

The Complete Guide to Google Android



**118
PAGES
OF REVIEWS
AND TIPS**

Master every feature of your smartphone or tablet
Manage your music, messages, photos & social life
Best 50 Android apps reviewed

Welcome

...to the Complete Guide to Android

B

ack when Google first contemplated getting into the smartphone game, it raised many eyebrows and got open-source software fans rubbing their hands together at the thought of a mobile Linux device. Yet if it bothered the likes of Nokia and BlackBerry maker RIM, they showed no sign of it at the time.

Perhaps they should. Specifying a sensible set of features including a fast processor, GPS, Google's web browser, a camera and an open app architecture, Android won fans from the start. When the HTC-designed Google G1 handset appeared in late 2008, it was an instant hit.

Two years later, Android had not only stolen significant share from established smartphone players; it had thrown the whole caboodle up in the air. The Apple iPhone had shown what was possible for a new sort of device and apps to customise it. Google ran with the idea and embraced hardware and app makers across the board.

While Nokia and BlackBerry smartphones are now decried for their paucity of apps (rather than lauded for their design and communication innovations), Android is the platform of choice for app makers keen to distinguish themselves from the iPhone crowd or to port a good idea to another popular OS.

Previously, an android was a plastic-coated robot of indeterminate gender, the golem of the sci-fi age. Now, Android is synonymous with the overarching success of the world's most successful web startup, Google, and the embodiment of our 21st Century obsession with sharing our lives online.



*Rosemary Hattersley
Editor*



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Chapter 1

Introducing Android



Android versions

Google's mobile operating system gets better with each revision

Google's move into mobile started back in 2005, when the internet search giant acquired a small startup company called Android, Inc. Rumours immediately began to surface that Google was planning to develop its own challenger to Apple's iPhone.

As things turned out, it wasn't just about 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 telecoms companies, unveiled Android, a brand new mobile platform based on the open-source Linux operating system.

OPEN SEASON

Because Android is open-source, the platform has many advantages for consumers and developers. Makers of smartphones and other mobile devices have more freedom to tweak the software to meet their needs, opening up a wider range of options.

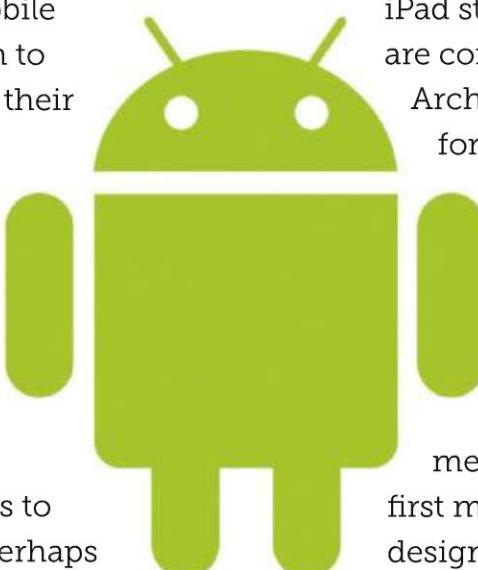
A few makers have created custom user interfaces that run on top of the Android operating system (OS), morphing its aesthetics and usability. Android also allows vendors to create their own widgets. Perhaps

the best-known example is HTC's Sense user interface. Among other innovations, this has a Friends Stream widget which aggregates and displays activity from your various social networks. Similarly, Motorola's MotoBlur interface features a widget called Happenings, which displays your social networking activity directly on your Android homescreen. Other bespoke interfaces include Sony Ericsson's UX and Samsung's TouchWiz 3.0 and S Life (coming to Samsung phones in summer 2011).

Another advantage of open-source is that Android isn't tied to any single device, whether it be a phone, a netbook or a tablet. As we'll see later in this guide, hardware makers are squaring up to the challenge posed by Apple's incredibly successful iPad by building Android-based 'slates'. As well as the Samsung Galaxy Tab, which we contrast with the iPad starting on page 8, there are contenders from ViewSonic, Archos and Advent, plus a forthcoming Android-based portable entertainment device from Philips.

NEW VIEWS

Hardware iterations for Android phones, meanwhile, vary a lot. The first models, such as the HTC-designed G1, were almost all





▲ **Android version 2.3 'Gingerbread' will be available on the next generation of handsets, such as the Google Nexus S.**

purely touchscreen-based handsets featuring an admirably simple interface. The screens had limited resolution, however, and weren't especially responsive. But interest in the Android idea carried the day, and better hardware and new designs soon followed.

The next significant release, the Motorola Droid (known in the UK as the Milestone), was a hefty capacitive touchscreen model with a slide-out Qwerty keyboard, faster processor and responsive GPS module. 2010's big hits were HTC's Desire – at £20 to £25 a month, the first mainstream Android device – and the iPhone-rivalling Samsung Galaxy S, with its slim design and incredibly bright superAMOLED display.

In fact, whether you want a built-in keypad or a large touchscreen (or both), you can now probably find an Android phone to match your preferences.

BAKING GINGERBREAD

As this book went to press, Google unveiled version 2.3 of the Android OS, nicknamed 'Gingerbread', offering faster processing, better battery and application management and the intriguing idea of NFC (near field communications), bringing the prospect of using Android phones for contactless micropayments.

Our first impressions of Gingerbread on the Google Nexus S – an even faster version of the nippy Samsung Galaxy S phone that we like so much – were rather good. A 1GHz Hummingbird processor, a subtly curved screen that seems to cup the ear when you make a call, plus remarkably smooth navigation and onscreen scrolling made us drool.

Android benefits from its close ties with Google. Services such as Gmail, Google Calendar and Google search with

Only connect

Besides being able to choose between numerous Android devices from different manufacturers, you also have considerable freedom in selecting a mobile network. Android phones are available for every major mobile phone carrier, while a slew of lower-cost, unlocked Android models have become available on a pay-as-you-go basis. Some Android-based devices, meanwhile, rely on Wi-Fi connections and have no cellphone function, thus requiring no contract.



voice (letting you speak what you want to find) are tightly integrated, and Android users get first dibs on Google apps such as Google Voice, Google Latitude, Maps Editor and Skymaps.

Users can also choose from thousands of third-party apps in the Android Market. Though this hasn't yet quite matched Apple's App Store in the number and quality of apps on offer, it's getting there. The Android Market stocks both paid and free apps that you can download directly to your device.

MARKET VALUE

Unlike Apple, Google doesn't have a stringent approval process for apps, so developers can get their software into the Android Market faster and more easily. And, unlike the iPhone's App Store, the Android Market isn't the only place where Android users can get apps to run on their devices. Other sources include web-based third-party Android app libraries (such as AndroLib.com) and individual developers' websites. The choice is yours.

Research firm Gartner predicts that Android phones will become the second-largest smartphone platform by 2012, right behind long-time industry leader Nokia. As Android software grows more refined, and as the variety of devices on the market increases, this prediction doesn't sound at all far-fetched.

Since its inception, Android has shaken up the mobile world – and that in itself is worth paying attention to.

Know your version

Before buying an Android device, check which operating system version it has. Each new flavour – named after a tasty treat – adds a different set of features.

Android 1.5 (Cupcake) April 2009

- Video capture and playback
- YouTube and Picasa direct upload
- Bluetooth A2DP support
- Desktop folders and widgets
- Copy/paste expanded to web pages
- Updated software keyboard

Android 1.6 (Donut) September 2009

- Gallery allows deletion of multiple photos
- Enhanced Android Market
- Faster Voice Search with more integration
- Combined camera/camcorder gallery
- Search from home screen via widget
- Text-to-speech

Android 2.0/2.1 (Eclair) October 2009

- Spruced-up interface
- Animated wallpapers
- New browser interface with HTML5
- Microsoft Exchange
- New contact lists
- Bluetooth 2.1
- Enhanced software keyboard
- Flash and digital zoom for camera

Android 2.2 (Froyo) May 2010

- New homescreen widget
- Unified messaging
- Assisted GPS
- Support for microSD Card
- Application sideloading, storage and access
- USB tethering
- Flash 10.1 support
- Over-the-air updates

Android 2.3 (Gingerbread) December 2010

- NFC (Near Field Communications)
- Automatic app shutoffs if they overload the device
- Better battery management

Clash of the tablets

Apple's iPad is a hard act to follow, but Android is starting to compete.

The Android-versus-Apple battle has spread from smartphones to the new world of tablet devices. Samsung's 7in Galaxy Tab is built to compete with the iPad. It's not the only Android tablet – we review it alongside some of its rivals in chapter 7 – but it's probably the most serious contender. By way of introduction to Android tablets, let's compare the Samsung directly to the iPad.

The first thing that strikes you on picking up the Tab, especially if you've already tried an iPad, is its manageable size. Smaller than the Apple but larger than a mobile phone, it's compact enough to fit into tight spaces – even a roomy pocket – yet large enough

to make viewing pleasant. We found it comfy to hold, unlike the iPad, which weighs twice as much and is too heavy to grasp with one hand for any length of time.

SMALL IS BEAUTIFUL

Clearly influenced by Samsung's Galaxy S phones (see chapter 5), the Tab looks more stylish and less clunky than some of the off-brand Android tablets around. The size and weight allow you to hold the Tab and type with your thumbs on the virtual keyboard, using two hands or even one.

Although the Super VGA 1024x600-pixel TFT display appeared quite bright and viewable even at an angle, it may not prove quite so visible in bright sunlight. Samsung claims that its screen has a wider viewing angle and higher contrast ratio than the iPad's. Apple's display, by comparison,

has more





► How does Samsung's Tab (right) stack up to the Apple iPad (below left)?

pixels but, since they're spread over a larger area, a lower number of pixels per inch, though it doesn't seem any less sharp for all that.

While the iPad surprised many by having no camera at all, the Tab, like other Android devices, features two. It has a rear-facing 3.2Mp camera for photography, and a front-facing 1.3Mp camera which serves as a webcam for video chat.

The Tab has a proprietary charger port, and like the iPad it needs more juice than is available via USB. If you plug the tablet into a PC's USB port, or even a powered hub, you'll get only a trickle charge; instead, you need to plug it into the mains using the supplied adaptor. The 4000mAh battery will last through seven hours of video viewing (generally a high-drain task), according to Samsung; direct comparisons aren't easily made, but Apple's 10-hour claim for the iPad is supported by users.

In addition to a 1GHz Hummingbird processor, the Tab has a 3G mobile data connection, Wi-Fi and DLNA support, 16GB of built-in storage, and a MicroSD slot for expanding the memory up to 32GB.



BEATING THE SYSTEM

Running Android 2.2 (see page 7), the Tab supports Adobe Flash 10.1 and Microsoft's PlayReady DRM, and comes with a tablet-optimised version of TouchWiz 3.0, the user interface found on the Galaxy S phones.

Like those phones, the Tab supports the Swype input method for faster typing; Samsung's Social Hub for aggregating email, text, and social network messages; and a new service called Media Hub for download and rental of TV shows and movies. You can share a Media Hub account among up to five Galaxy devices, although you can't yet start watching something on one and then resume from the same place on another.

Samsung has spent time optimising Android for a tablet screen, redesigning the email, memo, file management, calendar,

Spot the difference

While Apple's mobile operating system has plenty of strengths, an Android tablet such as the Tab could have an advantage in numerous areas.

■ Apps Apple's App Store may have more items, but Android lets you install what you like. With no pre-approval, there's no censorship of content.

■ Tethering Android opens up the potential to hook up your laptop to a 3G tablet and use its internet connection without having to pay extra.

■ Flash Love it or hate it, Flash is a big part of the web. iPad can't display it.

■ Direct access Android devices can act like hard drives: you can drag and drop files from your PC, and browse your device like a computer. Apple insists you use iTunes to transfer files.

■ Battery replacement Most Android device makers use removable batteries. When the battery fails (they don't last as long as the device is designed to) you can order a new one and install it yourself. Apple requires an engineer.

contacts, messaging, music and video apps. Email, for example, has an iPad-esque dual-pane view in landscape mode that shows the open message and your inboxes.

The Android Desktop has been tweaked too. A sliding tray of icons (browser, apps, email and the like) sits at the bottom, while widgets occupy the middle. An enhanced status bar resides near the top; above it is the Android-standard notifications bar. The ability to pinch to view your multiple home screens – a feature not offered on the Galaxy phones – is available here.

Three e-reader apps (PressDisplay for news, Kobo for e-books and Zinio for magazines) are preinstalled. Of course, you can also download and use any Android e-reader app; the only question is whether it's been designed to work with tablets.

Samsung says all the apps in the Android Market will run on the Tab, although just a small number are optimised for this size of screen. The iPad, similarly, can run almost any app designed for the iPhone (or iPod touch), and a large number have already been optimised for the tablet, or designed for it from scratch, including magazines from many well-known publishers. Standard Android apps appear on the Tab at 800x400 size in the centre of the screen and look better than iPhone apps do on the iPad.

For work, the Tab has Microsoft's Document Viewer and Editor preinstalled, allowing you to work on Word, Excel, PowerPoint and PDF documents. There's no equivalent for the iPad, although you can view many file formats, and business apps available include Apple's iWork suite.



2

Getting to know Android

Chapter 2

Getting to know Android

Android essentials

Get to grips with the basic features of your new smartphone or tablet

Android can do so much for you but, as with any operating system, you have to know where to begin. And it's not just a matter of flicking through the preset features. Compared to the iPhone's set-in-stone interface, Android gives you ample room

for customisation and control. To whet your appetite, here's a quick round-up of the essentials you should be familiar with.

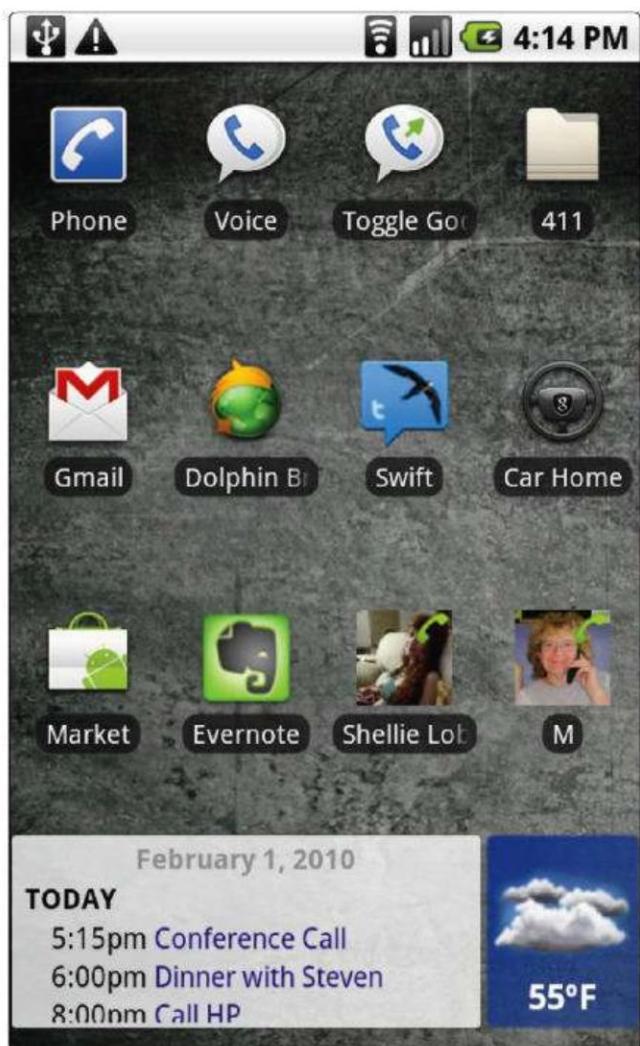
THE DESKTOP

The first thing you'll notice about Android is that its desktop differs somewhat from those on other smartphone platforms. You have a lot of freedom to make the Android interface your own, and you're not limited to four simple rows of perfectly aligned square icons. Instead, you can set up your desktop to reflect your interests, and you can make it as rich and dynamic as you like.

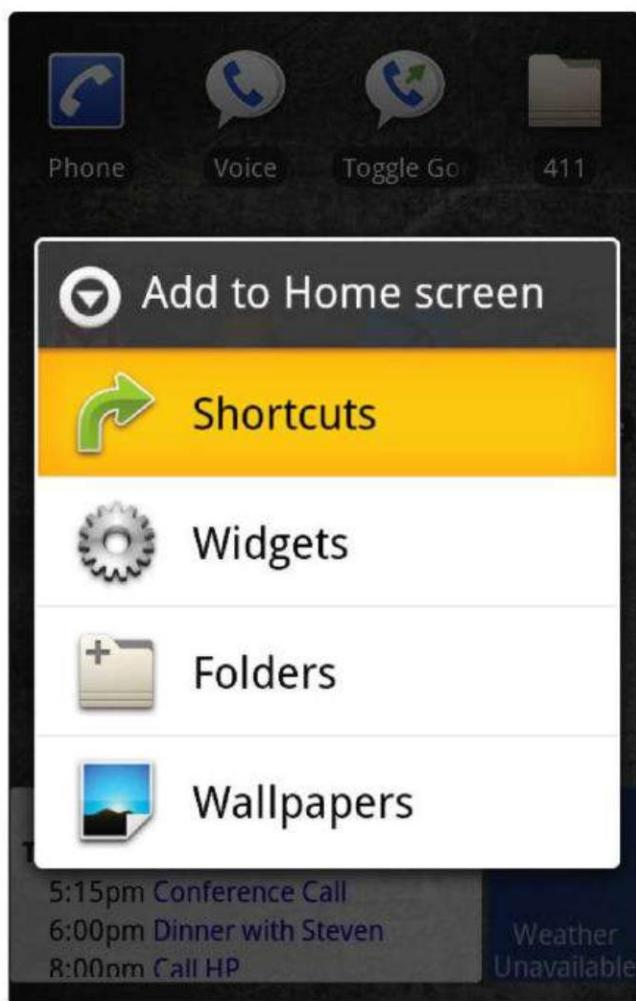
The Android desktop is composed of multiple home-screen panels. Depending on the version of Android that your device uses and on whether it's been supplied with a proprietary 'skin', you may have anything from three to seven panels.

When you power up your phone for the first time, you'll see the main home-screen panel. It's typically centred, so you can access additional panels on either side of this main one by swiping your finger across the screen to the left or right. From Android 2.1 onward, you can also see thumbnail-size icons of all of your panels at the bottom of the screen; to jump directly to a panel without swiping, simply tap on the associated icon.

What goes on each of these home screens is up to you. You can fill the space



▲ The Android desktop can be tweaked to show exactly the items you prefer



▲ To add a shortcut, press and hold any empty space, then pick this menu option

with any combination of shortcuts, widgets and folders. As you'd expect, shortcuts are small icons that let you load apps or other functions on your phone; they work much like the ones you'd see on a Windows PC. You can set a shortcut to do anything from opening a program or linking to a specific web page to initiating a phone call.

To add a shortcut, just press and hold your finger on any open space on your home screen, and select Shortcuts from the resulting pop-up menu. From there,



▲ Android widgets add handy extra features to your device's home screen

select Applications (to add an app), Direct dial or Direct message (to create a shortcut for calling or texting a friend), Bookmark (to open a web page) or Directions (to activate turn-by-turn navigation to a destination in Android 2.0 or higher).

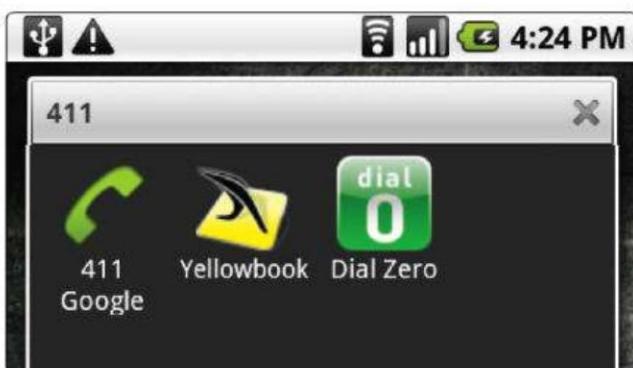
Widgets are dynamic programs that operate directly on your home screen. A widget might show the latest weather, for example, or let you play music from your device's memory or from the internet. Limitless options are available from the ever-expanding Android Market.

To add a widget, press and hold on an open space, as above, but this time select the Widgets option from the menu that pops up. Even if you haven't yet downloaded anything from the Android Market, you should have a handful of options built into your device.

Start by adding the Power Control widget, which creates a handy one-touch toggle control for your phone's Wi-Fi, Bluetooth, GPS, data syncing and screen brightness functions.

ORGANISING YOUR ICONS

Folders are a good way to keep your content organised while simultaneously expanding your home-screen space. A folder lets you group multiple shortcuts in a single slot. When you tap on a folder, a box pops up showing all of the shortcut icons inside the folder. You could fill one folder with one-touch dialling shortcuts to all of your favourite contacts, and another, perhaps, with various phone-number lookup utilities. Folders help you add many useful things to your home screens without eating up a lot of space.



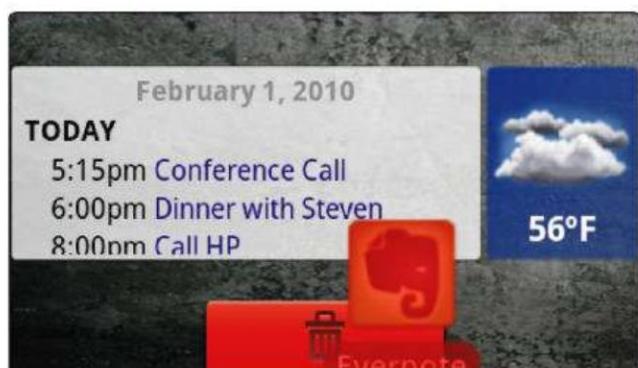
▲ Folders combine multiple icons into one, saving space on your home screens

To add a folder, press and hold your finger on an open space. Select Folders, and then New Folder. Then drag and drop as many shortcuts into the folder as you wish. To give it a custom name, tap the folder once to open it, and then hold your finger along the top bar until the Rename folder dialog box appears on your screen.

To move any shortcut, widget or folder, simply touch and hold your finger to it. After a couple of seconds, it will seem to lift up from the screen. You can then drag it anywhere, including to another panel, and drop it wherever you like. As you drag and drop, you'll also see a trash symbol at the bottom-centre of the screen; slide any icon down onto the trash symbol to remove it from the home screen altogether.

GETTING AROUND

Android phones have four standard keys: a Back button, a Menu button, a Home button and a Search button. These will help you navigate through your phone more easily, no matter what program or process you're running.



▲ To delete an icon you don't need, press and hold it and drag it to the Trash icon



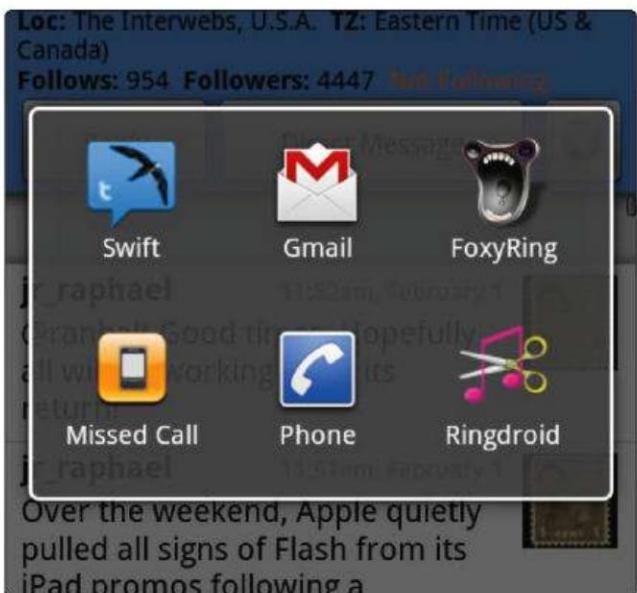
▲ Tap your device's Menu button to display custom display options

Pressing the Back key takes you back one step to whatever you were doing before beginning your current step. It works in many different contexts: web navigation, email navigation or navigation to a previously open program.

Pressing the Menu key brings up a list of options relevant to the area of the phone you're currently using. When you press it on the home screen, it permits you to access your phone's settings and other customisation options.

The Home key has two functions. If you press it once, it takes you back to your home screen. If you press and hold it, it allows you to multitask and switch to other programs you've recently used.

Pressing the Search key produces different results depending on where you are in Android at the time. From your home screen, it brings up a Quick Search box that you can use to search the web



▲ To launch a link, tap the app you want to use in the selection box that pops up

and your phone at the same time (Android will return the most relevant results as you type.)

From within an app, the Search key typically starts a search specific to that app, enabling you to search within your email, for example.

THE APP LAUNCHER

You can always find all of your apps in the app launcher. On phones running Android 2.0.1 or earlier, you open the app launcher by touching the grey tab at the bottom centre of the home screen. Starting with Android 2.1 devices, a new square-based icon supplanted the grey tab. The app launcher itself has a slightly different look from 2.1 onwards, too.

Within the app launcher, you can tap any app's icon to run the program, or press and hold it to drag it directly onto your home screen as a shortcut.



▲ The Search field starts finding while you type and autocompletes your queries

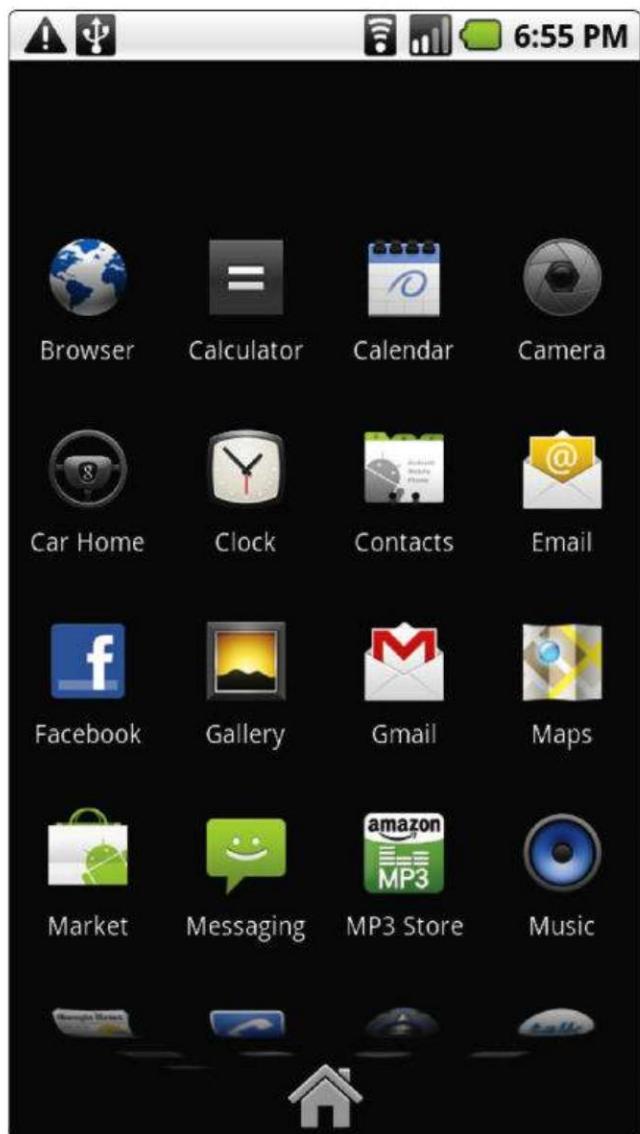


▲ The notification area slides down from the top of the screen to display alerts

NOTIFICATIONS

Complementing Android's ability to deliver 'push' services, which show data as it arrives rather than waiting for you to ask for it, the notification area puts incoming information at your fingertips, no matter what you're doing at the time.

Notifications can come from many different places: email, voicemail, text messaging, social networking and news



▲ Each of your installed apps can be found in Android's app launcher

apps. When you get a new notification, an icon will appear at the top left of your screen. You can pull down the panel to see detailed information about the notification and then take action if you wish.

Check the settings of the various applications that may be installed on your device to see what kind of notifications they offer, then customise them to work the way you want.



Customise your Android device

Make your hardware truly your own with some personalised tweaks



ne of Android's biggest strengths is its flexibility. You can tweak just about every aspect of the interface, from the desktop wallpaper to the blinking LED indicator light. Here's how to give the system your own touch.

LOOK AND FEEL

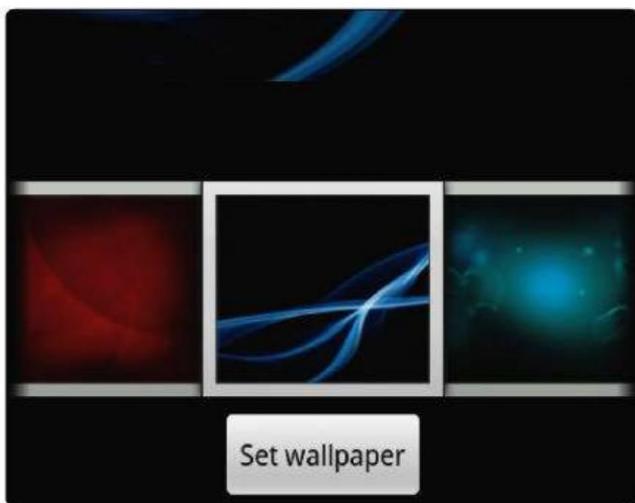
The first thing you might want to personalise is your background wallpaper. This couldn't be easier: tap the Menu key, then pick Wallpaper. You can select a picture from among your own photos or from the collection of backgrounds supplied.

Beginning with Android 2.1, you can also choose any of several 'live wallpapers' that move and even respond to your touch.

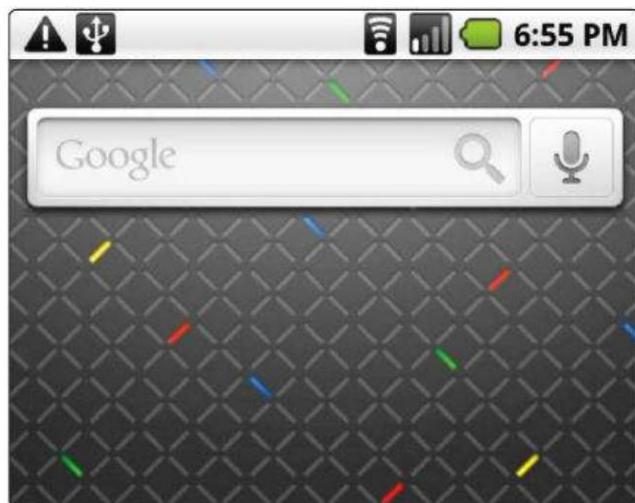
Another way to set your wallpaper is directly from the picture gallery. With an

image selected, just tap anywhere on the screen and select Set As. You'll be given an option to make the current picture your wallpaper. To extend your options, try using an app such as Backgrounds, a free download from the Android Market. This program gives you thousands of wallpaper designs to choose from and apply directly to your Android desktop.

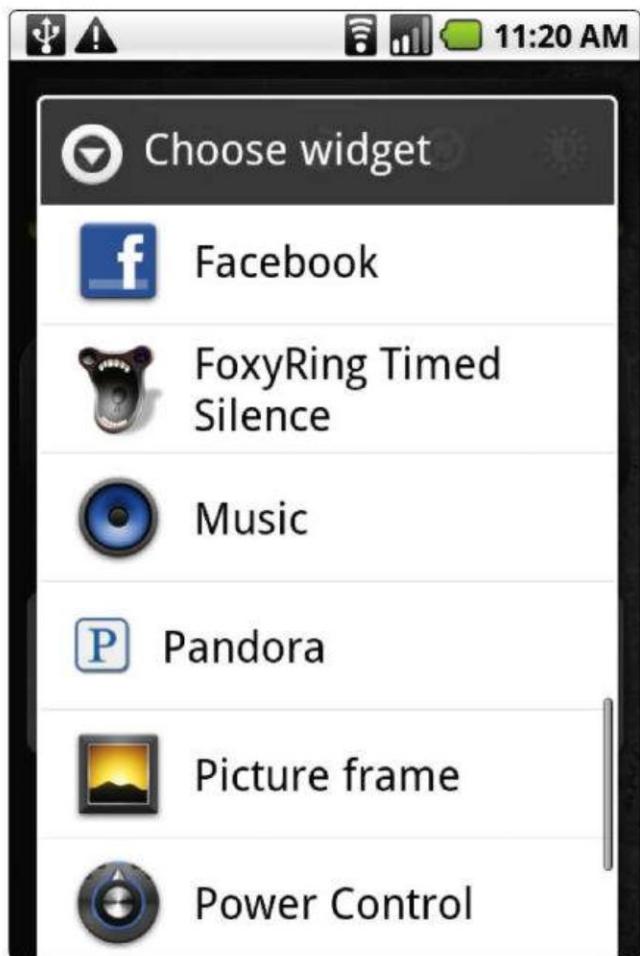
As we've already seen, the wallpaper is only the beginning: with Android, you can set up your home screens exactly as you like. Another element to play with is widgets. These come in all shapes and sizes; several are pre-loaded, and many others are available either as standalone downloads or as part of fully fledged applications in the Android Market. When you see an app refer to a '1x1 widget', that



▲ All Android devices let you customise your handset with your own wallpaper



▲ Since Android 2.1, animated and interactive wallpapers have been supported



▲ Widgets for all kinds of purposes are easily added to your home screen

means the item will take up the space of a single shortcut-size square on your home screen; a 2x1 widget is two squares across and one high, and so on. While some take up entire rows, many useful widgets occupy only one or two squares, helping to make the most of your screen space.

To get you started, check out the free Weather Channel app, which includes a nice 1x1 widget that will detect your current location and keep you up to speed with the latest weather conditions.

For calendar power, try the highly customisable CalWidget, also free. It can

put your forthcoming appointments on your home screen in practically any size and colour scheme that you could want.

Pandora's free online music app includes a 4x1 widget that gives you onscreen controls over playback. The free VizBattery widget puts a 1x1 battery icon on your home screen so you can always see exactly how much juice you have left.

If you run a blog or website with Google Analytics, take a peek at the Analytics Widget. This shows you your total page views for the day in a 1x1 size.

Remember, each home-screen panel can hold any combination of widgets, shortcuts and folders.

SET YOUR OWN SOUNDS

Itching to make your Android phone's ringtone sound just the way you want? Tap the Menu key and select the Settings menu. From there, tap Sound and display.

All the basics should now be in front of you, including options to set the default system ringtone, the notification sound, and the general volume levels. You'll notice that your own MP3s don't appear in the list of ringtone choices. That's because your phone doesn't yet see them as system sounds. Fortunately, this isn't hard to fix: make a new folder on your memory card called 'ringtones' and copy MP3s into it, and they'll automatically show up in your selection list.

Want to set your own MP3 files as notification sounds or alarms, too? Just repeat the process described above, naming the folders 'alarms' or 'notifications' respectively. If you find yourself



Set the right tone

Personalise your ringtones and other Android system sounds

As well as adjusting the default sounds, you can customise ringtones and notifications for specific people or programs.

To change the ringtone associated with a particular person, open their profile in your Android device's contacts list. Press the Menu key, then tap Options and Ringtone. Whatever audio file you select will now play as the ringtone only when that person calls you.

Most programs have similar options to alter notification sounds individually. While you're in an app, tap the Menu key and select Options or Settings. If the app offers notifications of any type, you should see a way to set the sound, to

select whether it'll be accompanied by a vibration, and to choose whether it'll add a visual alert to your notification panel.

You can use any of these options to customise how you want to be notified about different events. You might, for example, want to hear a sound and get a vibration when new email messages arrive on your personal Gmail account, but receive only a visual notification without any sound when messages arrive in your work email inbox.

The same principle can be applied to text-messaging, Twitter apps, Facebook apps, or practically any other service for which there are associated alerts.

wanting to use only a certain portion of a song – say, the catchy chorus that starts 45 seconds into a favourite tune – grab the free RingDroid app from the Android Market. With this, it's easy to edit MP3s so that you can get the exact clip you need.

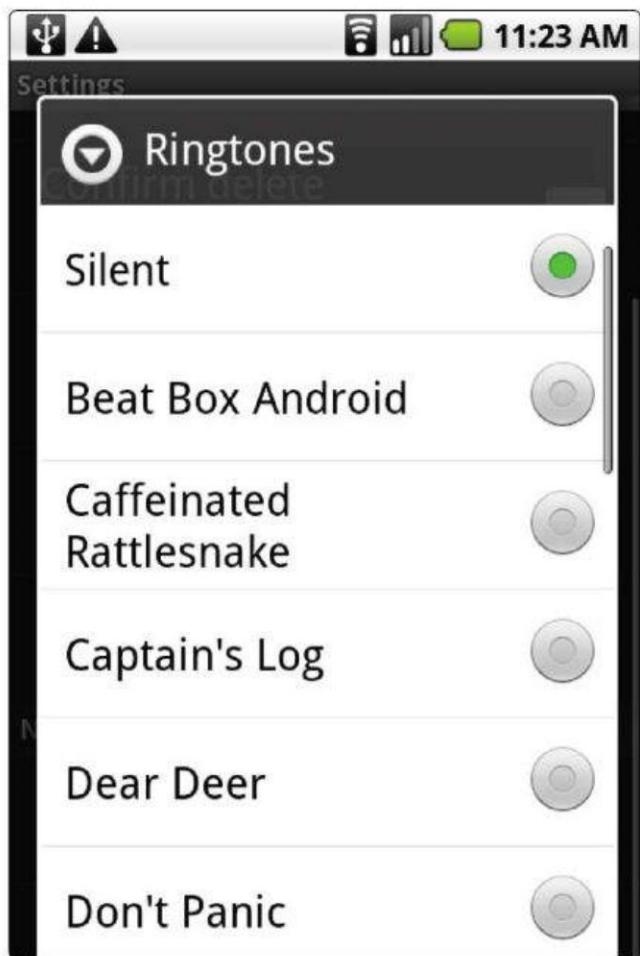
LIGHT ENTERTAINMENT

Most Android devices come with an LED indicator. By default, this usually flashes different colours to alert you to a missed call, to new email, or to a new text message. But you can make it do much more. Missed Call, a free app, harnesses the LED

to expand your device's notification functionality by making the light flash in specified colours when particular events happen. You could program it to flash orange when you miss a call from your boss and purple when you miss a call from your partner. You can even set flashing LED colours to alert you to calendar items and other customisable events.

MAKE ANDROID DO THE WORK

Personalisation doesn't just mean making your Android device cooler, it can also make your life easier.



▲ Widgets for all kinds of purposes are easily added to your home screen

Got an annoying relative or co-worker who can't take a hint? Route their calls directly to your voicemail and they'll never disturb you again. Just make sure you've entered the offending person's information into your contacts list, then open their profile and press the Menu key. Select Options and select the tick box for Send calls directly to voicemail.

You can control more closely how your phone handles calls and other tasks by installing FoxyRing, free from the Android Market. This app allows you to set custom parameters based on your



▲ The RingDroid app lets you cut your desired ringtone out of an audio track

location. You could have your phone always switch to silent when you're at the local cinema, for example, or to vibrate-only when you're at the office. FoxyRing also allows you to set 'sleeping hours' during which your phone won't ring at all.

For even more robust options, consider two paid-for apps: Setting Profiles and Locale. Available in the Market for \$4 and \$11 respectively, these let you set your phone to do all sorts of things based on conditions such as location, day and time or battery status. The apps can alter everything from advanced sounds to power



settings, and even perform complex actions such as opening other programs when preset conditions are met.

NAVIGATE IN STYLE

Depending on your device, using hotkeys to navigate the operating system might save you some time. Android has a built-in set of keyboard shortcuts, but you can also create your own. From your home screen, tap the Menu key and select Settings. Next, choose Applications and then Quick Launch to set hotkeys for any app.

When it comes to web navigation, you're not stuck with Android's default browser. Third-party alternatives offer powerful extra functionality. Try Dolphin Browser (free from the Android Market, or \$5 for a licence to remove in-app adverts) for options such as multitouch zooming, gesture-driven control, and seamless link-sharing to social networks.

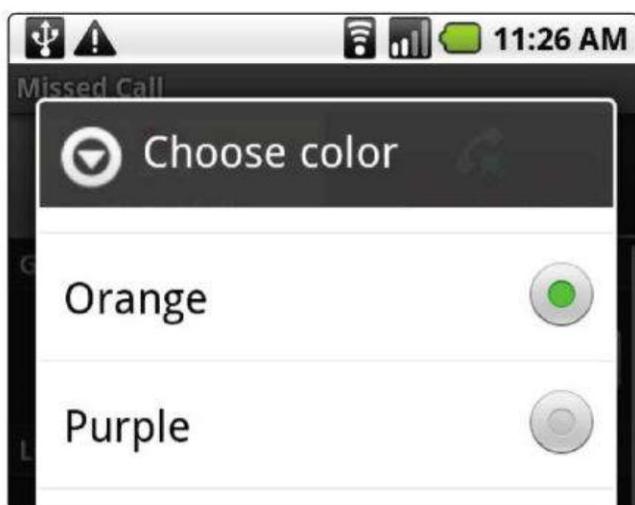
As for file navigation, you can browse an Android device like a computer

using a file manager such as Astro, free to download from the Market. This lets you browse through your phone and memory card directories and move files at will.

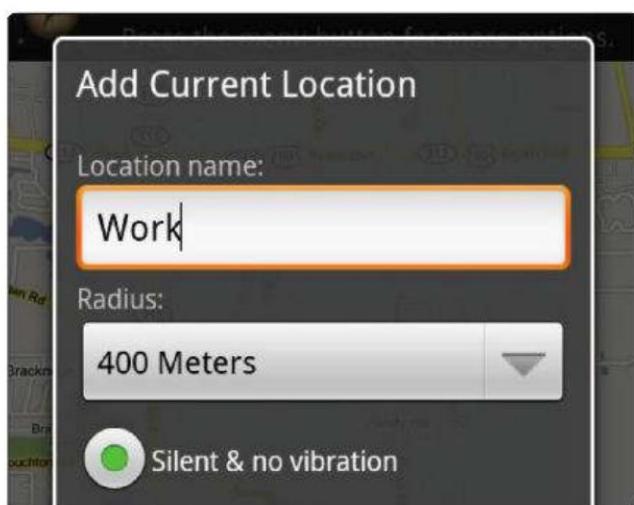
AUTOCOMPLETE YOURSELF

Last but not least, a word on Android's autocomplete technology. This can do much more than merely suggest words as you type into the Search box; it can also help you by filling in the phrases and proper nouns you use most often when entering text.

The secret is to edit Android's custom dictionary. Tap the Menu key from your home screen and go to Settings, Language and keyboard, then select User dictionary. Try adding your name, your street address, or any phrase you find yourself typing often (for example, 'I'm in a meeting – will call you back when I can'): from now on, those terms will pop up in the autocomplete list as you start typing them.



▲ Apps such as Missed Call use the LED light on your device for notifications



▲ FoxyRing is a free app that will select ring modes according to your location

Email and contacts

Bring your existing contacts and email accounts into Android



oogle's mobile operating system gives you plenty of ways to stay connected. Here's a tour.

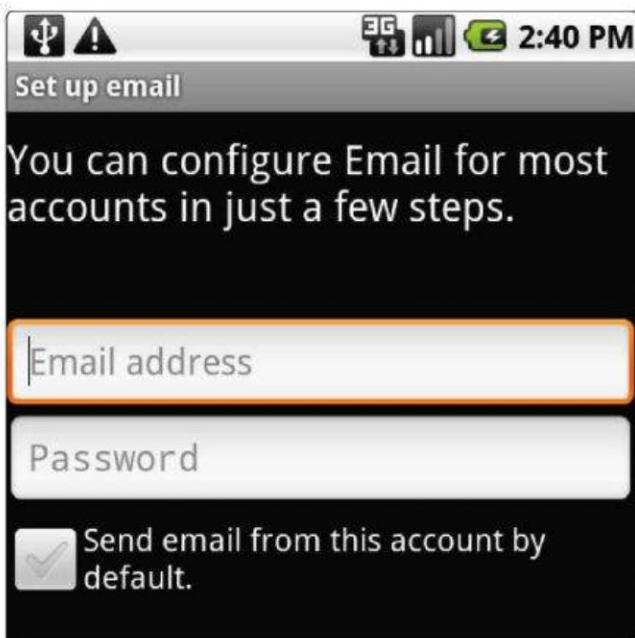
YOU'VE GOT MAIL

Android offers options for both Gmail and non-Google email accounts. When you first power up an Android device, the initial setup process will help you configure a primary Gmail account, which will automatically appear in the integrated Gmail app, and you'll always see mail appear there instantaneously as it arrives.

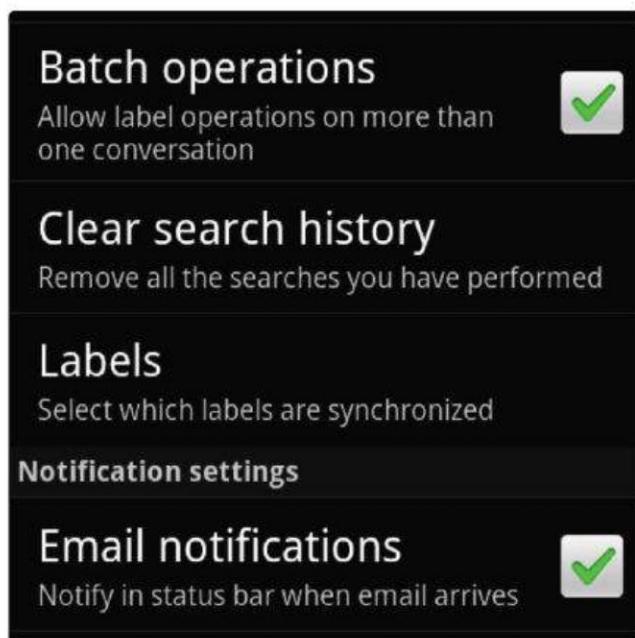
In Android 2.0 or higher, you can add other synced Gmail accounts. In the Gmail app, press the Menu key, then

select Accounts. Touch the Add account button at the bottom, then follow the prompts. Once the process is complete, you can toggle among your Gmail accounts by pressing the Menu key while in the app and selecting Accounts.

To customise how Android notifies you of incoming messages just tap the Menu key while viewing any account's inbox, and select Settings. If you don't want to be notified of new messages at all, untick the Email notifications box. If you want to receive only a visual notification – an alert in your notification panel and a flashing LED – set the ringtone to silent and untick the Vibrate box.



▲ When you set up your Android device, it'll ask for your Gmail account info



▲ Tick Email notifications to display an alert with each incoming email



Social networking and IM

It's easy to keep up with your social networks on your Android device. Facebook, MySpace and Twitter all have official apps to download free from the Android Market, each with a range of notification options. Third-party Twitter apps such as Twidroid, Swift and Seesmic offer alternative approaches. There's also support for all the major instant messaging (IM) platforms. Google Talk is preloaded on most devices, while apps such as Meebo, free from the Market, let you use this and other IM programs simultaneously, including AIM, Facebook Chat, ICQ, MSN, MySpace and Yahoo.

You can have individual settings for each Gmail account: just repeat these steps from any account's inbox and the changes will apply only to that address.

Any message you'd see in Gmail will now appear in Android too. Your sent, deleted, and even spam messages are also synced by default. Press the Menu key and select the View labels option in Gmail to access all of your different mail folders.

THE COMBINED INBOX

Besides Gmail, Android provides a general email app that can connect to multiple POP, IMAP and Microsoft Exchange accounts. Open the email app (found in the app launcher) and follow the prompts to add any email account you wish.

You have the option of configuring multiple accounts within a single combined inbox. While inside the app, tap the Menu key and select Accounts. This lists all the email accounts you've configured. Tap on any account to open it individually, or on Combined Inbox to view messages from all accounts together. You can always add more accounts from this

screen, too: tap the Menu key again to find the Add account option.

The email app, unlike Gmail, doesn't support 'push' (except for Hotmail), so messages won't show up instantaneously; instead, the app checks for new mail once every few minutes. You can define how frequently it checks each account in the Account settings menu (press the Menu key while viewing an account).

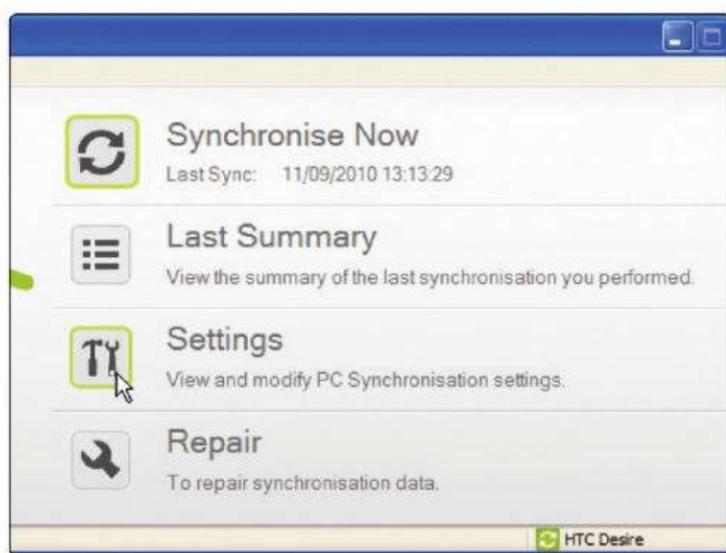
SYNCING OUTLOOK

Unless you're using an Exchange server, syncing Android with Outlook can be tricky. Google's full Outlook sync utility is available only to paid Google Apps users.

If you're not using Google Apps, try GOGO Contact Sync. This free open-source utility syncs your Outlook contacts with your Gmail contacts. As long as you use the Gmail account you set as your phone's default, contacts will automatically sync from Gmail to your phone. Or try HTC Sync, which we use overleaf.

Install Google's free Calendar Sync utility to sync your Outlook calendar to Gmail, thence to your Android device.

Step by step: email setup

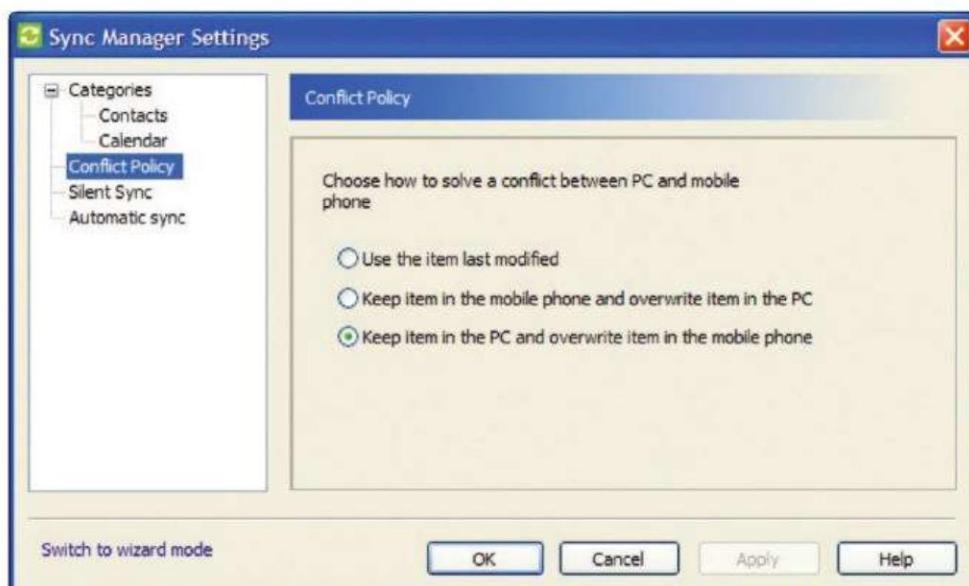


1 Import contacts Your Android device can incorporate contact data from a wide range of sources. On first use it will import your contacts from Gmail. If you also want to add contacts stored on your SIM card, open the Contacts app, press the Menu key and choose Import/Export, then Import from SIM card.

2 Install HTC Sync HTC Sync lets you synchronise the Outlook contact and calendar information on your PC with your phone. Install it from tinyurl.com/2b9sucs and launch the app. Choose Sync Manager, tap Settings, then work through the menu on the left-hand side.

3 Adjust sync settings One setting in particular is very important: it dictates what HTC

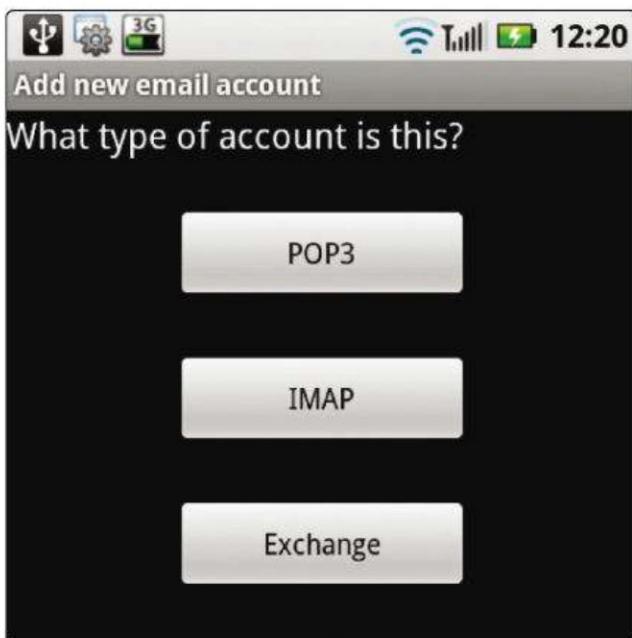
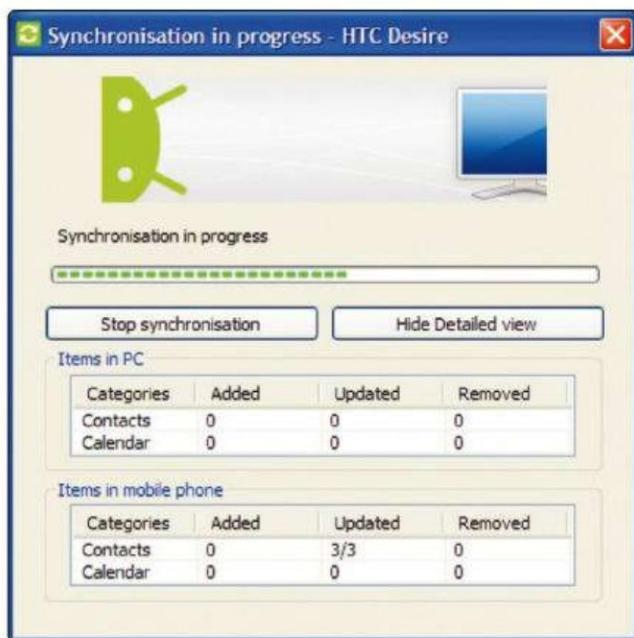
Sync will do in the tricky situation when the information stored on both your PC and your phone has been updated since the last sync. Be careful to choose the correct setting here to ensure that the most up-to-date information is retained following the next sync.



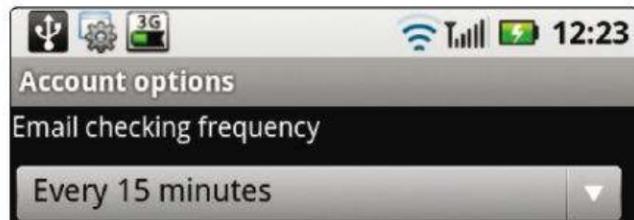
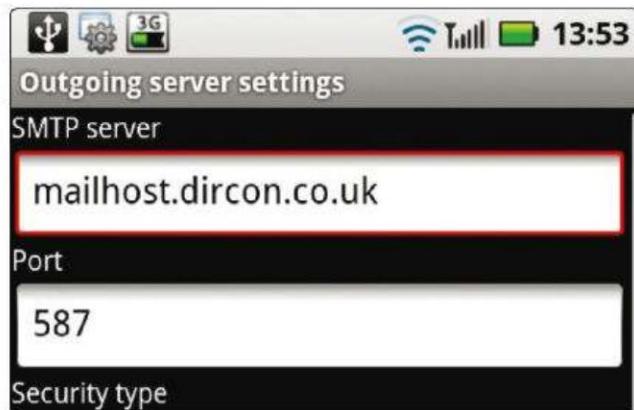


2

Getting to know Android



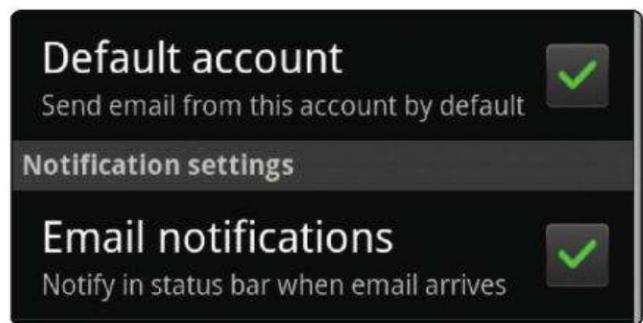
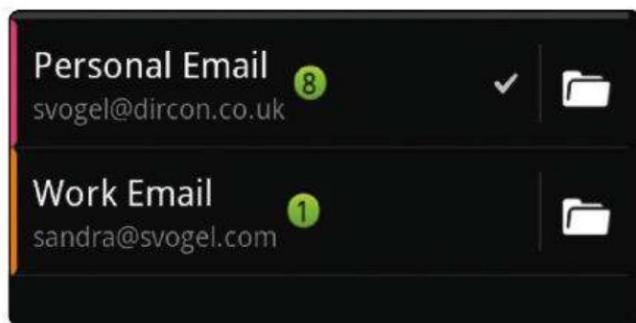
4 Perform sync Having checked that all the settings meet your needs, click Synchronise now. This process can take a little while to complete on the first run, since HTC Sync needs to copy across all the data from PC to phone; subsequent syncs will be faster, with the software looking only for changes made since the last sync.



5 Add email You've already configured your device to pick up email from your Gmail account (which is required for Android devices). But it can also cope with other POP and IMAP email addresses. To add a new email account, open the Email app and click Menu, Add Account. Enter your email address and password, then tell Android the type of email account you hold.

6 Enter details Add the required information when prompted. You'll need to know the POP3 and SMTP server information for this email account, which is available from your ISP. Before moving on to each new settings screen, Android will verify the information you have given it and warn you of any errors.

7 Pick options Set the frequency with which the email service should check for new messages and other handset notifications. Also give your account a name. This will be what appears on your outgoing mail.



8 **Inboxes** If you set up more than one email account, you can choose to view mail from each separately or in a single inbox. Press the Email icon, then choose either the combined inbox or select the inbox you want to view.

9 **Account settings** Open any account, hit the Menu button and pick Account Settings. Here you can alter the download frequency, how new messages are notified and more. The default account will be used whenever you compose an email.

Working with Google Voice

The smart way to handle texts and voicemail on your Android phone

Android smartphones have built-in apps for texting and voice-mail, but there's another option: sign up for the free Google Voice service. This provides SMS and voice messaging facilities too, while US and Canadian users can also use it to make cheap phone calls from (and to) a personal number, all over your smartphone's cell connection.

Once you've set up a Google Voice account, open the Google Voice app. This probably came preinstalled on your phone or tablet. (If you can't find it, try the Android Market.) Follow the prompts to connect to your account and you'll be up and running in seconds.

Without getting too far into the nitty-gritty of how Google Voice works,

let's take a peek at how you can optimise its features for your Android device. Within the Google Voice app, you can read and listen to any voicemail messages you've received at your Google Voice number, and send and receive text messages for free. Remember, though, that all messages will show as coming from your Google Voice number, not your main mobile phone number.

Originally, Google Voice could only check for new messages at preset intervals of five minutes or more. Now, however, you can opt for near-instant notification by turning on Inbox synchronisation. Open the Google Voice settings on your device and touch Refresh and notification. Select Synchronize Inbox to



start receiving faster notifications. This will automatically disable the option to forward texts to your mobile number, so you won't get the same messages twice.

Alternatively, you might want to route your messages via Gmail. Log in to the Google Voice website from a PC. Click Settings and choose Voicemail & SMS. Under Voicemail Notifications, tick the options to email both voicemail notifications and SMS messages to your Gmail account.

From now on, every time you receive a voicemail or text message via Google Voice, you'll get an e-mail notification to Gmail, which will pop up instantaneously on your Android device. You can even reply to a text message by responding to the email; Google will automatically route your response to the sender's number as a regular SMS.

If you go this way, you may want to disable notifications within the Google Voice app, as they'll be redundant. To do this, again, tap the Menu key while in the Google Voice app and select Settings, then touch Refresh and notification and adjust the options as you prefer.

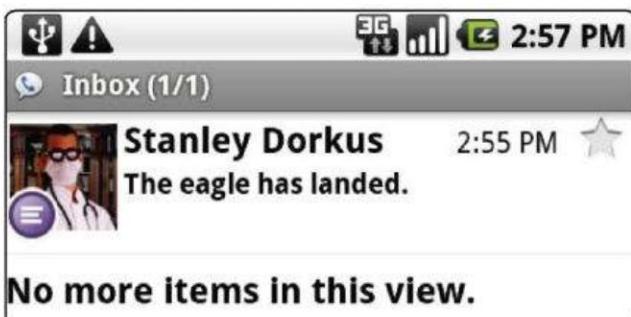
One final Google Voice tip. If you go back and forth between using your Google Voice number and your regular cell phone number for calls, try adding the Toggle Google Voice shortcut to your home screen. (It's under the main Shortcuts menu; just tap and hold your finger on any open space on your home screen, then select Shortcuts to find and add it.) This gives you a one-tap switch to change which number you're using to dial out.



▲ One benefit of texting via Google Voice is that messages are completely free



▲ In the Google Voice app, click on any contact photo to get options to respond to their voicemail by email or messaging



▲ Google Voice transcribes your voice-mails into text as well as playing the audio

Managing files and documents

Android doesn't come with a file browser or editor, but help is at hand



All play and no work makes your smartphone an expensive toy.

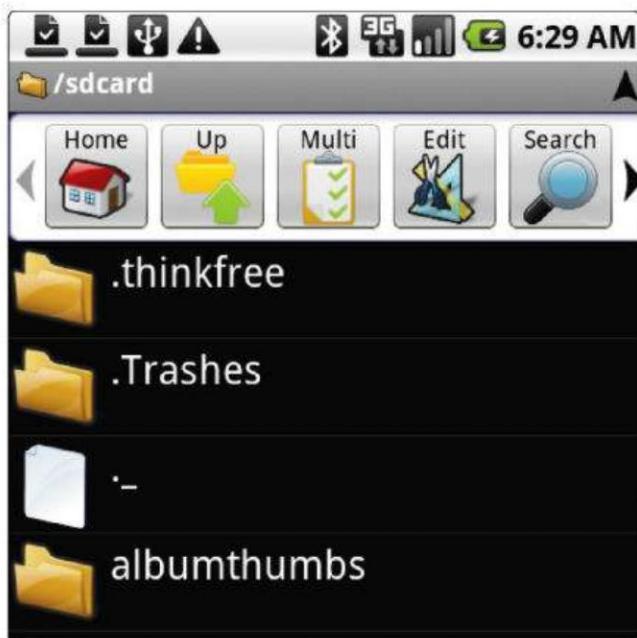
But with the help of a wide selection of professional-grade mobile apps from the Android Market, your Android device can get down to business. Here's an overview of some of the best apps for viewing, creating and editing business documents on the go.

FILE MANAGEMENT

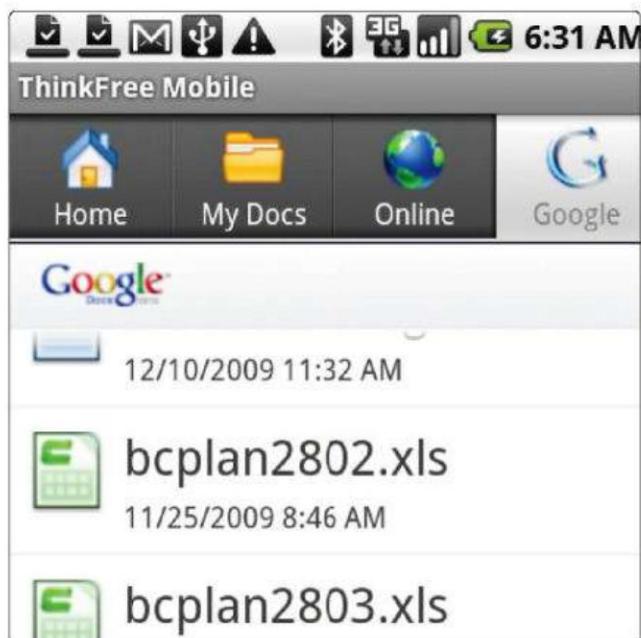
You have several ways to move files onto, off and around your Android phone. The easiest method is to connect your device to your PC with a USB cable and mount it as a drive: tap the Android notification

area, select USB Connected and tap Mount. You can then click through your SD card's contents, explore and create folders, drag files around, or copy items between the device and your PC's hard disk, just as you would to any PC storage. This is a simple way to get your most important files on to your handset so that you can carry them everywhere you go.

Of course, if you always had your PC handy, you probably wouldn't need to carry files on your phone in the first place. So you'll want a reliable tool to help you explore the files and folders on your phone when your computer is nowhere in sight. One of our favourites is ASTRO



▲ ASTRO File Manager makes it easy to navigate the contents of your device



▲ ThinkFree Mobile connects to Google Apps to let you view your documents



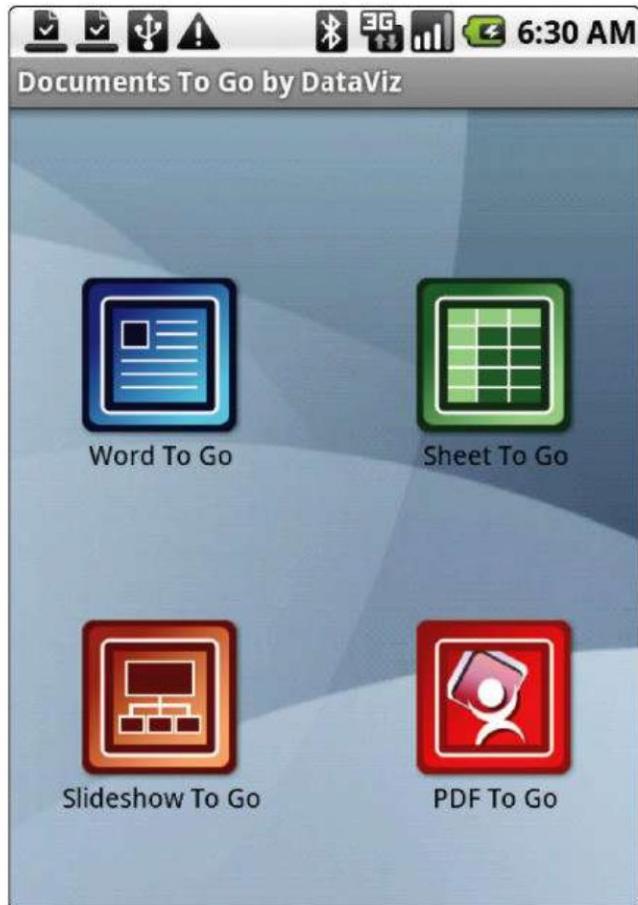
File Manager. Free from the Market (or \$4 for an ad-free version), this utility gives you a Windows-style view of all your folders, files and documents. Whether it's a word-processor document, a photo or a music file, you can get quick previews of a file's contents or tap the item to open it. Android will prompt you to choose which application to open it with; you'll also have the option to set your choice as the default option for future instances.

In ASTRO's menu bar are options to move, copy, rename or delete files. Tap the Multi option and you can select multiple files or folders to work with at once.

In addition to working with files and folders, ASTRO File Manager can back up your installed apps and browser bookmarks and kill unwanted processes that could otherwise drain your battery.

ThinkFree Mobile Office works similarly, and for \$10 you can upgrade it to a full suite of viewing apps for all kinds of business documents. The premium version enables all the features in ThinkFree Write, ThinkFree Calc and ThinkFree Show, which handle text, spreadsheets and presentations respectively and can display Microsoft Office files with most of their original formatting. ThinkFree also connects to Google Docs to download and view files saved in the cloud.

Though advanced editing features generally come only with paid apps, a handy free utility called GDocs lets you view, edit and even create basic documents in Android. Rather than do all the dirty work on your device, it connects to Google Docs, storing your documents in



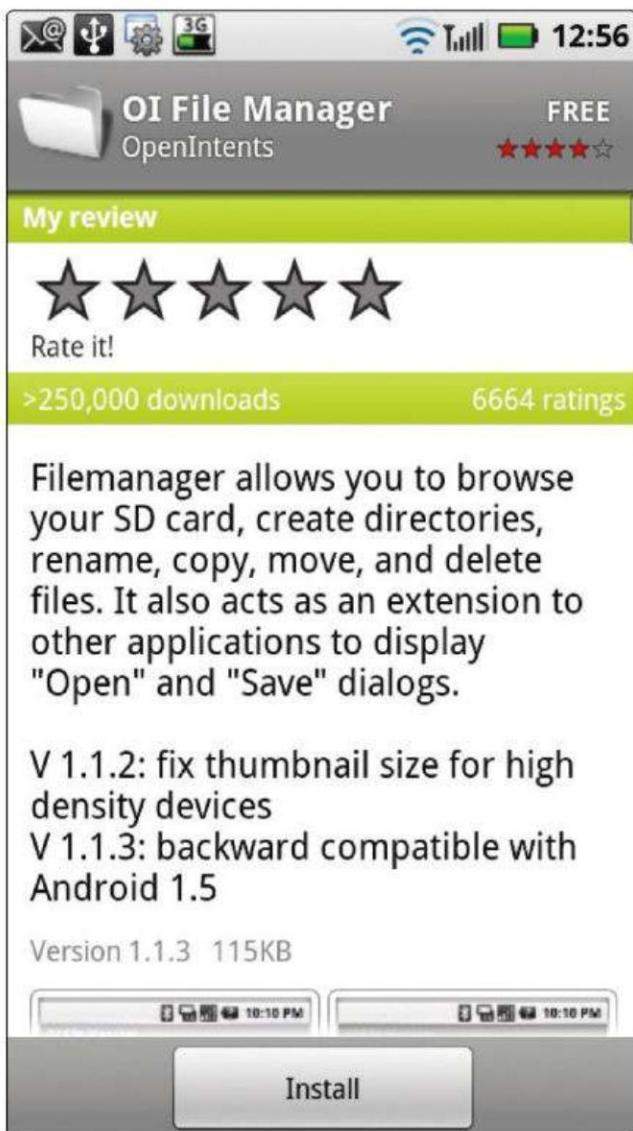
▲ **Documents To Go is the next best thing to a complete office suite for Android**

Google's cloud-based applications. GDocs itself creates only text files, and launches a web browser to view spreadsheets and presentation documents in Google Docs.

If you need to do more work on your phone, DataViz Documents To Go is even more robust and reliable for serious business users on Android than on BlackBerry and other mobile platforms. This \$30 app suite (there's also a view-only free version) lets you view and edit existing Office documents and create new documents in Android. It can even edit charts, a feature that's well beyond the capabilities of most other mobile business apps.

Step by step: file management

1 Install a file manager Android doesn't come with the type of file manager you're accustomed to on your PC, so you'll miss the ability to browse through documents, move around or delete media stored on your memory card and organise your email attachments. Fortunately, there are plenty of third-party file manager applications you can add. We like OI File Manager, a free download from the Android Market.

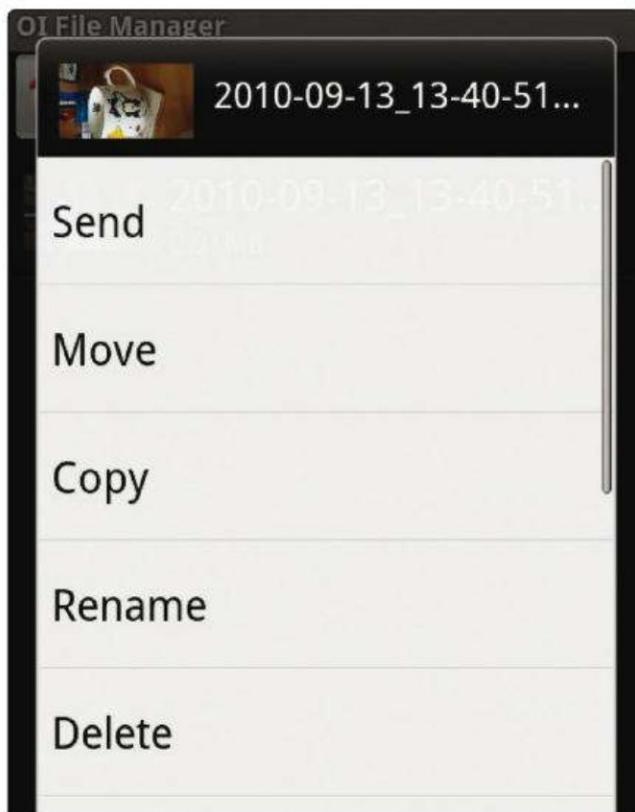


2 Browse your memory Once installed and launched, the application can browse the contents of your handset and any media cards being used. If you can see a Home icon at the top of the folder list and an SD Card icon beneath it, you're currently looking at the device memory. Tap the SD Card icon to browse the contents of your media card, and the Home icon to return to the phone's internal memory.





3 Create a folder OI File Manager also lets you create new folders (or rename existing ones), then move files into them. To create a new folder on the media card, tap the SD Card icon, then tap the Menu button and choose New Folder. Give it a name.



4 Organise files To copy, move, rename or delete a file, you need only find it and then hold a finger down on it. You'll see different options depending on the file type. Choose Send to transfer the file to another device using Bluetooth or email.

5 Rename files Mobile devices have a tendency to generate files with meaningless names, such as photos that your camera labels with sequential numbers. One of the benefits of a file manager app is that you can easily rename files that are important to you. The only caveat is that you must be careful not to edit the file extension (the three letters after the dot), or the file may become unreadable until the correct extension is put back. Hold a finger down on a file and choose Rename, and a simple box will appear in which you can enter a new name.



Chapter 3

Music, video and photos



3

Music, video and photos

Playing music

Your Android device is ideal for listening while you work or play

A

ndroid 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 touch-screen interface that's easy to use while you're on the go. Because Android is an open platform, you'll also find no shortage of third-party music apps that go well beyond the capabilities of the basic app. We look at some of these in chapter 5.

Here we'll explore Android's music management features and see how you can get music onto your device from a computer or directly from Amazon.

LOADING YOUR TUNES

Some device vendors have come out with customised desktop applications to help PC users manage media on their Android devices. These programs are sometimes useful, but not essential for copying music and other files from your computer to your phone. All you really need to do is connect the device to your PC's USB port and touch the notification area at the top of your device's screen. Tap USB connected in the notification area, then tap Mount to make your phone or tablet's memory appear as a storage device on



▲ **Connect to a USB port and tap Mount to make your Android device's memory visible on your PC as a storage device**

your desktop. This works the same way in Windows, on the Mac and in Linux.

Once your computer mounts the Android device's storage, you can open it to view the files and folders on your device. Simply locate any DRM-free music

files on your computer's hard drive (or any connected drive where you store your media, such as a NAS box) and drag them to the Music folder in Android.

WINDOWS MEDIA PLAYER

Most Android devices don't come with their own desktop sync utilities. But if you want the convenience of automatic synchronisation in Windows, you already have a desktop application for the job: Windows Media Player.

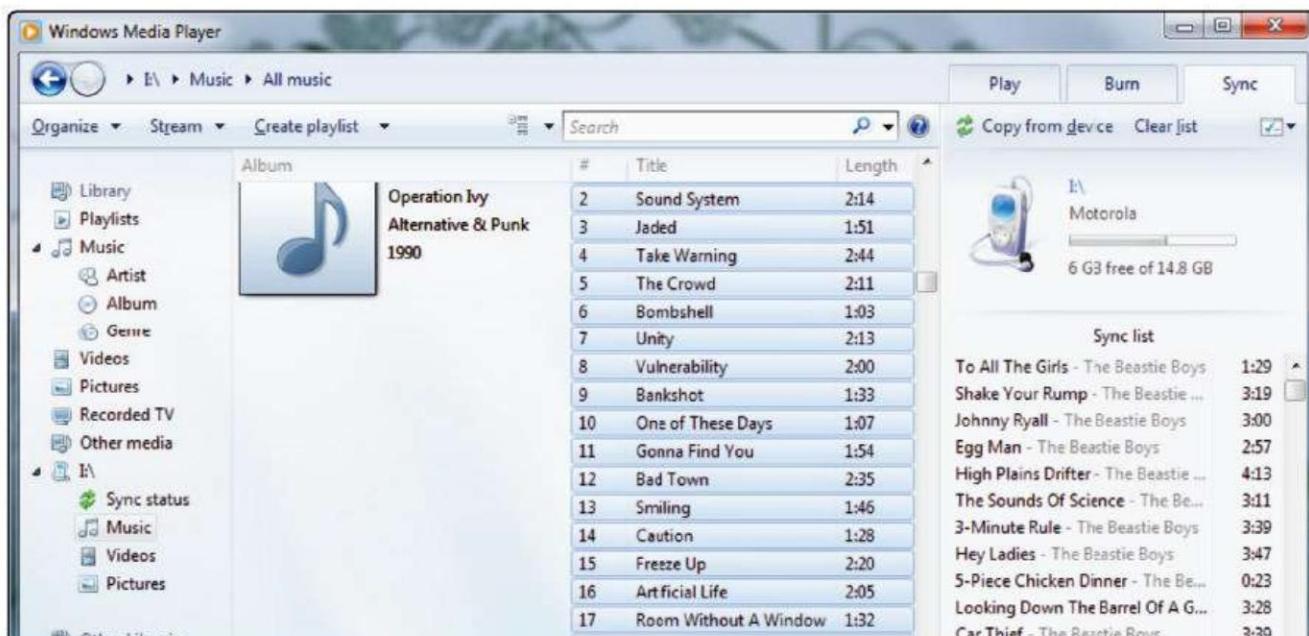
To sync your music tracks (as well as your pictures and videos) with Media Player, first follow the same steps as above. Plug your Android phone or tablet into your PC's USB port, tap USB connected in Android's notification area, and tap Mount to make your PC recognise it as a storage device.

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, click the Sync tab in the upper right corner of Windows Media Player and then click the small (and unlabelled) Sync options drop-down menu under that. Click Set up sync... and then either name your device or leave it as the drive letter, as you prefer. 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 device is connected via USB.

THE AMAZON MP3 STORE

As well as transferring music from your PC to your phone via USB, you can buy songs and albums on screen from Amazon's online music store and download them directly to your Android phone or tablet over the air, without having to use a computer or a USB connection.



▲ Windows Media Player makes a good desktop client for your Android music library



3

Music, video and photos

Amazon MP3 - Top 100 Songs

1. Need You Now Lady Antebellum	\$0.99
2. Hey, Soul Sister Train	\$1.29
3. Imma Be The Black Eyed Peas	\$0.99
4. TiK ToK Ke\$ha	\$1.29
5. Rude Boy [Explicit] Rihanna	\$0.99
6. Nothin' On You [Feat. B... B.o.B	\$0.99

▲ Tap the price button to buy any song in Amazon's store. You can then transfer it to your Android device via 3G or Wi-Fi

Tap the Amazon MP3 icon to enter the store, where you'll be greeted by options to view the top 100 albums, see the top 100 tracks, browse by musical genre, or search for tunes. To hear a 30-second preview of any song, tap its title. When you find a song or album you want, tap its price button once; the word 'Buy' will appear. Tap it again, and you'll see an Amazon login screen. Enter your Amazon-registered email address and password to continue. If you'd like to speed through this process next time, tick the box to enable 1-Click ordering.

Once you've completed the purchase process, the song (or songs) will begin

Albums

FLIGHT OF THE CONCHORDS	Flight of the Conchords Flight of the Conchords
Flood	They Might Be Giants
For You	Prince
Foreign Affairs	Tom Waits
G-Sides	Gorillaz
Good For Your Soul	

▲ In your Albums list, thumbnails of the album artwork make it easy to find the music you're looking for at a glance

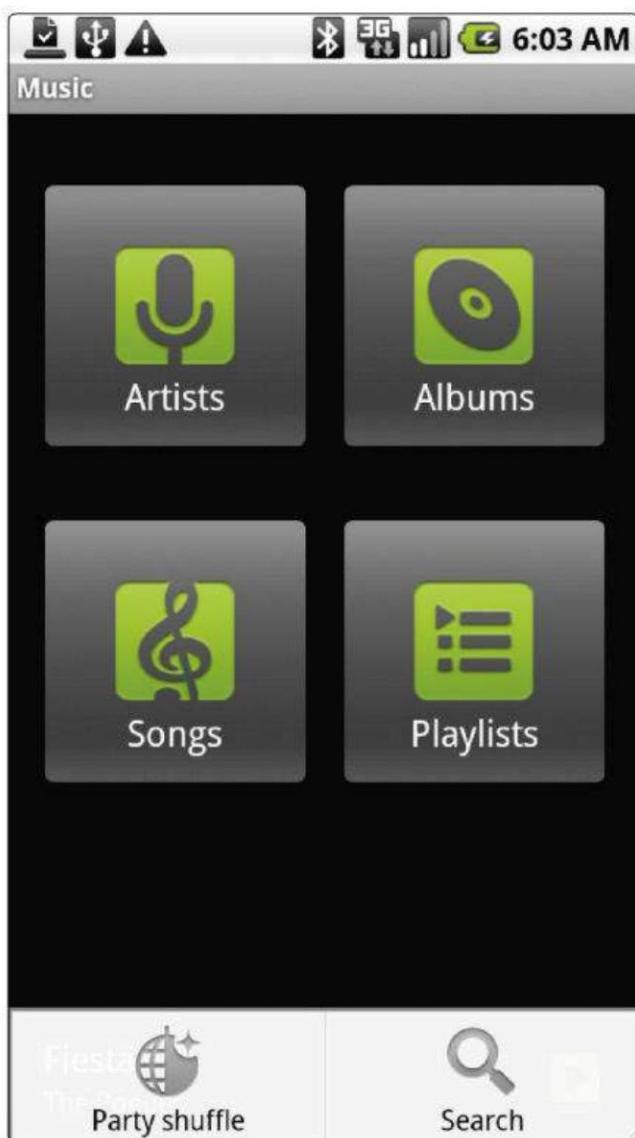
downloading. You may be prompted to switch to a Wi-Fi connection; this isn't obligatory for downloading music (as opposed to video), but if you have access to a Wi-Fi network it's generally the fastest way to get songs onto your device.

When downloaded, your Amazon music downloads live in a folder labelled 'amazonmp3' on your device's memory card. As a precaution against data loss, you can connect your device to a computer and drag your purchased songs over to its hard drive to save them as a backup. Since the songs are sold DRM-free, you can then also listen to them on your computer if you want to.

THE MUSIC APP

When you tap the blue speaker icon for Google's built-in Music app, you'll find yourself at the app's very simple home screen, which is divided into four options that let you search your music collection by artist, album, song title or playlist.

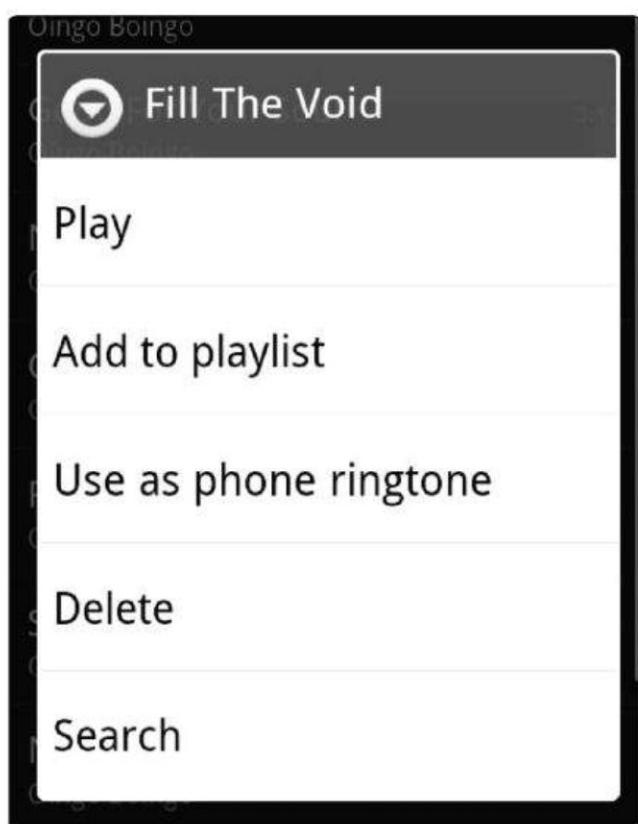
Tapping any of these four items will take you into an alphabetised list that you can



▲ **Android's Music app makes it easy to navigate through your tunes. Note the Party shuffle and Search options**

scroll through to select the music you want to hear. Also available from the home screen are two menu options that you can access by pressing the Menu button on your phone. The first, Party Shuffle, will instantly create a randomised playlist of everything in your music library. The second, Search, lets you track down any album or track by name.

To create playlists on your phone, tap and hold any song title until the context menu appears, then tap Add to playlist. Choose an existing playlist or tap New to create and name a new one. You can then return to the song list to select more tracks to add to your playlist.



▲ **Playlists help organise your listening. To add any song to a playlist, tap and hold it, then choose Add to playlist**



3

Music, video and photos

Taking and managing photos

Besides shooting pictures, it's easy to organise, view and share them

Who needs to carry a camera when a smartphone is at hand? The Android operating system packs so much functionality that it can often stand in for both a camera and a PC. Once you've learned how to harness your device's photo capabilities, capturing and sharing memorable moments is a snap.

THE ANDROID CAMERA

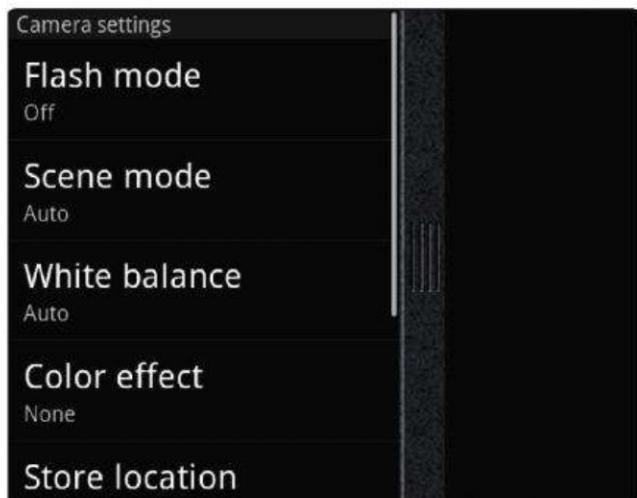
Most Android devices have a dedicated hardware button to start up the built-in camera. Alternatively, you can open it via the Camera app icon in the device's app launcher. (If you like, you can place this icon on your home screen as a shortcut.)

When you open the Android camera, you'll see a large viewfinder plus a few on-screen buttons. If you rotate your device horizontally, the uppermost button will be an icon for opening its gallery of stored photos. The next button down is a switch that toggles between the still photo and video recording modes. Finally, the round button at the bottom is the shutter – the button you touch to snap a picture or to begin recording video.

In still photo mode, you can tap anywhere on the image in the viewfinder to zoom in or out. Tapping once will bring up the zoom controls, so you can zoom in small increments. Double-tapping (tapping your finger twice in quick succession, much as you'd double-click



▲ Tap the camera icon to set your Android camera to its still photo mode



▲ Choose from a variety of custom shooting modes to pep up your pictures

with a mouse) lets you quickly zoom all the way in or all the way out.

You can reach the camera's advanced options by hitting the Menu key and selecting options, or by touching the lined area to the far left of the screen. A slide-out menu will present you with



▲ Having taken a photo, you can delete it, share it or set it as your background

options for photo size, photo quality, and whether to store location information with the image.

Beginning with Android 2.0, the settings panel includes other advanced camera options: built-in flash support, customisable scene modes (action mode, night mode, and so on), white balance, colour effects and macro focus mode. Phones running Android 2.0 or higher also have an integrated digital zoom capability for magnifying an image to as much as four times its original size, although, unlike a zoom lens, this doesn't capture any extra detail.

VIEWING AND SHARING

You can use the Camera app to access images stored on your phone: just tap the

small thumbnail image at the top left of the camera screen (the thumbnail always displays the most recent photo you've captured).

When you load your images in this way, you'll first see your most recent photo displayed at full-screen size. Tapping your finger on the image will enable you to zoom in or out; tapping your finger on the left or right side of the viewing area will let you move sequentially through the other stored images.

Buttons on the right side of the screen provide quick ways to delete the image; to share it via Bluetooth, email, text message, Picasa, or any social networking app installed on your phone; and to set the image as your main system wallpaper or as an icon for someone in



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Music, video and photos

your contacts list. By hitting your device's Menu key, you'll gain options for rotating or cropping the image as well as for viewing detailed information about the file.

Another possibility is to view images directly from Android's Gallery app, accessible from the app launcher (and, again, available as a shortcut that you can place on your home screen). On loading the Gallery, you'll be able to browse your photos and videos in folders organised according to how and when you obtained them. Once you've opened a folder, you can tap any image to view it at full-screen size. You can then tap the enlarged photo to zoom in or to access other image management options.

The Gallery app allows you to play a slideshow of your photos, too. From inside a folder, tap the Menu key and select Slideshow to begin. To customise the slideshow, hit the Menu key and select Settings. There you'll find options for how long each image will remain on screen, what kind of transition will happen between images, and of course in what order the images will appear.

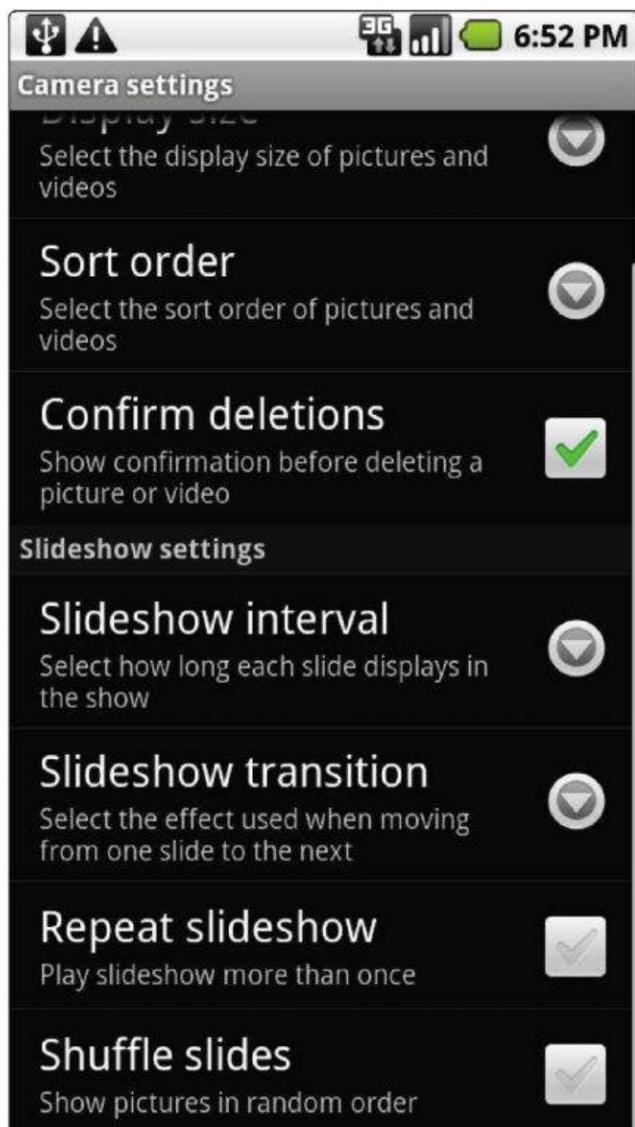
The Settings menu also contains options for altering the size and order of thumbnails displayed in the Gallery app.

EDITING IMAGES

There's no default Google app for image editing in Android, but in the Android Market you'll find plenty of options for manipulating your pictures. Among the most advanced utilities is Adobe's free Photoshop Express app. As you'd expect, it's a far cry from the full desktop version

of Photoshop, but the app makes it easy to perform essential operations such as cropping and colour correction and blurring of your images.

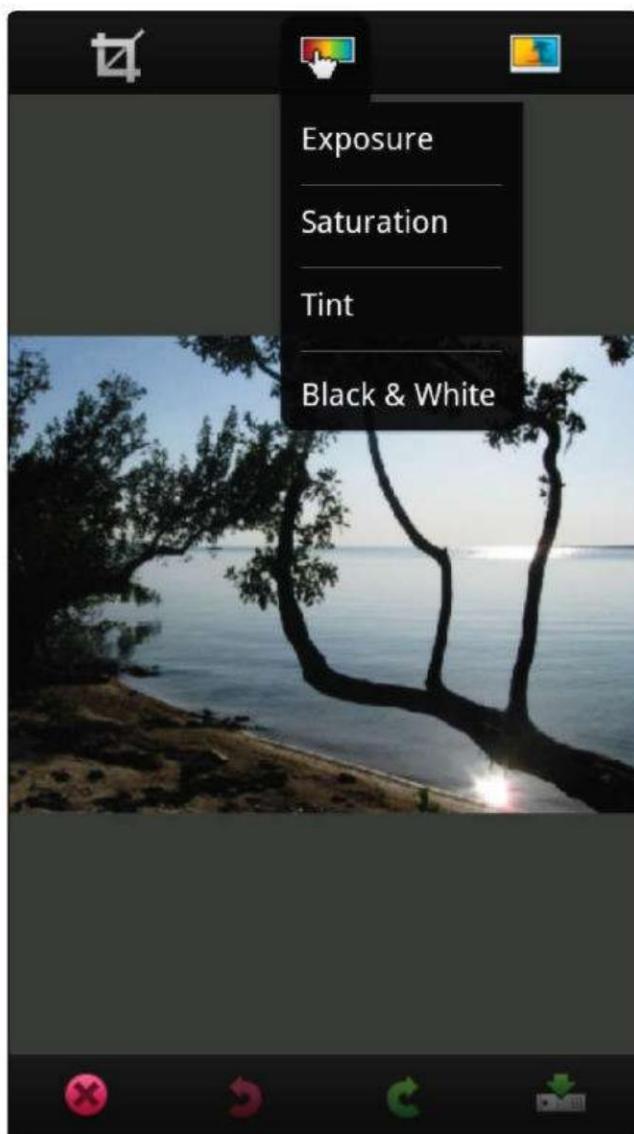
Another useful option is the PicSay Photo Editor. This free app includes tools for colour-correcting images and for adding visual effects, graphics, and word balloons. PicSay Pro (\$1.99) adds a bevy of



▲ Your phone can display slideshows of your favourite photos. Click the option in the Gallery app and adjust the settings

additional photo-editing features, including painting tools, functions to cut out and paste parts of photos (such as transferring heads to new bodies) by multi-touch, and cartoon speech bubbles.

If you like widgets, you'll be pleased at the number of photo-related programs that can bring images on to your desktop. Android has a built-in photo gallery



▲ **Adobe Photoshop Express (formerly Photoshop.com Mobile)** is just one of the picture editing apps available for Android

widget that lets you place a single 2x2 inch photo on your home screen. The slightly more robust Androidlet Photo Widget (\$0.99 from the Android Market) lets you add live, cycling image galleries to your home screen in 1x1in, 2x2in and 3x3in sizes. You can customize how frequently the images rotate and what kind of frame surrounds them, and you can even set the widget to display images from Flickr, Picasa or other online photo storage services.

OTHER WAYS TO GET IMAGES

Besides using photos that you've snapped yourself, you can download images from the internet or transfer them to your Android phone or tablet from your computer. Any image you save to your device, regardless of exactly where you store it, will always be shown in the Gallery application.

To grab an image from the web, just press and hold your finger on it while in your device's web browser. A menu will pop up with the option to save the image.

To transfer an image from your computer, you can simply drag and drop it from your PC while your phone is connected to a USB port. Plug in the cable, then touch the notification area at the top of your device's screen. Tap USB connected in the notification area, then tap Mount to make your phone or tablet's memory appear as a storage device on your desktop (whether in Windows, Mac OS X or Linux). Photos you've taken on your device can be transferred to your computer in the same way.



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Music, video and photos

Improving your photos

Point-and-shoot is great, but there are ways to enhance your results

The cameras built into mobile phones used to be little more than a gimmick, with just a couple of megapixels and no frills. The images captured lacked the quality of those from even the most basic standalone camera. Fortunately, things have changed, and today's Android devices increasingly feature 5 megapixel-plus cameras with extra features such as LED flash and image stabilisation.

In fact, the standard of built-in cameras is now so good that you no longer have to kick yourself for leaving your digital camera at home when the occasion arises for a picture. Getting decent results every time, however, still depends on knowing a few tricks of the trade, so over the following pages we'll look at how to avoid – and create – blur, how to compensate for different lighting



◀ Flash is useful even in bright light to 'fill in' any deep shadows



▲ A higher ISO setting will capture more detail in lower light, though it risks 'noise'

conditions using flash and ISO adjustment, and how to tag and organise your photos on your PC to ensure that, once you've taken that perfect shot, it doesn't just languish on a memory card or hard drive, never to see the light of day again.

1 Flash First, decide whether or not you need to use the flash. Even in bright sunlight, it can be effective in providing a

► Don't overlook the 'scene modes' provided with your Android camera. These bring a degree of control to point-and-shoot photography. Sports mode will use the fastest shutter speed for the available light to freeze action and avoid blurring



burst to compensate for sharp shadows and underexposure (right). The flash punches up details only when you're within a few feet, so stay close to your subject.

2 Adjust ISO setting When shooting at night, increasing the ISO setting can be more effective than using the flash. Don't crank up the ISO too far, though, or you'll end up with digital noise (randomly lighter or darker pixels, creating a speckled effect reminiscent of film grain) in your shots. You can alter the ISO in the main camera settings menu (left). When you're ready to



► If your device has a camera self-timer, it's handy both for snapping yourself and to avoid shake when pressing the shutter

take a photo, turn on the image stabiliser if your device has this feature.

3 Keep still! Thanks to autofocus, your shots shouldn't be blurred unless something is going wrong. Camera shake is the most likely suspect, especially since smartphones aren't physically designed for a good shooting grip in the same way as dedicated cameras. Hold your device with both hands, and keep your elbows tucked into the sides of your body for support. When you press the shutter button, make no other movement until the image has been taken. If you're shooting in ample light, try increasing the shutter speed, if there's an option for that, or increase the ISO setting (as above), which will force the camera to automatically increase the shutter speed to prevent over-exposure. Selecting the Sports mode has a similar effect. A faster shutter means less time for wobbles to occur.

4 Fake bokeh Blur can sometimes be used to advantage, pulling an in-focus subject out of a softer background. When it's created using depth of field (where only



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objects at a certain distance are in focus) it's known as 'bokeh'. This is hard to achieve with a smartphone camera, but another way is to follow a moving subject. Try focusing on a friend as you walk along together, keeping them in the same position in the frame as you move; when you take the shot, the background will be softened by motion blur while your friend is in focus. This effect works best with a slower shutter (more time to create blur), so avoid Sports mode, use a low ISO and turn off flash.

5 Use a timer The self-timer is a useful function for shooting without camera shake as well as for including yourself in the frame. For example, the Samsung Galaxy S's timer is accessible in the Camera, Settings menu. If your handset doesn't have a timer, third-party apps can help: try Camera Zoom FX from the Android Market. This timer gives you up to 10 seconds to get into the shot once you've pressed the capture button.

6 Add effects Under Camera, Settings, Effects, you'll find a number of filters



▲ **Special effects can liven up any photo, but even better is applying your own creativity, such as picking an arty angle**

you can apply, such as Sepia. These can be fun and help to mask any shortcomings in image quality. To get more creative, an effective trick is to shoot from an unusual perspective: try capturing a group shot from a low angle after your team conquers a mountain, for example,

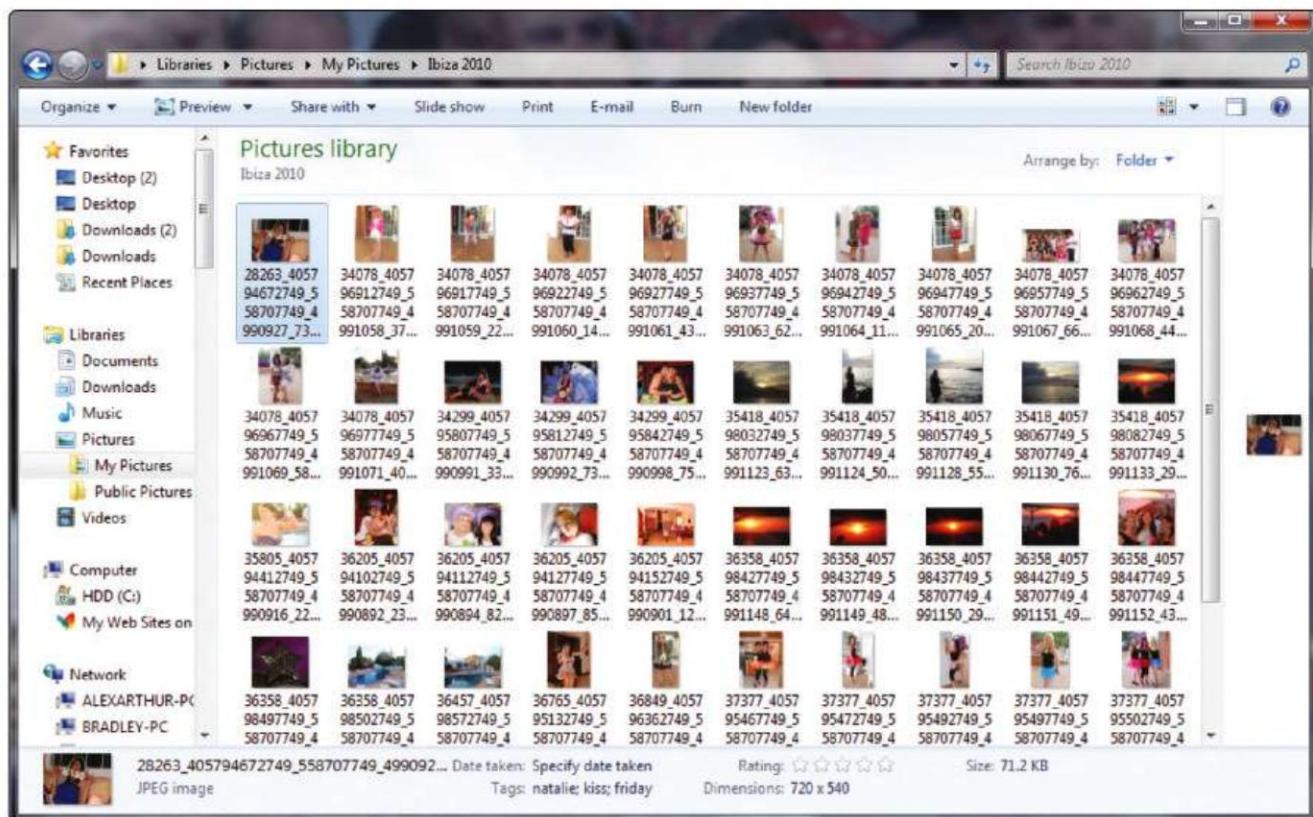
7 Get up close One final and essential piece of advice when shooting with a small, low-resolution camera that has no optical zoom: always make the effort to get close to your subject. It pays dividends.

Organising your images

Keep track of your snaps with built-in and add-on metadata tools

Taking pictures is pointless unless you actually get round to looking at them later. That in turn means organising your photos so you can quickly view the ones you want. Tags make relatively light work of this organisational process and means

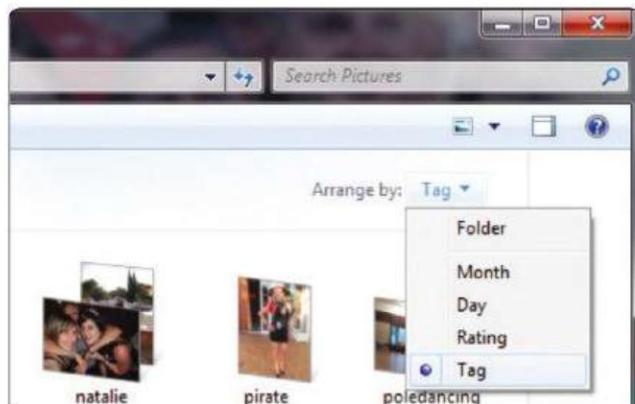
items you later want to retrieve can be found much more easily. Naming photos as you go is good practice, but not all apps you may use on your Android device will allow you to do so. Transferring shots to a PC for tagging can be easier.



1 View tags 'Metadata' is information stored along with an image, such as the camera used, the exposure and, most importantly, any tags (keywords) associated with it. Apps such as Astro can tag selected items, but for faster batch-tagging import your photos to your PC from your Android device. If you have a suitable microSD card adapter, you can plug it in directly.

2 Add a tag Label the photo folder, then click on any photo and press the Tags field at the foot of the Windows Explorer window. Type in a descriptive term; you can enter multiple tags separated by semicolons. To later find this or similar photos, click the Explorer search field and enter 'tag: x', replacing 'x' with one of the keywords you entered as tags.

3 Arrange by tag Alternatively, open your photo library and select Tag from the Arrange by menu. A list of available tags and thumbnails of associated images will appear. Select the tag you want. To see file information, including the number of pictures with that tag, right-click any blank spot within the folder and select View, Details from the contextual menu.

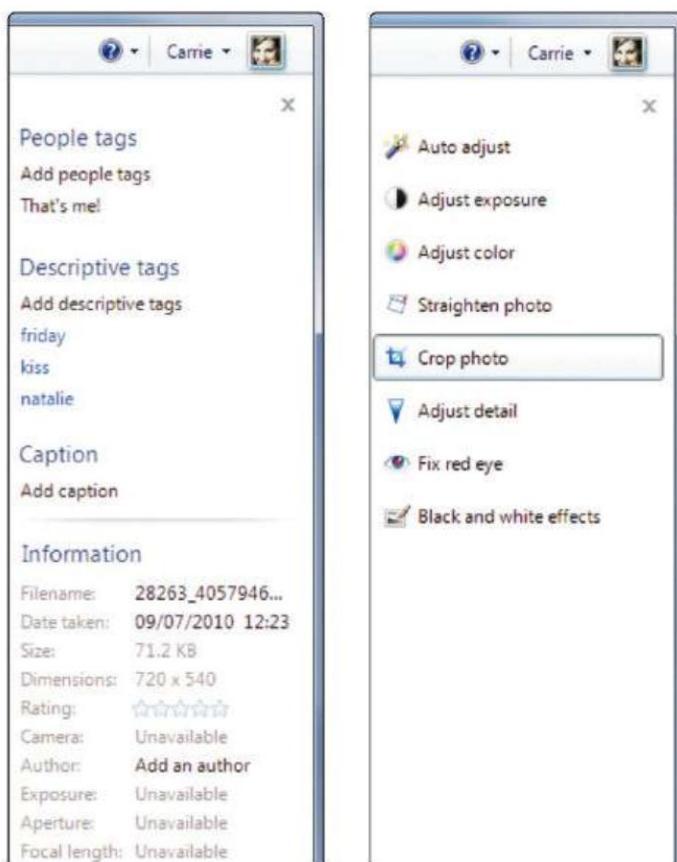
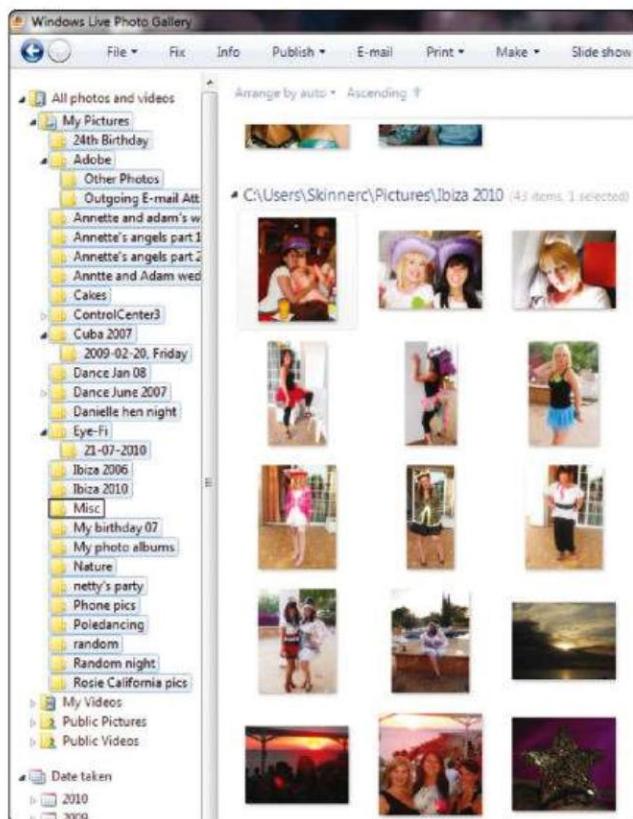




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4 Share shots on Photo Gallery For more photo tagging tools, try the free Windows Live Photo Gallery (download it from tinyurl.com/2bh6x67). This lets you batch-convert photos, make quick fixes, add tags and share images on Flickr, YouTube and Facebook. Once you've got an account, you'll be able to upload shots straight from your Android device for sharing and online storage too. You'll need to enter your Windows Live ID, or register one if you're not already signed up. The app trawls your hard drive and displays all the images it finds. Click an image to view its tags. To add a tag, edit the information on the right. Click under Descriptive tags, enter keywords and hit Return. You can also add 'People tags': the app finds any faces in the image and lets you put a name to each.



5 Add ratings and captions You can also give each photo a caption and a star rating (far left). Again, click a photo and adjust the metadata displayed on the right. To search for a set of tagged images, enter your keyword in the search box; to search for multiple tags separate each keyword from the next with a forward slash (/).

6 Fix photos Windows Live Essentials Photo Gallery also lets you make basic edits (left). Select an image and click Fix at the top of the window. Options then appear at the right-hand side to let you adjust the picture's colour and exposure, crop or straighten it, sharpen up detail, fix red-eye caused by flash, or turn the photo black and white.

Create, share and play video

Your Android device also has a talent for moving pictures

Whether you've got movie-making ambitions or just want to capture a few precious moments, your Android device can help you grab plenty of footage and share it with the world. And, with the help of a few choice apps, you can even carry and play movies right on your phone.

LIGHTS, CAMERA... PHONE?

Android includes robust capture capabilities that are limited only by the power of your built-in camera. In most cases that will fall short of a complete HD experience, but the quality should be more than sufficient to provide a credible stand-in when your camcorder is out of reach.

To start shooting footage in Android, launch the Camera app and toggle it to Video mode by tapping the small

camcorder/camera switch on the right side of the screen. Note that, unlike when shooting stills, it's important to hold the phone horizontally – in landscape orientation – at this point, since there's no such thing as portrait mode for video.

Your camera's default settings should generally give you usable results, automatically setting focus and exposure while compensating for varying lighting conditions. You can finetune your video capture, however, by hitting the Menu button on your phone and choosing Settings. Here you'll find options for adjusting the quality, maximum duration, white balance and colour effects.

Most of the time you'll be shooting at high quality, which can quickly take up a fair amount of space on your device's SD card. However, if you're planning to share

► Tap the switch in Android's Camera app to switch between shooting still images and video clips





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your videos via MMS messaging, it makes more sense to shoot them at low quality to make sure they'll be small enough to send. You can set duration to 30 seconds (which is good for MMS), 10 minutes (the maximum length for YouTube) or 30 minutes (which is really pretty long).

Auto white balance is enabled by default, and usually delivers realistic tones. But if you're planning to shoot a number of clips in one location, it's better to select the white balance manually according to the light available. Android's Camera app gives you options for incandescent (traditional electric) or fluorescent lighting, daylight and cloudy days.

If you want to get fancy, you can also opt for colour effects, applying a sepia tone, a negative effect, or a coloured tint to your footage. But we'd say if you really want to be creative with your video, it makes more sense to shoot it straight and then export it to a video-editing program on your PC, where you can properly cut and process it. The final results will be better, and you won't mar your original footage in the process.

When you're happy with your settings, tap the red Record button on the screen to start capturing. And when you're done, tap the same button to save the recording to your memory card.

PUTTING ON A SHOW

To share videos from your phone, simply tap them in the Gallery to open them. You can get to the Gallery from your phone's app menu or by tapping the Gallery icon in the upper right corner of the Camera

White balance

Auto

Incandescent

Daylight

Fluorescent

Cloudy

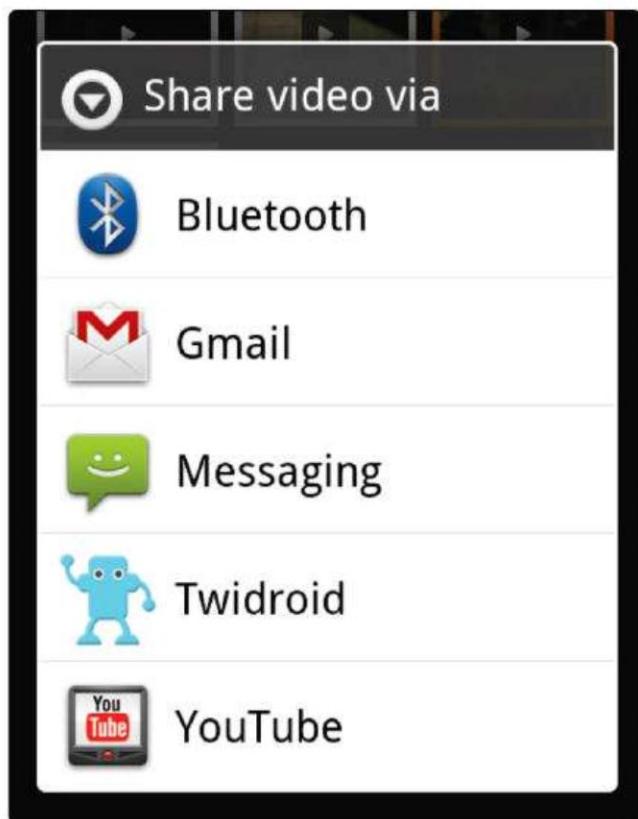


▲ Automatic white balance will usually cope, but manual selection can improve your results in tricky lighting conditions

app. Tap and hold a video until the context menu pops up, and select Share to view a list of apps that can send your video to friends. You should see options such as Gmail, Messaging (for MMS), Twidroid (for Twitter) and YouTube.

Bear in mind that certain methods of sharing video will have limitations. As mentioned above, if you want to share your videos with friends via MMS, it's best to shoot in low quality and to keep the message shorter than 30 seconds. YouTube videos can be high quality, but must be less than 10 minutes in length.

For instant sharing, you can also opt to start recording video from within



▲ You can share your videos straight from Android through a variety of social messaging and online service apps

Android's Messaging app. To do this, tap Messaging in the app menu, select a recipient, then hit the Menu button on your phone and choose Attach. Next, choose Capture video.

By default, Messaging will set your recording quality to Low and give you a 30-second countdown timer to help you limit your clip to an appropriate length. If you're not happy with your footage on the first take, you can tap the Retake button and try again. When you're satisfied, tap OK; Messaging will then convert your video into MMS format. Finally, tap Send to fire it off to whichever of your contacts you prefer.

Messaging is a fast way to share video, but how about real time? If you feel like doing a little live broadcasting, you can. A free app called Qik, available from Android Market, gives you the ability to record and stream video from your Android device to a free account at Qik.com. There'll be a short delay of a few seconds as the video uploads to Qik's server, but to your viewers it's as good as a live TV feed.

With a small but growing number of Android devices, including the Samsung Galaxy Tab, Qik even supports two-way live video chat, comparable to Apple's FaceTime.

PLAYING MOVIES AND MORE

For entertainment on the go, you can copy video files to your phone and play them back anytime. A free utility called Videora (tinyurl.com/34jwrlg) runs on your Windows PC or Mac to convert DVDs and other movie content into a format that will play on various Android phones. Whether this is legal depends on the type of content you're converting, but the process itself is simple. Bear in mind that a full-length movie can take more than an hour to convert.

Alternatively, HandBrake (handbrake.fr) can also convert movies to assorted formats. If you choose this as your video conversion tool, try a free Android Market download called LukLuk to play a wide variety of video formats, including 3PGP, MP4 and WMA. If you register this app, you can also access a selection of premium streaming movies and TV content.



4

Beyond the basics

Chapter 4

Beyond the basics

Secure your Android device

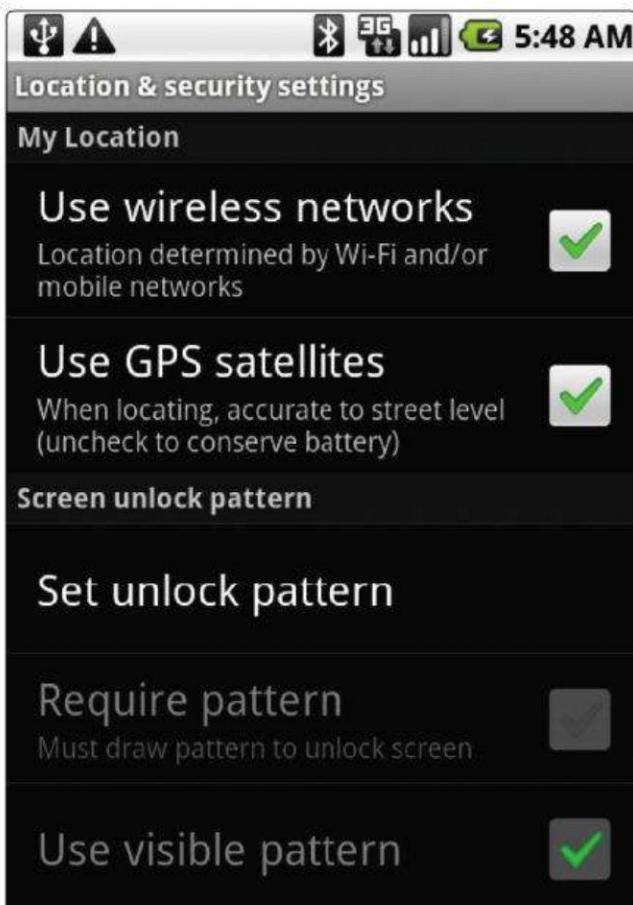
When your mobile goes missing, find it before others find your data

Whether you paid a small fortune for the hottest Android device or got it for 'free' with a modest contract, it's a good bet that the data stored on your mobile is at least as valuable as the hardware itself. If your phone or tablet is ever lost or stolen, you'll either be glad you took precautions to protect all your content, or you'll sorely wish you had. In this article, we'll walk you through

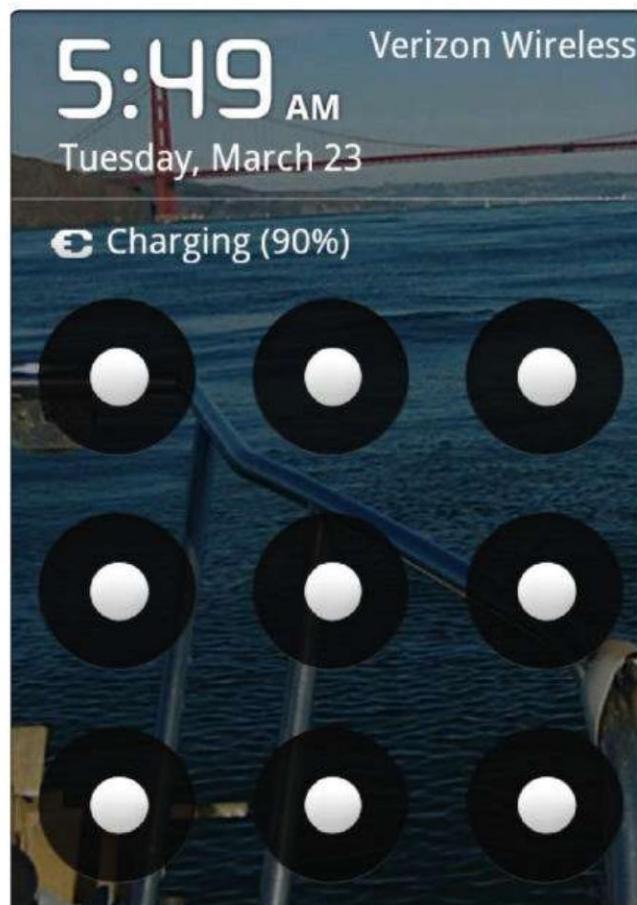
setting up Android's built-in security tools and suggest a few third-party extras that can add valuable safeguards for your personal information.

LOCK OUT PRYING EYES

Unlike the BlackBerry and most other mobile handsets, which use alphanumeric passcodes to prevent interlopers from messing with your data, Android



▲ Setting an unlock pattern gives your device a first line of physical defence

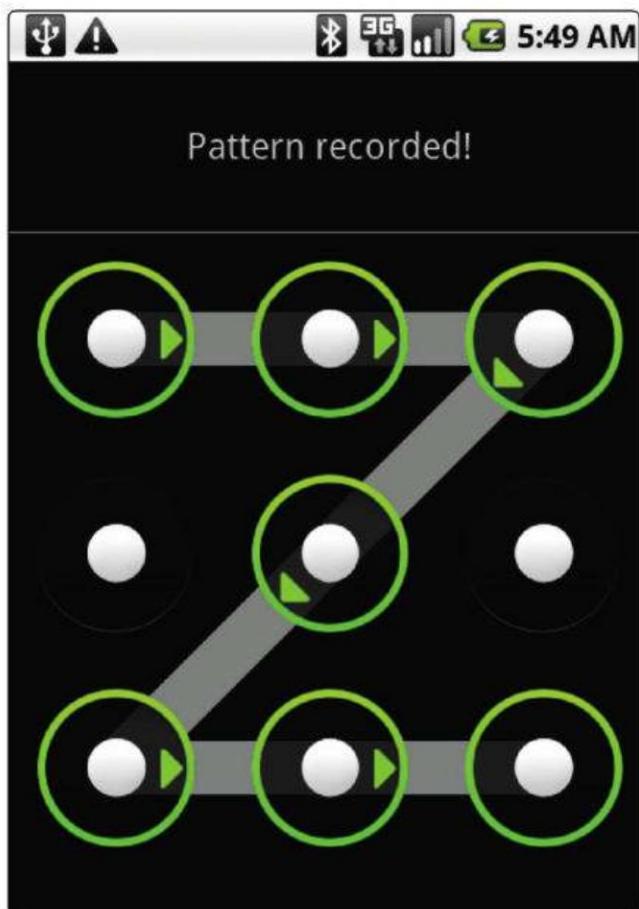


▲ When idle, the screen will display the dots ready to accept a pattern



introduces a novel system called an unlock pattern. Rather than punch in a code on a keypad, you swipe your fingertip across the screen in a pre-specified pattern, connecting a series of dots along the way. If the pattern you swipe matches the pattern that's been previously entered into the device's memory, the operating system unlocks. If not, try again.

Like a passcode, the security of an unlock pattern is directly related to the number of data points it contains. Just as a six-digit code is likely to be safer than a four-digit one, a pattern connecting six dots will be harder to break than one with



▲ Drag your finger over the dots in the correct pattern to unlock the device

only four dots. (And four is the minimum number for any Android unlock pattern.)

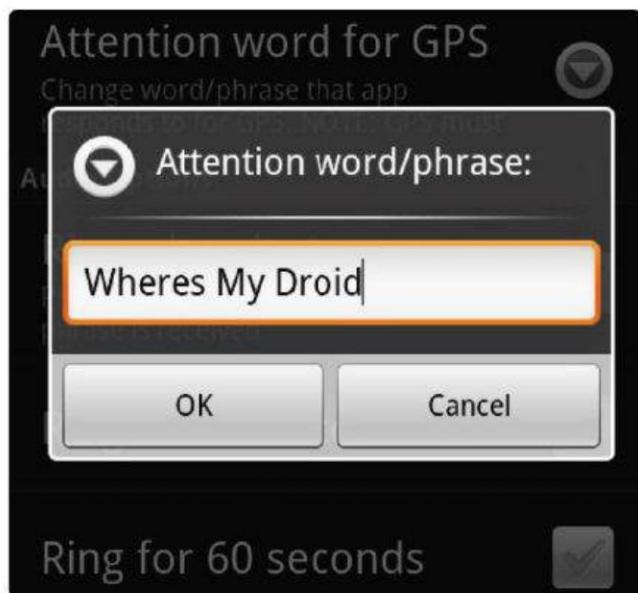
To set an unlock pattern, open the Settings menu and tap Location & security. If you haven't set an unlock pattern before, you'll see Set unlock pattern listed under Screen unlock pattern. If there's already an unlock pattern in place, it'll say Change unlock pattern. In either case, tap that option to get to the Draw an unlock pattern screen. (If you already have a pattern entered, you'll need to confirm it before creating a new one.)

You can begin drawing your new unlock pattern by touching your finger on any dot on the screen, then swiping over nearby dots, without lifting your finger off the surface, to connect them in any pattern you choose – vertically, horizontally or diagonally. Remember, more complex patterns will be more secure than simple ones, so the more dots you connect, the better. If you just connect four dots in a simple L shape, for example, the first nefarious character to happen upon your device will be pretty sure to get into it.

Unfortunately, convenience and security can sometimes be mutually exclusive, and this is definitely one of those cases. If you really want to keep your stuff safe, don't wimp out on the unlock pattern. On the other hand, don't create a pattern so complicated you can never get it right yourself.

FIND YOUR PHONE

Whether you've let it slip it between the sofa cushions, left it on a restaurant table or had it stolen out of your car, a missing



▲ When the Where's My Droid app receives your 'attention word' in a text, it will either sound off an alarm or text back its geographic position so you can find it.

mobile can be hard to recover. Fortunately, Android's built-in GPS functions can make it easy to find a device that's gone AWOL, as long as you're running the right software. The Android Market offers several good apps for tracking down a missing handset.

One of the simplest location trackers for Android is called Where's My Droid (free from the Android Market, or with extra features in return for a donation). This simple GPS-driven app lets you create a secret 'attention word' or passphrase that you can send to your device as a text message. When received, this will trigger a 'find me' mode.

After your phone goes missing, you'll have two options. If you think it's nearby, you can text your standard attention word to trigger a loud ring that,

unlike simply dialling your own number, will always be audible, even if you left your ringtone set to silent. Alternatively, text your GPS 'attention word' and the device will send back a message stating its exact latitude and longitude, so you can make your way there and pick it up.

While an app like this won't do anything to protect your data from theft, it does make it less likely that a mislaid mobile will disappear forever.

ADVANCED SECURITY

For more robust security options coupled with the ability to track down your device, two apps stand out. WaveSecure (www.wavesecure.com, \$20 per year) and Mobile Defense (www.mobiledfense.com, currently in beta) both give you the ability to locate your phone from a secure website, so you can not only get the GPS coordinates of your device but immediately see it on a map. Again, these services let you set off an alarm that will make the device easy to find if you're in earshot.

If your Android phone is truly lost, WaveSecure and Mobile Defense both offer additional tools to help you get it back. With each, you can remotely lock or unlock your device to either prevent thieves from getting into the operating system or to enable a good Samaritan to get in if so desired.

More importantly, you can use these apps to remotely back up and then wipe all your personal data from the device if nobody turns it in – so you can not only get your latest data back, but also protect it from falling into the wrong hands.



Hacking Android

Gaining root access to your device takes tweaking to another level

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ome of the features you could be enjoying on your phone or tablet may well be missing, either because your network locked them out or Google failed to include them. Your ability to change or add functionality is limited, but hacking your Android device – also known as 'rooting' – will unlock it so that you can control every aspect of its operation, much as you can with a PC system.

Here we'll outline the process of rooting an Android device. Note that these are not intended to be complete instructions, and we don't have space to explain all the jargon, so you'd be well advised to seek further details online.

GET ROOT ACCESS

The first step towards total control of your hardware is obtaining root access. Unfortunately, our favourite method, the Easy Root app (www.unstableapps.com), no longer works properly due to recent Android updates. Fortunately, the basic process remains the same; you'll just have to roll back to an older Android release, after which you can install a custom ROM.

Do bear in mind that rolling back your device to a previous version of the Android OS will likely erase any data that's not on your SD card or stored on Google's servers. Back up your stuff first.

We'll use the Motorola Milestone and Windows as an example, along with

instructions from the CyanogenMod Wiki (wiki.cyanogenmod.com). First, download and install RSD Lite and the Motorola USB drivers, then download a copy of the SPRecovery SBF image file. Connect the Milestone to a Windows computer via USB, and turn off the device. Turn it back on while holding down the power button and the up key on the directional pad to boot into Recovery Mode.

Once the device has booted, run RSD Lite (right-click the icon in Windows and choose Run as administrator), select the SPRecovery SBF image and click Start. RSD Lite will apply the recovery image and reboot the Milestone. If you don't

User beware!

The steps shown here for rooting an Android device are examples based on information that is, for obvious reasons, unofficial. Check the latest advice online before attempting any operation. We are not responsible for broken or 'bricked' devices that may result. Rooting your device will most likely void its warranty, and if anything goes wrong may very well turn your hardware into a pricey paperweight. Proceed with extreme caution and at your own risk.

receive a 'Pass' message from RSD Lite after the device has rebooted, apply SPRecovery with RSD Lite again.

INSTALL A ROOTED OS

The next step is to install a pre-rooted version of Android OS 2.1 on the Milestone. Download the Android OS image and rename it to update.zip. Connect the Milestone to your PC via USB, mount it and copy update.zip to the root of the SD card. Unplug the USB cable, power off, then reboot the device while holding the 'x' key.

When the phone has booted, use the volume keys to navigate and the camera button to select the Wipe data/factory reset option. Choose Wipe cache partition, then Install, and Allow update.zip installation. The update can now be applied, after which the Milestone reboots into rooted Android 2.1.

REPLACE THE ROM

After you've updated your device to a rooted version of Android 2.1, you may want to re-upgrade to a newer third-party ROM. CyanogenMod has ROMs for many devices, including features left out of the stock ROMs that Google distributes. For example, it adds tethering via Wi-Fi or Bluetooth, so you can share a cellular internet connection with other devices – though your network may take a dim view. You can also use ROMs of newer Android releases on unsupported devices, such as Froyo (2.2) on the G1.

CyanogenMod isn't the only ROM option. Others offer different combi-



▲ If yours isn't a Motorola Milestone, don't worry – you can find detailed rooting instructions for a number of other devices at wiki.cyanogenmod.com

nations of features such as extra home screens and widgets, connectivity choices and the ability to get the most out of the Market apps that require root access. You can also find ROM options for boosting performance at the expense of features.



Just be sure to double-check compatibility with your device before installing.

After rooting, the easiest way to replace your ROM is to use ROM Manager (available from the Android Market in both free and paid versions) to install ClockworkMod Recovery. Download, install and launch the ROM Manager app, select Flash ClockworkMod Recovery, choose your device and grant root privileges when asked. Re-launch ROM Manager, select Download ROM and pick the ROM you want. We installed the most recent version of CyanogenMod; be sure to tick the Google Apps box, or you'll be left without apps such as Gmail.

Once the ROM downloads, grant root privileges if asked again, then select Backup Existing ROM and Wipe Data and Cache. The Milestone will install the CyanogenMod ROM and reboot.

OVERCLOCK YOUR DEVICE

Many PC users 'overclock' their processors to get extra performance. You can do the same with Android devices simply by installing SetCPU for Root Users. As with PC overclocking, though, you risk damaging your hardware if you overclock too much or use an incompatible method.

The SetCPU app makes managing a stable overclock very easy. By default, it gives your phone a moderate speed boost, but you can customise it further for more dramatic on-demand overclocking. More power means that battery will drain more quickly, but we found using SetCPU with a substantial on-demand overclock had little effect on our device's battery life. If

New faces

As much as we love the Android interface, it has room for improvement. Jealous of HTC's Sense UI onscreen keyboard? Don't have a device that supports multitouch or pinch-to-zoom in the web browser? Just install an Android ROM replacement with the interface elements you want. You can pick options from several creators via CyanogenMod.

you prefer, you can even use SetCPU to *underclock*, which sacrifices performance to make the battery last longer.

MANAGE TASKS BETTER

You don't need to root your Android device to use a task manager to control your apps, and from Android 2.2 you're probably better off sticking with the built-in tools. However, the Advanced Task Manager app (99¢ from the Android Market) does give you extra power to kill any running process, schedule tasks, and even uninstall apps in bulk.

Any Android device can suffer data loss, yet you can only make a regular complete backup as a root user. One of the best utilities is Titanium Backup (free or \$5.99 on the Android Market).

Rooting isn't for everyone, but for true geeks it's all about getting the most from your device. Take the plunge and you can make Android more useful than ever. Happy hacking!

Make cheaper calls

Truphone and Vonage let you phone friends over the internet

Why pay for voice minutes on your smartphone tariff when everything else is carried over the mobile data connection? It's a good question, and the answer is you don't have to, if you install one of the small but growing number of apps that lets you make calls using VoIP (voice over internet protocol). Calls to users of compatible services are free, subject to your data plan, and even those to phones get cheaper. We'll take a look at a UK-based option, Truphone.



1 Install the app To get started, download the Truphone app (it's free) from the Android Market and click Install. Launch the app and click Create New Account. Give yourself a username and password, enter a valid email address, then click Create. You may get a warning stating that the app hasn't been tested for your handset and some functions may not work correctly; it's early days. Click OK to continue.



2 Dial a number The Truphone Dialler presents you with a touchscreen mobile phone-style keypad like the one you'd normally use to make voice calls. Dial a number by touching the 'keys', or select someone from your contacts list and press the green Call button. Truphone routes the call over the internet, so calls to regular phone numbers work out cheaper than a standard call on most networks, especially



for international. You'll need to sign up with Truphone and buy credit; remaining credit is displayed in the bottom left corner of the screen and is adjusted after each call ends.



3 Free Wi-Fi calls You can call other Truphone users (along with those of compatible services including Skype and Google Talk) for free when your device is connected to the internet via Wi-Fi. Click on the number field in the Dialler to access the onscreen keypad. Use this to enter the Truphone username of the person you want, then tap Call. Note, however, that we found

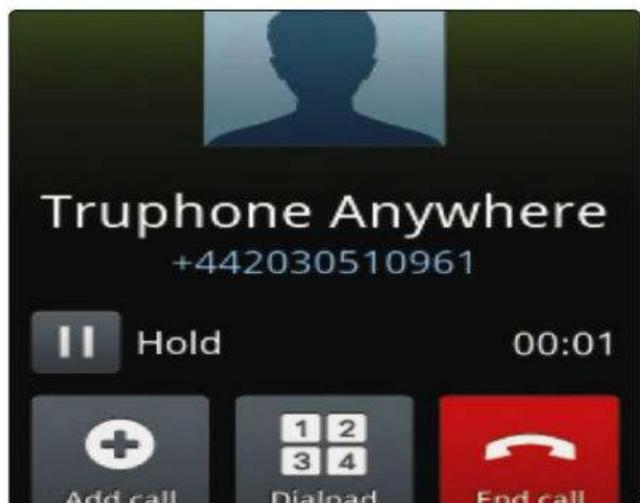
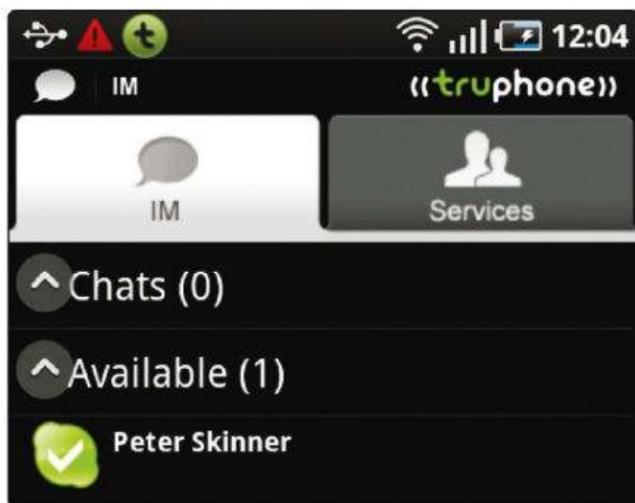
5 Add VoIP contacts Select More from the top right-hand side of the Dialler screen and choose the IM option. From the Services tab, select Add IM Service to display the screen shown here (right) and choose one of the four options from the drop-down menu: MSN, AIM, Skype or Google Talk (only the last two currently support voice). After entering your username and password, tap Add IM Service. Under the Services tab, you'll now see an icon for the service you just added and an option to sign out. Select the IM tab to see your contacts from the added services, with those currently available highlighted in green.



no way of identifying which of your contacts are on Truphone. You'll need to ask them for their username and enter it here.

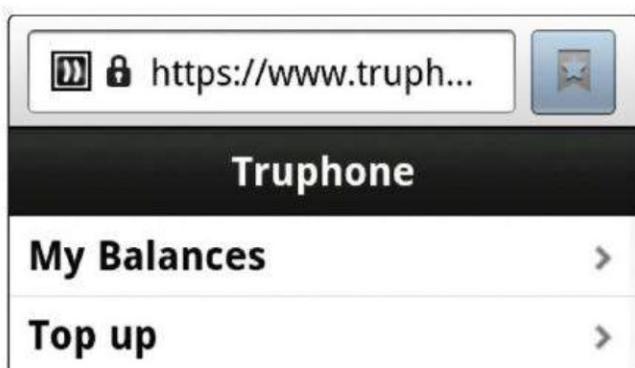
4 Other VoIP services To contact Skype and Google Talk users over a Wi-Fi connection in the same way, you just need to add these accounts to your list of IM services within the Truphone app (above).





6 Start talking To call one of your available Skype or Google friends, click on a contact name. A text box and onscreen keyboard will pop up to let you type and send them an instant message. Alternatively, hit your device's Menu button to bring up the option to call them. Tap the Call option and Truphone will initiate the phone call.

7 International calls Truphone also offers cheaper long-distance calls. Truphone Anywhere redirects you to a local access number which completes your call via Truphone's server. When you dial, the screen shows 'Setting up the call' and a voice explains you'll be using Truphone Anywhere; hang up if you don't want to.



8 Top up credit The app lets you view and top up your Truphone account from your Android device. From the More menu, select My Account. The first time you do this you'll need to enter your mobile phone number for validation. You'll then be able to view your balance and rates, register a credit card and change your password.

Using Vonage

Vonage for Facebook is another app that makes calls over the internet, but with this you call friends from their Facebook profile page. Neither party needs to give out a phone number. It's free and you don't have to subscribe to a specific VoIP service. Calls are made over 3G or Wi-Fi, whichever connection is available. After installing the app, you sign into your Facebook account and select a friend to call. If you're on the receiving end, the app launches automatically and you can accept or decline.



5

Android apps

Chapter 5

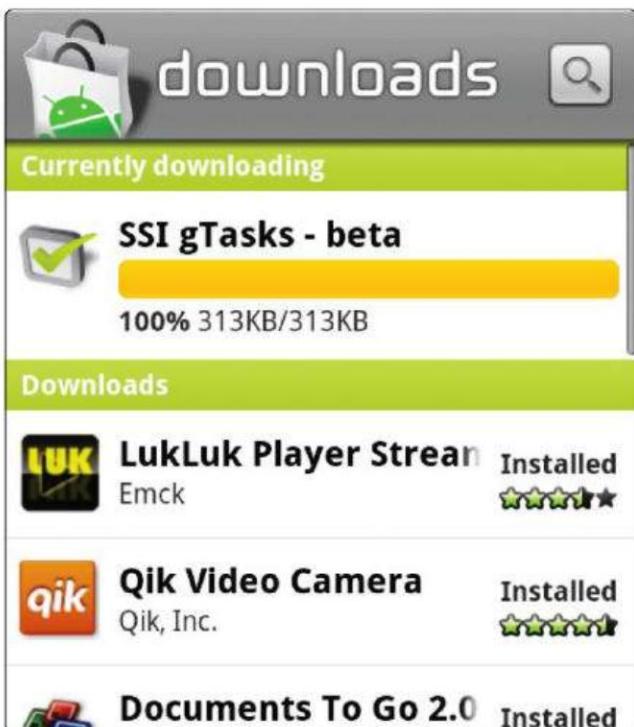
Android apps

The Android Market

Google's online store makes it easy to find and buy the apps you need

Despite its excellent operating system, your Android phone is ultimately only as useful as the apps installed on it. Whether you're looking to play games, manage media or find new ways to organise your life, apps are the tools that can make it happen.

Android's official app store is the Android Market. While the open nature of Google's platform allows you to download apps from anywhere (several other app download sites exist), the Android Market is the largest collection and offers a secure way to pay through Google Checkout.



▲ As you download an app, the Downloads screen will show progress

THE ANDROID MARKET

To access the Market on your phone or tablet, tap the Market shortcut on the home screen. Once it loads, you'll see a page showcasing the latest featured applications. At the top of the screen is a series of tabs labelled Apps, Games, and possibly another option specific to your network.

Tapping the Apps tab brings up a set of categories to browse. Within each you'll see a list of the most popular programs sorted by whether they're free or paid-for. You can also tap the search icon – the magnifying glass at the top right – to find any application by name or keyword.

To learn more about a particular app, tap it to load a description and screenshots provided by the developer, along with ratings and comments from users.

You can't view the Android Market in a web browser, so it's only accessible on an Android device. If you come across a useful app on the developer's website rather than the Market, on the other hand, the website may provide a URL that you can tap (when using an Android device), or a barcode you can scan, to jump to that application's entry in the Android Market.

DOWNLOADING AN APP

When you decide you want an app, touch the Install button at the bottom of its page in the Market. The system will tell you what functions the program will be able to



access on your device; this is to help ensure you're not downloading anything that isn't what it seems, but it's generally no cause for alarm. The vast majority of apps in the Market are perfectly safe. Just be sure you've looked over an app's ratings and comments to get an idea of its reputation, then use your judgement.

With free apps, the download will begin as soon as you tap OK. With paid apps, you'll first be taken to a Google Checkout screen to enter your credit card information. You'll only have to input your payment details once; they'll be securely stored for future transactions.

A message will pop up in your notification panel once an app has finished installing. The app will then automatically appear as an icon in your app launcher.

Memory lane

Apps are normally saved to the device's memory, not a memory card. This means you may run out of space. Until Android 2.2, apps could only be moved to SD card on rooted devices (see 'Hacking Android'). Even then it required fiddly workarounds. Android devices running at least version 2.2 can run apps from a memory card via Settings, Applications, Manage applications. Utilities such as SDMove and App2SD, free from the Market, give you more information (such as which apps will run successfully from SD card) and control over the task.



Just take a photo of the QR barcode for an app and Android will load its entry in the Market

UPDATING AND UNINSTALLING

Many apps receive regular updates from their developers. The Android Market will notify you by placing a Market icon with an 'Updates available' message in your notification panel. Follow the prompts to download and install the update for free.

To manually check for updates, press the Menu key while in the Market, then select Downloads. Any app with an available update appears at the top with a label.

If you want to uninstall an app, go to the Market and access the Downloads menu. Touch any app in the list and you'll get an option to uninstall it. The Android Market will refund your money on any paid app you uninstall within 24 hours, provided you haven't had it before – a great opportunity to try apps without risk.

Your Android device has its own built-in app manager, too. Tap the Menu key while on your home screen, then select Settings, Applications, Manage applications. You'll find a list of all the programs installed on your device. Tapping on any app lets you see detailed information about its system resource usage and will also give you the option to uninstall it.

Entertainment

IMDb



FREE

The Internet Movie Database has rightly become the web destination for film buffs keen to hone their knowledge. It's also handy to settle arguments about who was who in which TV show. This in-depth guide to plotlines, characters, cast and crew also features trailers and a frequently updated Top 250 films. Its database of reviews tells you instantly whether what's at the cinema or on TV tonight is likely to appeal.

More than 1.5 million films and 3.5 million actors, directors, cinematographers, producers and other key players are not only listed but cross-referenced. And there are plenty of extras: a section devoted to the lowest-rated movies of all time provides an amusing warning of absolute stinkers.

Listings of where a particular film is currently screening are sadly limited to the US at the moment. Keeping things current, though, the app links to online reviews of new releases, while a tie-in with Amazon lets you order related DVDs.

Google Sky Maps

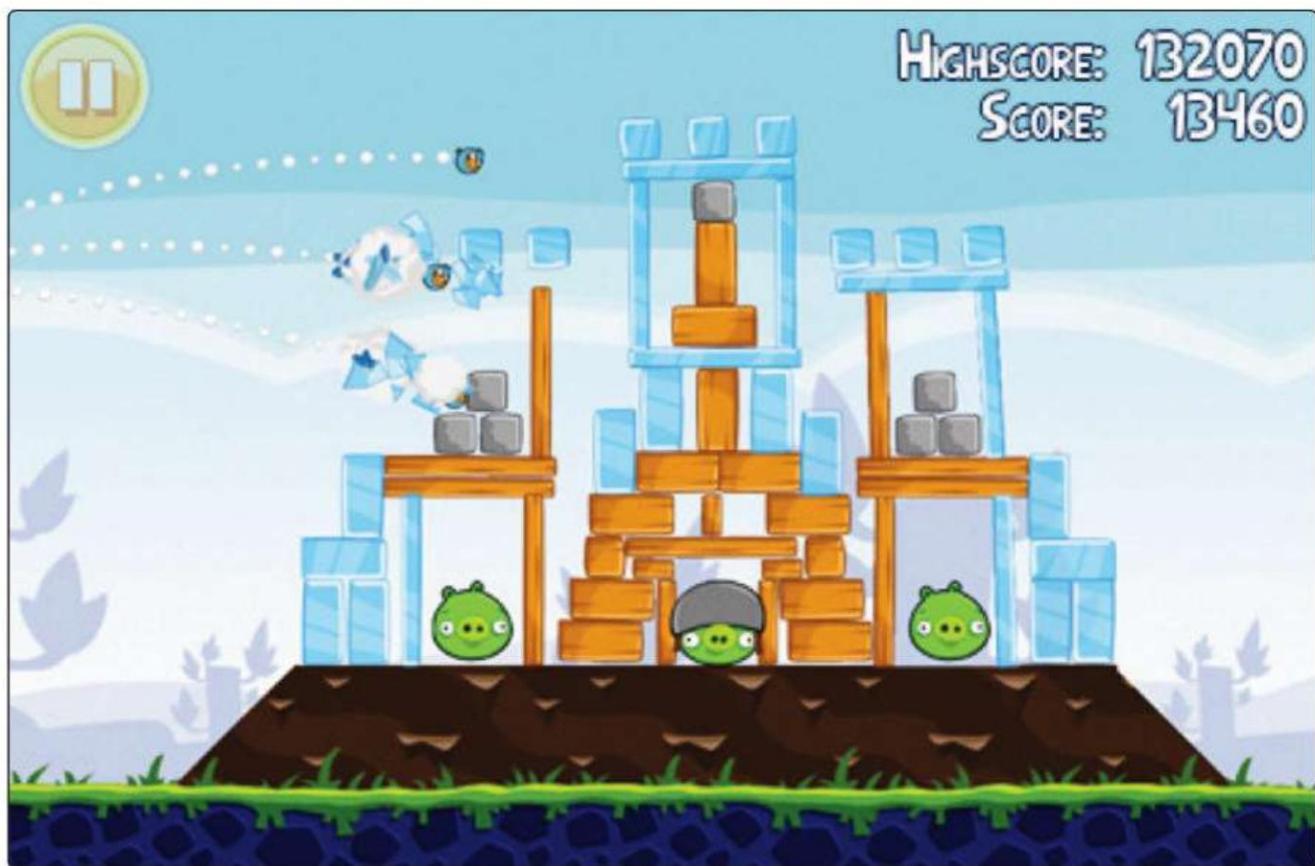


FREE

A virtual planetarium at your fingertips, Google Sky Maps may be the coolest app in the Market. Using GPS and the accelerometer and compass, it displays a live map of the sky where you are. Hold up the phone as if taking a picture, and Sky Maps shows the portion of the heavens directly behind, like an overlay on reality.

Can't figure out a constellation? Point the phone at it, and Sky Maps will show you. Wondering if a body is a star or a planet? Sky Maps will identify it. The app occasionally gets confused when it can't tell if the phone is horizontal or vertical (such as when you're holding it flat to point straight up), and sometimes draws the lines in constellations a bit wrong. But overall, it's a marvel.





Angry Birds



FREE

What was originally the most addictive game for iPhone and iPad scored two million downloads in its first two days on Android. The premise is that you sling-shot birds at a group of nasty pigs who've stolen their eggs and are hiding out.

It sounds simple, but under the surface is a physics engine that really keeps things interesting. At first you only have a plain red bird, but as the game goes on you get blue birds that divide into three, yellow birds with speed boosters, white birds that drop eggs like bombs, black birds that are ticking bombs themselves, and more. On each level you get a fixed

queue of birds to achieve your aim. It gets pretty challenging pretty quickly.

Pigs also come in a few types: tiny ones, huge ones, ones wearing helmets so they're harder to squash, and so forth. As you progress through the levels (and there are over 150 to complete), the structures protecting them get more complex, and materials such as wood, ice and concrete require different birds, so strategy becomes as important as your aim.

The animation is smooth, even with the (amusing) sound on, and pinching to zoom in and out looks cool. The game did hang on us occasionally, but your progress is always saved, so it's not a big deal.

The free app is supported by ads, which can be intrusive; a paid option is planned to let users remove these.

DLNA



FREE

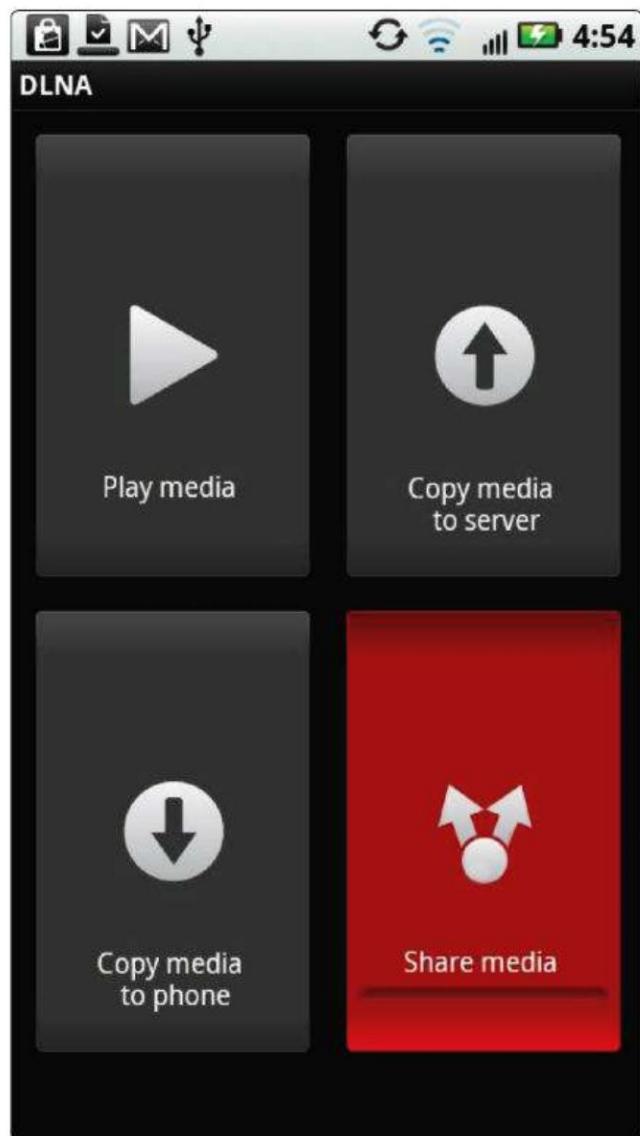
This handy media-sharing app first came to our attention when we found it pre-installed on a Motorola Droid handset (the phone known in the UK as the Milestone). Digital Living Network Alliance is a clunky acronym that's worth keeping a lookout for when choosing consumer electronics to share media across your home network. Adherence to the standard promises interoperability between devices, so you can mix and match, say, Sony, Philips and Toshiba laptops, flat-screen TVs and media hubs, for example.

INS AND OUTS

The DLNA app for Android allows you to control how you share the kind of content you might want to enjoy on such devices. You can share photos, music and video (singly or all three) both to and from your Android handset, allowing you to stream albums to a set of wireless speakers, for example, or watch TV shows from a network media server on your Android tablet.

A helpful warning when you fire up the DLNA software checks whether you want to leave the Wi-Fi radio function switched on (and risk getting a flat battery in your phone as the constant Wi-Fi streaming leaches power) or turn it off for the moment.

The simplicity of setup is one of the strengths of the DLNA app. Four tiles allow you to copy media to and from the server and the phone and to toggle the



sharing function on and off. Clicking on an option brings up a screen offering a choice of available media servers. If you've bought music on your Android device, you can stream this to a suitably connected speaker.

Clicking the Play button lets you either access media server content or play items stored on the Android device, using the DLNA app like a regular media player. However, our biggest gripe was that we found the software slow at accessing content, even when it was stored locally.



5

Android apps

Sketch Online



FREE

Few multiplayer games are available for Android, but Sketch Online, which is rather like the board game Pictionary, ranks among the most entertaining. You can even play against iPhone users. Hah!

Up to ten people compete in a 'room' dedicated to a difficulty level (for example, 'English – difficult') or subject matter (such as 'Animals' or 'TV Shows'). You can also interact between games in a busy live-chat 'lobby'. A Synclet account is created to track your activity and settings. Players can upload pictures as avatars and create public profiles with other details they wish to share.

The heart of Sketch Online is the gameplay, which is fast, furious, and often unpredictable. Each player gets 90 seconds to draw a picture of a given word using a 'pen' that traces lines of user-selectable thickness where you touch plus tools such as 'circle' and 'square'. The others must guess the word. It's fun, but the app's makers still describe it as 'beta' and we can see why: a number of serious bugs remain in various areas. With these ironed out, it would be a great Android game.



VH1 I Love the 80s



\$2.99

If big hair and bigger rock anthems are you, this 1980s trivia quiz may be up your street. The multiple choice contest does more than just throw questions at you, it also hurls out insults when you get things wrong. There's a limited selection of both accolades and put-downs, however, and we didn't get the cultural references in some of them. Given the app's firm US bias, it was perhaps not surprising that we suffered our fair share of confusion.

Fortunately, you get visual clues in the form of photos at the top of the screen and 10 seconds' thinking time for each question. Apart from the single player and two-player options, you can play against friends on Facebook – a useful means of making things a bit more interactive. Click the Friends option and log in to invite a friend to play against you.

More competitive players who spent their teenage years tuned in to MTV or the NFL Playoffs may find more of interest here than we did. As it is, we found I Love The 80s disappointingly limited in its scope.

Dictionary.com



FREE

Even the best wordsmiths have their off days when the 'mot juste' just won't come to mind. Dictionary.com pairs a 375,000-word database with the Thesaurus.com phrase finder in a free app that installs almost instantly from the Android Market.

Definitions, synonyms and antonyms are all provided, along with a pronunciation

guide, and there's even a Word of the Day tip to expand your vocabulary. Though the principle of this app is sound, we came across a few issues that betray its US provenance. It does claim to be localised for the UK – indeed, like most Android apps, Dictionary.com asks your permission to log your geographical location – but its entry for 'aluminium' gave us a phonetic pronunciation while listing the word as an alternative to 'aluminum'.

Amazon Kindle



FREE

E-book reading is considerably more practical on a 7in or 10in tablet than a typical 3.5in Android smartphone, but whatever the size of your device it's worth downloading this free app. After setting up a free account with Amazon, you even get enough credit to buy your first book at no cost.

If you already have an Amazon account from online shopping, you can log in using this and will then be able to download any books you've bought previously. An onscreen status message tells you how recently content was synced from Amazon, so you don't need to bother logging on just in case.

Amazon says more than 620,000 titles are available for viewing through Kindle, though the full complement is not available outside the US. The first chapter of each book can be downloaded and read on your PC or mobile device before you decide to buy it. If you can read websites and spend hours Facebook-messaging on your mobile device, you shouldn't find reading a gripping novel too much of a stretch, and of course you can adjust the text size to suit your display and eyesight.





5

Android apps

Shazam



FREE

Shazam is one of those slightly oddball ideas that just works. It's a free music-recognition service that requires only a few seconds' burst of a track in order to pinpoint the artist and title.

Unlike sticking a CD into your laptop and having the track listing and album art pop up in Windows Media Player or iTunes, Shazam doesn't rely on existing info but uses rhythm and audio characteristics to identify what's playing. So if you're listening to the FM radio on your Android phone, you don't have wait for the DJ to announce what they've played – Shazam will tell you first.

NAME THAT TUNE

When we first heard about this system some years ago, we were sceptical. But then we had the opportunity to try it out in the high-pressure environment of a pub quiz (deliberately based on everyone using the Shazam mobile app, lest you think we were cheating) and we found it came up trumps every time.

Shazam even correctly identified live music tracks and concert footage featuring cover versions. Surely some kind of voodoo is at play here?

Another cool element is tagging. You can tag a track and share it with friends or find out who else is tagging songs. A live tag stream can be displayed within Shazam. If you buy the Encore version you can tag as many tracks as you like

Tag (1/5)

Tik Tok
Ke\$ha

Album: Animal
Genre: Pop
Tagged: 11 Aug 2010 17:

Buy on Amazon

Tour Info

click here to meet
THE TING TINGS
backstage

and pull other people's tagged tracks in to your playlists. The free version limits you to tagging five tunes a month, which is only a limitation if you get a taste for it.

The makers are also working to link Shazam with other ways of experiencing music. Tagging an artist causes information about their upcoming gigs and music releases to be pushed in your direction. And now that Android supports PayPal and mobile payments, the ability to buy concert tickets for your favourite artists will also come into its own.

Cestos



FREE

Cestos is a casual strategy game in which you fling marbles to knock your opponent's marbles into holes. Easy, right? Not quite. Each time you move a marble, in its former resting place appears a land mine. The mine takes a second or so to arm itself; then, if any marble gets close enough, the blast will fling the marble with sufficient force to send it ricocheting wildly around the playing field.

Cestos doesn't pit you against AI. Two to four players, in real time, battle over the net.

So the real challenge comes from the unpredictability of your rivals. When you join a game, you're paired with an opponent at random; they may decide to fling their marbles directly at yours, or rebound them off the walls using a more subtle strategy.

The six 'maps' each feature their own style of gameplay, but the last player standing with at least one marble always wins.

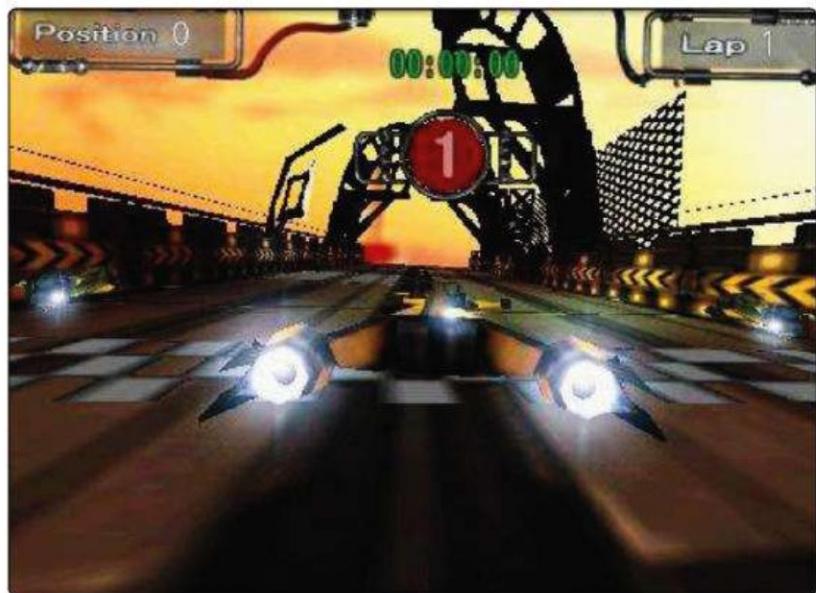
Cestos is understated, fun and endlessly challenging. Our only caveats are that the teen-dominated chat in the 'lobby' gets foul-mouthed at times and the app chews through your device's battery power.

Speed Forge 3D



£4.99

SpeedForge 3D gives you six different locations in outer space over which to race. It uses your handset or Android tablet's accelerometer to provide plenty of feedback as you crash into things while hurrying along. We found ourselves squealing with delight when we experienced our first wipeouts. When you smack into something, you don't just get the odd knock along the way but a plethora of explosions and a wildly vibrating handset.



Once you've got the hang of things, the competitive element kicks in. To win the time trials you're encouraged to get other racers off your tail by hurling mines and missiles. Of course, they're just as likely to try the same with you. The excitement is only limited by the fact that these aren't real online players, which is a shame given the potential of the environment. Taking advantage of the faster 1GHz processors and larger screens in today's devices, the 3D effects and physics are surprisingly good even at breakneck speeds. But without fellow players, it all feels a bit lonely.



Navigation

Pintail



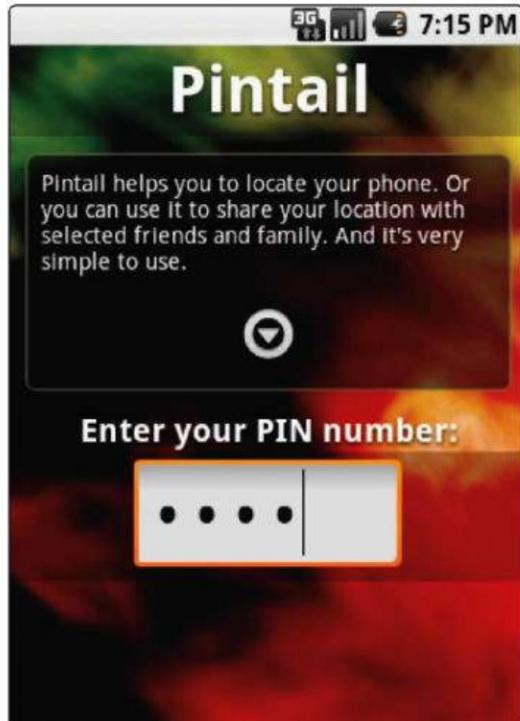
FREE

Pintail is an app for finding lost Android phones. When you send an SMS message to yourself, with your chosen personal identification number, from another phone, Pintail texts you back the location of your own device. It's that simple. Setup is easy: type a four-digit PIN into Pintail, close the app and you're done.

You can now text 'Locate #####' to your phone from anywhere, and within a few minutes (assuming it has some battery) it'll text you back its location details and a link to Google Maps.

It's not only a lifesaver if you leave your phone in a cab or at a café, but if you give the PIN to your friends they can find you, say, during a pub crawl or at a festival, even if you're not answering your phone. On our first try, we got 'Location Unknown,' which wasn't encouraging. The second time we could only get a fix on a 2km radius, but when we clicked the Google Maps link, Pintail had the exact location. The third and fourth tries were spot-on.

Pintail could offer more features, such as email notification, and we'd also like protection against a phone thief simply turning it off. But it's a great freebie.



Quickpedia



FREE

Quickpedia was one of the first Wikipedia apps to become popular. The idea is to make it quicker and easier to browse Wikipedia than via the website. The app's clean layout has five tabs; in the first, Search, predictive text will pull up common search terms as you type. Results are organised into subsections with links throughout.

Options let you adjust text size or email the result. The Featured tab offers random articles on a range of subjects, while the Popular tab brings up the most requested. The News tab lacks ways to filter articles relevant to your place and time, but the Nearby tab covers this.

Quickpedia is a good idea and in some ways neatly executed, but we hit too many bugs while using it to make this our favourite way to access Wikipedia on the move.

Google Maps Navigation



FREE

Google Maps Navigation brings satnav functionality to any Android device. It builds on Google Maps, which comes as part of the operating system, providing visual and audio turn-by-turn directions from your current location (set via GPS).

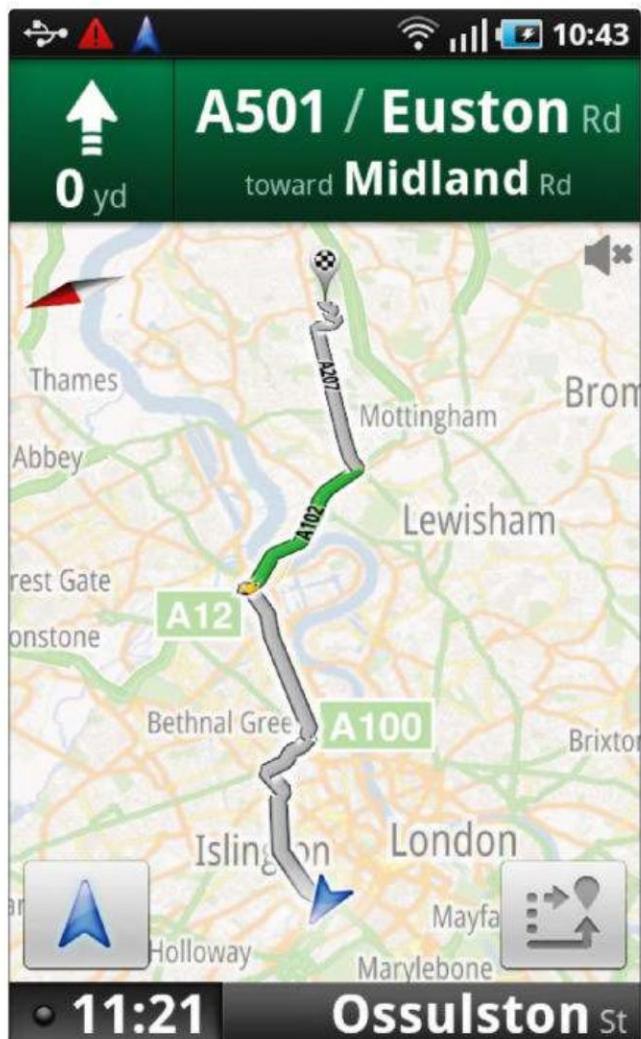
Once you've chosen between driving and walking, you just enter your destination – a street name, postcode, or even a type of place, such as a restaurant or post office. You can also speak your destination, which in our case was correctly interpreted about half the time.

You'll need to wait for your handset's GPS to fix your location, which can take a few seconds to over a minute. Then a blue icon is displayed on the map where you are, with a blue line showing the route. You can also view step-by-step instructions as a list. Meanwhile, a female voice offers an audio version, satnav-style.

DO IT YOUR WAY

We loved the fact that there's plenty of customisation, including switching between 3D satellite maps, Street View and standard Google maps. You can opt to highlight banks, ATMs and restaurants in case you need to make a quick pitstop.

One limitation is that, unlike many satnavs, Google Maps Navigation gives you a fixed estimated journey time regardless of time of day and traffic. So it reckoned we'd be able to get from our London office to the Kent border in 39



minutes – a time feasible only in the early hours of the morning. The only indication of congestion comes from Google's Traffic View, which colours roads green, yellow or red based on how busy they are.

Since the app uses the internet connection to get the latest data, you'll never need to manually update or buy new maps. And unlike other free offerings, it's not ad-supported. Overall, a convincing alternative to shelling out for a satnav.



Productivity

Documents to Go 3.0



\$29.99

Dataviz Documents To Go has a long pedigree. It's been seen on smartphones from Palm and BlackBerry for years in lieu of a native document viewer, and is fast becoming the productivity app of choice on Android too. If the one selling point of boring old Windows Mobile phones was their support for Word and Excel, Dataviz bridges that gap. The free version lets you view word processor files, spreadsheets, presentations and PDFs and use the onscreen keyboard or a tab/toggle approach to be used to navigate and update entries.

The full \$29.99 edition offers equivalent document types (Word To Go, Sheet To Go, Slideshow To Go and PDF To Go) that can import, edit and save versions of your files locally and even recalculate formulae. Formatting is preserved and there's support for documents on SD Card. A menu of recently opened files helps find the one you want. If you need to edit documents, this is a powerful solution – but the full app is expensive, and for many users a simple e-book or PDF viewer may perform many of the essential functions offered here.



dgQuickCut



FREE

If technicians who work on Android all day recommend it, you know this is a decent app for technical users. It lets you create shortcuts – icons that can launch an app or perform various functions – on the desktop or in the notification tray; the latter are referred to as 'dropcuts' because they appear only in the drop-down menu you

get when you expand the notification area. You can generate a dropcut from virtually any action in any app, as well as many more that aren't easily found within the Android OS. For example, we managed to access the Battery History option only by adding it to our dropcuts. Power users and novices alike will appreciate the ability to add and change shortcuts; we're always accidentally hitting the default Search combo. The possibilities are as numerous as the apps you use.

AppMonster



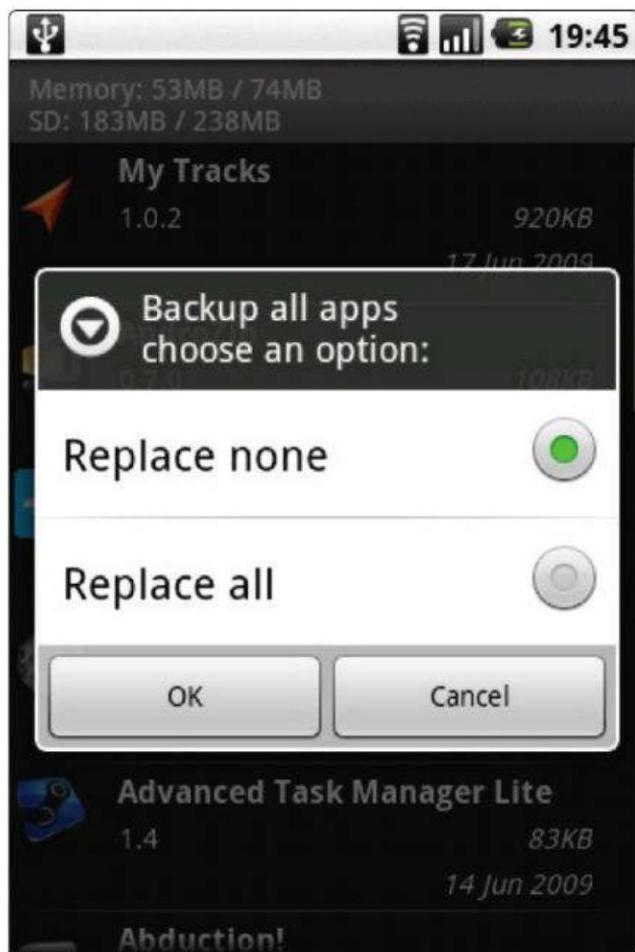
FREE

AppMonster puts several key file management features at your fingertips. As an app backup tool, it can either copy individual apps or copy every app on your phone (those that don't have their 'protected' flag set) to your microSD card for safekeeping. It also displays info on your installed apps, including version numbers, the date each app was installed, whether it's copy-protected, and both the total and the free storage space remaining on the phone and the microSD card. For a free, 99KB app, that's pretty impressive.

AppMonster lets you sort the list of apps by name, size, or the date the app was installed (in reverse, so the newest apps appear at the top of the list). In the main window, each installed app's icon and name is accompanied by the version number, installed size and date of installation. On our G1's display, about five apps fitted the length of a screen in portrait, or three in landscape. You can click any app in the list to launch, back up or uninstall it, or search for upgrades in the Market.

CALL FOR BACKUP

The backup feature is AppMonster's biggest strength. You can opt to back up only the new apps or everything (overwriting the same file if it's already backed up). Not sure if a new feature in an app's upgrade might cause a problem? Back up the existing version first, then revert to it if necessary. Restoring backups is as easy as



choosing the Install option, then clicking the app – but you have to do this for each app. Installing from the microSD card is faster than downloading, but you first have to change an OS option that lets you install apps from the memory card.

For \$1.50, AppMonster Pro adds extra features including the ability to share your app list with other Android users and batch-install more than one app from the SD card at a time.

If you frequently perform a factory reset on your phone (which wipes out all your apps), or you're a system administrator who needs to install a group of apps to several phones at once, AppMonster could be a valuable timesaver.



5

Android apps

Fusion Voicemail Plus



FREE

The ease and organisation of visual voicemail have changed the way smartphone owners receive their messages. Now Android users can get in on it with Fusion Voicemail Plus. To set it up, just upload a personal greeting and you're ready to receive messages. After voicemail arrives, you can pull up each message with a display that shows when the call came in, what number it came from and how long the message is. You can replay, delete, mark as

unread or forward (an option iPhone users will envy) the recording to other Fusion users or to an email address. If you like, you can return the call, send an SMS message directly from the app, or add the contact.

A useful feature is the ability to bring multiple voicemail boxes together. Fusion also lets you receive faxes and set caller ID-based greetings. There are also schedule-based greetings, voice-to-text transcription and a homescreen widget for new messages. One drawback is that the app sends an SMS alert for every voicemail, which can get a bit irksome. But we can live with that.

Keeper Mobile



FREE

This is just one of at least 20 password apps available for Android, but it uses 128bit encryption and has US 5D992 classification to confirm it's secure.

Keeper is free to use on your Android device, but you can access only some of its security functions. Backup and synchronisation features can be added for \$29.99 a year. Smartphone-agnostic users should also note that synchronisation across handsets requires this fee. If you want to use your Android device to access your bank, PayPal and eBay accounts or to make credit card payments, it's worth it to know your details are covered and you can claim if your account is hacked.

Setup involves creating a master password.

You need this and only this to get into your account. You can then create entries for all your sensitive accounts; password fields and all associated details are automatically encrypted. A pair of dice indicates that a field has been logged and scrambled.

You can add prompts and adjust how many incorrect password attempts are allowed before the self-destruct function kicks in. Should you lose your handset, you can activate this remotely – so even in the worst case, your personal data is safe.



K-9 Mail



FREE

The Android OS includes a Gmail app that gives you easy access to webmail, but K-9 is one of the few free email apps in the Market that provides access to both POP3 and IMAP accounts. Unfortunately, while it works as advertised, it seems to run very slowly, especially when downloading a lot of messages from heavily used inboxes.

We get a lot of email. When we tested K-9 on a very busy POP3 account, it pulled down the message headers and made a list of messages, but only with a long delay. When the program seized up, we found we could simply force it to quit, relaunch it and tell it to scan for new mail again. That's not pretty, but eventually it worked. Less heavy mail users might not have such difficulties.

If you don't use Gmail or a corporate Exchange server, K-9 is worth considering.

Astrid Task/Todo List

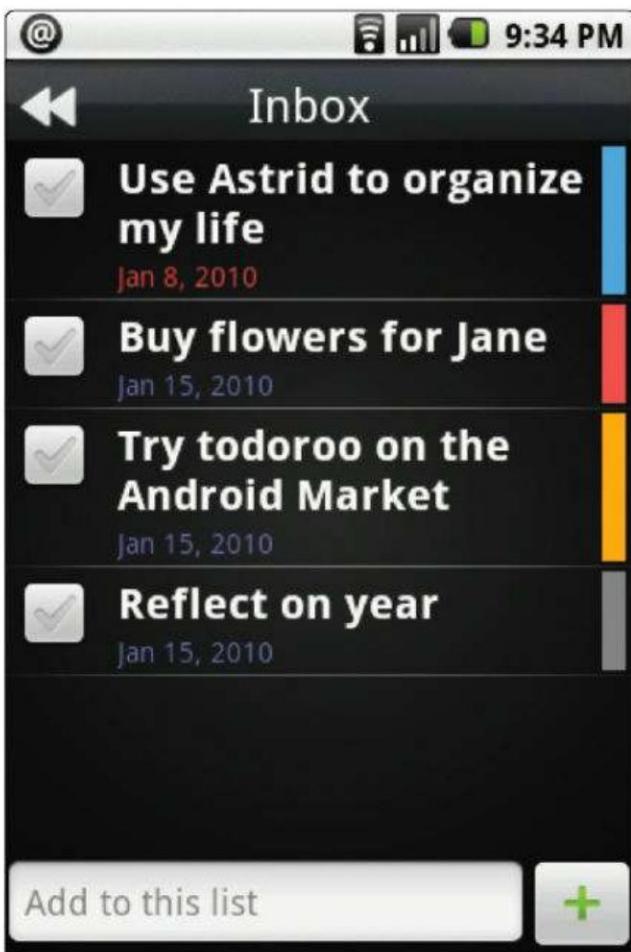


FREE

A productivity tool that syncs not only with your calendar but also with online task manager Remember the Milk, Astrid Task organises your tasks by prioritised coloured tabs and lets you check them off as you complete them.

Tasks appear in a list organised by the date and time you set for their completion. The colour of the bar on the right indicates each task's urgency. Tapping the bar lets you start a timer or edit the entry. Astrid provides quite a few options for task entry: you can set importance using coloured exclamation marks, append tags, estimate how long a task will take and add notes to a task.

The Dates tab includes options for both an Absolute Deadline and a Goal Deadline (perfect for procrastinators), and Hide lets you tuck a task out of sight until you're ready. You can sync Astrid to your calendar, repeat a task, list how much time you've already spent on it, and set alerts to remind you as deadlines approach – or after. Usefully, it also reminds you to clean up old tasks. A few tweaks wouldn't hurt, but this neat app will keep you sorted.





5

Android apps

LogMeIn Ignition



\$29.99

Being able to get at files strewn across multiple machines is a godsend. If you've left a critical document at home or brought the wrong version, this app lets you log in to your home or office network and retrieve it before you get caught out.

Remote access tools of this ilk have been around for years on PCs, but are now coming into their own on smartphones and tablets, which offer a handy screen on which to pull up a document for reference or to present. If you can view a web page or your webmail, why not your documents?

LogMeIn makes the whole process simple. You don't need to fiddle with IP addresses, just enter your username and password and browse to what you need. Remote access software allows you to take control of the PC or laptop at the other end. (Of course, you need to grant permission first.) With desktop versions of LogMeIn you can edit documents and even access the email software on the remote PC to send them to yourself. As a mobile version, Ignition is mainly for viewing and reference, but it can certainly help you out in a fix.



SugarSync



FREE

SugarSync is a cloud storage and access service that allows you to synchronise files to and from devices that you specify. It's essentially an FTP site with bells on, but far prettier than some we've tried.

The Android app works seamlessly with Macs, PCs and NAS storage boxes. Having downloaded it to our Motorola Milestone we simply needed to enter the login details and password for our SugarSync account and were immediately able to see our phone, MacBook Pro, iMac and desktop PC

listed under My Devices. Here, we could view any items we'd dictated should be accessible, including our e-book library and other files and folders.

We were also prompted to back up the photos we'd taken on the handset, which we found useful. Clicking on the Recent Documents link took us to items from the last hour, four hours, 24 hours or two days. We could then open these documents directly on our Android handset.

Finally, SugarSync stores some documents in a Magic Briefcase for automatic syncing to local and remote PCs. This is a superb free app for Android devices.

Utilities

KeepScreen

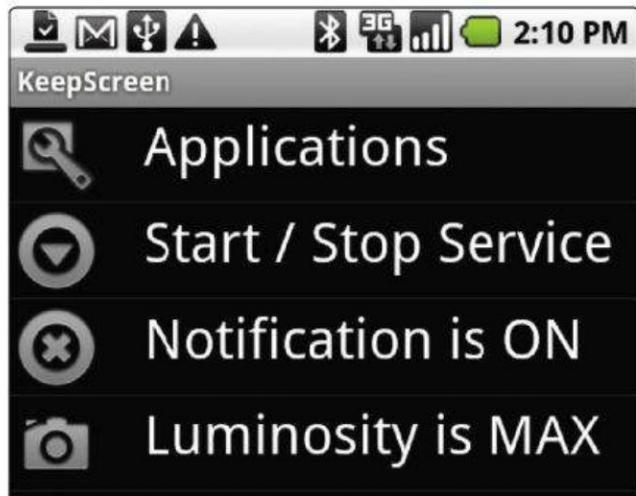
★★★★★ FREE

The screen backlight on most Android phones uses an awful lot of battery power. Though you can globally tweak the timeout that turns off the backlight, in some circumstances you just don't want it to go out. Maybe you're using an app while driving, or you might have an app that loses data or switches off altogether if the phone happens to lock up

its screen while the app is running. For those times, there's KeepScreen. The KeepScreen app lists all of the installed apps on your phone; then, with a tap, you can indicate which ones the screen shouldn't cut out on while they're running.

KeepScreen runs as a service, so it doesn't take up system resources like a full-blown app. You can start or stop the service from within the app, or end it with an app like TasKiller (from the same developer). Optionally, it will pop up an alert message in the notification area when a program has invoked its services. You can also set a 'minimum luminosity' option, which reduces the brightness but keeps the screen lit.

With KeepScreen you can turn down the screen backlight timer to its lowest setting – 30 seconds – and preserve battery life, while retaining full functionality and control over the apps you need to use. Sounds good to us.



Silent Time

★★★★★ FREE

In our quest to put an end to a wave of wrong-number calls, we stumbled upon Silent Time – and ever since, we've used it to guarantee a peaceful night's sleep. This donationware app lets you set up detailed schedules that turn off the phone's ringer (and, optionally, vibration) during regular times when you don't want to be disturbed.

You set a time frame when you want to muffle the ringer, then choose which days of the week to apply it. We found it useful to keep the phone quiet throughout every night. Schedules that span from evening to morning are tricky, but you can work around this by creating two time frames, either side of midnight.

For those cinema/library/wedding moments, a Quick Quiet button lets you set an instant silent period of up to 24 hours.



Wi-Fi Buddy



FREE

You may think the Wi-Fi settings on your Android device are all you need to get you online, but as with many a relationship, the initial introduction can take a little work.

Wi-Fi Buddy manages to hook you up via both secure and non-secure connections (with appropriate warnings) and seems to be able to get you online even if the wireless signal is weak.

The app also helps you manage network connections with finer control than the

standard Android OS setup, although not all corporate networks will allow Wi-Fi Buddy to work fully.

In any case, it's not just connectivity that this app helps you manage. Of particular interest to heavy multimedia users, and those who need to spend a long time away from a power source, is that Wi-Fi Buddy can help preserve your battery by stepping in and turning off the wireless function when power levels reach critical.

More than once its warnings and offer to act to preserve our power have prevented us running out of juice.

Toggle Settings

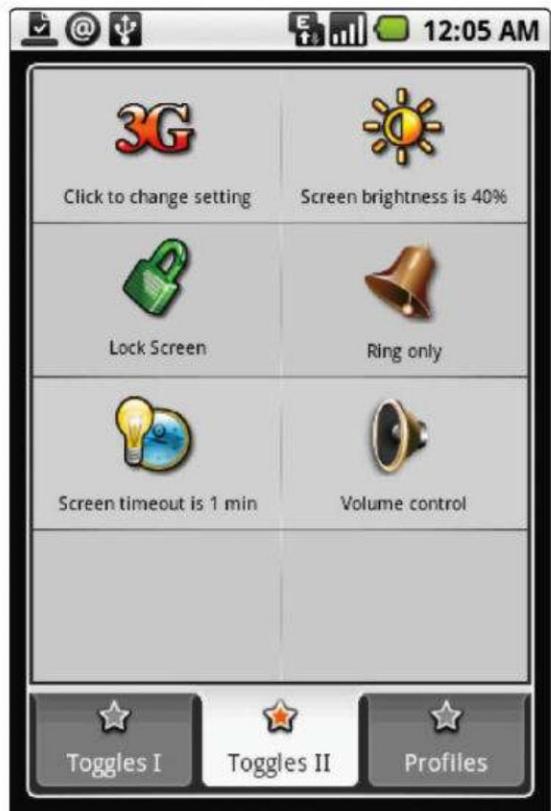


FREE

The Android operating system provides a lot of scope for customisation, but many of the settings you'll need to access to personalise your device are buried several levels deep within the desktop menu. Toggle Settings is a free app that acts as an on-off switch for many of the most commonly modified options with your preferences at the reach of a single button.

For example, you can quickly switch into Airplane mode, which means all internal transmitters are off, or just toggle the Bluetooth or Wi-Fi connection (both eat battery), data synchronisation, the brightness level of the screen's backlight, the ringer or the display idle time-out timer. Preconfigured profiles let you change several settings at once.

We found this app very useful, but wished we could move the buttons around. They're divided between several tabs within the app, and we ended up regularly using some on the first tab and some on the second tab, meaning we had to keep switching between them, while there were other buttons we never touched.



Watts



FREE

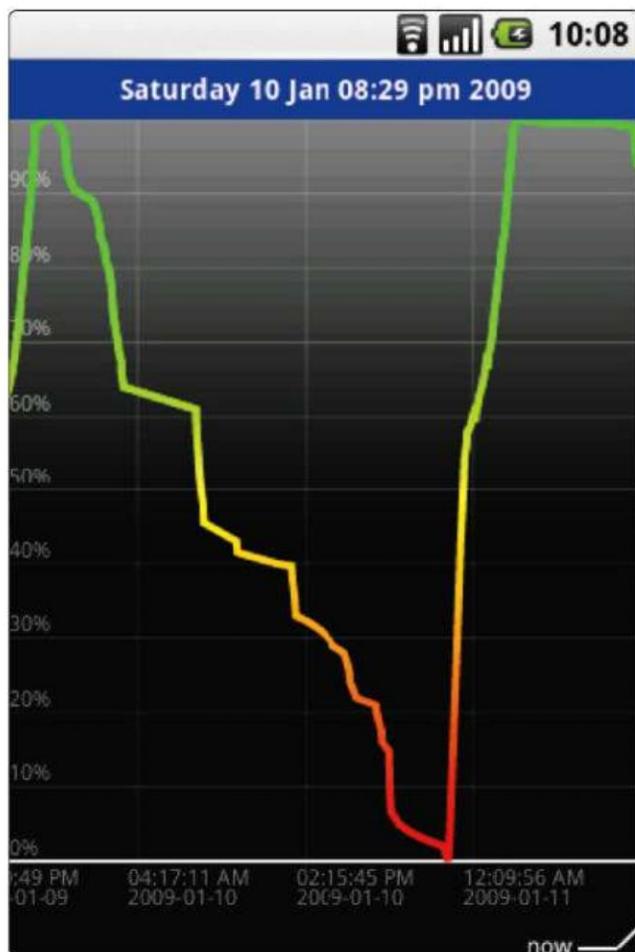
The biggest issue with just about every smartphone is its battery life (or lack thereof). Android devices are no different, and the scope of their problems even tends to be greater because of the platform's ability to run multiple programs that send and receive network data, simultaneously, in the background. Yet all you probably use to manage your power consumption is a little battery icon that gradually gets emptier of colour.

Watts is a free app that gives you a clearer perspective on the power level of your phone over time, tracking the percentage of full charge and graphing it over a user-selectable period of one to five days. Wondering if a particular app is draining the battery? Curious about how much battery life you'll save by tweaking a setting (such as backlight brightness) or turning off a feature (such as Wi-Fi)?

POWER CURVE

Turn on Watts, start the app in question or make your changes to the phone's options, and the software will keep an eye on battery level. The steeper the cliff on the chart, the more power the phone is consuming. Simple and effective.

There are a few things we wish Watts did better. First, the utility would be much more useful as a guide to power usage if it kept track of the time and date when we started another app. It could also show an indicator at each point in time where we



changed the screen brightness, turned one of the wireless devices on or off, made a call or launched a specified power-hogging app (internet radio programs being a common example). And it would be nice if the timeline's grid lines were aligned to the hour on the hour, instead of what appears to be a random time of day in the middle of a given hour.

Then again, Watts is completely free of charge (if you'll pardon the pun), and its author admits that he isn't a professional developer but has produced the app as a training tool and work in progress. It's very useful despite the omissions, and we hope to see many improvements in the future.



5

Android apps

WaveSecure



FREE

The jury is still out on how susceptible smartphones really are to viruses and other forms of attack, but it's wise to lock your device just in case. While a worm or other web- or email-bound nasty may pose a threat to the data stored on your handset, it's far more likely that your personal files, email logs, PayPal or credit card details will be vulnerable when someone steals the hardware. While you can probably cope with someone 'borrowing' your phone and

posting a cheeky Facebook update in your name, it's a more serious issue if strangers are able to get at your emails and find out personal information.

WaveSecure adds peace of mind by automatically locking your Android device, making its contents inaccessible. Remote data wiping is supported on some newer Android models, but this app deserves credit for being free and incredibly easy to use – something all too rare in a security product.

As one user wrote in wry appreciation of this app: "I bought a Nexus One on Craigslist. It was stolen – he got it back."

SplashID



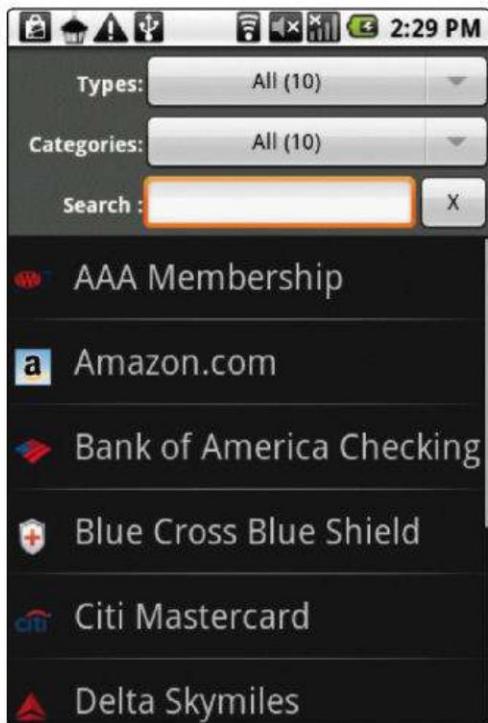
\$10

SplashID acts as a universal, secure data-storage utility for web user accounts and passwords, points clubs, birthdays and much other data. It keeps a password file on your Android device that's encrypted with the 256bit Blowfish algorithm, one of the most secure (and speedy) available.

At \$10, SplashID is one of the pricier apps in the Market, but it surpasses the other password-manager apps we've seen in both versatility and features. Having set a master password, you create accounts, grouped under categories such as 'Serial Numbers' or 'Web Logins' and classified as Business, Personal or Unfiled, with a choice of 55 custom icons for easy identification at a glance.

Each entry can have a URL, username, password and several customisable items.

The \$20 desktop version lets you wirelessly sync your info with a Mac or PC, which saves you bashing away at the onscreen keyboard and gives you a non-mobile backup of your passwords and other important data if you lose your handset. It's a shame wireless sync isn't an entirely automatic process, and requires you to know the IP address of your computer. But that won't be a big hurdle for most users.



Social

Meebo IM



FREE

When it comes to online chat, Meebo, as a web-based tool, is flexible and adaptable in ways that client-based tools such as the standard Android IM app can't match. So it may come as a disappointment to find that the Meebo Android app restricts you to adding only a subset of your possible IM accounts directly.

Those supported include popular services such as AIM, Google Talk, ICQ, Jabber, MSN Live Messenger, Yahoo Messenger, and the IM services that Meebo provides to the Facebook and MySpace social networks. In contrast, the web browser version of Meebo supports 54 different instant messaging services and social networks, at the last count.

MORE THE MERRIER

There's a way around this limitation, though. To use more than the basic list of services above, you have to create a Meebo account, log in to Meebo through a regular web browser on a computer, and add your other IM or social network account details to your Meebo account. Then, when you log into the Meebo Android app, all of your accounts and friend lists will appear there.

If your Meebo account is configured to store instant message history or logs, those will be saved in the usual way while you're using the Android version. The

catch is that you'll still need to use the browser-based Meebo client whenever you want to access them.

Meebo suffers from the same problems that many other IM clients do on mobile devices. Where network coverage is patchy, your IM accounts may regularly lose connection and log you out. And you'll find spim (spam over IM) can attain a new level of power to aggravate when your phone constantly beeps at you to read a new message.

But if you need to stay in touch over IM on the move, Meebo – despite its annoyances – is among the best Android clients, free or paid, that you can use.





Tweetcaster



FREE

Plenty of Twitter apps are available for Android, but how many do you need? Just one: Tweetcaster does everything you'd want, in an attractive interface.

If you have multiple accounts, you can sign in to them all. Tweetcaster will take you to your homepage, adding tabs along the top for your feed, @ replies, inbox, favourites and lists. An arrow lets you flip between Twitter accounts, Trends or Nearby tweets (always entertaining). The Search function, like the rest of the app, is simple and responsive.

When you post a new Tweet, a blue box with an eye lets you split the screen between the feed and your current entry box – a neat but not entirely useful trick. The character counter button also lets geotag, shrink a URL, add a picture or include a username. The Menu button offers a list of Followers and Following along with settings (under 'More') including a quick follow option and the ability to switch from the default 'light screen' to dark. The user interface is so appealing that we prefer Tweetcaster to Twitter itself – and that's saying something.



AnyPost



FREE

Social networking mavens who like to keep abreast of developments at all times will look fondly upon AnyPost. Most suitable for Android phone owners who have pre-Eclair versions of the OS, AnyPost brings the unified messaging idea to the fore.

But we're not just talking Facebook, Twitter and your favoured IM client here. More than 30 social networks and streaming services are supported, so you can monitor and change the m

ylist you've got on the go as well.

Bloggers can post updates to their websites and keep tabs on reader comments – useful if your commenters have a tendency to flame each other or get worked up, or a lot of spam eludes your filter. You'll want to spot such issues and deal with them immediately, wherever you may be at the time.

Like Tweetdeck – the dashboard app that lets you get a grip on Twitter and the dozens of responses and updates that following lots of users involves – AnyPost has one pane for other people's chatter and an outgoing one for what you've posted yourself and where. The whole thing is managed through Ping.fm, itself a valuable update tool.

Wertago



FREE

Bored? Single? Need something fun to do? Wertago ('where to go') is a location app that pulls up all nearby venues and events and incorporates social networking aspects so that you can post Tweet-like messages, find friends or 'coordinate a meet-up'.

The listings of local nightlife include distance, tags and ratings; clicking an item brings up the address and phone number as well as an option to add an event at that location or announce that you've arrived.

You can add your own tags and photos, see who's tagged it as a favourite place, and read posted reviews.

The default view covers a large area, so we often had to zoom in. Flipping back and forth between the Venues, Events and Filter tabs was glitchy, and we hit some errors.

Wertago's social features help you connect with others at venues, and you can set up a friends group. 'Pulse' shows who likes what near you, based on the details you give in your profile; if you don't register, not all features will work. For the more adventurous, this could become an essential app.

Foursquare

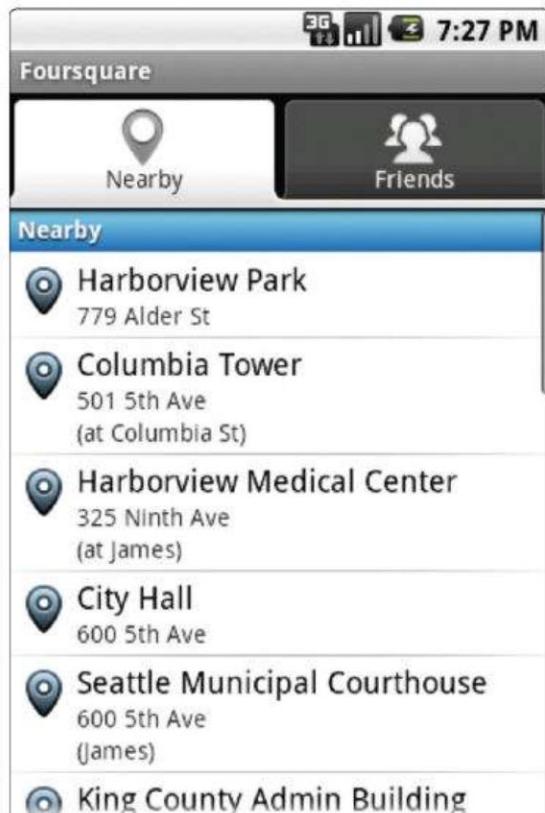


FREE

Most location-based services just give you information. Where's the fun in that? Foursquare adds a competitive element to being in the right place at the right time by rewarding you with badges for 'checking in'. Visit often enough and you can become the 'mayor', ousting the previous most regular customer.

Many venues already offer discounts or freebies for Foursquare users checking in – a neat way of tempting you to cross the street and buy their pastries rather than a rival's. Becoming friends with other people via the service is also part of the fun, and you can then message each other. Tell Twitter or Facebook you've checked in somewhere with a 4sq.com location link and you can tip others off about the best bars, restaurants and events in your area (and, of course, about Foursquare).

The Android app now supports shortcuts and favourites, so you don't have to wait around for the current location to be recognised in order to check in at one of your joints. Kudos all round – if ultimately more diverting than productive.





5

Android apps

Evernote



FREE

Evernote is a comprehensive note-taking application that integrates hardware, software and other apps. It captures text notes, voice notes, photos or files and stores them online for easy retrieval.

On Android, setup involves creating an account – your Google email is the default, but you can specify another – and deciding between creating a new note or snapshot or viewing existing ones. Once you've got a few notes, the Search and Tag options begin to come into their own.

One of the most useful elements of Evernote's Premium and desktop versions is its built-in Web Clipper. The clips can be viewed on your Android device and sorted according to tag. The developers suggest recipe clips, for example.

LIMITED CLIP

Within the free version of Evernote for Android, however, your actions are limited to viewing and organising what you've saved. For many tasks, you either need to go Premium (\$5 per month or \$45 per year) or revert to using the free desktop version. An Android tablet edition might provide the best of both worlds.

There's a lot to be said for the simplicity of the concept. The home page features a search bar and four buttons, each for a different type of data capture. To access your Notes, Pending Notes and Settings or log out, you hit the Menu key. You can label your Notes with custom

The screenshot shows the Evernote mobile application interface. At the top is a green header bar with the Evernote logo and a search icon. Below the header, there are three main sections representing different months:

- October 2010:** Contains one note titled "New York Restaurants and Dining - Fork in the Road -" with a thumbnail image of a meal and the date "Oct 4, 2010".
- September 2010:** Contains one note titled "Bay Area ramen list" with a thumbnail image of a bowl of ramen and the date "Sep 2, 2010".
- July 2010:** Contains two notes: "The 2010 Eat+Drink Reader's Choice Awards | 7x7" (with a thumbnail of a magazine cover) and "Jul 20, 2010 eat here" (with a thumbnail of a meal).

tags or GPS geotags and search by either, and organise Notes into folder-like Notebooks. The search function is a bit fussy if you don't have the note tagged correctly.

Optical character recognition (OCR) is one of Evernote's best features. It can recognise, index and search printed and handwritten text within photos – useful for capturing business cards, organising contacts or taking notes at meetings.

However, Evernote can't store notes on your device, only in the cloud, so if you have no web access you're stuck. Photos and voice notes need to be downloaded every time you want them. This is a versatile app, but it's limited by the need to use it online and in conjunction with the desktop app and browser add-on.

Music

Cherry Rplayer

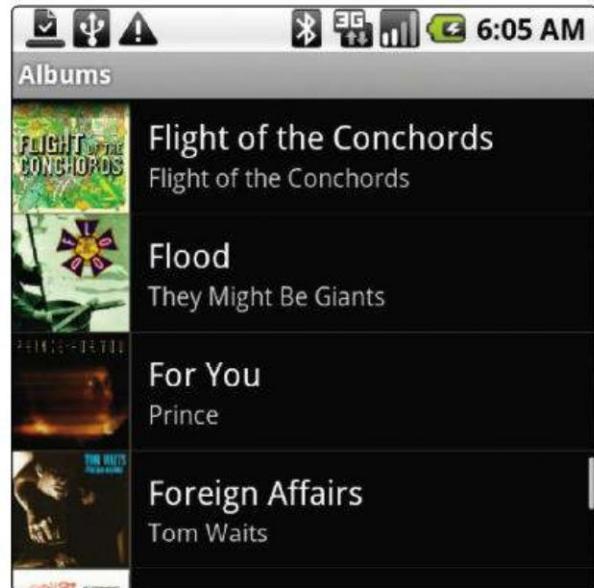


FREE

You don't have to be a jet-setter to groove to Santa Monica's KCRW in the morning, bop with BBC Radio 1 through the day and bounce to J-pop all night long on Columbia's TokyoNext radio. You just need Cherry Rplayer. This app can play Shoutcast, Icecast, AAC, MP3, M3U, PLS, AACP and other internet radio streams, and will download track, artist and song lyrics on demand.

Despite the odd name, it's far superior to its closest rival, StreamFurious. Four tabs help music fans navigate through the options, which include the ability to drill down through radio stations by city and search or browse through stations promoted via Shoutcast or Icecast. When you find a station you like, click the heart icon near the foot of the screen to add it to your Favorites, which appear under a tab of that name. If you forget a station's name, you can view a history of streams you've visited before.

It's not the player's fault, but the jam-packed US radio market isn't quite as well represented as you might hope in the US Radio tab, and the listings are cluttered with AM talk radio stations. If you know of a station and it isn't listed under its city, try the search function on the World/Live tab; you can usually find it there by its call sign.



Pandora Radio



FREE

Pandora's Internet Radio system has been available for some time on PCs and mobiles. The Pandora Radio app for Android provides an interface to this free service, which lets you create your own customised streaming music stations. You can find out more about Pandora itself at www.pandora.com. In the app, you can set up an account and create

new stations immediately, or if you already have a Pandora account, you can log into that and Pandora will push your existing stations and preferences to your device.

While listening, you can give songs a thumbs-up or thumbs-down, or vote with your feet by clicking a Skip button – but no more than three times per hour. These votes and skips help Pandora choose the music it plays. In theory, it gets better at selecting music you like over time.



Spotify



FREE

Spotify has quickly become one of the most popular music streaming services around. It comes in a free, ad-supported version, a version free of advertising interruptions, and a mobile version that allows you to download playlists from the desktop application and play them on your smartphone in offline mode. This last service costs £9.99 a month, so you'd need to be a fairly committed music fan and make extensive use of its library.

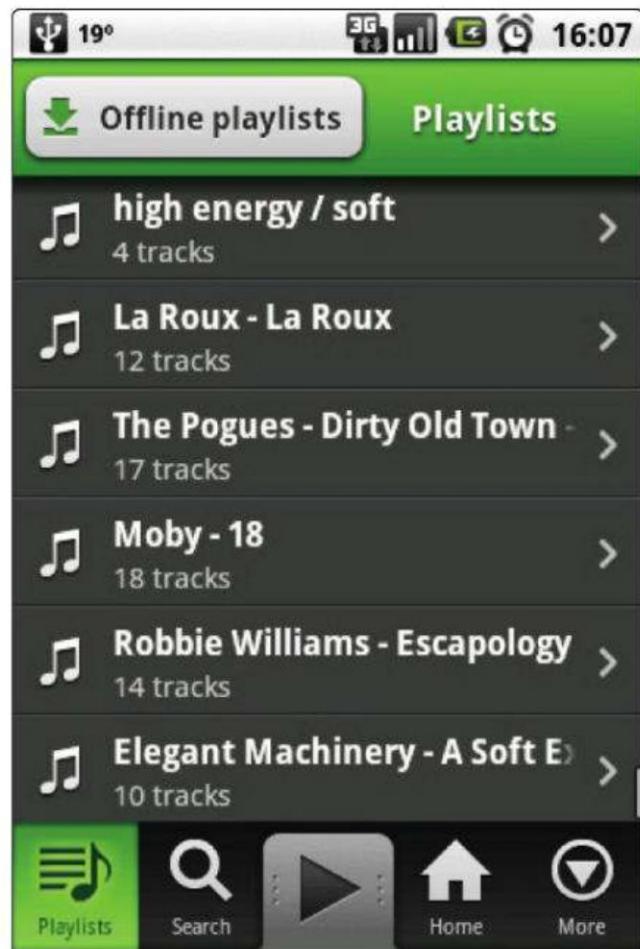
Spotify also suggests that this is a useful option if you're travelling abroad and want to be able to access your favourite Spotify albums: just download them to your Android device before you go.

A similar principle to Napster's streaming service applies to accessing your stored Spotify tracks: you have a full month to listen to a downloaded track before the service checks that your subscription is still active. You can also synchronise your library with up to three PCs or Macs.

STREAMING HOT

Sensibly, playlists and albums download only when you have a Wi-Fi connection, saving your 3G data allowance and battery life. Music can be streamed over a cell network connection as well as Wi-Fi.

Another advantage of signing up for a Spotify subscription is that you can access new albums before they become available to users of the free service. As



with Shazam, sharing is a big element; you can create a playlist and share it on Facebook or Twitter, via email and so on.

Spotify's music catalogue is broader than some, so you're not stuck with Katy Perry and Take That but can rediscover alternative gems from your youth. The only real issue we have with the Android version is that support for hardware is more limited than we'd have expected.

Of the eight Android devices we had to hand when we came to try out Spotify for Android, only three – the LG GW620 and the Sony Ericsson Xperia models – proved to be compatible with it. As of December 2010, 20 Android devices were supported in total.

Last.fm



FREE

Music geeks and Android lovers unite! Last.fm is an across-the-board great application. Boasting 'the world's largest online music catalogue', the service itself probably needs no introduction; it's already used by more than 40 million music lovers worldwide. The Android app brings it within reach of even more.

If you already have a Last.fm account, you can simply sign in to jump to the service's homepage. If you yet don't have an account, setting one up takes only a minute within the app.

The homepage has tabs for Artist, Tag and User along with a search bar. We tried a search for the Pixies, and almost immediately Frank Black's voice started singing from the speakers.

STALK THE STARS

When Last.fm plays a song by an artist who's currently touring, the upper right corner of the album artwork displays a banner that says 'On Tour'. Clicking this leads to an artist bio, a 'similar artists' tab, tags, fans and events. The information on events includes a listing of all nearby shows that this artist is playing along with their dates and venues. Intuitive and classy – we like that in an app.

The Radio tab holds all stations you've recently listened to as well as a list of recommended artists and popular artists in your neighbourhood. Your Profile tab will show your top artists, top

albums, top tracks, recently played music, events, friends and tags.

We enjoyed playing around with this app, which performed nearly flawlessly, and kept finding pleasant surprises in each new feature. For instance, Last.fm has background streaming, so you can listen continuously while using other features of your phone. We were also pleasantly surprised to find you can purchase songs from Amazon directly from the app. Though we did miss a pause button, we could probably have kept Last.fm running all day – if only the speakers on our smartphone weren't so tinny.





5

Android apps

Photos

PicSay



FREE

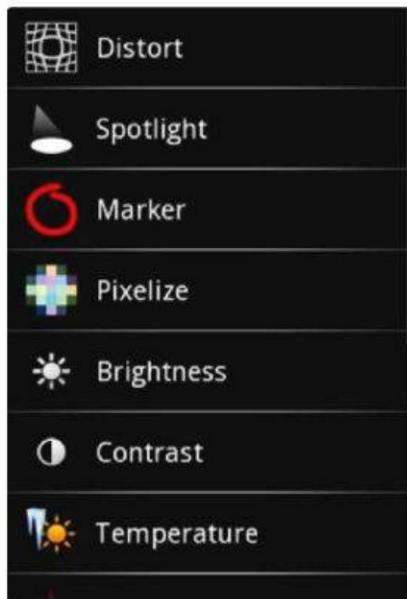
If you're the sort of person who sends wacky greetings cards, you may well find PicSay appealing. It lets you 'say it within a picture' by adding a speech bubble, a caption or fun effects.

We could find no way of rotating a landscape shot to portrait, which seemed odd given the long

list of colour corrections. A slider at the top of the screen lets you increase or reduce an effect such as Distort or Pixelize and to undo changes in an instant. To get rid of the effects you've added you can click the More button and choose Delete all objects.

Having adjusted your image, you can add titles and speech balloons. Stickers include Hats & Helmets, Hair and so on. A Pro edition (available from the Market for €2.99) offers font options and more than 400 stickers – you have been warned.

To share your handiwork you click the Export button and can then choose from Bluetooth, email, Picasa, SMS, online album or retail printing. Or you could just pick Save to store the picture on your SD card and consider what you've done.



PhotoFunia



FREE

PhotoFunia is another neat little whimsy of an app that lets you mess about with your photos and get all arty with them. Rather than installing the effects as software on your Android device, it runs them online.

To get started, you choose an effect you want to apply and then browse to a suitable source image stored on your phone or its

SD card. If there's nothing suitable in your Android Gallery, you can take a new shot. Of note is the fact that you can use both front and rear cameras on your Android device.

We tried this with the Sphinx effect and a shot of Tigger, but the resulting effect – which makes use of built-in face detection – was so subtle we almost missed it. The Mona Lisa in the art gallery was more effective. We also liked adding our subject to the giant billboard in Times Square.

FxCamera



FREE

FxCamera needs little explanation. It's a free (and discreetly ad-supported) app for your Android device that lets you apply a range of zany and arty effects on to your snaps. There's a broad selection of effects to choose from, so you're bound to find

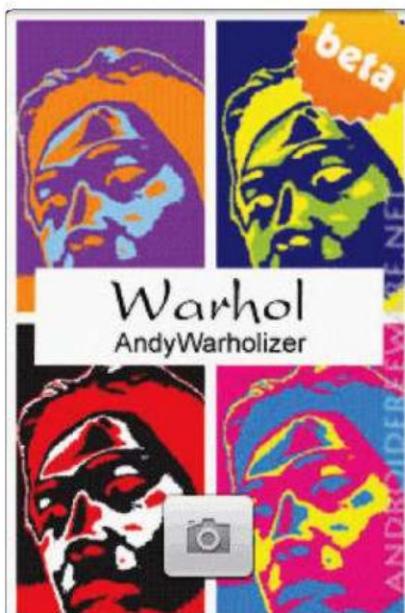
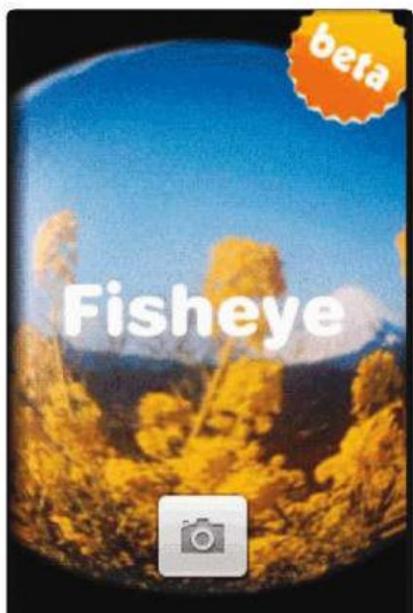
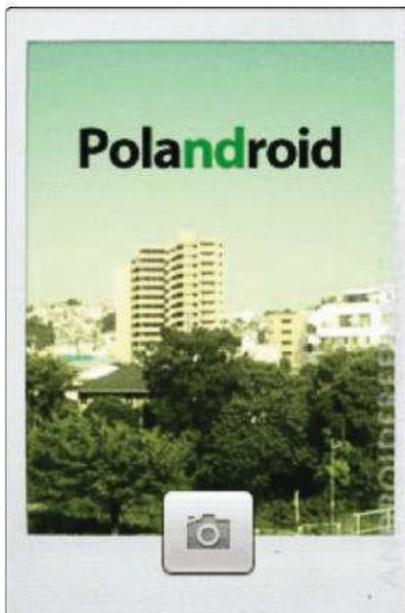
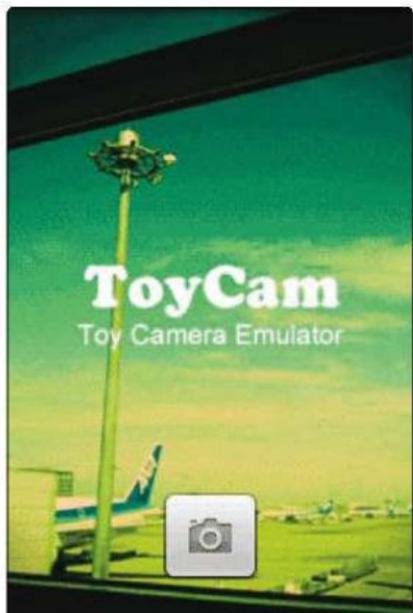
something that appeals. The biggest limitation is that you can only customise photos as you take them; there's no facility to load a picture already stored on your device and add effects to it after the fact.

Among the filters included, FishEye and Polandroid offer subtle artiness, making your picture appear to have been shot

with an extreme wide-angle lens or a traditional instant film camera. Other effects are more radical. You've probably got a fair idea what's going to happen if you choose the AndyWarholizer option. We got mixed results with this Pop Art effect, but had lots of fun playing. Images with hard, distinct outlines worked well, while fuzzy edges were less successful.

For out and out weirdness the Symmetri-Cam option wins. You position the subject in the left half of the screen (held horizontally). Click the Shot button and you'll get a mirror of it on the right.

This app has had a few issues with Defy handsets, but we had no problems on a Milestone 2 or an LG Optimus. For a freebie, FxCamera is good, straightforward fun.





6

Android phones

Chapter 6

Android phones

Google Nexus One

When it arrived, the highly anticipated 'Google phone' made by smartphone aficionados HTC was rather an anticlimax. Not quite the superphone we'd been promised, it lacked notable features seen on rival devices. But multitouch was later enabled by public request, and the upgrade to version 2.2 of the Android operating system ('Froyo') brought more features, along with even better performance from the speedy Qualcomm Snapdragon 1GHz processor.

These weren't enough to impress US customers, and the Nexus One has been discontinued there since the summer of 2010. It remains available in the UK and Europe though and, despite Google's disappointing start in the hardware market, there's plenty to like about this phone.

SOLID START

The Nexus One's hardware isn't especially innovative, resembling a stretched-out HTC Hero. Still, the phone is attractive and well made. At 119mm, 60mm wide and 11mm thick, it has a slimmer profile

than Motorola's Milestone, for example, and weighs less, at 130g versus 170g. Not everyone likes the drab two-tone grey colour scheme, but the rounded corners, solid-glass display and rubberised back make it a pleasure to hold.

Four touch-sensitive hardware buttons occupy the bottom of the display: Back, Menu, Home, and Search. A trackball lies below these. There's debate about whether a trackball is a useful addition to a touchscreen phone, but we found this one fast and easy to use.

An oblong power button sits atop the Nexus One beside the 3.5mm headphone jack. On the right spine is a volume rocker, and on the bottom the microUSB port. The camera lens and flash are on the back of the unit, while the microSD and SIM card slots hide under the battery.

The Nexus One's 3.7in AMOLED display has drawn a lot of attention, and for good reason: the display is superb. You need to get a look at it in real life to see how text and photos pop. When you take the phone outdoors, however, you lose much of the display's visibility. This limitation will especially disappoint casual photographers who'd like to snap away with the 5Mp camera.

NEW LOOK

This was the first phone to run Android 2.1, and helped to showcase its richer user interface. Perhaps the most buzzed-about addition is voice-to-text: you can speak your Facebook status to your Nexus One, if you dare. In our casual tests, this input method worked fairly well, though we had

The verdict



Price (SIM-free) £449 inc VAT

Further information www.google.com/phone/detail/nexus-one



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to speak rather loudly and somewhat slowly, even in quiet environments. The Nexus One struggled to understand when we spoke softly or used colloquial terms – pretty normal for mobile phone users. Still, the feature is fun to play around with.

One feature still missing today is the ability to sync Outlook calendars directly to your Nexus One. So far the only way is by syncing Outlook to a Google Calendar account using Google Calendar Sync.

SHOOT TO THRILL

At launch, the Nexus One's camera was one of its strongest points. It's since been overtaken by a few higher-specified rivals, but the camera app feels faster than most phone cameras, suffering less shutter lag. Our outdoor shots looked fantastic, despite the poor screen visibility. A few indoor shots had a slight greenish tint, but details looked sharp, with no unsightly digital noise, at least in reasonable light.

Within its 5Mp resolution, the camera offers four picture sizes and three quality settings plus flash, auto-focus, infinity focus, 2x digital zoom and colour effects. You can take video clips up to 30 minutes long at a resolution of 720x480 pixels (20 frames per second), though clips sent with multimedia messages (MMS) are capped at the standard 30 seconds.

What makes the Nexus One stand out, however, is what's under the hood. The powerful 1GHz Qualcomm Snapdragon processor makes the Android OS fly. Apps loaded almost instantaneously and web pages opened quickly. We especially appreciated the power as we flipped through the photo gallery.

Call quality over 3G was good; voices sounded clear and natural, with ample volume. Callers on the other end were generally pleased with quality as well, though some reported that we sounded a bit distant. Most of our contacts could hear us clearly even when we stood on a busy street corner.

NOT A DISAPPOINTMENT

Overall, the Nexus One hasn't proved quite the game-changer some people hoped, but it does trump most other phones in performance, display quality, camera capability and speed.

Even at the time of launch, it would have been a stretch to say Google's Android phone was the best – but it was probably top three. Our first hands-on with its successor, the Nexus S, are more promising yet.

HTC Desire HD

The successor to the popular HTC Desire Android smartphone is dominated by a huge 4.3in SLCD screen. This betters its predecessor's 3.7in and makes it the largest display on test, narrowly beating the 4in dimensions of the Samsung Galaxy S and Sony Ericsson Xperia X10. Despite the 'HD' title, the 480x800-pixel resolution remains the same as before, so the pixels aren't as invisibly tiny as those of the iPhone 4's Retina Display – but there's nothing soft or blurry about it. One update reminiscent of Apple hardware design is that, like HTC's Legend, each Desire HD is crafted from a single block of aluminium.

HIGHER CALLING

Elsewhere, the specs are unmistakably high-end. A 1GHz ARM-based 8255 Snapdragon processor runs version 2.2 of the Android OS ('Froyo'). The 8Mp camera provides dual-LED flash and 720p HD video recording, and you get Dolby Mobile sound. There's a meagre 1.5GB of internal memory, but the microSD card slot supports up to 32GB, fully exploited by Froyo for both data and apps. The operating system also offers built-in wireless tethering in addition to a range of other improvements.

The Desire HD is also one of the first HTC smartphones to make use of the new Sense software. Enhancements include a shorter boot-up time of just 10 seconds,



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cached map data for faster rendering of maps (along with a digital compass built into the map) and DLNA support for connection to compatible television sets. This latter feature is also found in the Motorola handsets we tested.

You also get access to HTCSense.com, a set of desktop-based services centred on backup and security. These let

you locate your phone on a map, remotely lock or wipe it, and archive contacts, texts and call history. In effect, HTC users get the choice of managing their whole mobile phone experience either from their HTC phone or from a PC.

SAFETY NET

While some of the proprietary skins and bolt-ons offered by phone vendors may seem like gimmicks, the benefits of HTCSense are convincing. Given the regularity with which handsets get lost or stolen, it's reassuring to know that as soon as you find your mobile is missing you can forward calls and texts to another phone, send a message to the device to tell whoever finds it where to return it, or if all else fails remotely delete all your personal data. And all the HTCSense functions can then be ported to a new phone, as long as it's an HTC.

There's plenty to admire in the Desire HD. With the latest Android OS, a powerful processor, great camera, huge screen and attractive aluminium case, the HTC rivals the Samsung Galaxy S as the most desirable Android phone.

The verdict



Price (SIM-free) £469 inc VAT

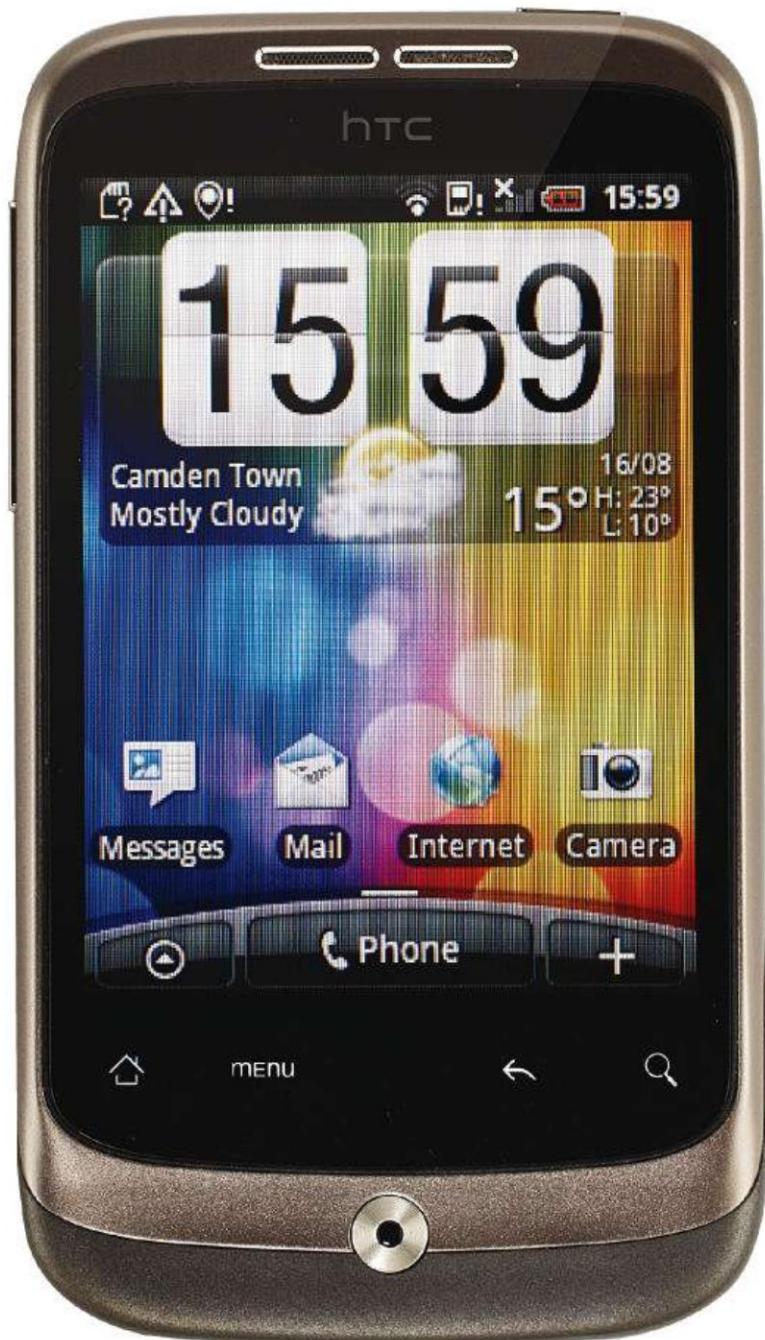
Further information www.htc.com/uk/product/desirehd/overview.html

HTC Wildfire

With its sombre grey finish and squarish design, you might easily mistake the HTC Wildfire for an old-school Windows Mobile phone. Turn it on, however, and you'll find an Android device offering a very enjoyable experience.

The screen resolution is limited to a basic 320x240 pixels, but the Wildfire makes up for this with the vibrance of its display and its superb responsiveness. We like the unfussiness of this phone's interface. Casually sweep a finger down its screen to unlock it and you can dive straight into the most commonly accessed features. Each of the Wildfire's large icons is clearly labelled.

You can access photos from a media card or over Wi-Fi and upload them straight to the built-in Flickr and Facebook apps. A Gallery button lets you view Facebook and Flickr updates, while the



The verdict



Price (SIM-free) £229 inc VAT

Further information www.htc.com/uk/product/wildfire/overview.html

Friend Stream lets you keep on top of what's happening on the social front.

The same kind of simplicity applies to web browsing. Press the internet icon to navigate directly to any site you like.

The seven-screen setup works well and keeps the core phone functionality front and centre, where it belongs. Click



the large Phone button and your contacts list immediately pops up. Tap a name and you get a choice: immediately call the number listed as their primary contact, or view details of their other numbers, addresses and emails.

INSTANT REACTION

The responsiveness of the Wildfire's touchscreen is striking. Haptic feedback (the subtle feeling that you're actually touching things) is minimal, but you can see the action you initiated has been noted when the nippy processor gets to work straight away.

You can share Android apps as well as media over email, by text message or on Facebook or Flickr. Photos from the 5Mp camera can be uploaded straight to any social media site, too.

One of our favourite features is Flashlight. This easy-to-find app (bottom left on the App screen) simply illuminates whatever's in the vicinity – dropped keys or your travelcard, for example. A neat touch that shows just how much thought has gone into this mid-range Android phone.

CONSIDERED OPINION

The HTC is lighter and sleeker than first appearances suggest. It may be a fairly inexpensive Android phone, but there's more than enough here to keep most people entertained, connected and informed. The responsive touchscreen and newer Android Eclair OS give it a slight edge over the cheaper LG Optimus.

Huawei Ideos



Marketed as the second Google phone, the Huawei Ideos is a compact handset that neatly illustrates the shift in focus between the first and second wave of Android devices.

Based on 'Froyo', the 2.2 iteration of Google's Android OS, the Ideos is aimed at the budget end of the smartphone market and represents Huawei's big push for mass adoption outside its native Eastern markets. Until now, the company was better known to consumers as the hardware maker behind 3G mobile broadband dongles and 3G hubs such as the MiFi.

NEW WAVE

Unlike most smartphones, the Ideos has a brightly coloured backplate (most others come in unremitting black, though we're pleased to see Sony Ericsson has recently begun offering a white version of its superior 8.1Mp X10 Android camera-phone). Other colour options are available, and it's notable that the backplate is much easier than most to remove – good news if you need to swap the SIM card or want to customise its look.

Our review unit rocked a shiny cyan blue that gave it an illusory glow when it was placed on a light-coloured surface. There's no disguising that this is a fairly cheap-feeling handset, but we've certainly enjoyed using others far less.

As is standard for most smartphones now, the display accounts for two thirds



of the total frontage. The screen is a modest 3in across with a resolution of 320x240 pixels. Anyone accustomed to the pin-sharp display of the iPhone 4 or other high-end smartphones will find this pedestrian, but given the price tag of just £150 or so, without the need for a lengthy contract, it's a small compromise.

LOST AND FOUND

The other aspect of note about the screen is that it doesn't support multitouch. This aside, finger-based navigation is fast and responsive. A Google search bar sits

prominently on the front page and, unlike other screen elements, can't be relocated by dragging it with a finger. At the other end of the bar is a microphone button that allows you to speak a search term. It recognised the phrase 'PC Advisor', though its search results revealed that Google Maps needs to update its listings.

In common with all the late 2010 Android devices we tested, the Ideos' display is bright and colourful. You can flick its five screens from side to side in what's now a signature feature of Android devices. You don't get fancy visual extras



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à la HTC or Samsung, but this allows the Ideos to be an excellent ambassador for Android 2.2.

A sweep to the left brings up local weather information and news headlines delivered as RSS-style nuggets in Top Stories, UK, Sport and Entertain tabs. This at-a-glance listing is much easier than having to fire up a full web page, but we noticed that the content wasn't necessarily as up-to-date as you might expect. Several hours after Wayne Rooney agreed new contract terms with Manchester Utd, the Ideos' Sports link was still unaware.

GOOD CONNECTIONS

Getting online, however, was fast and painless. Now that 3G has widespread coverage it's become more reliable. Logging on to our home and office Wi-Fi networks was also straightforward.

Touch-sensitive hardware buttons below the screen are used to initiate and end calls, while a large wobbly central button wakes up the screen from its unlit state and is used for moving up and down menus. Other navigation functions are covered by touch-sensitive buttons at the bottom of the display and onscreen. The Settings menu lets you view on-device

storage space; manage, mount and format SD cards; and change connection and accessibility options. The latter prompts you to download a free screen reader from the Android Market.

Text-to-speech and voice recognition options include the (parochial or sensible, depending on your viewpoint) ability to block offensive word recognition, so your little lambs can't use speech search to find sites they shouldn't.

One of the new features touted in Android 2.2 is support for Flash video. This battery-draining option is omitted from lower-specification handsets such as the Ideos, but our abortive tests on the pricier Motorola Milestone 2 suggest users aren't missing much. More general web surfing was fine, considering the fairly cramped screen and the resulting need to zoom. The accelerometer in the Ideos is quick to respond to changes of orientation, so you can at least read in landscape.

As with most Android phones, you need an SD card in place to use the on-board camera. At 5 megapixels this is now just about average; it can't hold a candle to the Motorola Droid X or SE Experia 10, both 8Mp cameraphones.

MORE FOR LESS

If you're keen to get into smartphones but have a limited budget, the Ideos, co-developed with Google, is a great start. Running the latest Android 2.2 OS and with customisable coloured backplates, it offers the strong appeal of Google's customisable platform without the drag of an expensive and lengthy contract.

The verdict



Price (SIM-free) £149

Further information [www.huaweidevice.com/ideos/](http://huaweidevice.com/ideos/)

LG Optimus One

The LG Optimus One P500 is an affordable yet highly functional Android smartphone with a 3.2in capacitive touchscreen and Android 'Froyo' 2.2. The plastic chassis may be a little basic, but its soft, rubber-style back makes it comfortable to hold and we liked the curved edges on the top and sides.

Physical buttons below the display click reassuringly when pressed and provide decent tactility, making them easier to use than the hit-and-miss touch-sensitive keys on some handsets. The one design issue we had was with the volume controls, which are a little narrow, although well positioned. The power/screen lock key requires a forceful press.

DOT TO DOT

The P500's display is not as bright as some, but has a decent 320x480-pixel resolution. The capacitive touchscreen is a cut above that of the Huawei Ideos and other budget Android phones.

The Optimus One provides all the regular Android features and functions,



including access to the Market, an excellent notifications taskbar and seamless syncing with Google services. Froyo also brings Wi-Fi tethering, the ability to store third-party apps on your microSD card and a general performance boost. The processor limitations, however, mean there's no support for Flash in web pages.

The Verdict



Price (SIM-free) £229 inc VAT

Further information www.lg.com/uk/mobile-phones



In other respects web browsing is more than adequate, aided by multi-touch: pinch the screen to zoom in and out. The browser also offers text reflow, so text is reformatted to fit the screen when you zoom in or out.

HOME COMFORTS

LG has skinned the Android interface with an overlay called LG Home. This offers customisable quick-access icons at the bottom of each home screen (by default Phone, Contacts, Menu, Messaging and Web) and a main menu that separates your Android default, carrier default and downloaded applications. We loved the quick toggles in the notifications drop-down for Wi-Fi, Bluetooth, GPS, 3G and silent mode; a tap of each will turn these on or off.

The onscreen keyboard supports Swype, which lets you slide your fingers over the letters you want to type in a single motion, letting the software work out the word you're trying to write. Though it sounds awkward, Swype is easy to pick up and surprisingly accurate. As with most onscreen keyboards, the software will learn words you use regularly as you type.

The 3.2Mp camera takes average pictures and lacks flash. We had trouble keeping the phone steady when shooting photos and video, and even slight movement resulted in blur.

Overall, this is a solid Android 2.2 handset that won't break the bank and gets the essentials right, including a responsive multitouch screen.

LG Optimus Swift



unning Android 1.6 Donut rather

than the newer Eclair version,

the LG Optimus Swift GT540 still offers plenty to entice smartphone buyers. It has a resistive touchscreen rather than capacitive, but at just £120 this handset will win plenty of fans.

The brushed-metal-effect Optimus barely tips the scales at 118g, yet its finish feels far less prone to damage than some expensive handsets. A wiggly curved insert at the very bottom of the front panel makes it easy to locate the hardware call, power and home buttons without having to look. Pressing anywhere along this strip causes these buttons to light up, while sliding a finger across from left to right unlocks the keypad.

ROUND AND ABOUT

We found the onscreen icons rather small, which is even more of an issue with a touchscreen than on a conventional display. As a result, when investigating the contents of the Applications menu we kept inadvertently launching features.

However, it was easy to manage connections and to get around the settings menus using the Android button. Here you can change the wallpaper and add shortcuts and widgets, but also invoke a search or adjust settings for synchronising data and the like.

Existing contacts (but not favourites) and text messages were automatically

imported into the LG's memory. The search feature narrows down the list of names you might be trying to call.

Call quality was very good, and the phone didn't get hot even after we'd been chatting for half an hour. We noticed it juddered a little, though, as if we were triggering one of the haptic sensors. Importantly, it feels very natural holding the LG in your hand and up to your ear.

Web surfing was an acceptable experience, even without support for multitouch pinch-and-zoom gestures. There's an incremental zoom if you need a close-up view of anything, while the clear and crisp screen ensures the text on web pages is easily legible.

AUDIO VISUAL

To take a photo using the Swift's 3Mp camera, record video or play music you'll need a microSD card, although there's 130MB of internal memory. A nice addition is the FM radio, for which you can simply plug in the supplied earphones – or better ones of your own – and press the On button before scrolling to tune in. Six channels can be selected as presets.

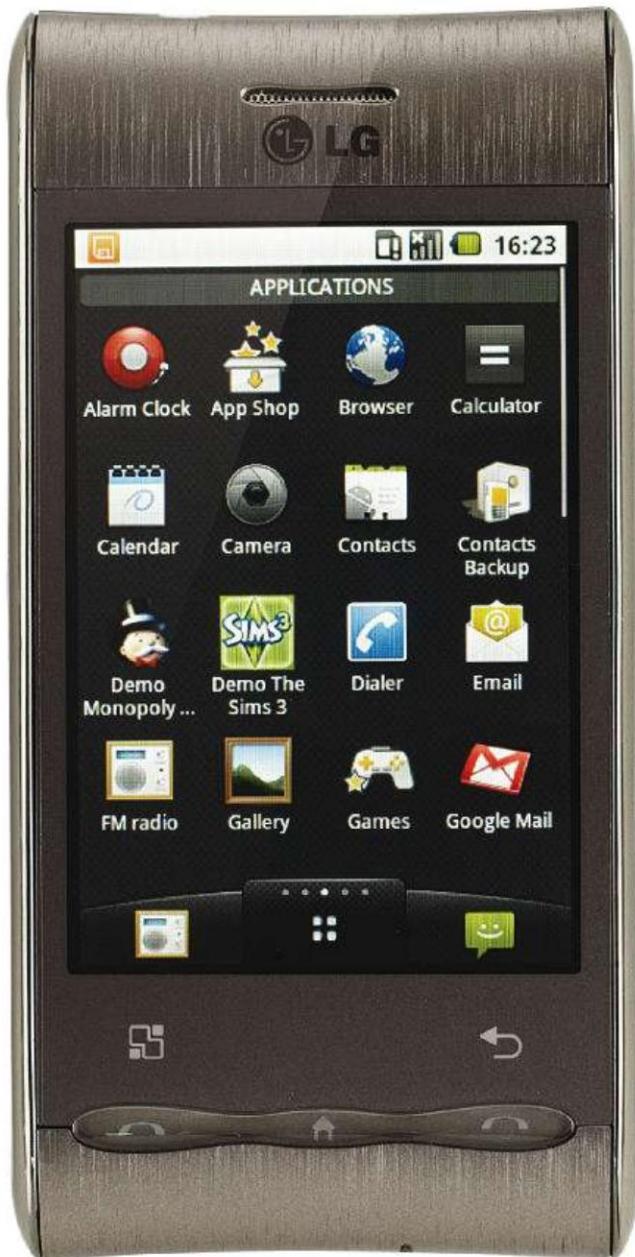
The LG's battery was good for more than two days of heavy-duty use,

The verdict



Price (SIM-free) £120 inc VAT

Further information www.lg.com/uk/mobile-phones



including plenty of chat and web surfing. It lasted around four to five days of more typical use. Overall, we didn't have to recharge the Swift anywhere near as frequently as an iPhone 3G.

This is a truly likable smartphone that we'd happily recommend to friends. You'll be hard pushed to find a neater, sleeker Android phone for the price – and the long battery life is a bonus.



Motorola Defy

Motorola's Defy seems broadly similar at first glance to the Huawei Ideos, but on closer inspection the differences are numerous. It runs Android 2.1 on an 800MHz processor and has a 3.7in Gorilla Glass display that packs in 480x854 pixels.

The display is brighter than average and manages the clever trick of taking up almost the whole of the device's area; few smartphones have bezels as slim. We also liked the rubberised rear, which prevents the Defy getting scratched or being easily knocked off the edge of a table.

TOUGH LOVE

The non-slip casing extends to the sides, and as a result the protective covers for the headphone jack and charger port stick out somewhat and aren't easily pushed back into place. Even so, if you're after a trim smartphone that's built like a tank, the Defy is a real contender. It's even achieved IP67 certification, indicating that a few seconds dunked somewhere unpleasant won't kill its electronics.

The verdict



Price (SIM-free) £279 inc VAT

Further information www.motorola.com/defy

Another success in the design is the lockable backplate. A plastic slider allows you to release the battery cover when required; there's then room to insert a fingernail to remove the backplate and get at the battery or change the SIM card. So many phones make it impossibly hard to perform this simple but common task.

ENTRY POINT

Another thoughtful inclusion is the Swype text entry app. Compared to normal typing, this system lets you quickly pick up speed when composing messages and performing searches. When we first tried out the Defy we thought its interface was rather clunky and its cramped software keyboard a trial to use. We soon discovered that was because its default setting was expecting us to use Swype. The trick is to glide your finger from character to character rather than stabbing at each one in turn. Though you have to discipline yourself to do things differently, once you're accustomed to the scheme it makes text entry much faster. It's also clever enough to learn as it goes, making light work of accurate input.

Unified messaging, and streamlining all those social networks you feel duty-bound to keep informed of your every thought, has become an important area for handset makers and mobile operators, so it's no surprise to find Motorola having another go at its Motoblur idea here. Rather than competing with the social network updates within the 'Eclair' 2.1 version of Android, this proprietary social user interface now adds the ability to

store and easily retrieve details of those precious contacts you maintain on Facebook, Twitter, MySpace and so on. It's a useful implementation of the 'cloud' idea that manufacturers are all talking about.

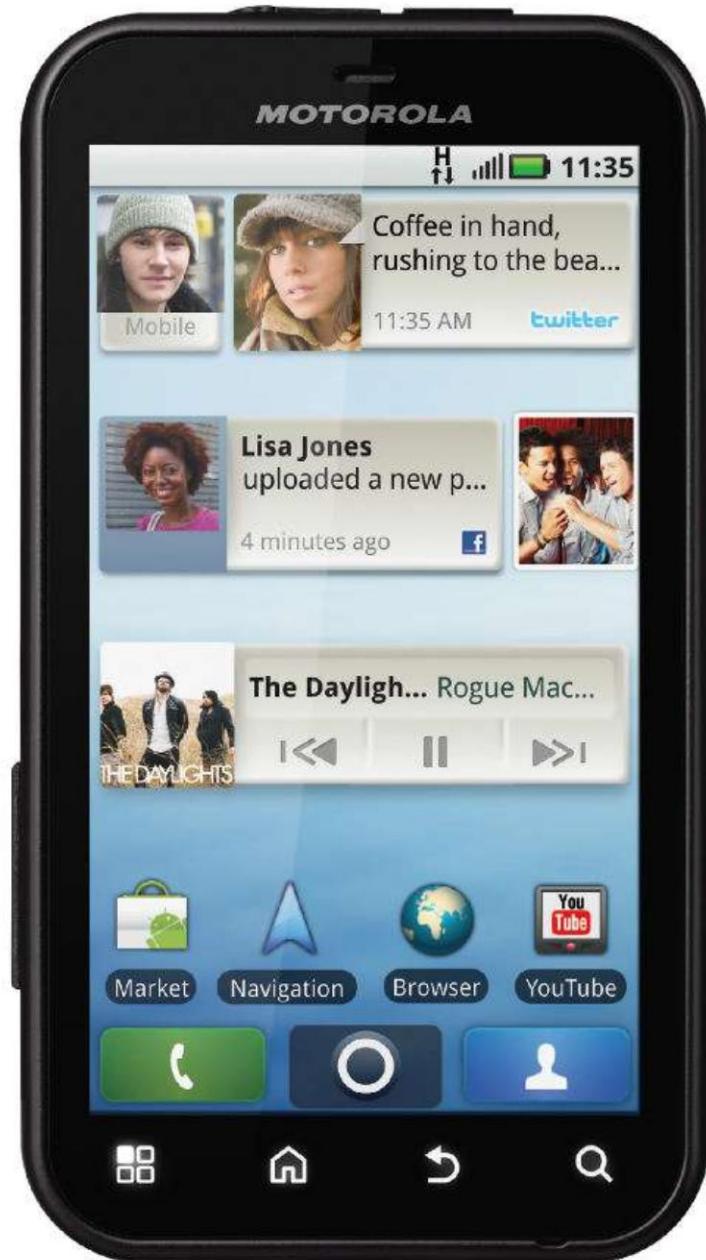
OPEN ACCESS

Surfing the web on the Defy is a painless process. You can directly type in the web addresses you want to visit, rather than being hobbled by an operator's portal, and when you get to your chosen website you can scroll and page-flit with ease. Support for pinch-to-zoom and a relatively responsive touchscreen help, though we noticed a fair amount of lag when we tried to navigate having already got a handful of apps on the go.

With 3G, A2DP Bluetooth and Wi-Fi onboard, the Defy is all set for connecting to the internet almost anywhere, and you could certainly do worse than use it for streaming audio. A Connected Music Player lets you do just this, while the excellent DNLA app we liked so much on the Motorola Droid/Milestone also makes an appearance. This lets you push music, photos and video around your wireless home network and enjoy those tracks you've bought on the Defy on, say, your home hi-fi system.

PICTURE IMPERFECT

The camera isn't quite as good as its 5-megapixel billing suggests. You get an LED flash and the option of tagging



pictures with location data, but actually taking pictures is rather an awkward business. You need to go into the onscreen menu, as there's no hardware button to take snapshots on the outside of the handset. Nor were the shots we took anything to be proud of. Video capture is limited to VGA resolution, though viewing on the Defy is rewarding thanks to the crisp, detailed screen.



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Aside from the media-streaming app and Motoblur, there are few extras. Motorola largely lets Eclair's Google apps do the talking. Google Mail, Maps, Latitude, Talk, News and Weather are all pre-loaded. Anything else can be downloaded from the Android Market and stored on the Defy's 2GB internal memory or an inserted microSD card; capacities of up to 32GB are supported.

One addition is a barcode scanner app. We had merely to waft the Defy's screen over the barcode of the latest Sebastian Faulks novel and it popped up with a snapshot of the barcode itself plus links to a product search, book search, content search and Google Shopper. You can also use this with 3D barcodes and go straight to items of interest or Android apps to download.

A feature of particular note to visually impaired users is that Motorola is continuing to offer support for T3 and other hearing aid technologies along with text telephony. The Android operating system includes support for voice commands.

QUART IN A PINT POT

The engineering feat that enables the Motorola Defy to cram in a 3.7in display within its 59x107x13mm frame means you get every bit as much screen space to view web pages as you do on a fully-featured handset such as the Samsung Galaxy S. Clearly aimed at the less dainty smartphone owner, the Defy is a small but solid powerhouse that isn't afraid to take on rivals.

Motorola Milestone 2

Visually, the Motorola Milestone 2 hasn't changed much from its original incarnation. It's exactly the same size and shape as the original Milestone (or 'Droid' in the US), measuring 60x116x14mm and weighing 169g.

This sleek black and chrome smartphone has retained its 3.7in touchscreen display, which supports multitouch, as well as the slide-out qwerty keyboard. However, while the device might initially look the same, Motorola has made some changes for the better.

KEY POINTS

To begin with, the four-way controller on the keyboard has been ditched in favour of four cursor keys, making the other keys larger. They've been raised too.

We found the touchscreen was very responsive and needed only the lightest of touches. The keyboard keys are on the hard side, and not as comfortable for typing as we'd have hoped, but they'll be a welcome addition for those who struggle with the size of onscreen keypads.

The verdict



Price (SIM-free) £429 inc VAT

Further information www.motorola.com/milestone



The Milestone 2 now features a 1GHz processor, providing a fair jump in speed compared to the original 550MHz chip. This makes the device faster at processing commands and loading software.

This Motorola runs the latest version of the Google Android OS, version 2.2 ('Froyo'). Among the new features supported are Adobe Flash Player and voice-to-text controls. To compose emails or text messages this way you just press the microphone icon and start speaking your message. The phone will translate your voice into text, so you don't have to worry about the accuracy of your typing.

The theoretical benefit of this facility is clear, but in practice we found voice-to-text fairly slow at translating what we said. The results weren't always a success, although that might be down to this reviewer's south London accent. While we like the feature in principle, we do think it's more suited to occasional short text messages than long emails.

The Wi-Fi implementation has been updated to ensure the handset now supports the latest standards. Motorola also gives users the ability to turn their handset into a 3G hotspot: when Wi-Fi connectivity is turned on, up to five



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devices can connect to the phone and access the web through its 3G connection, network permitting.

Like its predecessor, the Milestone 2 supports microSD cards up to 32GB, but with a larger internal memory (8GB) users can get a total of 40GB. This means there's plenty of room to store pics snapped on the phone's 5Mp camera, which comes with a dual LED flash and autofocus.

MEDIA INTEREST

The images we captured were clear and sharp, pretty much what we've come to expect from today's smartphones. You'll also find image stabilisation, real-time colour effects, geo-tagging, and basic in-phone editing functions such as crop and rotate.

The Connected Media Player displays song lyrics and artist information for a track that's being played. There's no FM radio, but via 3G or Wi-Fi you can use the Milestone 2 to listen to internet radio stations.

Another neat feature that's unique to Motorola phones is Motoblur. This service, also seen on the Defy, lets you get updates from your various social networking accounts and online photo services – Facebook, Twitter, MySpace and so on – plus your Outlook email and webmail, and synchronise the lot.

This new model has some welcome improvements. Faster and with even more useful functions for both business and social networking, the Milestone 2 is a great Android phone.

Samsung Galaxy Portal

P

erhaps the most traditional-looking phone here, the Samsung Galaxy Portal is not unlike the company's previous handsets with a dash of iPhone 3G. It has a grippy rubberised back and a front that's dominated by buttons, including a big silver plastic OK button in the middle of its navipad, as much as the relatively modest touchscreen. The black-and-red livery is either smart or a little dated, depending on your point of view. Don't let these cosmetic concerns, however, put you off what's otherwise a rather classy handset.

Text composition, a bugbear of many smartphones, is aided by the inclusion of an auto-suggest feature that displays a list of words it believes you may be typing. As a result, we found text entry was noticeably faster on the Galaxy Portal than on some of the other handsets.

REALITY CHECK

The Galaxy Portal starts up to the standard Android cloud scene, with a clock in its centre. An array of standard apps for calls,

The verdict



Price (SIM-free) £229 inc VAT

Further information [bit.ly/
samsunggalaxyportal](http://bit.ly/samsunggalaxyportal)



contacts, web browsing and maps is offered alongside the intriguing Layar – an augmented reality overlay and visual search engine.

Point the Portal's 3.2Mp camera lens at an object and the Layar processor attempts to make sense of it. You can identify fellow Twitter users in the area, for example, and see their tweets. Layar also tries to identify what you can see in

the image, some of which is done through partnerships with hotels, restaurants, and transport and entertainment companies.

We had mixed results. Pointing the Portal at the British Library, for example, having typed in the search term 'library', failed to bring up the location of this or any other nearby public libraries. Still, this is a highly ambitious and demanding technology, and we dare say tests in other locations will prove more successful, especially as time goes on

LIMITS OF CONTROL

As an additional navigation aid, this feature has potential. More than anything, though, it served to showcase the quality of the Samsung's display and the performance of the hardware. The Portal uses an 800MHz ARM CPU and offers 3.5G HSDPA mobile internet at up to 7.2Mbps (megabits per second). Its quad-band GSM, Wi-Fi and Bluetooth connectivity mark it out as an Android 2.1 device.

Design-wise, we had a few issues with this phone. The screen was set to auto-lock after a few seconds, and we spent far too much time pressing the hardware Unlock button. This was easily adjusted via easy-to-find options, but we still think there are better-looking hardware controls, and the standard Android menu isn't all that appealing.

This is a solid Android 2.1 smartphone that offers some interesting features but doesn't quite pull things off in the style stakes. We can't fault the Galaxy Portal's speed or screen, however.



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Samsung Galaxy S

Samsung clearly had the Apple iPhone in its sights when designing this sleek 'candybar' handset. It's almost identical in size to the 3GS and mimics its chrome-trimmed black exterior. But it's lighter, at 119g, and has a brighter 4in AMOLED touchscreen.

The screen not only makes colours vivid and bright, it's also very responsive. Swiping to unlock the phone or answer calls becomes second nature, while multi-touch lets you pinch to zoom in and out. The onscreen qwerty keyboard, best in landscape, has an alphanumeric option.

Android Eclair syncs social media and email. Samsung pre-installs an ebook reader and ThinkFree Office, along with a built-in facility to play media files from the phone through other devices. The 8GB internal memory can be expanded with a microSD card of up to 32GB.

We loved the endlessly customisable, seven-screen interface. A touch-sensitive button opens app Settings while the central control button closes it. In common with other Android 2.1+ devices, tapping



the Galaxy S' screen sets the focus for the 5Mp camera. There are scene modes, blink detection and anti-shake, plus effects, exposure and white balance.

The GPS was quick to pinpoint our location in Google Maps and Navigation effective. The 3G signal was fine, but web browsing hit the battery hard: we got just over 24 hours of life between charges.

Overall, the range of features and superb screen make this a real Apple biter.

The verdict



Price (SIM-free) £439 inc VAT

Further information bit.ly/samsunggalaxy-s

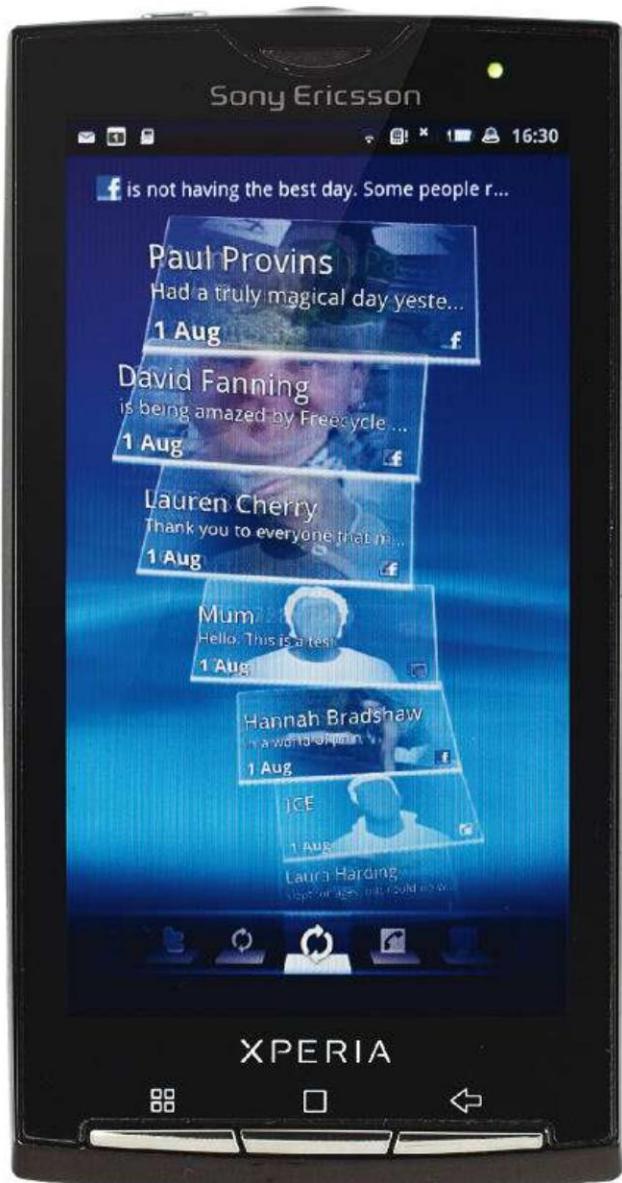
Sony Ericsson Xperia X10

The Xperia X10 is an innovative Android Eclair phone with a 4in touchscreen. Its superior 8.1Mp camera was the best of those we've tested to date: it has face tracking and took clear, sharp images with vivid colour.

We found the X10's squared-off rear uncomfortable, but the multitouch screen responded beautifully to the lightest tap. Even without any haptic feedback, the onscreen Qwerty keyboard is easy to use.

The excellent Timescape feature displays missed calls, text message previews, emails and social network updates as sorted photo tiles. The Xperia automatically imports contacts from your SIM, and integration with social networks such as Facebook and Twitter worked well too.

An upward swipe on the home screen reveals a list of installed software, from where you can also access the Android Market. Unique to the X10 is Mediascape, which makes your music, photos and videos accessible in one place. A MediaGo app transfers between PC and phone, and media management extends



to podcasts, audiobooks and anything on a media card. It also works with online music stores and PlayNow. The 16GB internal memory can be supplemented with up to 16GB on microSD. The GPS quickly located us and faultlessly kept up in the pre-installed Navigation app.

Overall, the Sony Ericsson Xperia X10 is one of the best Android handsets we've seen. It's ideal for buyers who want great photos or need to keep up to date with activities on their social media networks.

The verdict



Price (SIM-free) £449 inc VAT

Further information [www.sonyericsson.com/xperiax10](http://sonyericsson.com/xperiax10)



Sony Ericsson Xperia X10 Mini

This smaller version of the X10 weighs 120g and has a slide-out keyboard. The tactile rubber back keeps it firmly in your grip, but conceals a metal shell with rather sharp edges.

Hardware buttons are limited to Home, Back, and an Android button that unlocks the phone and brings up the onscreen keypad. Icons sit in each corner of the screen for email, phone, music and contacts. You can optionally sync contacts and import from your SIM. A subtle up arrow opens up the main menu of fare when tapped; swiping across the screen lets you view more features, including the Wizepilot navigator and various syncing and business email options. To see more apps, swipe across to several successive screens. Holding down a finger on any item allows you to launch or move it.

It took a matter of seconds to set up our existing Gmail account on the Mini; composing, sending and receiving messages was rather more long-winded. The micro keyboard is just shy of 7cm across, and the keys themselves are almost



painfully hard to type on. We often mistyped and were frustrated by the Mini's inability to guess the words we wanted or auto-type corrections. Fans of BlackBerry and iPhone will find this an issue.

Visually, the Xperia Mini 10 is the best of the lower-cost models we tested. Its compact interface, with less information per screen, ought to work, but the cramped display does it no favours and, despite crisp text, web browsing isn't fun.

The 5-megapixel camera offers flash and autofocus and a hardware shutter button. In portrait mode we were able to take brightly coloured images and video footage of static or slowly moving items, but it's a bit clunky for fast-moving objects such as a lively pet.

Sony Ericsson has been brave to try to fit the extensive functionality of an Android smartphone into such a compact device. It hasn't been a wholly successful exercise, but we like the way the Mini presents clean screens to flick through, directly launching the features you need.

The verdict



Price (SIM-free) £249 inc VAT

Further information [www.sonyericsson.com/xperiaxies10mini](http://sonyericsson.com/xperiaxies10mini)

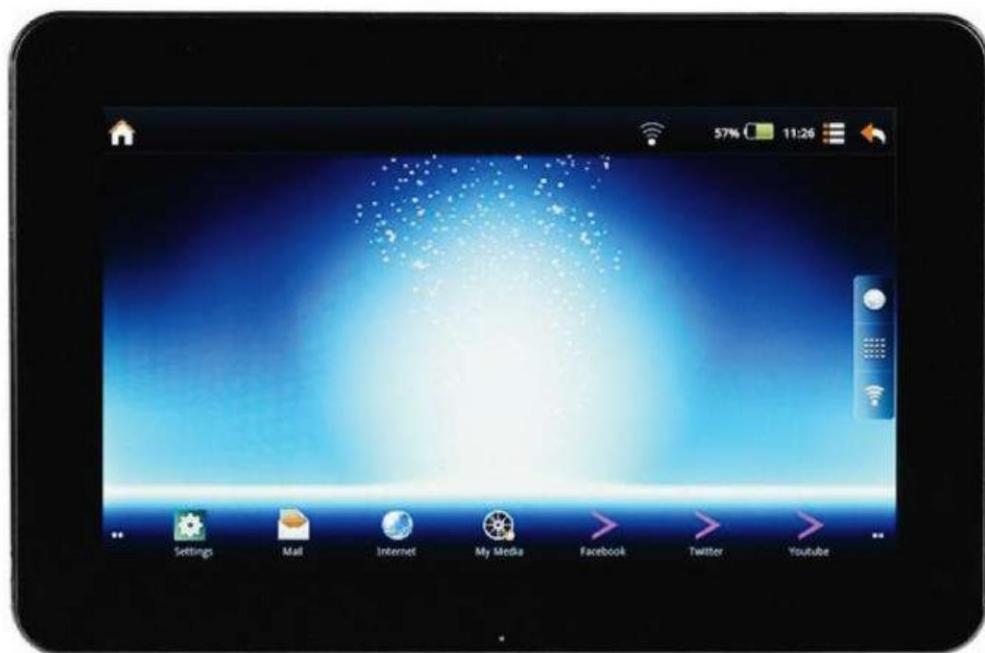
Chapter 7

Android tablets



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Android tablets



Advent Vega Android Tablet

If you like the idea of a full-size Android tablet but are put off by the price of models such as the £429 Samsung Galaxy Tab, a less high-falutin' brand name may catch your eye.

The Advent Vega costs £249 and comes with multitouch support – not something you'd necessarily expect from a budget tablet. It's powered by a 1GHz nVidia Tegra 2 dual-core 1GHz processor and runs the 'Froyo' version 2.2 of the Android operating system.

Advent, the own-brand of PC World and Dixons, may not have the cachet of a Samsung or even a Viewsonic, but brisk pre-Christmas sales of this tablet have proved there's plenty of interest in a full-size tablet at a relatively low cost. In fact, at the time of writing it was sold out.

We can well understand why. With a promised 10 hour battery life, 512MB of RAM and a 4GB Secure Digital memory card on which to store your Android apps, it's not a bad deal. The Vega comes with Wi-Fi connectivity, a pair of USB 2.0 ports, an HDMI connection, headphone jack and a 1.3Mp webcam. We were pleased by its fairly decent build quality – a real step up from the no-brand tablets and iPad wannabes that we've seen on sale at budget web stores.

The 10.1in capacitive touchscreen is not quite consistent across the display – it gets progressively less accurate at the edges – but PC World has certainly had a good stab at building its first tablet. However, you can't rotate the display and it's not a particularly responsive device. Even so, this 700g, £249 tablet is priced to move and did brisk Christmas 2010 sales.

The verdict



Price £249 inc VAT

Further information www.pcworld.co.uk/gbuk/r/vega/

Archos 7 Home Tablet

A

Archos has been cranking out innovative portable touchscreen media players for years, but they haven't always stood out from the crowd. One reason for that has been a lack of compelling software – and Archos was quick to realise that Android could change all that at a stroke. The Archos 5 Internet Tablet took an existing device and added Google's mobile operating system. The Archos 7 takes the pairing a step further into multimedia territory. However, improvements over its predecessor are few and far between.

Encased in a 203x 106x 13mm chassis, this sleek little tablet weighs in at just 388g. The Archos 7 sports the same 480x800-pixel display as its smaller

sibling, so individual pixels are spread across a larger area. Given the dazzling visual display of other tablets, we felt shortchanged by this. Even so, the Android 1.5 interface shines on the Archos 7. The 7in display is well suited to navigating a wide variety of applications, from web browsing to media playback. In short, Archos' switch to Android pays off.

VIDEO STAR

High-definition video looks beautiful on the Archos' glossy screen - aficionados of the brand will expect a strong list of supported video, photo and audio formats and the Archos 7 certainly doesn't disappoint. The player supports 720p Mpeg4 HD video as well as MPEG-48 AVI, H.264, WMV, MKV and M-JPEG. You can also download a plug-in to support formats like Mpeg2, 720p WMV HD and VOB straight from the device.





Music playback options include stereo MP3, WMA (including DRM-protected files), WAV, unprotected AAC, Ogg Vorbis and FLAC. A downloadable plug-in supports playback of stereo AC3 files.

The Archos' internal speaker is fine if you're listening to film dialogue, but its external speaker is less than stunning, so headphones are still a must. Onscreen controls allow you to pause, rewind, or jump forward in a movie with ease. We also like the fact you can prop up the tablet using its (rather flimsy) kickstand so you aren't stuck with viewing the action at arm's length.

Content can be sideloaded on to the Archos 7 via the microSD card slot - buying the cheaper 2GB version of this tablet and doing so is the most sensible option. However, you can also synchronise the device with your PC's multimedia library or download videos, music, web radio and web TV from the Archos Media Club store over its 802.11n Wi-Fi connection.

There is a Bluetooth 2.0 module for syncing to mobile phones, but turning on Bluetooth will further degrade the Archos 7's battery life, which is listed at 22 hours for music and seven for video under ideal conditions.

The verdict



Price £179 inc VAT (8GB)

Further information www.archos.com/products/ta/archos_7

Of course, being an Android device, you should be able to take your pick of apps with which to customise your touchscreen tablet device. You can, but the older 1.5 version of Android that this tablet runs means supported apps are rather limited. The Android Market is closed to you, so you need to make your choices from third-party Android sites. This - and the almost certain lack of future upgradability - are the biggest drawbacks to what is an otherwise quality choice of tablet.

Thankfully, some of the most useful apps come preloaded. As well as the music, photo and video viewer, there's an e-book reader that can be used to import books from an SD Card. Again, file format support is extensive and, as on the Sony Reader range of e-book devices, the Aldiko Reader software can be used to borrow e-books from your local library.

Accessories available for the Archos 7 allow it to be used as a digital video recorder, scheduling TV content. You get a one-year subscription to the DVR program guide along with the \$140 module.

Another good option, the \$50 Battery Docking Adapter, lets you play content from the Archos on your TV. It also includes a USB 2.0 connection for your PC, and can allow the player to serve as a USB host for cameras and other mobile devices. This comes in handy for quickly transferring photos on to the player.

Though limited by its older Android OS, this intriguing tablet/portable media player successfully grafts Android on to an existing, proven, hardware design.



Dell Streak

With the Streak, Dell became the first of the mainstream PC companies to launch a smartphone/tablet hybrid. It's a 3G device powered by a 1GHz Snapdragon processor and weighs just 220g. The Streak is much lighter than an iPad with a 5in capacitive touchscreen and packs some powerful features into a shell just shy of 10mm thick.

The slim design is lovely. Overall, it is about the length of an adult hand but, at 79mm, is too wide to comfortably grasp in a fist. However, it will fit in a large pocket without falling out, and easily slips into a handbag. Unlike larger tablets, such as the 9.7in iPad, the 5in Streak can be used for voice calls as well as internet access; it's available on O2 from £35 per month.

We liked the bright and sharp 800x480-pixel display with its tough

Gorilla Glass front. This limits the likelihood of damage, but retains enough touch-sensitivity to allow you to type quickly and efficiently on the onscreen keyboard, a feature often criticised as impractical on smaller Android phones.

DIFFERENT STROKES

As with other Android devices, it takes around four seconds for the Streak to start up. If you don't like the background that appears, just swipe a finger across the screen horizontally to bring up alternative home screens. Holding and swiping allows you to change or delete them. A multiple-screen layout provides access to basic phone, email and web functions.

A drop-down menu indicator arrow at the top left of the screen is used to bring up a list of all currently installed apps, while dragging a program to the middle of the home screen allows you to quick-launch it. Messages and alerts – including the status of any downloads



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Android tablets

you've initiated – are shown in a central bar at the top of the screen, while a floating bar in the middle of the desktop shows the strength of the device's Wi-Fi and Bluetooth connections.

ONE OF A KIND

The touch-sensitive hardware buttons for Back, Unlock and Home at the right edge of the display only work when the screen is active. When the display goes blank after 30 seconds to preserve battery, you always have to press the power button followed by the unlock button before you can access any features. It's also a little odd that you may be listening to a music track but you need to press buttons unrelated to the media player in order to activate the screen to change songs.

The Streak is a very different proposition from typical Android phones. You'll find yourself using it in landscape mode, for a start. And although it can be used to make phone calls, it's not something we envisage being one of this unwieldy handset's primary functions – unless it's paired with a Bluetooth headset. We expect the Streak to be more useful in a car, for example, where its large screen and Google Maps could earn their keep.

The verdict



Price (SIM-free) £399 inc VAT

Further information www.dell.co.uk/streak

Contact management isn't as solid as on Android 2.0 handsets, which support threaded conversations and contact forms, but it's straightforward to bring up the keypad to tap in a number or your contacts list to email, text or call someone. The Streak is ideal for use as an entertainment device and for casual gaming. We downloaded and had fun playing Frogger, for example. Media credentials are strong too. Album art is displayed by default, and we like the simple, clear setup of the Music Library. An album art carousel makes it easy to get to your chosen tracks. You can shuffle or loop-repeat tracks or albums with a quick click of an onscreen button. Even at the max, the volume doesn't reach uncomfortable heights, but we found playback on the tinny side.

CAMERA SHY

The 5Mp camera is a great asset and boasts pretty accurate touchscreen focal-point selection. Flash, zoom and a video camera are included. There's a second, VGA-resolution camera for video calls.

Unfortunately, we found the Dell Streak's battery consumption an issue – you'll probably need to keep a charger handy. Left in standby or screen-off mode overnight, it needed charging the next day. This is rather a drawback, since this is a phone as well as a tablet device, but with a 5in screen and a 1GHz processor to power, not really surprising. With built-in 3G and a lovely 5in screen, the Dell Streak is handy for web browsing and email use, and is a desirable media player. Just watch the battery consumption.



Philips GoGear Connect

Philips' GoGear Connect comes in both Android and non-Android versions. The Android edition was about to go on sale when we went to press, so we took its sibling for a spin. It's an exceptionally smart-looking portable music and video player with a sharp touchscreen display and a beautiful brushed-metal chassis that fits neatly into a pocket. At 128g, it feels reassuringly weighty in the hand. There's a large, clearly marked Home button to the right of the screen, so no matter how deep into the folder structure you drill, you can

always get back to your Home screen with a single button press. Thanks to the touchscreen and Android interface, few other buttons are required – power on the left and volume up and down on the top.

One small niggle with this layout is that volume up is on the left and volume down on the right, which is unconventional and caused us some accidental ear pain until we got used to it.)

MUSIC TO YOUR EARS

Audio quality was respectable using the bundled earphones. These earphones are rather attractive but a shade thin and trebly. Switching up to some beefier Teufel headphones unlocked a wealth of unexpected bass potential, however, so consider an upgrade if you can afford it: the player has the power to do its bit if paired with high-end headphones.

Video is the Philips' trump card, since it allows it to show off that excellent screen, which is clear and deals well with rapid movement. And if you've got some HD video, you can use the HDMI connector to show it on an HDTV.

Overall, the GoGear Connect is a stunning piece of engineering that feels bombproof. It offers decent-quality audio, video, and radio and voice recording. With Wi-Fi and Android apps added to the mix, it seems fair to say the Connect Android will be a tempting proposition.

The verdict



Price (8GB) £199 inc VAT

Further info www.philips.com



Samsung Galaxy Tab

Arguably the closest Android has to an iPad rival, the Galaxy Tab offers the same basic features: wireless internet, a multitouch-controlled screen and a marketplace full of apps. It also has 3G as standard rather than as an option. The most obvious difference is that the 7in screen makes it considerably smaller and lighter.

PRE-EMPTIVE STRIKE

The Tab is equipped with version 2.2 of the Android OS, codenamed 'Froyo' – a word familiar to Americans, though perhaps not the rest of us, as a portmanteau of 'frozen yogurt'. Yet not even this latest release is sanctioned by Google for use in tablets, as opposed to smartphones. 2011's Android 3 is lined up for that.

Samsung was obviously keen to get its tablet out sooner rather than later – and the result certainly isn't half-baked. At £70 more than the entry-level iPad, however, it has a lot to do to make a case for itself.

Many people will find the smaller screen isn't a bad thing: the iPad's relative bulk makes it tricky to hold up with one hand or slip into smaller bags and pockets. But the 16:9 widescreen

display is of a noticeably lower quality than Apple's, and the Tab itself is made of plastic, lacking the quality feel of the aluminium iPad. And while Apple's iOS interface is unsurprisingly smooth on its own hardware, Android runs rather jerkily on the Galaxy.

On the positive side, it weighs a modest 385g and is comfortable to hold. At just 12cm across, it can be gripped quite easily in one hand. Both tablets offer



a similar number of pixels – 1024x768 for the iPad, 1024x600 for the Samsung – which means the Tab's are more tightly spaced. This should make it look sharper, but we weren't convinced. The duller LCD and poor viewing angles let it down.

We were impressed with the responsiveness of the Tab in core navigation tasks such as swiping sideways on the home screen. Motion here feels smooth. Text entry via the onscreen keyboard was a bit sluggish, though, and we didn't like the clunking keypress sounds that lag a fraction of a second behind your fingers.

PINCH AND PUNCH

Web browsing is acceptably fast if you've got a good 3G connection, and we found pages loaded quickly over Wi-Fi. However, pinch-to-zoom in Android is still a stuttering experience, especially magnified to 7in proportions. We also spent too much time scrolling up and down pages to get to the navigation buttons – something we're sure the 'proper' version of Android for tablets will address.

Unlike the iPad, the Tab supports Flash, but on Flash-heavy sites you just get held back by the ads. We also saw some comedy lip-sync issues with

YouTube videos. The YouTube app's H.264 player (supported by iOS) is much better.

One thing the iPad can't handle is phone calls. The two speakers at the bottom edge of the Tab produced reasonably clear sound, and combined with a mic built into the left of the case they make it quite straightforward to use as a hands-free mobile. Call quality was easily good enough on our review sample, which came with a Three voice-and-data SIM card, available from £10/month for 100 minutes of talk time and 1GB data.

Video calling capabilities should come into their own once Skype for Android video support arrives. The Galaxy Tab has two cameras, pointing fore and aft, for the purpose.

A headset is included in the box for more personal chatting, and plugs into the standard jack at the top of the device. On the right of the case are a standby/sleep button (difficult to engage without fingernails), volume up/down rocker switch and two flap-covered slots for regular SIM card and microSD memory card. 16GB of flash memory is built in.

UPHILL STRUGGLE

Even if you do need 3G, which pushes up the price of a 16GB iPad to £529, that's only £30 more than the Tab. Samsung has set itself a nearly impossible task in competing with Apple, and has certainly succeeded in getting some attention.

But the Tab is really no match for the iPad. In its favour, it's more portable and lets you leave home without a separate mobile phone if you really want to.

The verdict



Price (SIM-free) £499 inc VAT

Further information [bit.ly/
samsung-galaxytab](http://bit.ly/samsung-galaxytab)



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ViewSonic ViewPad 7

This is one of two Android models launched by the company better known for its screens. The other is a 10in model that dual boots into Windows – and runs awfully slowly as a result.

The ViewPad 7, however, is a very likable Android 2.2 tablet that feels more like a personal organiser. Wrapped in a smart, slip-resistant folio case secured by an elastic strap, the ViewPad 7 accompanied us on several commutes without making us too aware we'd been lugging it around London for a week. It weighs just 375g without the jacket, but 517g with it.

At first glance, ViewSonic could be accused of creating an oversized iPhone 4; in fact, the design is pretty much in line with the flat panel displays it's been making for years. The familiar blue parrot logo

adorns the screen too. We like the fact that it's widescreen, although the pixel count of just 800x400 is less pleasing. The touch-screen is responsive enough, but not on a par with the Sony Xperia, Samsung Galaxy S or Apple devices. By default the backlit display turns itself off after just a couple of seconds idle, and with the power switch partly hidden by a clasp it's not a simple reflex to knock it back into life.

ON THE ROAD

A 3G module is supplied with a contract version; otherwise you're left with Wi-Fi to get online. We'd have hoped for 802.11n rather than the slower b/g. Bluetooth 2.1 is also supported, and there's a mini-UDS port for connecting a separate keyboard, speakers and so on. Decent built-in speakers are embedded either side.

The built-in GPS works well with Google Maps – we could see ourselves using the ViewPad as a large satnav. 32GB of internal storage can be supplemented via microSD. The 600MHz processor falls below our expectations and adds to the feeling that you're paying a lot for a solid but not ground-breaking device.

Even so, we'd be happy to call the ViewPad 7 our own, and could see ourselves making great use of its video and gaming features – if the price drops a bit.

The verdict



Price (SIM-free) £399 inc VAT

Further information www.viewsonic.com/products/viewpad7.htm