# Mobile Application Development:

## Making it easier for developers

# Developers forge ahead with mobile applications

By Jack Vaughan



Mobile applications have not only piqued the interest of developers, but also of the average cell phone user. Learn what all the fuss is about.

**MOBILE APPLICATIONS** have piqued the interest of developers. First, the iPhone redefined what a phone was: it looked a lot like a Web browser, really. Then, Apple opened an iPhone App store that promised developers an opportunity to write and sell an application to a new mass audience. The year 2009 looks gloomy for mobile phone sellers. But converged mobile devices, the kind the iPhone epitomizes, are expected to fare far better than traditional ones.

Clearly, when one is on the road, one sees more and more knowledge workers pecking away at handheld devices. Although these machines have tons more memory than in the past, they still are basically working remotely, hitting on a server somewhere, and dealing with the world via services.

Behind the scenes will emerge a whole new class of mobile app development tools, writes John K. Waters in our lead story, "Mobile app dev trends: Making life easier for developers."

Meanwhile, writer Patrick Meader discusses transfer Microsoft developers in "Goin' mobile with Windows." Technology writer George Lawton talks about JavaScript taking advantage of iPhone resources in his piece "Create smartphone apps using JavaScript." Writer Rich Seeley adds IBM's input in the mobile community in "IBM preps mobile SOA connection." There is also plenty of information in the Mobile development resource guide. ■

**Jack Vaughan** oversees editorial planning and coverage for SearchSOA.com. He has written about computer hardware and software for such publications as *Software Magazine, Digital Design* and *EDN News Edition.*

# Shifting ground for mobile development

By John K. Waters



The emergence of a new type of mobile app development tool is aimed at developers looking to expoit the App Stores and their monetization models.

**MOBILE APPLICATION DEVELOPERS** have always trod on shifting ground; it's the nature of the terrain. Lately, though, the mobile app landscape has begun to shake with seismic intensity. Forrester analyst Neil Strother says we're in the midst of an "app frenzy," thanks largely to the proliferation of Apple's enormously popular **iPhone** device and its rapidly evolving App Store concept.

In a recent industry report ("Is an iPhone App Right for You?"), Strother cited some stunning statistics: At the time of this writing (mid-May), total downloads from the App Store exceeded 800 million. That's only eight months after the store opened in July 2008. According to the report, the total will likely surpass one billion before the store is even a year old.

Of course, the App Store's success didn't go unnoticed by Apple's competitors. Mobile app developers will soon have access to similar market models from a range of mobile platforms, including Research in Motion's BlackBerry App World, Microsoft's Windows Marketplace for Mobile, Nokia's Ovi, Palm's App Catalog, and Google's Android.

The advent of these mobile-focused app marketplaces has sparked what Jeffrey S. Hammond, principal analyst in the application development group at Forrester, calls "a race to lower the barriers to entry for developers," which is likely to have a big impact on mobile app developers. The clearest evidence of this trend, he says, can be seen in the emergence of a new type of mobile app development tool aimed at developers looking to exploit the app stores and their new monetization models.

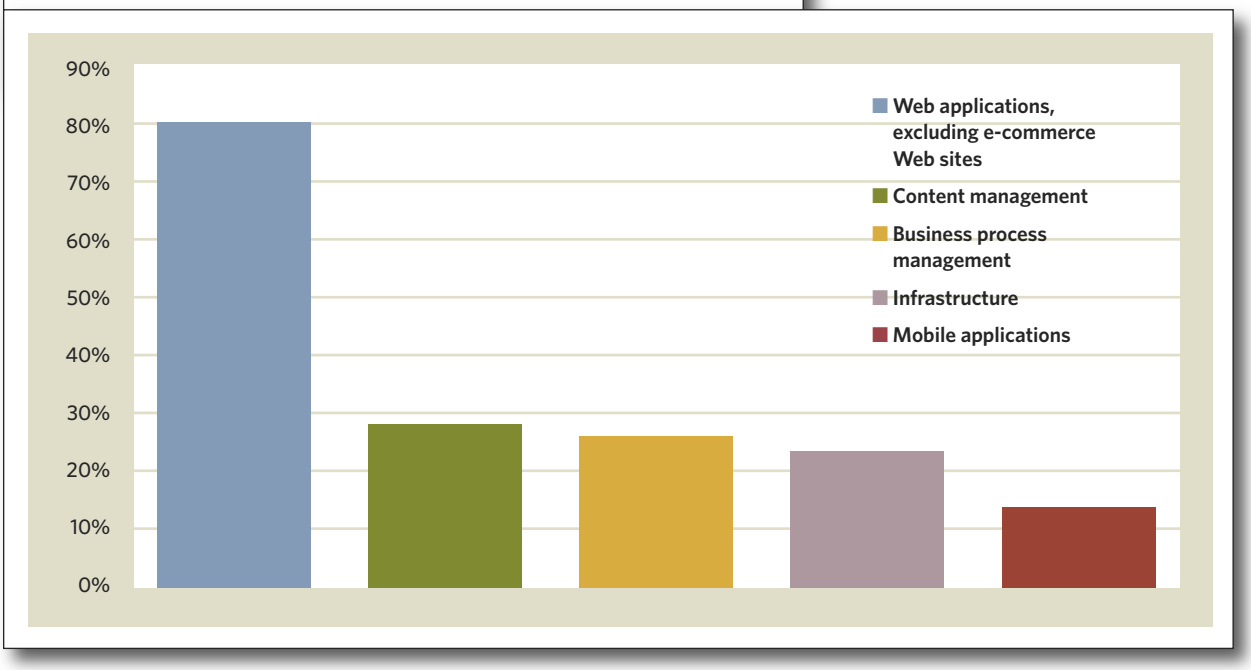
"These aren't so much specialized mobile development tools as tools that appeal to Web developers," Hammond explains. "I think the long term trend here is toward an extension of Web development in the mobile app space."

Hammond points to two examples of this trend that are worth watching: Nitobi's PhoneGap is an open source dev tool designed for building mobile apps with JavaScript and HTML. The tool is designed for the Web developer who wants to build mobile applications in HTML and JavaScript while still taking advantage of the core features in the iPhone, Android, and Blackberry SDKs."

Based in Vancouver, British Columbia, Nitobi's hope for the PhoneGap project is anything but modest. "The Web is moving off the desktop and into the pockets of people all over the world," the company writes on the PhoneGap community Web site. "Phones are the new window to the Internet and, currently, they are sec-

> "The long term trend is toward an extension of Web development in the mobile app space."
>
> —**JEFFREY S. HAMMOND**, principal analyst in the application development group at Forrester

**FIGURE 1:** Which application types are you working on?



ond class. PhoneGap aims to move your device to a nice first class window."

Another toolmaker that fits this trend, Hammond says, is Rhomobile, a

> "Phones are the new window to the Internet and, currently, they are second class. PhoneGap aims to move your device to a nice first class window."
>
> —**PHONEGAP** community web site

Cupertino, CA-based startup offering a new open source mobile application framework. Called Rhodes, the framework is designed for quick builds of native mobile apps for smartphone OSes (the company lists iPhone, BlackBerry, Windows Mobile, Symbian, and Android ). According to the company, the apps are not mobile Web apps but "true native device applications" that "work with synchronized local data and take advantage of device capabilities such as GPS, PIM contacts and camera."

Rhomobile's CEO, Adam Blum, says that 90 percent of the apps currently built with the Rhodes framework are being developed by ISVs. Ten percent, he says, are coming from enterprise coders.

Mobile developers are also likely to feel the fallout from what Hammond sees as a battle brewing among the aforementioned smartphone operating systems, and what may well be the ultimate demise of the feature phone (essentially anything that isn't a smartphone). "As Moore's law has put increasingly capable devices in the hands of a majority of consumers," he says, "it cuts into feature phone market share."

Hammond hastens to add to that list of major smartphones, Palm's new webOS, which was unveiled in April at the annual Web 2.0 conference. Palm's senior VP, Michael Abbott, made a direct pitch to developers during his conference keynote. "Developers are an incredibly important part of the webOS ecosystem," he said. "We're eager to get the [Mojo] SDK into their hands, and are very excited to work with developers to make this unique development environment even better."

"Unique development environments" is the problem, Hammond says. "The bottom line is that mobile development is a mess," he says. "With six different OS options, it will get more confusing before it gets simpler."

### INDUSTRY INITIATIVE MAY CLEAN THINGS UP

Bola Rotibi, principal analyst at Macehiter Ward-Dutton, also sees evidence

of this "race" to lower entry barriers to the new mobile app markets in a recent move by some of the big mobile platform players. The Eclipse Foundation's Pulsar initiative might well be viewed as an attempt to clean up that mobile-dev mess for developers.

Launched in March, Pulsar is an industry initiative aimed at creating a standard mobile-app development tools platform based on the open-source Eclipse framework. The list of charter members includes Motorola, Nokia, Genuitec, IBM, RIM, and Sony Ericsson Mobile Communications. The initiative's goal is to define a common set of Eclipse-based tools in a packaged distribution that can interoperate with the SDKs provided by the handset makers. When the initiative was announced, Motorola's senior director of developer platforms and services, Dino Brusco, said that it would enable mobile application developers to work within a single, familiar development environment that allows them to target multiple device families.

"It remains to be seen where this goes, but I'd call that an attempt to lower barriers to entry," Rotibi says. "Eclipse is a great starting place for an initiative like this. The environment and skills are already there." Rotibi also points to Adobe's Flash Catalyst, an interactive design tool for building interfaces and interactive content without coding. The tool is still in beta, but it's an example of a simple tool for dealing with increasing demands for sophisticated content on mobile devices, she says.

> "Mobile application developers are being called upon to write applications that use all this rich content, but the tools are emerging to make it all much easier."
>
> —**BOLA ROTIBI**, principal analyst at MacehiterWard-Dutton

"It's about trying to have support for all the different types of media managed in one environment," Rotibi says. "Mobile application developers are being called upon to write applications that use all this rich content, but the tools are emerging to make it all much easier."

"The truth is, this trend isn't new," Rotibi adds. "We've seen it before among the major tool makers. The app stores have sparked what I'd call a resurgence." ■

**John K. Waters** is a freelance journalist and author on the tech beat in Silicon Valley.

# Goin' mobile with Windows

By Patrick Meader



Resources, links and caveats, along with your knowledge of the .NET Framework, can help you assess the potential benefits of programming for the Windows Mobile platform.

**ONE OF MICROSOFT'S** most consistent, oft-iterated promises is that if you take the time to learn its flagship Visual Studio developer suite, then you can take the skills you learn and apply them to a wide variety of other situations. For example, if you're a developer who uses Visual Studio 2005 or 2008 to create desktop or Web-based .NET applications, then you're someone who can branch out with the knowledge you already have to target different, but related platforms such as smartphones and PDAs. You know the .NET Framework and your favorite languages, the argument goes; all that's required is to familiarize yourself with the different namespaces and learn the nuances of the particular platforms you're interested in targeting. This is especially true if you're a .NET developer who programs primarily in Microsoft's signature .NET programming language, C#.

It's not just your development language you can leverage, either. Other Microsoft technologies supported on the Compact Framework include a mobile version of ASP.NET and a special version of SQL Server for compact devices. That's not all: You might be pleased to learn that many of the third party vendors that provide tools for the full .NET Framework also provide tools for mobile developers.

Knowledge of the full .NET Framework is a good start if you're interested in targeting the Windows Mobile platform, but you should also be aware of some important resources and caveats. I'll walk you through both, explaining where you can find the necessary software development

kits to begin programming mobile devices and point you at the wealth of Microsoft-related resources available, including the official Windows developer blog, a special tutorial on ramping up with Windows Mobile, links to the official forums, and more. Finally, I'll touch on one of the ways you can monetize your understanding of Windows Mobile by creating applications for Microsoft's Windows Marketplace for Mobile, an online store that Microsoft will be launching later this year.

## GETTING STARTED

The Windows Mobile developer group has a page that points you to everything you need to start programming Windows Mobile devices.

You can download either the Windows Mobile 6 Professional Software Development Kit or the Windows Mobile 6 Standard Software Development Kit here. You can develop Windows Mobile applications on any of three platforms: Windows Server 2003, Windows XP, and Windows Vista. All three platforms require that you also install Visual Studio 2005 or later, as well as the Microsoft .NET Compact Framework v2 SP2. Windows Server 2003 and Windows XP also require that you have ActiveSync 4.5 installed; Windows Vista requires that you install the Windows Mobile Device Center for synchronizing data. Note that you must use Visual Studio 2005 Standard Edition or higher; you cannot develop applications for Windows Mobile devices using Express versions of Visual Studio at this time.

Microsoft also released the Windows Mobile 6.5 Developer Toolkit (DTK) in June 2009. The 6.5 DTK ships with emulators, gesture APIs, and article samples for developing Windows Mobile 6.5 applications. Note that the underlying requirements haven't changed: You must have a non-Express version of Visual Studio 2005 or later, as well as either the Windows Mobile 6 Professional SDK or the Windows Mobile Standard SDK installed on your system.

> What you're leveraging is your knowledge of the Microsoft platform and how it works.

## THE MOBILE DEVICE API SUBSET

For obvious reasons, the resource-constrained Windows Mobile platform doesn't include every feature you'll find in the full Framework. According to a document on MSDN, the .NET Compact Framework implements approximately 30 percent of the full .NET Framework. That's a significant chunk of the .NET Framework that Microsoft has excised, and it isn't

hard to drill down on the .NET Framework Class Library and find significant areas that aren't supported in the Compact Framework.

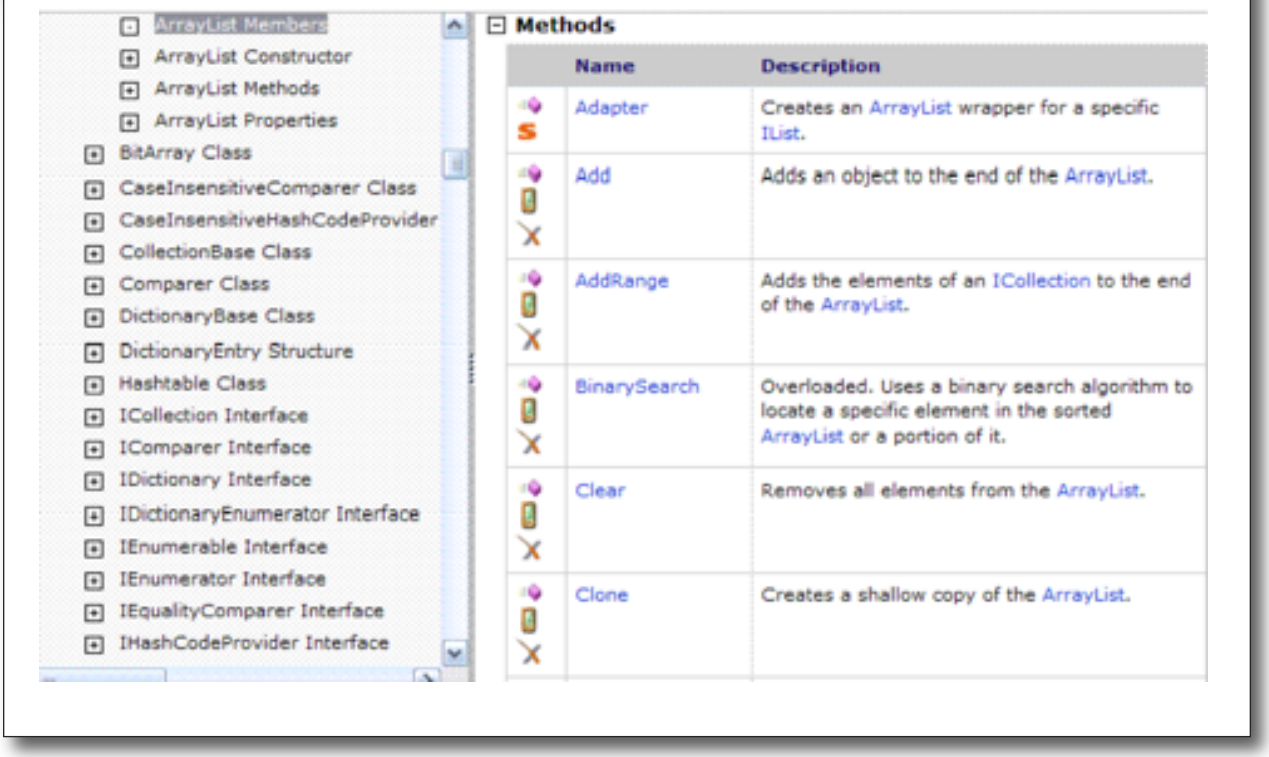
The class library viewer displays a small PDA-style icon next to methods, properties, and other objects in the .NET class library that are implemented in the .NET Compact Framework (see FIGURE 2); it's also possible to use topic filters from within Visual Studio to find the subset of classes specifically part of the .NET Compact Framework. Specific areas not supported in the .NET Compact Framework include remoting and code access security, among other features.

## EXTENDING DESKTOP APPS

One common mobile scenario is to take an existing desktop app and extend it to smartphones and/or PDA-style mobile devices. For example, you might want to take your sales contact manager and make it available on a mobile device. As a .NET developer, you might be excited about being able to use your knowledge of the Framework, SQL Server, ASP.NET, and other technologies with mobile devices.

And that's all good. However, many developers conflate the promise of leveraging their skills with being able to port existing applications whole (or close to it) to the .NET Compact

**FIGURE 2:** A screenshot of the Windows Mobile API framework.



Framework. Unfortunately, the Compact Framework is a subset—and a small subset at that—of the full Microsoft .NET Framework. You cannot simply take a desktop application built against the full Microsoft .NET Framework that you're already using and reference that project from a mobile device project.

Instead, you should begin by creating the user interface for the platform you are targeting, whether it's for smartphone or other device, consider what business logic you can repurpose, and proceed from there. It is unlikely that you would want to port a business app directly to a mobile device as-is, anyway. As a developer, you need to give careful consideration to the overall architecture of your application, paying particular attention to which aspects of a given app need to be on the mobile device. For example, you need to consider which elements of the app need to be always available (and thus implemented locally), which functions of the app can be performed remotely, what data needs to be stored remotely and on the device, and so on.

## Available Resources

**THERE ARE MANY resources available for would-be Windows Mobile developers. It should come as no surprise that many of these resources are available from Microsoft, and I'll cover several of those here.**

**A good starting point is Microsoft's Getting Started page for Windows Mobile development.**

**In May 2009, Microsoft Learning posted a "RampUp" series for Windows Mobile development. If you're not familiar with this series, Microsoft describes its RampUp series as "a free online learning program that helps developers to acquire skills in specific technologies and development areas." Using RampUp requires a Windows Live ID; you also need to fill out a survey similar to what you might fill out when you sign up for a controlled magazine.**

**Microsoft also sponsors a moderated Windows Mobile development forum and a moderated Compact Framework development blog. Obviously, you're not guaranteed a response if you post questions at such forums, but you can read related questions and answers that other developers have posted and received.**

**Finally, you can keep abreast of what's new in Windows Mobile development a blog that is maintained by the people who create the tools for this technology, and provides frequent updates on significant developer issues; new developer tools, including free resource kits for developers; and regular posts about upcoming versions and technologies related to Windows Mobile development. ■**

## SELL YOUR APPS ONLINE

One of Microsoft's most ambitious goals for Windows Mobile is to establish a marketplace for Windows Mobile apps. Windows Marketplace for Mobile follows the model of Apple's iPhone application store and will be part of an increasingly crowded market segment that also features similar efforts from Google and Research in Motion.

Microsoft's store will feature full support for Windows 6.5 devices, which are expected to launch in the Fall of 2009. At the time I write this, Microsoft has committed only to provide support for Windows 6.5 devices and applications at its new online store. Note that Microsoft has an existing online store for mobile applications, but its aim is substantially different from that of the announced store. The existing store features select applications from key partners, and directs customers to third-party sites for downloads. Windows Marketplace for Mobile aims to provide a one-stop location for discovering, purchasing, and downloading Windows Mobile applications.

What makes this new store of particular interest to developers is that it represents a chance to monetize your investment in Windows Mobile by creating apps for the store. Microsoft is offering developers 70 percent of the revenue for apps purchased at the store. Participating in this store requires putting up a $99 annual registration fee, plus $99 per application you submit for certification. Microsoft has announced a promotion intended to drum up interest in the program: If you register to participate in the program before the end of 2009, Microsoft will give you five free application submissions with your initial registration. You can learn more about this program here. Note that Microsoft will let you post both free and commercial software on this site, but all applications must undergo the certification process before they can be hosted on the site.

## SUMMARY

.NET developers interested in programming for the Windows Mobile platform have many opportunities to leverage their knowledge in ways that can save them a lot of time and money. However, you should be aware that what you're leveraging is your knowledge of the Microsoft platform and how it works. You should not assume that you'll be able to port your existing applications or code to a mobile platform without revisiting your basic architecture.

That said, the resources, links, and caveats I've detailed, along with your knowledge of the .NET Framework, can help you assess the potential benefits of programming for the Windows Mobile platform. ■

**Patrick Meader** has been covering the Windows development as an editor, analyst, and author for more than 13 years.

# Create smartphone apps using JavaScript

By George Lawton



Learn about the benefits of JavaScript and how a number of bridges have emerged to help JavaScript take advantage of native iPhone resources.

**WHILE OBJECTIVE-C REMAINS** the most powerful iPhone development language, JavaScript has been gaining traction as a viable alternative, particularly for basic applications and rapid prototyping. The benefits of JavaScript are a far larger audience of programmers and development tools, and a number of bridges have emerged to help JavaScript take advantage of native iPhone resources.

JavaScript alone does not give the developer access to all of the native resources of the iPhone, but there are ways of accessing iPhone functionality for basic applications or prototyping. More sophisticated applications developers will have to turn to Objective-C, the native Mac programming language, which Simon Brocklehurst points out is not nearly as popular as other languages, like JavaScript.

One of the problems is that JavaScript must be interpreted by the WebKit embedded browser. As Dr. Nic notes, WebKit apps are slow. It can take a few seconds for the WebKit object to become available. It also suffers from running inside a JavaScript interpreter on top of a limited processor with small memory. Another drawback is that the bridge is only one directional. From Objective-C you can call JavaScript, but you can't invoke native Objective-C objects. However, he notes that JavaScript is a sweet option for rapid prototyping, particularly if your objective-C skills are limited, because it gives the designer immediate access to building the app.

The limitations are also becoming less onerous. The second version of the iPhone firmware has doubled JavaScript performance compared to the first release. This was made possi-

ble with an update to the WebKit rendering engine. The iPhone 3G processor is also 35% faster than the original hardware, which also enhances performance.

John Resig has summarized his take on different strategies for writing JavaScript apps for the iPhone using JiggyApp, JSCocoa, tuning apps, PhoneGap, and WebTouch.

**JiggyApp** was one of the first iPhone scripting languages. Unfortunately it required a jailbroken iPhone, and the main site has since died. It gained a lot of publicity as it enabled a developer to code right from the phone.

**JSCocoa** is a bridge from JavaScript Core to Cocoa, allowing developers to create Objective-C applications using JavaScript. Developers can call C code, Objective-C code, and build JavaScript classes inheriting from Objective-C classes. Resig believes it is better suited for OX-X applications. Note that the main JSCocoa site has documentation and tips and tricks. The Google code site has more documentation and downloads for writing and testing apps.

**Tuning Web apps:** Developers can tune their JavaScript mobile Web application code to look a little more like native iPhone apps by doing things like providing a tray icon and a full screen view without the browser toolbar. However, these kinds of apps have limited access to native iPhone resources.

PhoneGap bridges the gap between Web apps and native iPhone APIs for resources like the accelerometer and geolocation. Future versions will support the camera and audio features. The goal of the project is to drive the adoption of open device standards for JavaScript applications running on major mobile platforms including the iPhone, Android, and Blackberry.

> JavaScript alone does not give the developer access to all of the native resources of the iPhone, but there are ways of accessing iPhone functionality for basic applications or prototyping.

Meanwhile, **WebTouch** is a WebKit instance to render an iPhone application. At the moment, the project only provides a few snippets of sample code, but Resig believes it is a good entry point for developing hybrid HTML/CSS, JavaScript/Objective-C/Cocoa apps. ■

**George Lawton** is a technology writer living in northern California.

# IBM preps mobile SOA connection

By Rich Seeley



IBM plans to put business process management and business event processing in the palm of business executives hands.

**IBM SAID IT** has created developer tools to support a new set of software and services for mobile devices. This will put business process management and business event processing in the palm of business executives hands, says Sandy Carter, vice president for SOA and WebSphere strategy.

WebSphere Business Monitor links BlackBerry devices to back office applications so business executives and consumers can check sales metrics or their bank balances on the run wherever they are.

iPhone connectivity won't be generally available until the fourth quarter of this year, but composite applications like those IBM describes may help make the iPhone platform an enterprise client, not just a stylish technology gadget. WebSphere Business Monitor provides the notifications and the dashboards and reports now go to a Blackberry, with iPhone support to follow.

The new software bridging mainframe to mobile includes IBM Rational Business Developer, a tool for creating Web 2.0 mobile applications using Big Blue's new Enterprise Generation Language (EGL). Downloadable from the IBM alphaWorks project, platform independent EGL applications can run on mainframe or mobile, Carter said.

"With EGL, developers don't have to worry about the platform," she explained. "They write the application so it works on a mobile and it can extend whatever they have, whether it's something from the mainframe or a pSeries [Unix] box. They don't have to worry or be familiar with the underpinning middleware or platform technology. They write it and it's platform independent."

Carter said the new IBM mobile ini-

tiative puts business event processing—Big Blue's moniker for a subset of complex event processing (CEP)—in the palm of their hands.

"Business events are about capturing patterns for really insightful business analysis of all the events running through our ESB," Carter said. "IBM's mobile initiative allows you to look at events that are not just coming in from your corporate ESB but through events that are triggered by a mobile device. So our business event software combined with the mobile software can help you identify patterns and trigger business decisions."

This is already happening in places like Japan and South Korea, where consumers walking through a shopping area with their iPhones get e-coupons from the retail stores as they pass by, she said. Combining GPS capabilities with business event processing makes it possible for a retail store owner to fine tune e-coupons to meet immediate market conditions.

While IBM's mobile initiative is not directly connected to cloud computing and does not yet have a connection to the Google Android mobile platform, there is a synergistic relationship.

The proliferation of mobile computing is a driver for cloud computing, said Dennis Quan, director of development in IBM's Autonomic Computing division. The rising demand of millions of mobile executives, workers, and consumers requires the kind of computing power the cloud can deliver, he said.

In places like Japan and South Korea, consumers walking through a shopping area with their iPhones get e-coupons from the retail stores as they pass by.

"Google's Android project and other mobile initiatives are the driving force behind the development of cloud computing because they are really creating the kinds of scalability requirements that are needed for the next generation of data centers," Quan explained. ■

**Rich Seeley** is a former News writer for SearchSOA.com

# Mobile development resource guide

By the SearchSOA.com staff



Click here to find resources, definitions and links to all the newest mobile developments.

## IPHONE

The iPhone has become something of a legend. Although the first generation device fell short of many corporate needs, the ease of use and Steve Job's magic touch attracted a cult following. At the moment, native iPhone apps are developed with Objective C.

- **iPhone Developer Program:** Official iPhone developer site from Apple. Developers can download the SDK to develop and test new applications. It also has information on distributing new apps on the iPhone store. The free iPhone SDK includes Xcode IDE, an iPhone simulator with Open GL ES support, Interface Builder, Instruments, frameworks, compilers and Shark analysis tools.

- **iPhoneDevelopment Central:** This online database of free iPhone SDK tutorials has over 600 minutes of video tutorials developed by over 1950 registered users. It includes links to the iPhone SDK Forum, a weekly challenge, developer blogs, and news.

## WINDOWS MOBILE SPECIFIC

- **Windows Mobile Development Center:** Provides a central repository for content on building apps with the .NET Compact Framework, SQL Server and Windows CE/Mobile/Everywhere/Compact. A section on Applications for Smart Devices targets native, managed, and SQL Server Compact topics. A Mobile Web section covers the nuts and bolts of building Web sites designed for mobile devices such as .MOBI standards, W3C Mobile Web best practices and the XHTML Mobile Profile.

- **Windows Mobile Development Network:** The Microsoft mobile developers site with links to upcoming events,

an application showcase, help and tips, along with a variety of podcasts.

■ **Windows Mobile Team Blog:** This official Microsoft blog relating to Windows Mobile development links to news, tips and tricks about .Net Compact Framework, application compatibility, and Silverlight.

## OTHER SMARTPHONE PLATFORMS

■ **BlackBerry:** The main BlackBerry development site has information on browser development, rapid application development, and Java application development. The site includes an eclipse IDE plug-in, as well as simulators for many of the phone models, including the new Storm smartphone.

■ **Symbian:** The main Symbian developer's page with technical information and news, tools, discussion forums, and tutorials. Symbian is the market leading mobile phone OS, with approximately 226 million cumulative shipped phones by June 2008. A wide variety of user interfaces run on top of the base OS including Nokia's S60, NTT DOCOMO's MOAP user interface for the FOMA 3G network and UIQ, designed by UIQ Technology, a joint venture between Motorola and Sony Ericsson. Symbian phone manufacturers include Fujitsu, LG, Mitsubishi, Motorola, Nokia, Samsung, Sharp and Sony Ericsson.

■ **S60 Development Forum:** S60 is one of the most popular smartphone platforms with over 180 million devices shipped by June 2008. This site provides an overview to S60 development with information on getting started, tools and SDKs, and technical specs for S60 enabled devices. It has sections for C++, Java, Flash Lite, and Python developers.

■ **S40 Development Forum:** S40 from Nokia is the world's most widely deployed mobile device platform. It is designed for phones with fewer resources than many smartphones, yet still runs Java and Flash Lite applications. Nokia provides IDE plug-ins for Carbide, NetBeans, Eclipse, and Aptana.

■ **Qualcomm Brew Developer's Home:** Qualcomm's Brew doesn't get all of the publicity of the iPhone and the Blackberry, but it silently handles a lot of applications. The company estimates that Brew applications generated an average of 80.5 million transactions per month in 2007, while paying out over $1 billion in earnings to Brew developers and publishers. This site contains a link to the SDK, tutorials and learning guides, and information on how to create a business on top of the Brew platform.

■ **Google Android:** Android is a mobile OS based on Linux and championed by Google and the Open Handset Alliance. Developers write managed

*(Continued on page 19)*

# NEC and SAIC use SOA for first-responder app

By Jack Vaughan

**WHILE SOME SING** the funeral song of SOA, software services continue to spread and evolve—finding new forms, especially in the realm of telecommunications. For example, such services are being used as part of innovative first-emergency-responder applications being created by Science Applications International Corporation.

Last month, NEC Corp. subsidiary NEC Sphere Communications announced it was working with SAIC to deliver interactive unified communications capabilities as part of their service-oriented architecture infrastructure for collaboration.

Todd Landry, senior vice president of NEC Sphere, said SAIC and NEC Sphere have developed mobile collaboration technology—in effect, a SOA-RIA-Web Services-IP Telephony mashup—that will be useful to first responders, law enforcement, and others. The implementation combines SAIC's GeoSpatial browser-based collaboration software with NEC Sphere's unified communications technology.

Landry told SearchSOA.com that NEC Sphere Communications, acquired by NEC 18 months ago, is dedicated to building communications capabilities as software services, rather than hardware elements as was traditionally the case with telecommunications devices and systems. He said this movement will redefine business processes that involve human interaction.

"If you build a workflow related to your data applications, for example, an ERP system getting information from inventory, at some point people in the business become part of the workflow. At that point it is good to have the ability for the business system to reach out to the people that can ensure the next step is taken," said Landry.

On the development side, Landry said NEC Sphere's approach to services allows wider ranks of programmers to work with telecommunications systems—a very arcane area for many people.

"We have abstracted the services in a way that application developers can consume the services without having to understand the underlying telecommunications [systems]," he said. NEC Sphere development tools include a suite of WSDL files that allow application developers to more easily bring telecomm services into their development environments, Landry indicated.

The SAIC work is a fairly advanced application. SAIC's GeoSpatial service enables users to share geospatial displays. Together with Instant Messaging and Voice-over-Internet Protocol services, the system is ultimately intended to help emergency responders successfully coordinate activities, especially when dealing with catastrophes. ■

ED LETTER

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code that use Google libraries. Members of the OHA alliance include HTC, Intel, Motorola, Qualcomm, T-Mobile, Sprint, Sony Ericsson, and Vodaphone. Initially, T-Mobile is the only company to deploy the phone. However, the phone is getting quite a bit of spotlight because of Google's backing. This site includes the Android SDK, and a variety of tools to develop mobile apps on the Android platform. The SDK is designed for use with Eclipse, but the SDK includes other tools for debugging, packaging, and installing applications on the emulator.

■ **Adobe Flash Lite:** Flash Lite is a stripped down version of the Flash Player for mobile phones. This version is designed for phones and consumer electronics devices like the Chumby and media players. The Flash Lite player supports ActionScript programming language. This site is the main Flash Lite Developer page with links to tools, tips, tricks, and a sample gallery illustrating Flash Lite possibilities.

## MULTI-PLATFORM SITES

■ **Mobile Phone Development:** Blog by mobile developer Simon Judge on Symbian, Windows Mobile, Android, iPhone, Java ME and the Mobile Web.

■ **MobiForge:** MobiForge is the world's largest independent mobile development community with over 20,000 members. It has information on starting, designing, developing, testing, and running mobile apps. The site is provided by dotMobi, based in Ireland. It exists to accelerate the mobile Web and promote best practices for mobile sites. It includes a directory of suppliers, services and tools for designing developing and testing mobile sites.

■ **Mobile Development:** Mobile dev blog maintained by Sunil Kumar, a mobile app developer from Singapore. This site highlights lesser known facts to mobile developers, such as how to detect if a phone is 3G enabled or how to force apps to use AGPS rather than GPS.

■ **Device Atlas:** The world's most comprehensive database of mobile device information includes multi-sourced data, for maximum reliability and scope. It is free to use for development purposes. It includes information about the components in the device as well as development information, APIs, properties, DRM, and other technical information.

■ **QT Software (Formerly Trolltech):** QT is a cross-platform application framework. It allows developers to create applications once using C++ and Java that can be deployed on top of Windows CE, and embedded Linux platforms (and the Symbian S60 in Q2 2009) without rewriting the source code. The company was acquired by Nokia in June 2008. This

site includes a link to a trial version of the development tool IDE and various mobile development white papers, webinars and tutorials.

■ **Navteq:** Navteq is one of the world's largest providers of maps, traffic information, and other geographic data. This site includes tips and tools for developing mobile mapping applications for consumers and enterprises. The NAVTEQ Network for Developers provides application developers access to the extensive collection of highly accurate and robust digital NAVTEQ maps, and the resources needed to bring new location-enabled services to market. ■

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