%			
El-Azali, Siham	Kandidaat	70,6%	100%			
Van Cleemputte, Peter	Kandidaat	63,12%	100%			

Details Persoon

Naam: Diallo, Shek

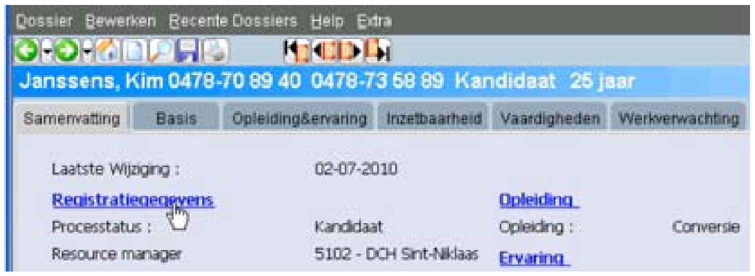
Doelgroep

Telefoon: 003164-394

Figure 2 – Using a planning/diary Java Bean

Project Duo also uses PJCs to extend existing Forms' UI components and their functionality and provide a more modern interaction. For example, Forms' button components are extended to add "hover over" features so that a button becomes highlighted when the mouse moves over it.

Project Duo also augments the Forms' navigation model by including a feature familiar to everyone who has ever browsed the Web: hyperlinks. Labels, as shown in figure 3, are extended to look and behave like hyperlinks allowing the user to quickly jump to a different form, tab, or external link.


Janssens, Kim 0478-70 89 40 0478-73 58 89 Kandidaat 25 jaar

Laatste Wijziging :	02-07-2010		
Registratiegegevens		Opleiding	
Processtatus :	Kandidaat	Opleiding :	Conversie
Resource manager	5102 - DCH Sint-Niklaas	Ervaring	

Figure 3 - Labels as hyperlinks facilitate simple navigation

Project Duo serves as a great example of where the designers have retained the productive data entry capabilities of Forms, but have weaved in more modern concepts such as hyperlinks, drag and drop (in the planning bean), and dashboards.

GRIFFITHS WAITE

UK SOA and Forms modernization specialists Griffiths Waite have also been involved in a number of Forms modernization initiatives. Mark Waite picks up the story:

"The reason most application user interfaces – not just Oracle Forms - are so poor is that they are not designed at all, but specified by engineers. Engineers concentrate on designing interfaces to other products and their considerations are coupling, cohesion, encapsulation, and inheritance. A UI designer's focus is on the interface with people, and their first step in designing that interface is figuring out what its users are really trying to accomplish.

In the following Oracle Forms application, a call centre operator has to take a customer's order for their publications over the phone. This could have been designed as a simple multi-record table with the user selecting the requested publication from a LOV and then moving onto further records and repeating the process for each document.

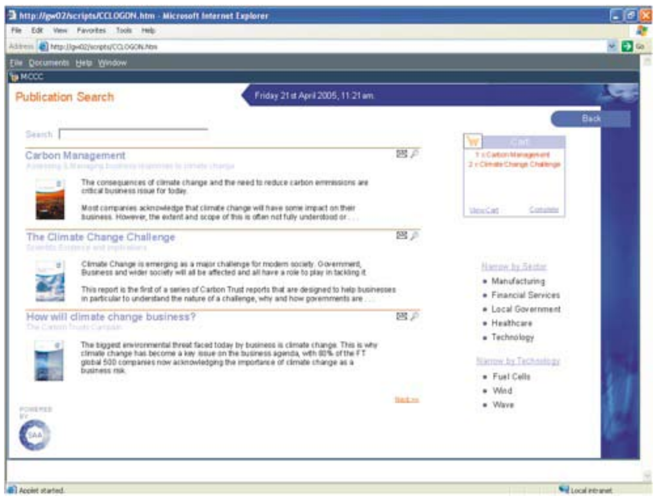

http://gw02/scripts/CCLOGON.htm - Microsoft Internet Explorer

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Figure 4 - Using an "Amazon" e-commerce style interface

Instead the 'Amazon' e-commerce pattern was adopted, using thumbnail images for the documents with associated abstracts. The image acts as an aid to recall and rapid selection, while the text helps in correctly selecting more obscure titles. The progress through the process is displayed through a shopping cart - all using gestures and motifs a user would already be familiar with.

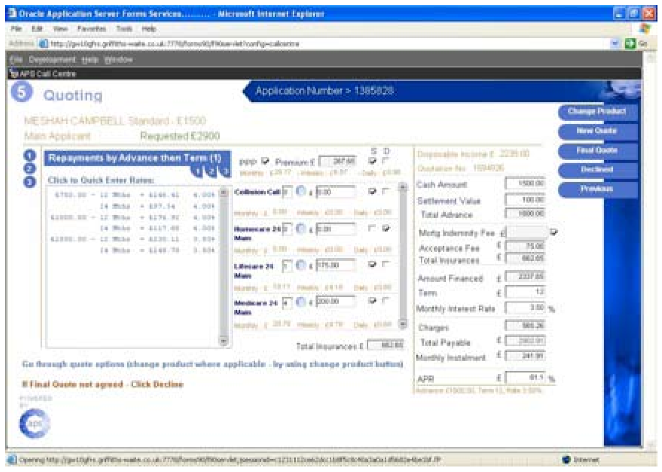
In this example, we used custom PJCs to produce the Web style skin, improve the rendering quality of the images to Web standards and provide hyperlink functionality to retrieve glossary information to assist in handling user queries for less experienced staff."

Mark continues:

"We often see in Oracle Forms applications extensive use of master-detail dialog windows in the UI design; but in many cases there is no real technical reason why this should be so. Dialog windows effectively chop up business activities into a series of screens. The result – users have to use multiple screens to complete a task with these screens breaking up the natural flow of the process they are looking to accomplish

The reason this approach is so tortuous to end users is because the interaction layer is missing. This is the layer that takes the data stored in the database and the business rules that process it and then translates it into something understandable by the user.

One such example of an Oracle Forms application utilizing an interaction layer to hide the underlying database design from the user is the following financial services quoting application.


Oracle Application Server Forms Services......... - Microsoft Internet Explorer

APS Call Centre

5 Quoting

Application Number > 1385828

MESHAH CAMPBELL Standard - £1500

Main Applicant Requested £2900

Repayments by Advance then Term (1)

Click to Quick Enter Rates:

£750.00 - 12 Mths	= £166.41		4.00%
24 Mths	= £97.14		4.00%
£1000.00 - 12 Mths	= £176.92		4.00%
24 Mths	= £117.00		4.00%
£1500.00 - 12 Mths	= £220.11		3.90%
24 Mths	= £148.78		3.90%

PPP Premium £ 287.88

Collision Call £ 0.00

Homecare 24 Main £ 0.00

Lifecare 24 Main £ 175.00

Medicare 24 Main £ 200.00

Total Insurances £ 662.65

Disposable Income £ 2235.00

Quotation No 1594026

Cash Amount		1500.00
Settlement Value		100.00
Total Advance		1600.00
Mortg Indemnity Fee	£	
Acceptance Fee	£	75.00
Total Insurances	£	662.65
Amount Financed	£	2337.65
Term	£	12
Monthly Interest Rate		3.50 %
Charges		565.26
Total Payable	£	2902.91
Monthly Instalment	£	241.91
APR	£	61.1 %

Go through quote options (change product where applicable - by using change product button)

If Final Quote not agreed - Click Decline

Figure 5 - Loan quotation application

The UI is designed to accomplish the task of providing a loan quotation to a telephone customer as quickly and accurately as possible.

Again following an e-commerce pattern, users are given visual cues as to where they are in the process combined with on-screen instructions to follow. The user does not care how many database tables there are in the system and the relationships between them. They just want to do their job using as few screens as possible with all the required information at their disposable presented in the most accessible manner."

Both the Randstad and Giffiths Waite case studies exemplify how modern UI principals CAN be engineered into Forms applications with the right application of effort.

THE RESULT, TEN YEARS YOUNGER?

Good user interface design starts with an understanding of people - not technology. The limitations of most Oracle Forms application's UI have little, if anything, to do with Oracle Forms. As these customer case studies have shown, with an innovative use of the existing technology and a vision, your Forms can look ten years younger!

Oracle Development Tools Member

About The Author

Grant Ronald is a senior group product manager working for Oracle's Application Development Tools group responsible for Forms and JDeveloper where he has a focus on opening up the Java platform to Oracle's current install base. Grant joined Oracle in 1997, working in Oracle support, where he headed up the Forms/Reports/Discoverer team responsible for the support of the local Oracle Support Centres throughout Europe, the Middle East, and Africa. Prior to Oracle, Grant worked for seven years in various development roles at EDS Defence. Grant is the author of the "Quick Start Guide to Oracle Fusion Development: JDeveloper and Oracle ADF," published by McGraw-Hill.