Android

UPDATED:
HERE'S HOW GUIDE

PCWorld
SUPERGUIDE

STEVE FOX

Meet Your Robot Overlord

HOW QUICKLY THE world of smartphones has changed. Two years ago, a story about the best models would have featured the iPhone and some BlackBerry handsets, with Android-based phones scarcely mentioned. One year ago, the iPhone would have been front-and-center, with a mix of BlackBerry and Android phones in the supporting cast. But now, Android is king, and even in the volatile world of tablets and smartphones, it seems likely to dominate for some time to come.

Since Android is rapidly capturing the hearts and minds of consumers, we decided to create an all-in-one resource for Android device owners and prospective owners. Inside the Android Superguide, we'll explain, step-by-step, how to customize your phone, root your phone, secure your handset, and compare Android music management programs. Other how-to's will help you get creative, so you can take control of your music, have more fun with your photo collection, and create, share, and manage video. Plus, our Android walk-through will show you every screen and feature that you might

encounter as you set up your brand new Android device. Want to play music or games, run basic productivity apps, and essential utilities? We'll show you which Android apps deliver, and how to get them. Spend some time here, and you'll feel like an Android authority in no time. ●
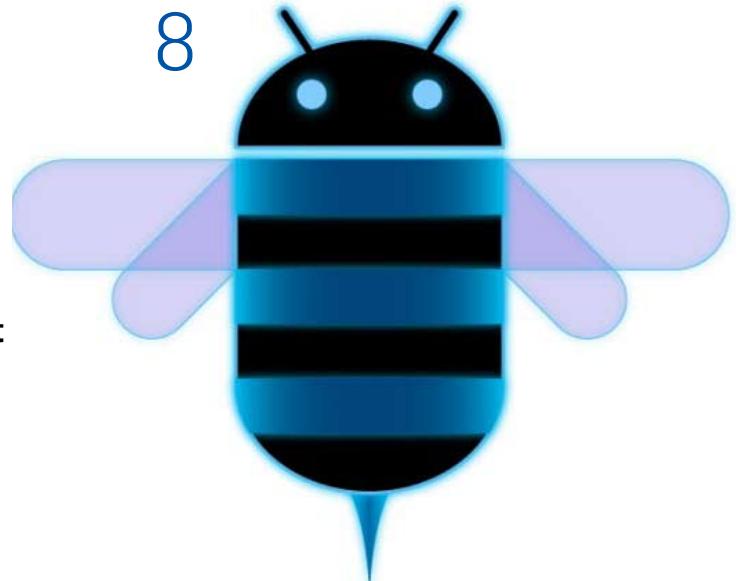
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8

15

How to Get Around Android

Manage Multimedia in Android

82
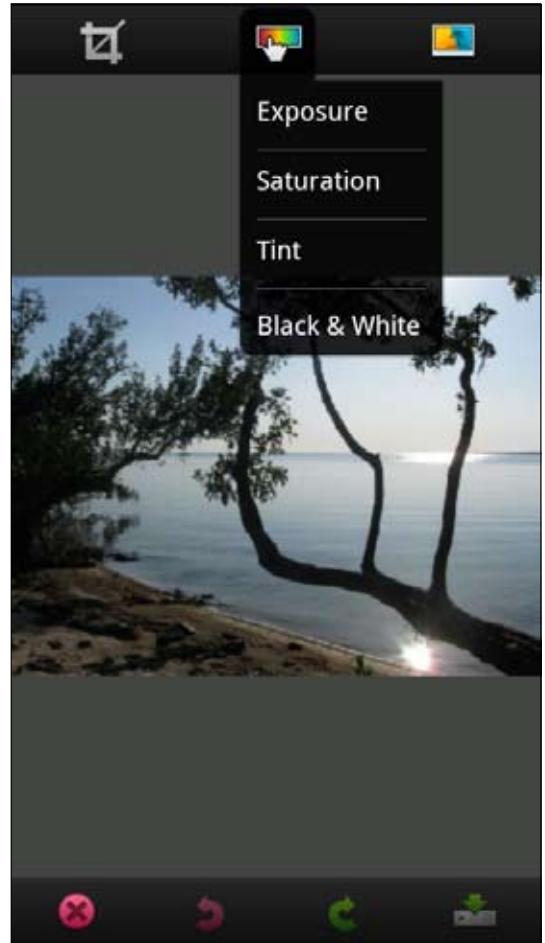
Android Apps

90

Welcome to Android

BY GINNY MIES

BY NOW, YOU'VE probably heard an earful about how great Android phones are, how they will take over the mobile world, and how they do everything the Apple iPhone can't. But if you haven't yet fully explored an Android phone, you may be wondering what the hype is all about.

First, a little history: Google's move into the mobile phone market started way back in 2005, when the Internet giant acquired a small start-up company called Android, Inc. Rumors immediately began to surface that Google was developing its own challenge to the iPhone. But it wasn't just one phone—and Google wasn't the only company working on the project. In November 2007, the Open Handset Alliance—a consortium of 47 hardware, software, and telecom companies--unveiled Android, a mobile platform based on the open-source Linux operating system.

Because Android is open-source, the platform has many advantages for con-sumers and developers. Smartphone and other mobile device manufacturers have more freedom to tweak the software to meet their needs, opening up a wider range of options than most other cell phones can offer. For example, a few HTC- and Motorola-manufactured Android phones come with a custom user inter-face that runs over the base OS. Mean-while, third-party software developers are free to create apps that improve on the operating system's standard features.

Another advantage of open-source is that Android isn't tied to a single device-- whether it be a phone, a netbook, or a tablet. The HTC T-Mobile G1 was the first Android phone available to U.S. audi-ences, but a rapidly growing number of Android devices have crept onto the scene from various manufacturers, many of them bearing interesting and unique designs. The competition among the many companies that make Android phones and tablets is driving innovation in design, in components, and in new fea-tures and capabilities.

Another huge advantage that Android has over its rivals involves its support of 4G networks (LTE on Verizon, HSPA+ on AT&T and T-Mobile, and WiMax on Sprint) for faster data speeds. Right now, the only phones capable of handling 4G »
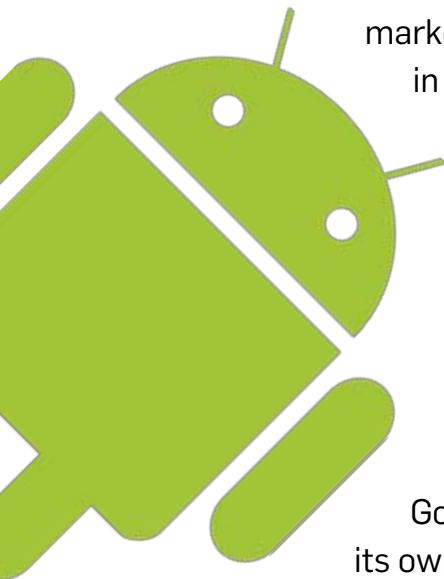
are Android phones—and it doesn't look as though Windows Phone 7 units or BlackBerrys will be jumping aboard the 4G bandwagon anytime soon. Plenty of rumors have been swirling in the phone industry about the possibility of a 4G iPhone 5, but we haven't been able to nail down confirmed information on that front. Meanwhile, in our head-to-head tests of competing 4G Android phones, we recorded staggering performance differences between 4G and 3G data speeds on all four networks.

And of course, you also have considerable freedom in selecting a wireless network. Android phones are available for the big four major U.S. carriers (Verizon, AT&T, Sprint and T-Mobile) as well as many smaller, pre-paid carriers like Virgin Mobile and Boost Mobile.

Android users can choose from thousands of third-party apps in the Android Market. Though the Android Market hasn't quite matched the iPhone App Store in number and quality of apps yet, it is getting there quickly. The Android Market stocks paid and free apps that you can download directly onto your device.

Unlike Apple, Google does not have a stringent app approval process, so developers can get their apps into the Android Market more easily and more quickly. Also, unlike the iPhone App store, the Android Market isn't the only place where Android users can obtain apps for

their devices. Alternative sources include Web-based third-party Android app libraries (like GetJar.com) and individual developers' Websites. Heck, even Amazon has its own Android app store.

More mobile consumers now say that they want an Android phone than an iPhone, according to an April 2011 Nielsen survey. The difference isn't huge—31 percent for Android to 30 percent for the iPhone. But the trend looks good for the little green guy: Android's polling number has risen significantly from 26 percent in late 2010, while the iPhone's desirability has slipped slightly from 33 percent in that same period.

Since its inception, the Android platform has shaken up the mobile world—and that alone is worth paying attention to. ●

Get to Know Your Tablet

So you just bought a brand new shiny Android tablet. Not sure where to get started? Fear not: We've got you covered.

Honeycomb 101: Getting to Know Your Android Tablet

BY JR RAPHAEL

S O YOU'RE THE proud possessor of a shiny new Android tablet. Now what?

Google's tablet operating system is a little different from the versions of Android you may have seen before. Unlike the iPad, which is basically a blown-up version of the iPhone, Android Honeycomb tablets are designed to take full advantage of the extra screen space—and it's up to you to decide how to use it.

Of course, flexibility and simplicity don't always go hand in hand, and Honeycomb can be a bit overwhelming at first. But once you get the hang of it, you'll find that its power and its potential for personalization can be pretty darn sweet.

Here's a quick guide to help you get started.

Hello, Honeycomb: Navigating Your Home Screen

Let's begin with the home screen. On Honeycomb—unlike on past smartphone-focused editions of Android—the main controls are always visible right on your display.

At the top left corner of the screen sits a Google search box. Tapping it lets you simultaneously search the Internet and everything on your device.

• Next to the search box is a microphone icon that activates Google's robust Voice Actions system. You can use it to speak commands such as "listen to" followed by the name of an artist, album, or song; "send e-mail to" followed by the name of a contact and a message; or even "note to self" followed by a memo. You can also speak any phrase »
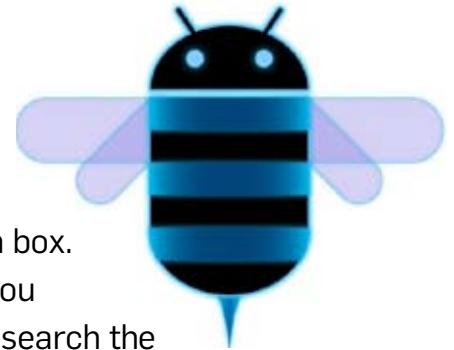
The Android Honeycomb home screen keeps all of the OS's main controls visible on your tablet's display.
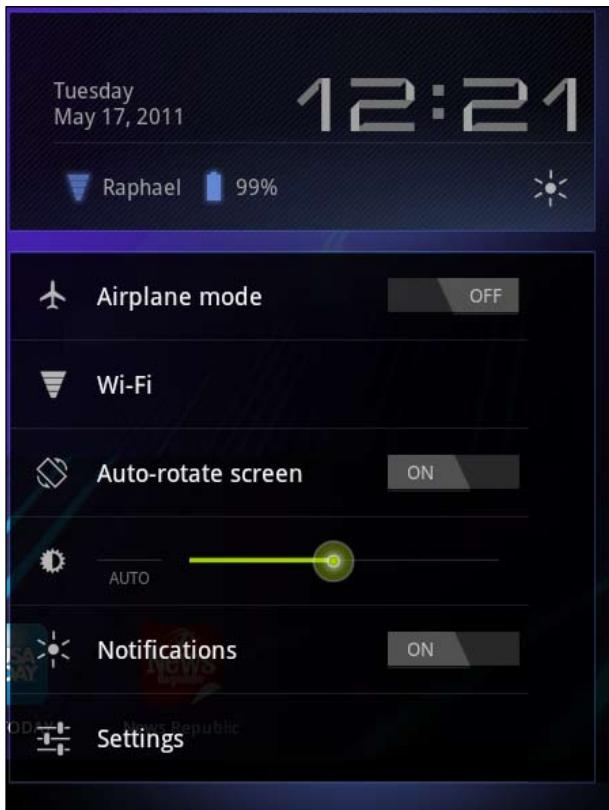
The system clock, network connection icon, and battery level icon are in the lower-right portion of the home screen. Double-tapping this area brings up other options.

Tapping this area once will bring up more-detailed information. Tapping it a second time will bring up additional options, including toggles for airplane mode, Wi-Fi, and other system settings.

From time to time, notifications will appear in the bottom-right area of your display—when you get a new e-mail message, for example, or when a calendar reminder comes due. You can tap any notification to view more information about it or you can dismiss it altogether.

Getting Around in Honeycomb

The area at the bottom left of the screen focuses on navigation. No matter where you are in the system, you'll always see three icons:

• The left arrow jumps you back one step—not terribly useful on the home screen, but handy when you're in applications.

• The home icon, predictably, takes you back to the home screen. If your tablet is running Android 3.1, your system will remember which panel you last had open and will automatically return you there.

• The third icon opens the Honeycomb multitasking menu. This menu shows you a list of your most recently used »

to launch an instant Web search for the term.

• At the top right of the screen is a six- square icon with the label 'Apps' Touch it for access to the full menu of applications installed on your tablet.

• Next to the 'Apps' icon is a large white plus sign. It opens the tool for customizing your tablet's home screens; we'll look at it in more detail in a moment.

• At the bottom right of the display is a system clock, along with icons indicating your current network connection status and tablet battery level.

The main navigation options in Honeycomb are back, home, and multitasking.

Get to Know Android

Android comes in a variety of versions, depending on which device you buy. Here's a guided tour of the whole OS, and a look at what you get in each version.

Know Your Versions: Highlights of Each Android Update

BY GINNY MIES

BEFORE BUYING AN Android phone, you should find out which flavor of the operating system you'll get. Each tastily nicknamed update delivers new features, so it's important to find out what your Android phone will have—and what it might be missing.

Android version 1.5 (Cupcake)

Released April 30, 2009

- Video capture and playback
- Direct video upload to YouTube
- Direct photo upload to Picasa
- Bluetooth A2DP support
- Desktop folders and widgets
- Copy/paste expanded to Web pages
- Updated software keyboard

Android version 1.6 (Donut)

Released September 15, 2009

- Gallery allows deletion of multiple photos at once
- Enhanced Android Marketplace
- Faster Voice Search with deeper integration in native applications
- One interface for camera and camcorder gallery

- Ability to search bookmarks, history, contacts, and the Web from home screen via Search widget
- Text-to-speech engine

Android version 2.0/2.1 (Éclair)

Released October 26, 2009

- Spruced-up user interface
- Animated wallpapers
- New browser interface with HTML5 support
- Microsoft Exchange
- New contact lists
- Bluetooth 2.1
- Enhanced software keyboard
- Built-in flash support and digital zoom for camera
- Better white/black ratio for backgrounds

Android version 2.2 (FroYo)

Released May 20, 2010

- Overall speed and performance boost
- Increased Microsoft Exchange Support
- USB tethering
- Wi-Fi hotspot functionality

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- Voice dialing and contact sharing over Bluetooth
- Adobe Flash 10.1 Support

Android version 2.3/2.3.3 (Gingerbread)

Released December 6, 2010

- Native support for Internet calling
- Enhanced copy/paste
- Access multiple cameras on device
- Native support for gyroscopes and barometers
- Near Field Communication (NFC) support
- Updated user interface for simplicity and speed

2.3.4

- Support for voice or video chat using Google Talk.

Android Version 3.0/3.1 (Honeycomb)

Released February 24, 2011

3.0

- Optimized for tablets with a completely new user interface
- Systems Bar gives quick access to notifications, status and soft navigation buttons
- Widgets provide active access to content directly from your home screen or systems barNew multi tasking feature lets you see snap shots of the most recently used apps
- Tabbed Web browsing
- Two-paned e-mail interface

3.1

- Additional user interface refinements
- Support for USB devices attached to tablet, so you can use an external keyboard, mouse, joystick, gamepad or storage device
- Expanded Recent Apps list lets you scroll through recently opened apps
- Introduced resizable widgets
- Fixed image rendering problem in Android 3.0

Ice Cream Sandwich

Official release in Q4 2011

Ice Cream Sandwich will be a combination of Gingerbread and Honeycomb into a "one OS that runs everywhere," according to Google. Google showed off a few of the new features of Ice Cream Sandwich at Google I/O 2011 including face-tracking for video calls and enhanced NFC support. ●

How to Get Around in Android

Customize your phone, manage messages and documents, and work more productively with your Android phone.
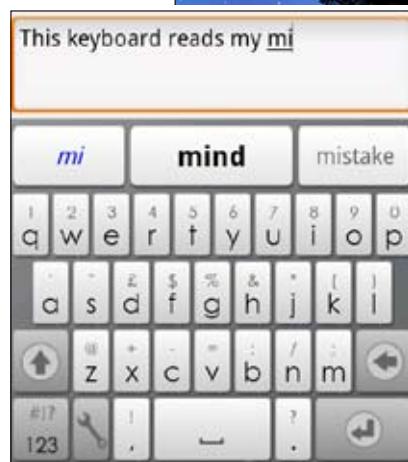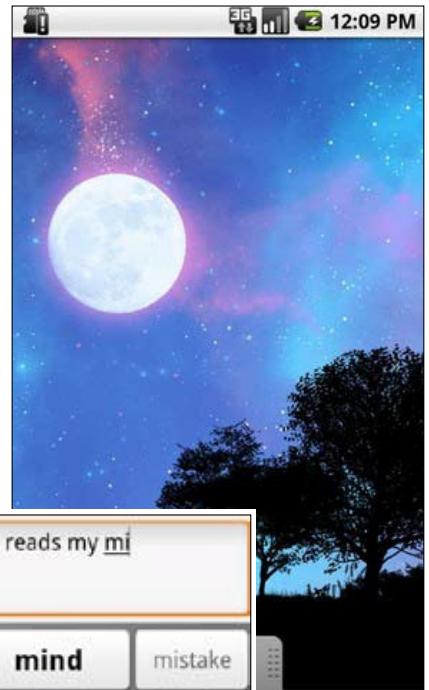
Android Keyboard Shortcuts: All the Hotkeys You Need

BY JR RAPHAEL

THE ANDROID MOBILE operating system has an impressive set of keyboard shortcuts to help you fly through your phone without digging through the menus. A couple of quick key presses are all you need for most common tasks.

So what are you waiting for? Bookmark this list and get to know Android in a whole new way.

(Note: Some hotkeys may vary from one Android device to another. Most of the ones listed here, however, should work on any Android handset.)

Scrolling

- **Spacebar:** Page down in any Web page/document view
- **Shift + Spacebar:** Page up in any Web page/document view

Typing

- **Alt + Spacebar:** Insert a special character
- **Shift + Del:** Delete the character to the right of the cursor
- **Alt + Del:** Delete an entire line
- **Shift + Shift (press it twice):** Activate caps-lock; press shift once more to exit
- **Alt + Trackball-Left:** Move cursor to beginning of line
- **Alt + Trackball-Right:** Move cursor to end of line
- **Alt + Trackball-Up:** Move cursor to top of page
- **Alt + Trackball-Down:** Move cursor to bottom of page
- **Shift + Trackball-Left/Right:** Highlight text for cutting or copying
- **Menu + X:** Cut text (will cut all text on screen unless specific characters are highlighted)
- **Menu + C:** Copy text to clipboard (will copy all text on screen unless specific characters are highlighted)
- **Menu + V:** Paste text from clipboard
- **Menu + A:** Select all text in the current field

Browsing

- **Menu + I:** Zoom in
- **Menu + O:** Zoom out
- **Menu + J:** Go back a page
- **Menu + K:** Go forward a page
- **Menu + R:** Refresh current page
- **Menu + F:** Find on page
- **Menu + B:** Open bookmarks
- **Menu + S:** Open social network sharing menu
- **Menu + H:** View browsing history »

- **Menu + S:** Open browser settings

Gmail

- **F:** Forward current message (works only while inside the message)
- **R:** Reply to current message (works only while inside the message)
- **A:** Reply-all to current message (works only while inside the message)
- **Y:** Archive message (works from within message or while on main inbox list)
- **Menu + U:** Refresh inbox
- **Menu + C:** Compose new e-mail
- **Enter:** Open an e-mail (from the main inbox list)
- **Alt + Trackball-Up:** Jump to top of inbox
- **Alt + Trackball-Down:** Jump to bottom of inbox

Apps

- **Search + B:** Open browser
- **Search + C:** Open contacts
- **Search + E:** Open e-mail
- **Search + G:** Open Gmail
- **Search + I:** Open calendar
- **Search + M:** Open maps
- **Search + P:** Open music
- **Search + S:** Open text messaging
- **Search + Y:** Open YouTube

You can also customize the keyboard shortcuts for applications: Just go into "Applications" off the main system set-tings menu, then select *Quick Launch*. From there, you can change any of the above app-controlling hotkeys and add in your own. •

Manage Multimedia in Android

Everything you need to know to find and enjoy your favorite tunes, shoot and edit pictures and video, and have more fun with Google Android.
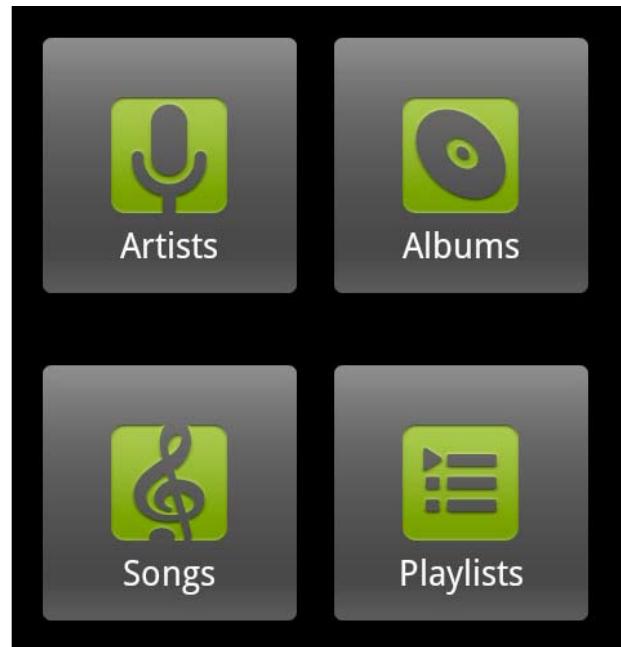
Manage Music With Android

BY ROBERT STROHMEYER

GOOGLE ANDROID IS a great platform for mobile communications, but it's also designed from the ground up to offer a rich multimedia experience. Your Android device is jam-packed with features that let you manage and play your digital music in a variety of ways.

Like Apple's iPhone, Android has its own built-in music player with a large touch-screen interface that's easy to control while you're on the go. However, because Android is an open platform, you'll find no shortage of third-party music apps that go well beyond the capabilities of the basic Android Music app. Let's explore all of Android's music

management features, and take a look at some of the best music add-ons available in the Android Market.

Load Your Tunes

While some phone manufacturers have come out with customized desktop applications for managing media on their Android devices, these apps are not essential for copying music and other files from your desktop computer to your Android phone. All you really need to do is connect the phone to your computer's USB port and touch the notification area at the top of your phone's screen. Tap USB connected in the notification area and then tap *Mount* to make your »
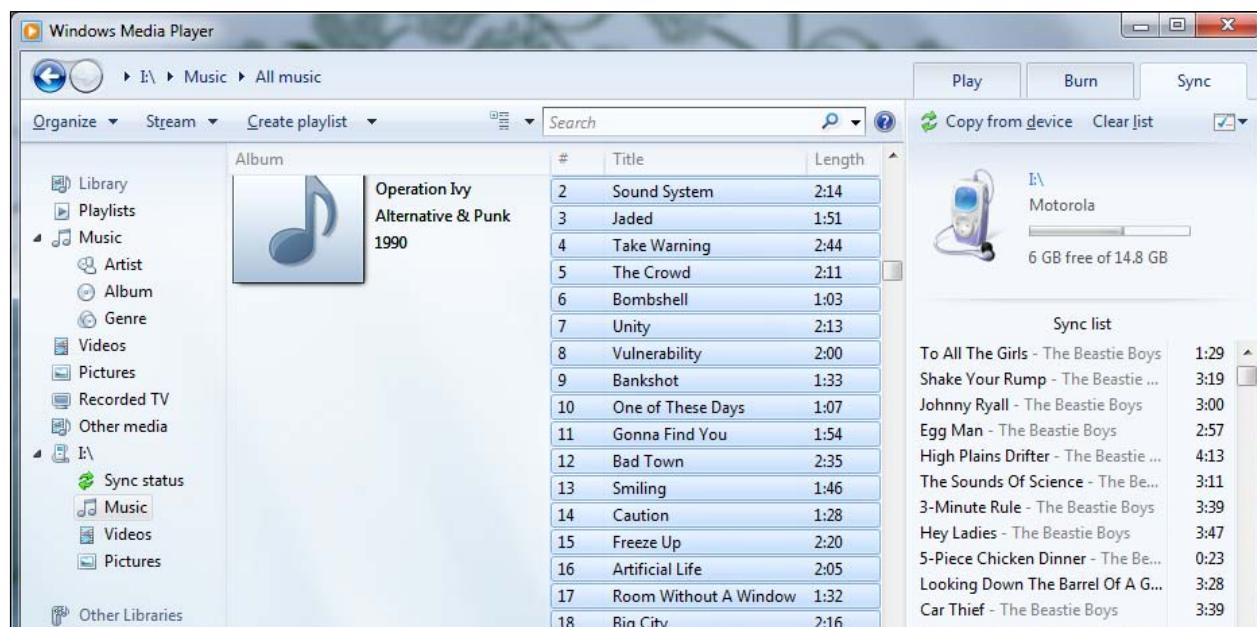
Windows Media Player makes a very good desktop client for your Android music library.

Android hard drive appear as a storage device on your desktop. This process works the same way in Windows, on the Mac, and in Linux.

Once your computer mounts the Android drive, you can open it to view the files and folders on your phone. Simply locate any DRM-free music files on your PC's hard drive and drag them to the Music folder on your Android device.

Sync With Windows Media Player

Most Android phones don't come with their own desktop sync utilities. But if you want the convenience of automatic desktop synchronization in Windows, you need look no further than Windows Media Player.

To sync your tunes (as well as your pics and videos) with Media Player, first take the same steps as described above: Plug your Android phone into your PC's USB port, tap *USB connected* in the phone's notification area,

Tap Mount to make your Android SD card visible on your PC.

Tap the price button to purchase any song in Amazon's MP3 store.

and tap *Mount* to make your phone recognizable in Windows. Then launch Windows Media Player and wait for your phone to appear as a drive letter in the left pane of Media Player's Library view.
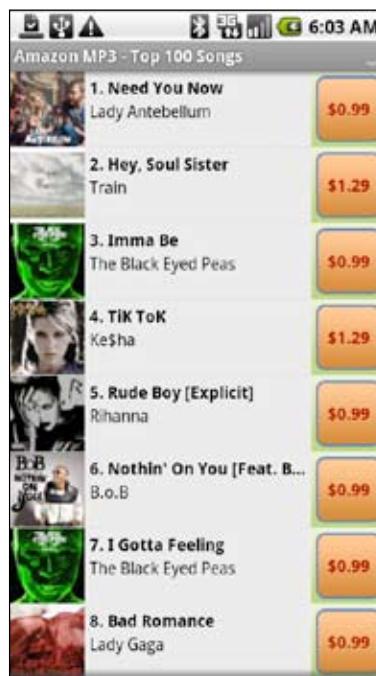
To set up syncing to your phone, click the *Sync* tab in the upper-right corner of Windows Media Player and then click the small (and unlabeled) *Sync options* drop-down menu under that. Click *Set up sync...* and then either name your device or leave it as the drive letter, at your preference. When you click Finish, you'll have a sync relationship configured so that your phone will update to mirror your PC's Music folder whenever the handset is connected.

Amazon MP3 Store

In addition to dragging music directly onto your phone via USB, you can purchase songs and albums from Amazon's online music store and download them directly to your phone over the air. »

Android Apps

For fun,
productivity,
security,
and more,
there's an
Android App
for almost
anything.

Your Guide to Android Apps

BY ARMANDO RODRIGUEZ

YOUR ANDROID PHONE or tablet is only as useful as the applications you put on it. Lucky for you, there are tons of apps to choose from. The Android Market is filled with all sorts of apps that can turn your phone into a business machine or an awesome mobile entertainment center.

With so many apps to choose from, it's quite easy to be overwhelmed when trying to manage your apps. Here is everything you need to know about finding, installing, and managing apps on your Android device.
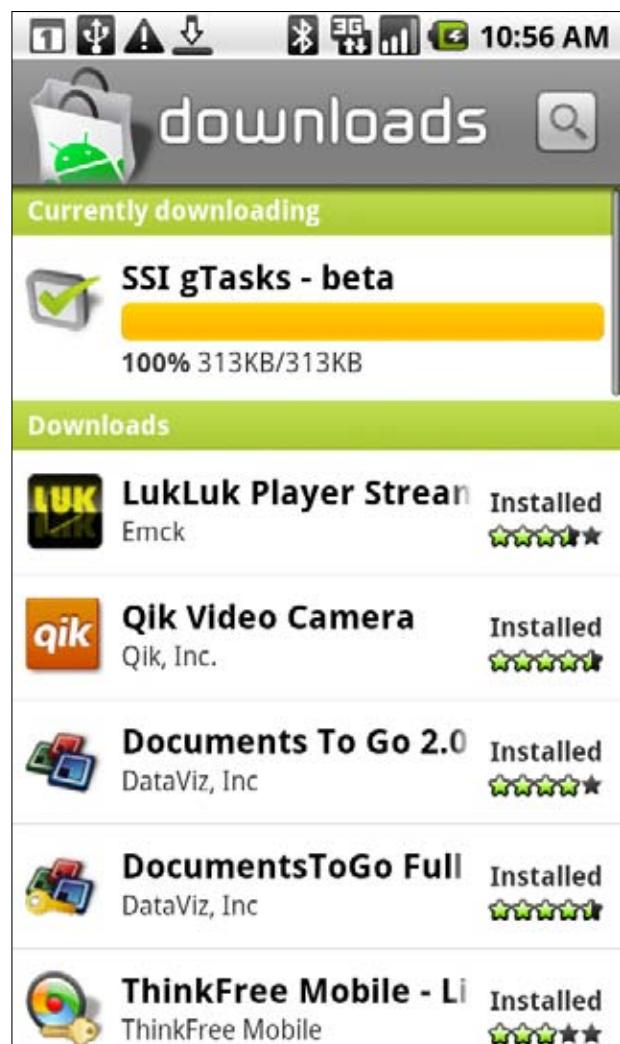
The Android Market

There are several ways to get apps onto your Android device, but I am just going to focus on the Android Market since it is the easiest way to find and install Android applications.

You get to the Android Market by tapping the 'Market' icon on your phone or tablet. On your phone, the Market will open to a page showing off a list of featured apps, and at the top of the screen, you'll find a tab labeled 'Apps,' one labeled 'Games,' and possibly another option specific to your mobile carrier. Clicking 'Apps' will allow you to browse through applications based on catego-

ries like productivity or weather. After choosing a category you would like to browse, you can filter your choices even more by selecting whether you want to view paid apps or free ones.

On an Android tablet, the Market »

When you download an app from the Android Market, the Downloads screen will show you the progress of the installation.

looks drastically different from its phone counterpart. Besides taking advantage of the larger screen, on Honeycomb the Android Market allows you to browse for books and rent movies that you can view on your device.

If you need to find a specific app, try searching for it using the magnifying glass at the top of the screen.

Once you find an application or game that you would like to download, simply hit the *Install/Download* button and check to make sure the app permissions are okay. In order to purchase applications, you are going to need a Google Checkout account. It is relatively easy to set one up and your purchases and information will be secure. If you accept the permissions and want to purchase the app, hit 'OK', and the app will start downloading. You can check on the progress of your downloads in the notification bar at the top of your display and see when they are done being installed.

Online Shopping

You can download apps even if you don't have your Android device with you. By going to www.market.android.com and signing into your Google account, you can browse the entirety of the Android Market and download applications without ever having to touch your phone or tablet.

The online version of the Android Market gives much more information than either the phone or tablet version. You can view videos about certain apps, see system requirements, and even share applications with others.

If you want to share an app with your friends, you can tweet a link via a small Twitter button on the right side of every app page. Those on mobile devices can click the link, and it will directly open to the app page in the Market on their device. Those on PCs will be taken to the app's page on the browser-based Market.

You currently cannot buy apps for friends as you can in iTunes, but you can buy an app once and install it on another device by going through your purchase history and redownloading the app.

Other App Stores

Besides the Android Market, there are several third-party app stores through which you can obtains apps. Websites like Getjar and Amazon have their own app stores that allow you to download applications not normally found on the official Android Market.

Since these apps are not downloaded through the Market, you will have to download the Android Package file (.APK) from these websites and install the .APK yourself. You can do this by going to *Settings, Applications* and selecting *Unknown Sources.*

Updating Your Apps

If one or more of your downloaded applications has an update, a notification »