

# National Post

## ANDROID ON THE MARCH; Google's Android isn't a phone. It's software the search giant is giving to smartphone makers for free today to build revenue later. And it's revolutionary

Sat Sep 18 2010

Page: FP1

Section: Financial Post

Byline: Matt Hartley

Dateline: MOUNTAIN VIEW, Calif.

Source: Financial Post

Illustrations: Color Photo: /; Graphic/Diagram: /; Black & White Photo: Ian White, Bloomberg Markets Via Bloomberg News File / Andy Rubin, director of mobile platforms for Google Inc., at the Google headquarters in Mountain View, Calif. Rubin is the mastermind behind Google's Android operating system, which has caught fire in the smartphone marketplace.;

Andy Rubin was sitting in a coffee shop with his wife one morning in November 2009 when he heard the unmistakable sound of his latest creation coming from somewhere behind him.

"Droid!"

The robotic voice repeated the word at regular intervals, sounding like an electronic voice box. It was the ringtone of a nearby cellphone.

But this wasn't just any ringtone. It was the one that had come pre-loaded onto the Droid, a new cellphone built by Motorola Inc. and running Android software developed by Mr. Rubin's team at Google Inc.

Mr. Rubin beamed like a proud father. After all, the Droid had gone on sale only that morning.

That week, U.S. telecom giant Verizon Wireless would sell more than 250,000 Droid smartphones, kicking off what would prove to be a year-long coming-of-age party for Google's Android software for mobile phones, the lynchpin of the search engine giant's strategy to reshape the world of wireless communications.

Until very recently, consumers gave no thought to the software that powered their mobile phones. They didn't buy cellphones that ran a particular brand of software, they bought flip phones, BlackBerrys or Motorola Razrs.

But cellphones are no longer devices used only for talking and sending text messages. Smartphones are like minicomputers, able to browse the Web, play high-resolution video and run sophisticated software applications, or apps.

Once the domain of the hardware makers, the cellphone industry is becoming a software-driven business, where the physical device is just packaging and what matters to consumers is what the software can do for them.

Leave it to Google to attempt to make Android the default foundation for the world's smartphones, a bedrock for all other mobile computing.

Instead of charging manufacturers to use that software, Google gives it to them for free, and

invites the tech world to build apps and help make it better through an open source platform.

Today, it's the hardware makers like Motorola, HTC Corp. and Samsung Electronics that pocket the lion's share of the money generated from sales of Android phones. But Google believes each Android device sold translates into one more potential user of Google services like Gmail, one more mobile customer who will use the company's search engine, one more person who can be served ads, thus adding to the company's core business: advertising.

It wasn't that long ago that the battle for supremacy of the rapidly expanding North American smartphone industry was viewed as a two-way struggle between Apple Inc.'s iPhone and Research In Motion Ltd.'s Black-Berry. While the Black-Berry was the device of choice for the corporate world, the iPhone, with its slick touchscreen and its wildly popular App Store, was the device of choice for consumers looking to upgrade from cellphones to a Web-connected smartphone.

Then along came Android.

Google founders Larry Page and Sergey Brin unveiled the first Android smartphone -- the G1, produced by HTC Corp. -- at an event in New York City in September 2008.

Although the first Google phone didn't bowl over the gadget community -- some described it as boxy and heavy -- the G1 marked the beginning of Google's emergence as a mobile powerhouse, the first step along a path that the company believes leads to the future of computing.

Last month, Google announced its partners were activating more than 200,000 Android devices every day. More than a dozen technology companies are building devices that incorporate elements of Google's free software, including tablets.

Analysts are now expecting Android-powered phones to outnumber its competitors by 2014.

With that kind of meteoric rise come the obvious questions about whether the company can maintain its mobile growth pace and how exactly Google plans to generate new revenue from Android.

Is Android simply another Google science project?  
Or the Web giant's future?

"This is about giving people access to information," Mr. Rubin said in a rare interview.

"This is more than just a device and more than just an operating system. It's what Google does -- giving people access to information and figuring out new ways to organize that information to make it useful for people," Mr. Rubin said.

"And every now and then, when somebody becomes dependent on it or somebody says, 'A-ha! I didn't know I could do that until Google showed me how to do it,' it's just such a great feeling."

It's easy to find Google's Android headquarters on the company's sprawling Silicon Valley campus. Just look for Building 44. It's the one with the giant fibreglass desserts and the 10-foot-tall green Android mascot on the front lawn.

This is where Mr. Rubin, vice-president of engineering, who is responsible for the overall product strategy and development of the Android platform, and his team are busy shaping Google's mobile strategy.

Android is his creation. His previous company, Android Inc., was purchased by Google in the summer of 2005. Google's acquisition of Android sparked rumours that the search engine leader was looking seriously at the mobile space. Few observers could have imagined the changes Android would bring to the smartphone industry in just five short years.

The rest of Mr. Rubin's resume reads like an abridged history of the smartphone industry.

Early in his career, he spent time working for both Apple and General Magic, a startup that focused on software for handheld wireless devices in the days before smartphones.

A few years later, Mr. Rubin helped found Danger Inc., which produced and sold one of the first smartphones, the T-Mobile sidekick. Skateboarder Tony Hawk was an active Sidekick user. So was Paris Hilton.

"We were pretty strategic in how we approached the market," Mr. Rubin said of his days at Danger. "BlackBerry was focused on the enterprise and business user, and we said, 'Hey, we're going to be the consumer version of that.' Shoot, this was in 2000 or 2001 and we had an app store."

But Danger was too far ahead of its time. Although app stores would eventually transform the way people thought of their smartphones, existing 2G cellular networks were ill-equipped to handle the data demands of early wireless downloaders.

Microsoft Corp. wound up purchasing Danger and used the firm's technology to bolster its

mobile-phone business, which led to the failed Kin project of this past summer.

But by the time Microsoft acquired Danger, Mr. Rubin had left to found a new company: Android.

"When I joined Google, the mobile business looked very different," Mr. Rubin said. "The mobile team at Google had just started and we were creating apps for something like six different platforms. It was very, very hard to get Google services in front of the faces of users on cellphones."

Mr. Rubin and his team realized that if Google was going to play a leading role in mobile, it needed to ensure that when people traded up their cellphones to smartphones capable of accessing the Web, it would be easy to access Google's search engine and other properties from their mobile devices.

"Fast forward, here's Android," Mr. Rubin said. "An operating system where all of Google's innovations can be directed towards."

As a result of Android, Google's engineers are able to spend more time on fewer applications -- while getting the apps onto a larger number of devices -- resulting in better experiences for users.

And by making the Android platform open source, Google has allowed outside developers to help fuel the growth of the software, bringing advancements and improvements that would have taken years for Google to achieve on its own.

Google's overarching Android strategy is fairly simple. By producing a mobile operating system and giving it away for free to numerous manufacturers, Google has been able to help hardware makers ramp up their production of smartphones.

With more people carrying around Web-connected devices, the number of Web searches will inevitably go up as people search for everything from the number for a taxi company to the address of a restaurant. And just like on a PC, when Web searches go up, Google makes more money from advertising.

In effect, Android is all about creating more real estate for Google and its various services, said Kevin Restivo, a mobile technology analyst with the market research firm IDC.

"Long ago Google identified the mobile as the next frontier, and Android is the operating system by which it is pioneering or trying to create that space for itself," Mr. Restivo said.

"You could argue [Google] is somewhat late to the smartphone game, but it has been able to create significant market share for itself through a number of different means, creative development for one."

Today, there are more than a dozen consumer electronics companies building Android devices, including HTC Corp., Motorola Inc., LG Electronics, Sony Ericsson, Samsung and Dell Inc.

As part of its strategy to encourage manufacturers, chipmakers and wireless carriers to buy into the Android strategy, Google created the Open Handset Alliance in November 2007, dedicated to pursuing open Web standards for mobile devices.

There are now more than 75 companies involved in the OHA, including telecom carriers like China Mobile and Sprint Nextel, chipmakers like Nvidia and Qualcomm and device manufacturers ranging from Dell and Acer to HTC and LG.

In the most recent quarter, Apple said it sold 8.4 million iPhones in the span of 91 days, or about 92,300 iPhones a day. Over the past 12 months, Apple has sold 33.25 million iPhones. Meanwhile, RIM said it shipped 12.1 million BlackBerrys in the most recent quarter, equal to almost 133,000 BlackBerrys per day. In the past 12 months, RIM has shipped approximately 44 million BlackBerrys.

If Google's partners are able to maintain an average of activating 200,000 new Android devices per day, that translates to 73 million new Android customers over a year, almost as many devices as Apple and RIM shipped in the past 12 months -- combined.

Market research firm Gartner Inc. has predicted that by 2014, Android will be the most popular smartphone platform in the United States.

However, some analysts are skeptical of Google's 200,000-activations-a-day figure. They worry the figure could be an aberration or that Google may not be able to maintain such an adoption pace.

There is also some worry among Wall Street investors that Google continues to invest in Android even though the company's mobile business isn't having an impact on its bottom line.

In response to questions from analysts and investors, Google's Canadian-born chief financial officer, Patrick Pichette, has said that Android is not a significant expense for the technology titan, a company that generated more than US\$23-billion in revenue last year. As far as he's concerned, it's too early to be worrying about Android's full revenue-generating potential.

From where Mr. Rubin is sitting, he views his division as cash flow-positive today.

"If you look at how much it has cost us to develop the operating system from an engineering resource perspective, accounting for facilities and engineers and desks and computers, all in, we're cash flow-positive," he said.

"That's based on advertising. I think we're doing just fine supporting Android, but I think once the platform is there and the innovations take place, we're now embarking on a different set of revenue opportunities.

"Now that we have a way to get things on cellphones, we can start putting things on cellphones that people

might want to buy," Mr. Rubin added.

Like most of the other major smartphone producers, Google operates its own marketplace for the sale and distribution of mobile applications designed by both the company and third-party companies.

Those app developers building games and other software for Android receive 70% of the revenue generated by their applications, while the remaining 30% is divvied up between Google and the carriers. Today, there are more than 80,000 applications in the Android marketplace.

However, applications aren't the only way to generate revenue from a smartphone ecosystem. And if there's one thing Google does well, it's use scale to generate profits.

"As things progress, that ecosystem is going to broaden, it's going to be beyond applications," Mr. Rubin said. "There are going to be other things, and I don't want to go into great detail about what things there are, but you can imagine how ecosystems pop up ..."

As well, analysts say advertisers are willing to pay more for mobile searches than PC searches because when someone searches for a nearby restaurant or shoestore on a mobile device, they tend to be out and about, and one step closer to making a purchase.

"Certain mobile searches should ultimately be worth more because the value of a search is connected to the action-ability or the relevancy of it," said Colin Gillis, a financial analyst with BGC Partners in New York.

Of course, Android's success isn't limited to Google.

In January 2008, Motorola Inc. was an ailing mobile giant struggling to find itself. Four years earlier, the company had introduced the popular Razr feature cellphone-- PC World Magazine dubbed it one of the "50 Greatest Gadgets of the past 50 years."

Since then, Motorola shares shed 50% of their value and the company was struggling to chart a course in the rapidly evolving smartphone industry.

Like Nokia and other cellphone vendors, Motorola still hadn't quite figured out how to crack the smartphone code and differentiate itself as consumers migrated to more complex devices. The company needed a hit device -- preferably more than one -- if it wanted to shed its image as an also-ran and become a serious challenger to RIM and Apple.

Motorola was producing mobile phones that ran on Symbian, Linux, Windows Mobile and a host of other software platforms. In the words of one executive, the company was "platform promiscuous." The company concluded it needed to refocus its energies, cut development costs and simplify its offerings. Like Google, it simply couldn't go on pouring money into developing software and applications for a wide range of platforms.

Even though the first Android phone was still 10 months from hitting the market, Motorola's brain trust opted to make Android the sole operating system for its high-end smartphone business.

"We knew clearly what needed to happen," Christy Wyatt, vice-president of software platforms and ecosystems for Motorola, said in an interview.

"We were noticing an unbalanced share of our investment portfolio was going into what I'd call plumbing-- operating systems and chipsets -- not into things that the end user would be delighted by.

"It was pretty risky at the time; Android hadn't actually shipped their first phone yet and we hadn't actually shipped a phone on it yet, it was still in our labs. But we thought that because it was being designed around HTML and the Web, it was a modern operating system and it was promised that it would be open or to a certain extent open-sourced or community-based. It met all of our criteria."

Since then, Motorola has released more than 15 handsets running Android, including the Droid, known as the Motorola Milestone in Canada. Not since the Razr has a Motorola device generated as much buzz in both technology circles and among the general public.

In the United States, Verizon Wireless has placed the Droid and its successors, the Droid X, and Droid 2, at the centre of its advertising campaigns, aggressively promoting their capabilities as appfriendly, Web-enabled smartphones and positioning them as iPhone alternatives.

Of course, Motorola isn't alone in its adoption of Android. Samsung Electronics Co., LG Electronics and Sony Ericsson, among others, are now building Android devices.

In fact, one of the biggest challenges facing the smartphone makers that have hitched themselves to Android's wagon is differentiating their products from the their competitors' Android devices.

"As these devices become more ubiquitous, if you're Motorola or Sony Ericsson or HTC, how do you really make your android device look different or more attractive when so many are being launched into the market?" Mr. Restivo said.

Then along came the Google Phone.

A full touchscreen smartphone produced by HTC, but branded with Google's logo, the Nexus One was Google's boldest statement to date about its commitment to the Android platform, and was seen in many circles as a direct shot across the bow of Apple's iPhone.

However, like many so-called iPhone killers, the Nexus One was a success, but wasn't the game changer some hoped it might be.

Many analysts believe Google's decision to sell the

phone directly to consumers helped seal its fate. Although the phone is now available through Verizon Wireless in the U.S., Google's plan to sell the phone directly to consumers through its own website did little to disrupt the traditional carrier-driven wireless business in North America.

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On the floor of the conference room where Andy Rubin is sitting are three framed and mounted front-page stories from The Wall Street Journal.

In the centre is a story from Jan. 6, 2010, titled "Google opens new front in smartphone battle," from the front page of the newspaper's Marketplace section. Each one is still wrapped in cellophane.

It's as though, with the rapid development of Android, the team of Googlers in charge of displaying landmark news stories simply hasn't had time to hang Android's press clippings.

For Mr. Rubin, Android isn't just one of Google's countless science projects. Instead, Android just might be the key to Google's future as the Web goes mobile.

"What's happened in mobile is borne of the frustration of people not being able to take the Internet with them," he said. "If the Internet has entered into our lives in such a short period of time, why be restricting it to sitting at your desk with the desktop computer. That seems quite archaic.

"The future isn't around more access or faster access or better access, it's about reshaping the Internet to be appropriate for pervasive use."

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## ANDROID PROTOCOLS

- The SOFTWARE is the device, let OTHERS build phones.
- The INTERNET is the KILLER app.
- A smartphone ARMY cuts software COSTS.
- Add 200,000 DEDICATED users every day.
- DON'T make any MONEY. At least not YET.