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DEVELOPING FOR MOBILE DEVICES WITH ORACLE ADF

KEY FEATURES AND BENEFITS

EXTEND YOUR APPLICATION REACH TO MOBILE DEVICES THE EASY WAY.

FEATURES

- Visual and declarative development
- Web based applications for mobile browsers
- Mobile client applications for disconnected mode
- Oracle DB Lite Mobile Server keeps your data in synch
- Mobile Transaction Replays Service allows mobile client to invoke server-side services

BENEFITS

- Develop once, and deploy to many devices and channels
- Single IDE for mobile and regular development
- Single framework for mobile and regular applications
- Create applications with device-native user experiences
- Preserve and extend your skill set
- Dramatically lower the learning curve of developing mobile applications

Oracle JDeveloper 11g enables developers visually develop applications that run on multiple mobile devices. Leveraging the powerful Oracle Application Development Framework (Oracle ADF) developers can quickly develop online Web applications for mobile browsers as well as on-device, off-line capable mobile applications that run using the native components of mobile devices.

Mobile Enterprise Applications

Mobile devices - such as smartphones, consumer phones, or PDAs - are pervasive in today's world, making connectivity between people and application possible in more places. Oracle JDeveloper offers capabilities targeted at the development of applications for these mobile devices, while integrating with the rest of the powerful Java, database and SOA development features offered by this integrated development environment.

Oracle Application Development Framework (Oracle ADF) further simplifies the development process, offering out of the box infrastructure capabilities for database access, security, user interface framework, and data binding.

Oracle ADF supports two types of mobile applications:

- Oracle ADF Mobile Browser Applications - A connected Web application, running in the mobile device's browser.
- ADF Mobile Client Applications - A disconnected application running on the mobile device leveraging device-native UI components.

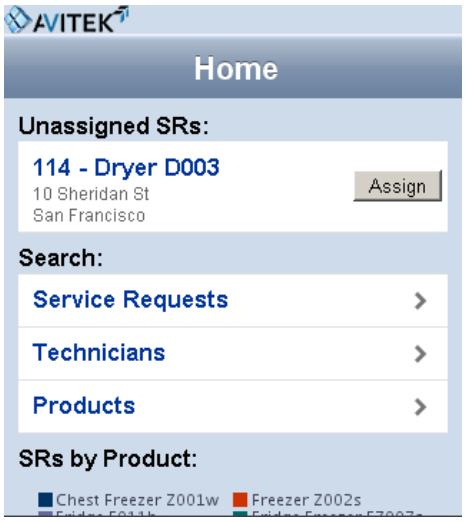
In both cases developers can leverage the capabilities of the Oracle ADF framework to map business services to databases, add business logic and create a controller layer all with the visual and declarative ease of development offered by JDeveloper.

Oracle ADF Mobile Browser Applications

For connected Web applications accesses through the mobile device's browser, developers use the Apache Trinidad JavaServer Faces (JSF) components to construct their page. JDeveloper offers a visual development experience for Trinidad based JSF pages. By using the ADF binding layer developers can easily interact with their business services from the Trinidad based components. Developers can add graphs to their applications leveraging the Oracle ADF Mobile data visualization components.

Oracle offers mobile rendering capabilities for user interfaces built with the Trinidad components across a variety of mobile devices. Trinidad components render AJAX enabled pages to smartphone browsers with AJAX capabilities, and downgrade gracefully to plain HTML interfaces when rendering to plain HTML or WAP browsers found in consumer phones.

By leveraging the skinning capabilities of the Trinidad components, developers can easily fine tune the user interface to achieve native application look-and-feel. Developer only needs to develop the application once, and the framework delivers device-specific style sheets based on browser type and capabilities.



ADF Mobile Browser application skinned for the iPhone

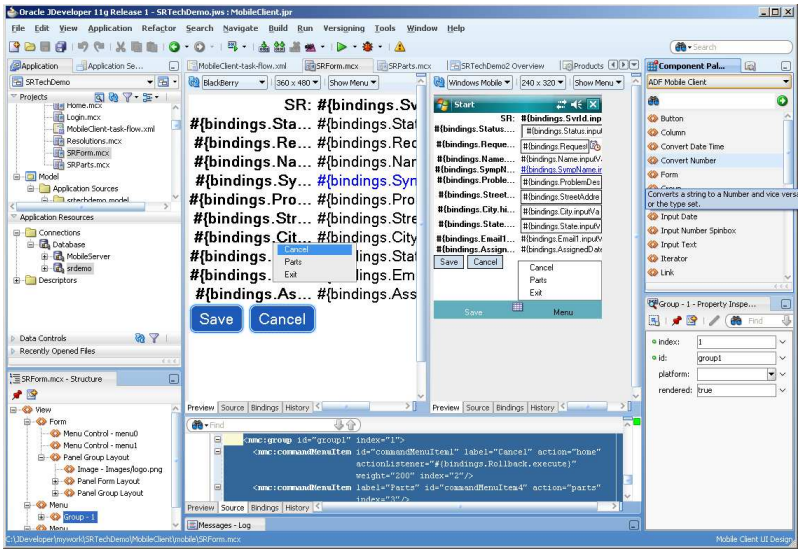
For ADF Mobile Browser applications, developers can leverage the ADF business services, rich set of page and flow controls in ADF Controller, and the easy binding offered by the ADF Model layer to deliver rich mobile browser applications.

Oracle ADF Mobile Client Applications

For scenarios where there is a need for deep integration with the capabilities of the mobile device, or to work in a disconnected mode, developers use the ADF Mobile Client technology. In this case, a subset of the application is running on the mobile device implementing all the layers of the Model-View-Controller (MVC) architecture.

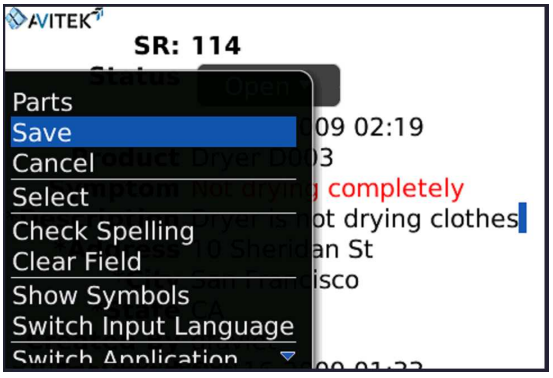
Developers extend their application to a mobile client by picking a subset of business components from their enterprise application and enabling them to run on the mobile device.

Then developers use JDeveloper's visual editors to build user interfaces and a controller layer for the mobile device that leverage these business services.



Visual ADF Mobile Application Design with Oracle JDeveloper

The user interface will render itself using the native user interface components of the specific device, using a flow-based layout that allows UI components to arrange automatically based on screen size. Device capabilities are also exposed developers enabling them to change user interface dynamically based on, for example, whether target device is a touch-screen or non-touch screen device. Lastly, ADF Mobile Client integrates with device-native menus, allowing developers complete control over both application and device menu items.



ADF Mobile Client Application Using Native BlackBerry Components

The functionality of the framework can be further extended to provide deep device service integration or to support complex application logic, using the same technique as extending any other ADF application. For example, developers can create Managed Beans to customize and extend the view layer. Developers can also include any device-specific Java libraries in the application, which provides access to all device services that have a Java interface.

Developers can then deploy the application either directly to a connected mobile device, or to a device-native package that can be consumed by device management

services. Developer only needs to develop the application once, and will then be able to deploy to multiple device platforms supported by the framework.

Oracle Database Lite Mobile Server provides proven synchronization infrastructure between the server and client (SQLite) database across a variety of mobile devices. JDeveloper automatically creates synchronization rules for Mobile Server based on the business components in the Mobile Client application, as part of the deployment process. It also provides critical services such as conflict resolution, device management, application provisioning, and user management.

For device management and application provisioning, ADF Mobile Client can also leverage device-native management solution such as BlackBerry Enterprise Server, allowing IT administrators to use existing toolset to manage an ADF Mobile Client application.

After working in a disconnected mode, the application can leverage the Oracle ADF Mobile Transaction Replay Service (MTRS) which automatically replays client side application transaction on the server once the device is back in connected mode – thus leveraging application services that are only accessible from the server, instead of forcing developer to replicate the same functionality on the mobile device.

Conclusion

Oracle JDeveloper and Oracle ADF enable developers to extend the reach of their enterprise applications to mobile devices. By leveraging the same set of skills, same development tool, and same development framework used for regular application development, JDeveloper and ADF dramatically lower the learning curve typically associated with mobile application development.

Oracle is committed to developing practices and products that help protect the environment

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