

# BlackBerry® Smartphone Application Development



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# Global Smartphone Market Share

Vendor	Percent Share
Nokia	38.9%
RIM	19.8%
Apple	14.4%
HTC	4.6%

Source: IDC

# US Smartphone Market Share

<b>Top Smartphone Platforms</b> <b>3 Month Avg. Ending Jan. 2010 vs. 3 Month Avg. Ending Oct. 2009</b> <b>Total U.S. Age 13+</b> <b>Source: comScore MobiLens</b>			
	Share (%) of Smartphone Subscribers		
	Oct-09	Jan-10	Point Change
<i>Total Smartphone Subscribers</i>	100.0%	100.0%	N/A
RIM	41.3%	43.0%	1.7
Apple	24.8%	25.1%	0.3
Microsoft	19.7%	15.7%	-4.0
Google	2.8%	7.1%	4.3
Palm	7.8%	5.7%	-2.1

# Open Development vs Walled Garden

*“The iPhone vision of the mobile Internet’s future omits controversy, sex, and freedom, but includes strict limits on who can know what and who can say what. It’s a sterile Disney-fied walled garden surrounded by sharp-toothed lawyers. The people who create the apps serve at the landlord’s pleasure and fear his anger.”*

Tim Bray, Google Android Developer Advocate  
15 Mar 2010

<http://www.tbray.org/ongoing/When/201x/2010/03/15/Joining-Google>

# Mark Fiore can win a Pulitzer Prize, but he can't get his iPhone cartoon app past Apple's satire police

By Laura McGann / April 15 / 7 a.m.



*Update: Since this story ran, Apple has reversed its original decision. Mark Fiore's iPhone app is now for sale. Full post is up [here](#).*

This week cartoonist Mark Fiore made Internet and journalism history as the first online-only journalist to [win a Pulitzer Prize](#). Fiore took home the editorial cartooning prize for animations he created for [SFGate](#), the website for the San Francisco Chronicle.

# App Store rejects analog clock iPad app

Posted on Apr 22, 2010 12:11 pm by [David Dahlquist](#), [Macworld.com](#)



What time is it? Thanks to [an App Store rejection of a simple analog clock app](#) for the iPad, we have *no way* of telling you—which I guess means it's time for another silly rejection story.

Isaiah Carew, an indie developer who runs [YourHead Software](#), was perusing the App Store for an app that would essentially turn his iPad into an analog clock. With such a fine, large display lying around, it might as well be used for something when it's not being, well, used.

To his surprise, he didn't find a single free, quality analog clock app in the App Store, so he decided to make his own. After an evening of work, he had created just what he needed: a simple, no frills, analog clock for his iPad. Figuring others might be interested, Carew submitted his app to the App Store. A few days later he received a response: "We've reviewed your application and we have determined that this application contains minimal user functionality..."

Even though limited functionality was what Carew had in mind when he developed the app—it's a *clock*, for crying out loud—he took this response as a hint that he needed to add more features. So he added an optional ticking sound, an option to hide the second hand, and the ability to re-enable the iPad sleep timer, which he had turned off by default.

He submitted again, and received the same response. What gives? There's a wide selection of similarly feature-less clock apps available right now—but either digital or paid—so why reject his? Does Apple have some kind of vendetta against analog clocks? We may never know, since Apple doesn't often talk about this kind of stuff, but what we do know is that yet [another perfectly fine app](#) has been rejected via the App Store approval process.

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[Too salty: New Yorker identifies least common iPad complaints](#)

Recommendations by [loomia](#)

# Development Costs

	Development Tools	Deployment	Vendor Store
Android	Free	Free; can self-publish	App Market 70% share
BlackBerry	Free	Free; can self-publish; restricted APIs require signing certificate (1-time \$20 fee)	App World 70% share \$200/10 submissions
iPhone	\$99/year	Free; App Store only; Apple approval required	App Store 70% share
Palm	Free	Free for open source and web distribution apps	App Catalog 70% share \$50/paid app

# Smartphone App Languages

- Android OS (Linux)
  - Java syntax; also native code
- BlackBerry OS (proprietary)
  - Java ME, supports a subset of MIDP 2.0 (OS  $\geq 4$ )
  - Javascript/HTML (OS  $\geq 5$ )
- iPhone OS (Darwin)
  - Cocoa Touch/Objective-C
- Palm webOS (Linux)
  - Javascript/HTML; also C/C++

# BlackBerry Java Features

- Multitasking
- Always-on background threads
- Server-side push
- Bluetooth peripherals
- Location-based Services (GPS)
- Multimedia audio and video
- Cryptography and Security APIs

# BlackBerry Java Development Tools

- Java Development Environment (JDE)
  - Legacy standalone development environment
- JDE Plug-in for Eclipse
  - Extends Eclipse development platform to support BlackBerry Java applications
- Simulators
  - Smartphone Simulators
  - Email and MDS Services Simulator
    - Simulates wireless network connectivity and services

# BlackBerry Java JDE Version

- JDE version determines which BlackBerry phones the Java application will support
  - e.g. JDE 4.5 supports BlackBerry OS  $\geq$  4.5
- *Developers should use the lowest JDE version that supports the functionality required by their application in order to operate on the greatest number of phones*

# BlackBerry Development Cycle

- Write Java source code for app
- Debug app with simulator
- Test on different simulators representing different target smartphones
- Deploy app
  - Install via USB
  - Install over-the-air from any website
  - Submit to BlackBerry App World

# Over-the-Air App Download

- Simply copy 2 files to any website
  - appname.jad
  - appname.cod
- On the BlackBerry, use web browser to browse to URL
  - appname.jad

# “Hello TCF” Demonstration

- Run MDS Simulator (simulates cell infrastructure)
- Run BlackBerry JDE 4.2.1
- Load samples.jdw workspace
- Modify Source code for “Hello TCF” application
- Build (F7)
- Test (F5)

# Web References

- BlackBerry Developer Zone
  - <http://na.blackberry.com/eng/developers/>
- BlackBerry JDE downloads
  - <http://na.blackberry.com/eng/developers/javaappdev/devtools.jsp>

# Thank You!



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