How to Build Best Practice Oracle MAF Apps with a Perfect UX
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Introduction

One of the challenges for mobile developers is to rapidly build mobile applications based on best practices and good design patterns. When developing mobile applications, it is a good practice to look at some of the patterns and guidelines that are developed by the Oracle User Experience team. This will defenitely help you to speed up mobile development and deliver first class mobile apps. This session shows you how Build Mobile Applications with Oracle Mobile Application Framework (MAF) based on those patterns and guidelines. You will also learn how you can benefit of the use of wireframing tools. Finally, you will see some code samples and templates that give you a quick start with Oracle MAF Application Development.

What is a Rapid Development Kit?

A Rapid Development Kit (RDK) is a complete, standalone, integrated user interface (UI) accelerator kit. The RDK is created by the Oracle Applications User Experience (OAUX) team with input from the Oracle Partner Network. It is built on Oracle technologies and based on proven user experience design and development.

Partners can use an RDK to design and build consistent SaaS and PaaS user experiences for simplified user interfaces and mobile user experiences deployed to Oracle Cloud Services.

Oracle offers three RDKs. Everything in each RDKs is reusable. Our RDKs include:
- Example SaaS flows and PaaS services integrations
- Coded samples, components, and templates with Oracle Alta UI CSS and images
- UX design pattern eBook, technical eBook, wireframing templates, and more
- Guidance on how to use a use case to win business with

What is the Oracle MAF RDK?

The Oracle MAF UX RDK is for those who design and build mobile apps using Oracle Mobile Application Framework (Oracle MAF). This RDK supports popular devices and native device features. Apps built using this RDK can also be integrated with Oracle Mobile Cloud Service.

How Can the MAF RDK help me?

Using an RDK helps you to rapidly—*in hours*—design, build, adapt, and deploy SaaS and PaaS simplified and mobile UIs.

RDKs are major differentiators if you are looking to increase business through Oracle Cloud adoption. Because an RDK helps developers produce consistent UX results, an RDK offers customers confidence in the Oracle Cloud.

Using an RDK also helps boost developer productivity. Each RDK includes resources, such as coded samples, flows, design patterns, and wireframing templates that help simplify design, iteration, and coding work.

Wireframing Templates

With the RDK it is easy to create reusable interaction design solutions for common use cases . These designs can be adapted and applied across applications to deliver modern, compelling, consistent user. You can use design patterns and wireframing templates delivered in the MAF RDK:

- Before a single line of code is written. They can be used during the innovation cycle to help expose problems early, increase productivity of application builders, and eliminate costly surprises late in the build cycle.
- After code is written. They can be used to extend Oracle Applications Simplified User Interfaces and Oracle Mobile Applications by building modern, compelling customer solutions that look and behave like Oracle user experiences for Oracle Cloud Services.
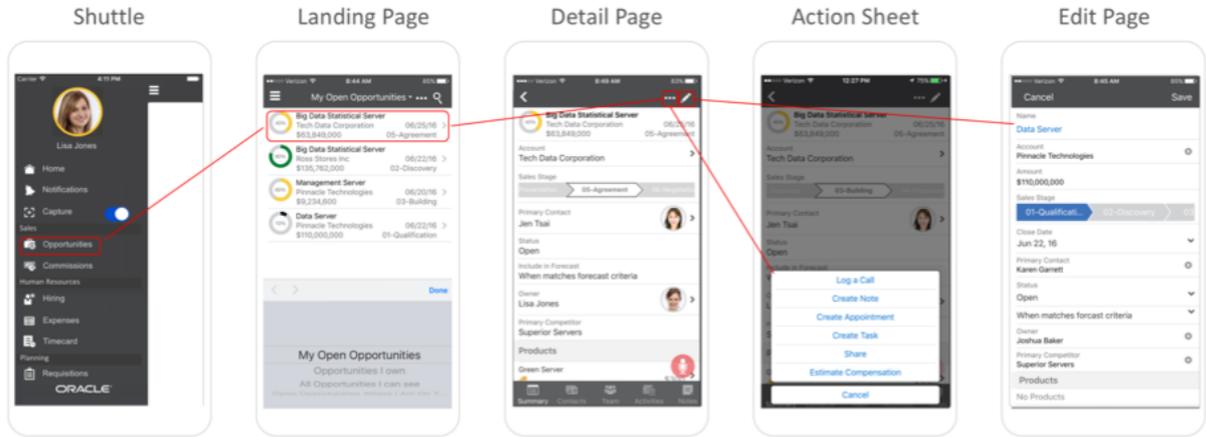

Figure 1: Wireframing template

Design Patterns: An example

The UX design pattern eBook is full of patterns that you can, and should, use when designing a mobile app. Let's look for instance at a Gauge component (a percentage Gauge Component) to explain what the UX design pattern eBook contains. A percentage gauge enables users to glance at a proportion of completion in context of a visual display.

Figure 2: Read Only Percentage Gauge

There are many ways on how to display a Gauge in a mobile app, but the RDK has a very clear description on how to use Gauges.
- The numerical percentage amount of completion is displayed, for example, 80%.
- The uncompleted portion of the gauge is light gray.
- The completed portion of the gauge is in color. In a percentage, gauge color is applied as:
  - Default: The gauge defaults to show the completed portion as blue.
  - Meaningful: If the use case requires the gauge to reflect thresholds, meaningful colors are used to note when each threshold is reached. The completed portion of the gauge switches color when the next threshold is met.

Also for meaningful colors and thresholds you can refer to guidelines such as:

Color	Intended Meaning	Threshold
Green	On track	70%–100%
Yellow	At risk	30%–69%
Red	Critical	0%–29%

A percentage gauge is editable when it is a form field on an editable page. It is not directly editable when displayed in a list. In edit mode the appearance of the gauge and colors are the same as those in read-only mode. A counter is displayed and on tapping the decrease or increase icons on the counter decreases or increases the percentage in increments of <x>, where <x> is configurable based on use case. If the current value is not a multiple of <x>, then the value increases to the next closest multiple of <x> (either higher or lower, depending on the number of steps). For example, if the current value is 82 and increments are set to 5, tapping the increase icon increases the current value by 5: 82 > 85 > 90.

The minimum value is 0, the maximum value is 100. When either the minimum or maximum value is reached, the counter icon for that direction is hidden.
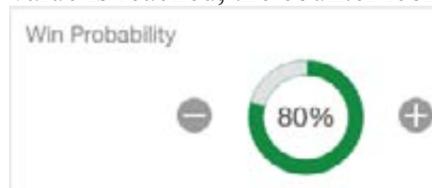

Figure 3: Edit Mode Percentage Gauge

That was just a small and simple example of what you can get from the RDK Design Patterns. There is much more to find, and it will even describe when to use a certain component, and where to put it on the UI and how it should be used. An example of this is the use of object actions.

These object actions are actions that are performed on the object in the row. A user can left-swipe on a row to view a toolbar of available actions. If no actions are available, a swipe yields no change. To open row-level actions on a different row, the user taps to collapse the actions in the current row, and then swipes the new row. To drill into a new row, the user taps twice on that row.
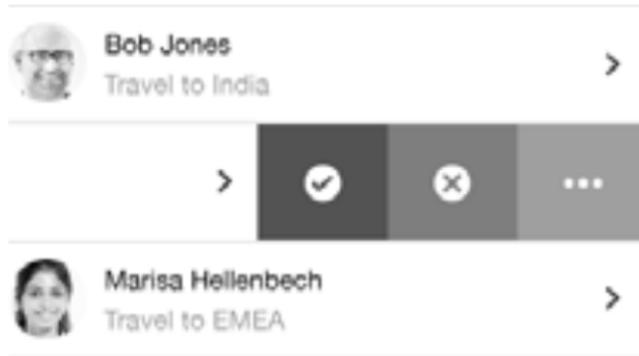
Figure 4: Object Actions

What about technical implementation?
The wire framing templates and design patterns help you to get a great design in place. But now you need to start building the MAF application. How can you build something that needs to resemble the wireframe. Luckily there is a coded sample mobile application ready to download and open in Oracle JDeveloper. Besides the real code, it also contains the following:

- sample flows from the Oracle Cloud
- Developer's guide on how to use the coded sample application
- Simple to understand document on how the coded application was built
- Guidance on how to use the kit from start to finish.

Summary
The MAF RDK gives you UX design patterns and guidance on choosing a suitable business use case, wire- framing templates and stencils to easily create mockups in Microsoft PowerPoint. The (reusable) code from the sample app is an excellent on-ramp for rapid mobile development. The MAF RDK really helps you to build Mobile Applications that have the simplicity and consistency of the Oracle Cloud Applications. That is what User Experience is all about.

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